PACEART OPTIMA™ SYSTEM

POS12D Version 1.7

Paceart Optima System Software User Manual

Caution: Federal Law (USA) restricts this device to sale by or on the order of a physician (or properly licensed practitioner).

Contents

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Mainspring, Medtronic, Medtronic CareLink, Paceart Optima, Paceart

Chapter 1

Introduction to the Paceart Optima™ System

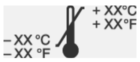
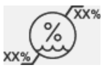
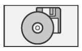
The Paceart Optima System is a clinic management tool that organizes patient, device, and programmer information and provides access to trend analysis, aiding a physician or clinician in their daily workflow and management of patient and cardiac data. The Paceart System supports cardiac rhythm devices from most manufacturers.

The Paceart System:

- Stores programmed device parameters
- Summarizes patient data into concise reports
- Keeps a history of patient encounters
- Offers TTM technologies, such as CardioVoice, designed to work with event recorders
- Creates correspondence documents
- Schedules patient follow-up appointments
- Assists with records processing
- Assists in charge and billing management
- Offers integration with a hospital's or clinic's HL7-compatible system
- Provides task management to streamline clinic workflow
- Provides automatic import of data from pacemakers, programmers, and other storage media

Explanation of symbols

	Consult instructions for use
CE	Conformité Européenne (European Conformity). This symbol means that the device fully complies with European Directive MDD 93/42/EEC.
! USA	For US audiences only
EC REP	Authorized Representative in the European Community
	Manufacturer
LOT	Lot number
REF	Re-order number
	Date of Manufacture

	Do not dispose of this product in the unsorted municipal waste stream. Dispose of this product according to local regulations. See http://recycling.medtronic.com for instructions on proper disposal of this product.
	Temperature Limitation
	Humidity Limitation
	Software

Indications

The Paceart System is intended for use as a 12-lead electrocardiograph, pacemaker artifact analyzer, and transtelephonic ECG receiving station. It also acts as a database for cardiac patients with or without pacemakers or implantable cardioverter defibrillators.

Precautions

Storage and installation

- Ensure there is no condensed moisture on the Paceart System software USBs.
- Paceart System software USBs must be stored within the following conditions:

Storage Environment	
Temperature	-20°C (-4°F) to +45°C (113°F)
Relative Humidity	20% to 90%

System operation

Before system operation:

- Ensure that the system is not being used with other instruments that may result in misdiagnosis or other problems.
- Ensure there is no condensed moisture on the Paceart System software USBs.
- The Paceart System software USBs must be operating in an environment within the following conditions:

Operating Environment	
Temperature	0°C (32°F) to +35°C (95°F)
Relative Humidity	20% to 90%

Additional precautions

- Do not modify the original system in any way. This includes adding any software product.
- Ensure that all patient records are updated and permanently stored before turning the PC power off.
- Double-check the data before typing the data into the system.

Transmission and transmitter settings

When recording ECGs:

- The transmitter transmission speed must match the transmit speed setting in the Paceart System.
- The transmitter transmit format must match the transmit format setting in the Paceart System.
- Discrepancies between the transmission speed or the transmission format will result in incorrect measurements that may lead to incorrect ECG interpretations.
- The Date Given field must have a date that is the same or prior to the date the transmission is recorded.
- A patient may only have one active transmitter.
- The Paceart System operator is responsible for setting the speed and format settings.

Contraindications

No known contraindications.

Authorized users

Medtronic representatives provide the Paceart Optima System orientation and training materials at the time of the installation. All users should be familiar with the Paceart System documents, including the online Help, before using the Paceart Optima System. The designated system administrator should also read the Paceart System documentation for information on using the Paceart Optima System software user interface for function and control.

An authorized person, preferably a physician, must verify the implantable device and electrode specifications entered into the database or modified in the database. An authorized person, preferably a physician, must verify the test results that are automatically entered into the database by the instrument. The data obtained from this device must be interpreted in conjunction with other clinical data and the results of other independent tests.

Technical Support

For technical support contact your local Medtronic office. In the US and Canada, Paceart Technical Services can be contacted via phone or email.

- Phone: 1-800-PACEART
- Email: paceart.support@medtronic.com
- Web: Visit the Paceart Community website at paceartcommunity.medtronic.com.

Manuals supplied with your system

Electronic versions of Paceart Optima System manuals are supplied on the documentation USB supplied with your software. You can also download or request printed copies of these manuals from www.medtronic.com/manuals.

There are two manuals installed for use with the Paceart Optima System software, the *Paceart Optima System Software Installation and Configuration Instructions* and the *Paceart Optima System Software User Manual*. The *Paceart Optima System Software Installation and Configuration Instructions* provide you with the information you need to install and configure your Paceart Optima System software. This includes optional configurations and optional software components. The *Paceart Optima System Software User Manual* provides you with information on how to use your Paceart Optima System software.

For information on the installation, configuration, and use of the Paceart ECG Module refer to the documentation supplied with the Paceart ECG Module.

All patient and clinical data displayed in Paceart Optima System software documentation are fictitious and for demonstration purposes only.

Accessing the online Help

The online Help provides additional information about the features and functionality of the Paceart Optima System.

There are five ways to access the online Help.

- Clicking **Help** > **Help** from the menu bar opens the appropriate help topic for where you are in the application.
- Clicking the **Help** button in a dialog box opens the appropriate help topic for the dialog box.
- In any add or edit dialog box, clicking the "?" and selecting an active field opens the field level Help for that field.
- Pressing the F1 key while a field is selected opens the field level Help for that field.
- Pressing the F1 key while no fields are selected opens the appropriate help topic for where you are in the application.

If your version of the Paceart System has been customized, you can view your customer build number by clicking **Help** > **About**.

Navigating through the Paceart System without a mouse

On some windows in the Paceart System, it is possible to navigate by using the keyboard instead of a mouse. These keyboard commands are composed of the ALT key followed by one or more keyboard symbols.

1. From within a Paceart System window, press the ALT key.
   If the window supports ALT key functionality, the File menu item is selected and buttons, tabs, or file menu items are underlined.
2. Press the letter on the keyboard that corresponds to the desired action.
3. Press the TAB key, SHIFT+TAB, and the ARROW keys to access additional options in a list.
4. Press ENTER to make a selection.

Explanation of dialog box fields and buttons

This table lists of some of the common fields and buttons that appear in many of the dialog boxes within the Paceart Optima System. Additional fields and buttons for each dialog box are defined separately throughout this manual.

Dialog box fields and buttons	Field and button definitions
Save	Saves all changes.
Save and Close	Saves and closes the dialog.
Select	Shows the selected item in the main window.
Cancel	Cancels and closes the dialog.
OK	Saves the information and closes the dialog box.
Help	Accesses the Help system.

Chapter
2

Paceart System Patient Records

A patient's record is an ongoing electronic compilation of encounters, appointments, test results, medical information, billing information, demographic information, and any other data that pertains specifically to a single patient. All of this information is stored in the Paceart System database and can be manipulated in a variety of useful ways.

The Paceart System lets you add information to a patient record in several ways. For example, you can enter it manually, retrieve it from a previous entry, or download it from an external source. The process for adding information can vary depending on the type of data being added.

Opening a patient record

Opening a patient record gives you access to specific information about one patient.

1. Click the **Search** tab.
2. Click the **Patients** subtab.
3. Enter the patient name and/or other search criteria about the patient.
4. Click **Search**.
5. Select the patient record and click **Open**.

The patient record is displayed.

Closing a patient record

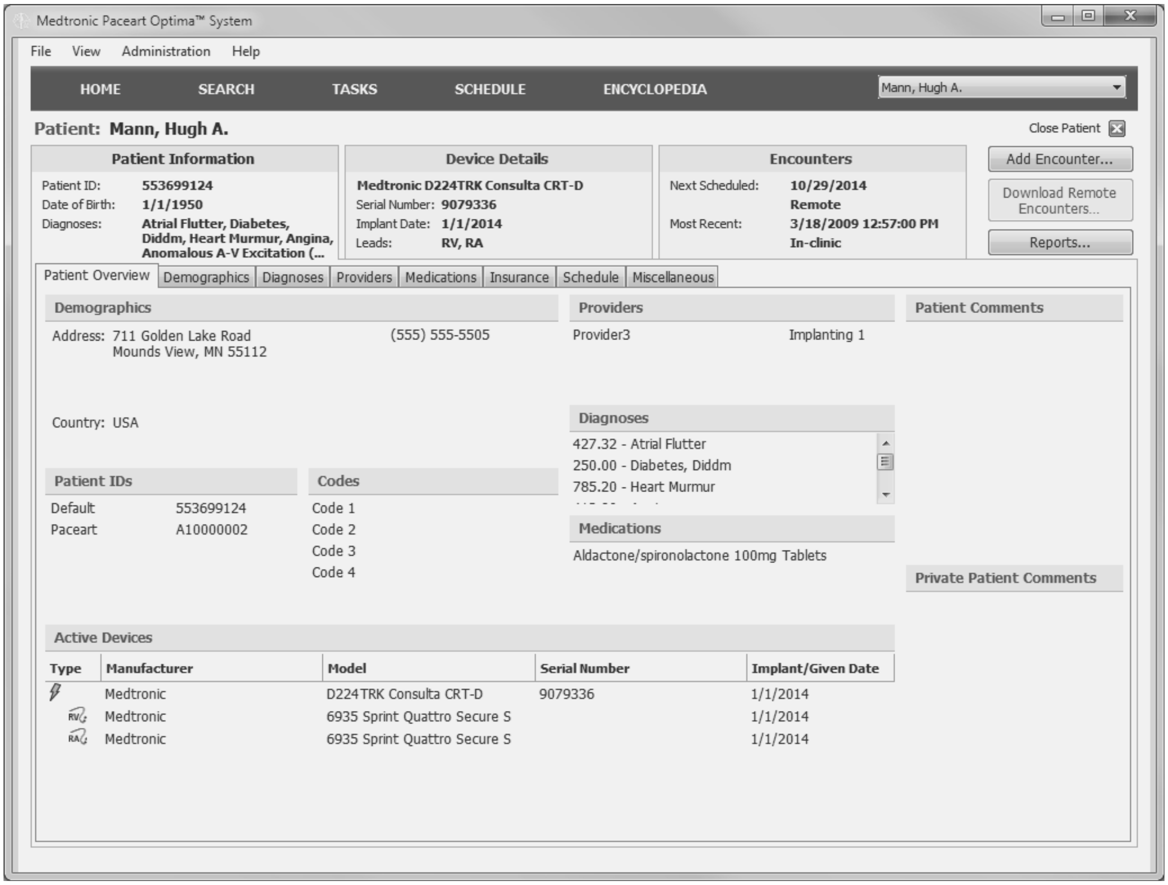
After you have finished working with a patient record you can save the changes and close the record.

1. If you are in add or edit mode make sure to save any changes you have made to the patient record.
2. Click the **Close Patient** link in the upper right corner of the patient record.
   The patient record is closed.

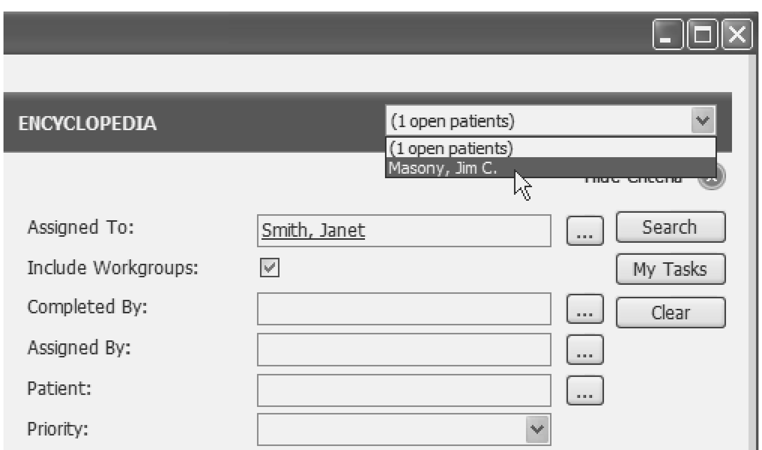
Switching between patient records

You can switch between patient records and other parts of the Paceart System, such as tasks or the encyclopedia.

To switch from an open patient record to another part of the Paceart System, click on the tab you want to switch to. For example, you can click on the **Tasks** tab to view your assigned tasks.



You can switch back to an open patient record by selecting the record from the open patient drop-down list in the upper right corner.



Adding a patient to the Paceart System database

The Paceart System database is made up of patient records that contain information about the patient such as encounters, appointments, test results, medical information, billing information, and demographic information.

You can add a new patient to the Paceart System database from within the Paceart System from the **Search** > **Patients** subtab or from an external system such as an EMR or the Medtronic CareLink Network. Minimally you need to enter a patient's last name and location of care.

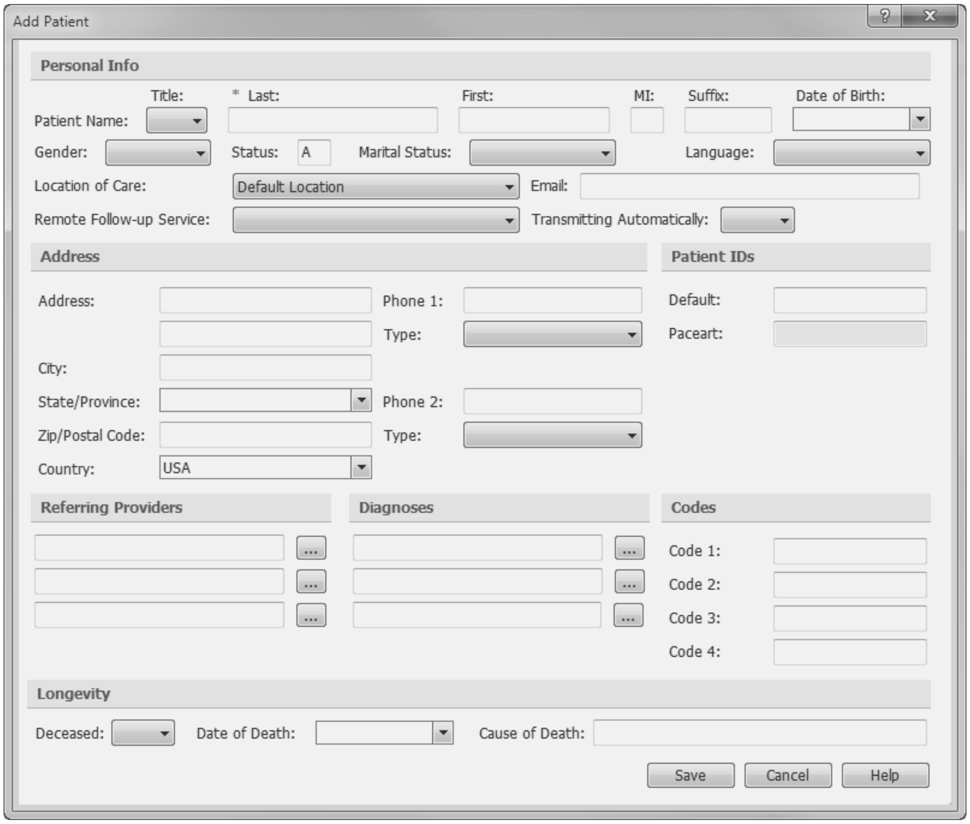
Adding a new patient to the Paceart System database

You can add new patients to the Paceart System database through an external system, or through the Paceart Optima System by entering, and then saving, their demographic information.

If you searched for the patient first, some of the search criteria that you entered on the **Patients** search tab will automatically transfer to the corresponding fields in the **Add Patient** dialog box.

- First Name
- Middle Initial
- Last Name
- Date of Birth
- City
- State/Province
- Zip/Postal code
- Country
- Phone

1. On the **Patients** search tab, click **Add**.
   The **Add Patient** dialog box is displayed.



2. In the **Add Patient** dialog box, enter the patient's demographic information.
3. Click **Save**.

Field and button definitions for the Add Patient dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Title:	The patient's title or salutation. The value must be one of the following values: Dr., Miss, Mr., Mrs, Ms., Prof.
*Last Name:	The patient's surname (family name). Required field.
First Name:	The patient's first given name (e.g. primary forename or primary personal name).
MI:	The first letter of the patient's second given name (secondary forename, secondary personal name, patronymic, or matronymic).
Suffix:	The suffix of the patient's name. For example, Sr. (senior).
Date of Birth:	The patient's date of birth.

Dialog box fields and buttons	Field and button definitions
Gender:	The patient's gender. The value must be one of the following values: Male, Female, Other.
Status:	A single character field used to represent the patient's current status. These values are defined by your clinic and your workflow, for example you could use "A" for active.
Marital Status:	The patient's marital status.
Language:	The patient's preferred language.
Location of Care:	The patient's primary location of care. This can be changed on specific appointments and encounters.
Email:	The patient's email address.
Remote Follow-up Service:	The patient's remote follow-up service.
Transmitting Automatically	Indicates that the device automatically transmits data using wireless telemetry.
Address:	The first line of the patient's street address.
Address:	The second line of the patient's street address.
City:	The city associated with the patient's street address.
State/Province:	The state or province associated with the patient's street address.
Zip/Postal Code:	The zip or postal code associated with the patient's street address.
Country:	The country associated with the patient's street address.
Phone 1:	The patient's primary or preferred phone number.
Type:	The type of phone associated with Phone 1. Available options are Home, Mobile, Work, Fax, Pager, and Other.
Phone 2:	The patient's secondary phone number.
Type:	The type of phone associated with Phone 2. Available options are Home, Mobile, Work, Fax, Pager, and Other.

Dialog box fields and buttons	Field and button definitions
Default:	The patient's ID number from a previous version of Paceart or from an external system such as an electronic medical record (EMR).
Paceart:	The automatically generated Paceart ID number. This is created when a new patient is added to Paceart and is not editable.
Referring Providers	The patient's referring providers. Click the **[...]** button to select a provider from the encyclopedia.
Diagnoses	The patient's diagnoses. Click the **[...]** button to select a diagnosis from the encyclopedia.
Codes	The patient's code(s) as defined by your clinic. A patient can have multiple codes. Codes can be used for classifying or grouping patients.
Deceased:	Indicates whether or not the patient is deceased.
Date of Death:	If the patient is deceased, the date of the patient's death.
Cause of Death:	If the patient is deceased, the cause of the patient's death.

Deleting a patient record

Deleting a patient record also deletes that patient from the Paceart System database. If you have permission to delete a patient you can delete patients that have no active devices, no encounters, and no scheduled appointments.

This process only allows you to delete one patient record at a time. To delete multiple patient records at one time go to **Administration** > **Batch Delete**.

1. Click the **Search** tab.
2. Click the **Patients** tab.
3. Click **Search**.
   The initial search results are sorted in ascending order by patient last name, patient first name, and then patient middle initial. You can change the sort criteria and order by clicking on any of the column headings.
4. In the **Results** window, click the patient you want to delete.
5. Click **File** > **Delete Patient**.
6. Click **Yes** to confirm the deletion.

The patient record is deleted.

Patient Record

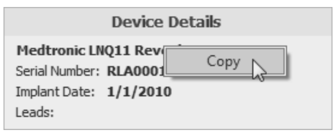
The patient record is divided into three tabs, the **Patient Information** tab, the **Device Details** tab, and **Encounters** tab.

The **Patient Information** tab is used to document patient specific information such as patient demographics, medication information, and scheduling preferences. The **Device Details** tab is used to document information about the patient's device or devices, such as device details, implant date, and serial number. The **Encounters** tab provides a list of patient encounters.

Copying information from the patent record tabs

You can copy information from any of the fields on the **Patient Information**, **Device Details**, or **Encounters** tabs in the patient record. After copying the information, you can then paste it when adding or editing records to speed data entry and reduce errors.

1. Locate the information that you want to copy from one of the fields on the **Patient Information**, **Device Details**, or **Encounters** tabs in the patient record.
2. Right-click the field, then select **Copy** from the menu that opens.



3. To paste the copied value into a field, right-click the field and select **Paste** from the menu that opens, or place the cursor into the field and press Ctrl+V.

Patient Information tab

You can add, edit, and delete patient demographic information from the **Patient Information** tab. This tab is broken up into subtabs. You must be in add or edit mode and have sufficient privileges to view and modify information on the subtabs.

The **Patient Information** tab gives an overview of patient information including the patient ID number, the date of birth, and a list of diagnoses. If the patient has multiple ID numbers, then only the primary ID number is displayed. The primary ID is configured in Administration.

Patient Information Subtabs

Subtab	Description of information
Patient Overview	This tab contains a read-only overview of a patient's demographic information, patient IDs, codes, providers, diagnoses, medications, active devices, and patient comments.
Demographics	This tab contains personal information about the patient. You can edit information on this tab.
Diagnoses	This tab contains a list of all the patient's diagnoses. You can add, edit, or delete information on this tab.
Providers	This tab contains a list of all the patient's providers. You can add, edit, or delete providers. This list also includes providers referenced as Implant, Abandoned, Partially Explanted, and Explanted providers in the **Device Details** section, providers

Subtab	Description of information
	referenced as Prescribing providers in the **Medications** subtab, and providers referenced as Billing providers in encounters.
Medications	This tab contains a list of all the patient's medications. You can add, edit, or delete medications.
Insurance	This tab contains a list of all the patient's insurers. You can add, edit, or delete insurers.
Schedule	This tab contains all scheduled, canceled, completed, or missed appointments. You add, edit, or delete appointments and view and edit patient scheduling preferences.
Miscellaneous	This tab contains a list of allergy, pharmacy, and CardioVoice information.

Editing a patient's demographic information

You can edit an existing patient's demographic information, IDs, codes and comments.

1. In the patient record, click the **Patient Information** tab.
2. Click the **Demographics** subtab.
3. Click **Edit**.
4. In the **Edit Patient** dialog box, make changes to the patient's demographic data. You cannot change the system-generated Paceart System patient ID.
5. Click **Save**.

Field and button definitions for the Edit Patient dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Title:	The patient's title or salutation. The value must be one of the following values: Dr., Miss, Mr., Mrs, Ms., Prof.
*Last Name:	The patient's surname (family name). Required field.
First Name:	The patient's first given name (e.g. primary forename or primary personal name).
MI:	The first letter of the patient's second given name (secondary forename, secondary personal name, patronymic, or matronymic).
Suffix:	The suffix of the patient's name. For example, Sr. (senior).
Date of Birth:	The patient's date of birth.
Gender:	The patient's gender. The value must be one of the following values: Male, Female, Other.

Dialog box fields and buttons	Field and button definitions
Status:	A single character field used to represent the patient's current status. These values are defined by your clinic and your workflow, for example you could use "A" for active.
Marital Status:	The patient's marital status.
Language:	The patient's preferred language.
Location of Care:	The patient's primary location of care. This can be changed on specific appointments and encounters.
Email:	The patient's email address.
Remote Follow-up Service:	The patient's remote follow-up service.
Transmitting Automatically	Indicates that the device automatically transmits data using wireless telemetry.
Address:	The first line of the patient's street address.
Address:	The second line of the patient's street address.
City:	The city associated with the patient's street address.
State/Province:	The state or province associated with the patient's street address.
Zip/Postal Code:	The zip or postal code associated with the patient's street address.
Country:	The country associated with the patient's street address.
Phone 1:	The patient's primary or preferred phone number.
Type:	The type of phone associated with Phone 1. Available options are Home, Mobile, Work, Fax, Pager, and Other.
Phone 2:	The patient's secondary phone number.
Type:	The type of phone associated with Phone 2. Available options are Home, Mobile, Work, Fax, Pager, and Other.

Dialog box fields and buttons	Field and button definitions
Default:	The patient's ID number from a previous version of Paceart or from an external system such as an electronic medical record (EMR).
Paceart:	The automatically generated Paceart ID number. This is created when a new patient is added to Paceart and is not editable.
Patient Comments	Comments about the patient. Press F9 to look up a quick phrase.
Private Patient Comments	Additional comments about the patient that can be viewed only within the Paceart System. These comments appear on the Edit Patient dialog box and read-only Patient Overview subtab, but are not printed on reports. Press F9 to look up a quick phrase.
Codes	The patient's code(s) as defined by your clinic. A patient can have multiple codes. Codes can be used for classifying or grouping patients.
Deceased:	Indicates whether or not the patient is deceased.
Date of Death:	If the patient is deceased, the date of the patient's death.
Cause of Death:	If the patient is deceased, the cause of the patient's death.

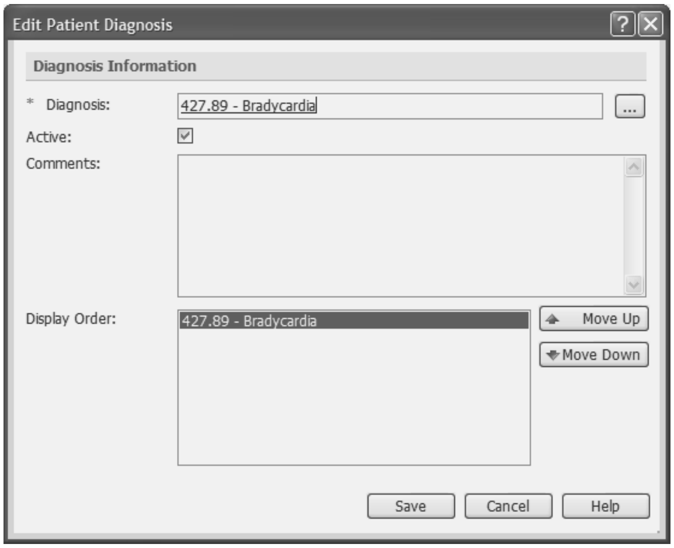
Adding or editing a patient's diagnosis

You can add or edit a patient's diagnosis to the patient's record on the **Add Patient Diagnosis** or **Edit Patient Diagnosis** dialog box. A patient can have up to twenty active diagnoses.

If the diagnosis is related to a device, or an implant diagnosis, you must edit the device details to change the diagnosis. Although it is listed on the **Diagnoses** tab, you cannot edit it there.

1. In the patient record, click the **Patient Information** tab.
2. Click the **Diagnoses** tab.
3. Determine which action to take.
   - To add a diagnosis, click **Add**.
   - To edit a diagnosis, select the diagnosis and click **Edit**.

   The **Add Patient Diagnosis** or the **Edit Patient Diagnosis** window is displayed.



4. Enter or edit the diagnosis. To search for an existing diagnosis click the **[...]** button.
5. Select **Active** if it is an active diagnosis.
6. Enter or edit comments about the patient's diagnosis in the **Comments** field. Press the F9 key to enter a quick phrase in the **Comments** field.
7. The **Display Order** section shows you how the diagnoses will be listed on reports. To change the display order of the diagnoses, select the diagnosis and use **Move Up** and **Move Down** to move the diagnosis.
8. To save the information and add another diagnosis, click **Save and Add Another**. Otherwise, click **Save** to save the information and close the dialog box.

The updated diagnosis information is displayed on the **Diagnoses** tab.

Field and button definitions for the Add or Edit patient's diagnosis

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Diagnosis:	The patient's diagnosis. Required field. You may have up to twenty active diagnoses.
Active:	Shows if the diagnosis is active or inactive.
Comments:	Miscellaneous comments.
Display Order:	Allows you to change the order the diagnoses will be listed in on reports.
Move Up	Moves the selected item up in the list box.
Move Down	Moves the selected item down in the list box.
Save	Saves all changes.

Dialog box fields and buttons	Field and button definitions
Save and Add Another:	Saves the information that is displayed and redisplays the window with unpopulated fields so you can add another.

Selecting a diagnosis

Use the **[...]** button by any **Patient Diagnosis** or **Diagnosis** field to search for and select a diagnosis.

1. Click the **[...]** button next to the **Diagnosis** or **Patient Diagnosis** field.
   The **Select Diagnosis** dialog box opens.
2. Type the search criteria in the **Search String** field.
3. Click **Search**.
   The items that match your search criteria are displayed in the **Results** list.
4. Select a diagnosis from the **Results** list.
5. Click **Select**.
   The diagnosis you selected is displayed in the field.

Field and button definitions for the Select Diagnosis dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Search String:	Text box for entering whole or partial keywords.
Search	Invokes the search.
Code	The code assigned to the diagnosis.
Description	The description of the diagnosis.
Coding System	The coding system of the diagnosis.
Comments:	Comments about the diagnosis.

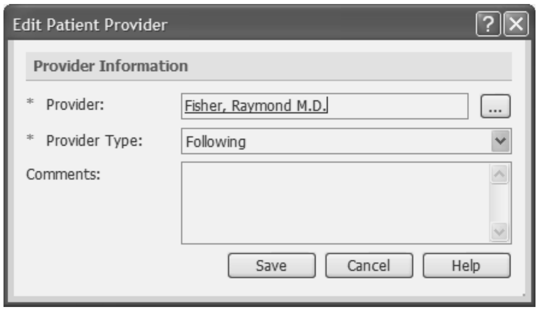
Adding or editing a patient's provider

You can add or edit a patient's provider on the **Add Patient Provider** or **Add Patient Provider** dialog box.

If the provider is related to a device, such as an implanting provider, you must edit the device details to change the provider. Although it is listed on the **Providers** tab you cannot edit it there.

1. In a patient record, click the **Patient Information** tab.
2. Click the **Providers** tab.
3. Determine which action to take.
   - To add a provider, click **Add**.
   - To edit a provider, select the provider and click **Edit**.

   The **Add Patient Provider** or the **Edit Patient Provider** window is displayed.



4. In the **Provider** field enter or edit the provider's name. To search for the provider's name in the encyclopedia click the **[...]** button.
5. In the **Provider Type** drop-down box select the type of provider.
6. Enter any comments about the patient's provider in the **Comments** field. To enter standard comment text, click in the **Comments** field and press the F9 key.
7. Click **Save**.

The updated provider information is displayed on the **Providers** tab.

Field and button definitions for the Add or Edit a Patient Provider dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Provider:	Patient's provider. Required field. To select a provider from the list, click **[...]** button.
*Provider Type:	The provider type. Required field.
Comments:	Miscellaneous comments.

Selecting a provider

You can search for and select a Provider, Patient Provider or Billing Provider.

1. Click the **[...]** button next to the **Provider**, **Patient Provider**, or **Billing Provider** field.
   The **Select Provider** dialog box opens.
2. Type the search criteria in the **Search String** field.
3. Click **Search**.
   The items that match your search criteria are displayed in the **Results** list.
4. Select a provider name from the **Results** list.
5. Click **Select**.
   The provider you selected is displayed in the field.

Field and button definitions for the Select Provider dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Search String:	Text box for entering whole or partial keywords.
Search	Invokes the search.

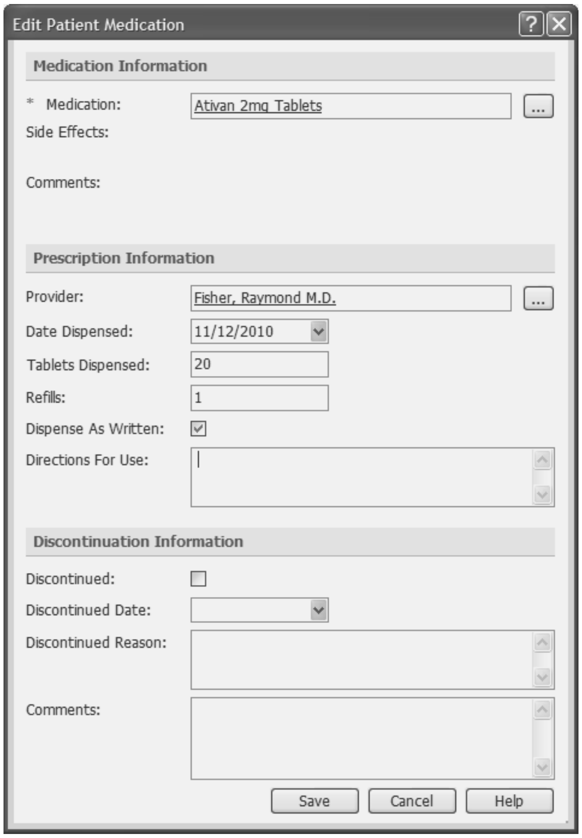
Dialog box fields and buttons	Field and button definitions
Name:	Full name of the provider.
Address:	The provider's street address.
Country:	The country of the provider's street address.
Comments:	Miscellaneous comments.
Phone	The provider's phone number.
Provider ID:	The provider's ID number.
Specialty:	The provider's medical specialty, for example, cardiology.
Provider Code:	The provider code.

Adding, editing, or discontinuing a patient's medication

You can add or edit a patient's medication on the **Add Patient Medication** or **Edit Patient Medication** dialog box.

1. In the patient record, click the **Patient Information** tab.
2. Click the **Medications** tab.
3. Determine which action to take.
    - To add a medication, click **Add**.
    - To edit a medication, select the medication and click **Edit**.

    The **Add Patient Medication** or the **Edit Patient Medication** window is displayed.



4. In the **Medication Information** section, enter or edit the medication. To search for an existing medication click the **[...]** button.
5. In the **Prescription Information** section, enter or edit the date dispensed and other relevant prescription information.
6. If you want to discontinue the medication select **Discontinued** and enter the relevant discontinuation information.
7. Click **Save**.

The updated medication information is displayed on the **Medications** tab.

Field and button definitions for the Add or Edit a Patient Medication dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Medication Information	
*Medication:	The patient's medication. To select a medication from the list, click the [...] button. Required field.
Side Effects:	The side effects of selected medication. This is a read-only view of the side effects from the medication encyclopedia for the selected medication.
Comments:	Miscellaneous comments.
Prescription Information	

Dialog box fields and buttons	Field and button definitions
Provider:	The provider who prescribed the patient's medication. To select a provider from the list, click the **[...]** button.
Date Dispensed:	The date the prescription was dispensed.
Tablets Dispensed:	The number of tablets dispensed in the prescription.
Refills:	The number of refills in the prescription.
Dispense As Written:	Indicates if the medication should be dispensed as written (DAS) and that no generic is allowed.
Directions For Use:	The directions for use for the prescription.
Discontinuation Information	
Discontinued:	Indicates if the prescription is discontinued.
Discontinued Date:	The date the prescription was discontinued.
Discontinued Reason:	The reason the prescription was discontinued.
Comments:	Miscellaneous comments.

Selecting a medication

You can search for and select a medication.

1. Click the **[...]** button next to the **Medication** field.
   The **Select Medication** dialog box opens.
2. Type the search criteria in the **Search String** field.
3. Click **Search**.
   The items that match your search criteria are displayed in the **Results** list.
4. Select a provider name from the **Results** list.
5. Click **Select**.
   The provider you selected is displayed in the field.

Field and button definitions for the Select medication dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Search String:	Text box for entering whole or partial keywords.
Search	Invokes the search.
Description:	A description of the medication.

Dialog box fields and buttons	Field and button definitions
Side Effect 1:	Medication side effect.
Side Effect 2:	Medication side effect.
Side Effect 3:	Medication side effect.
Comments:	Miscellaneous comments.
Side Effect 4:	Medication side effect.
Side Effect 5:	Medication side effect.
Side Effect 6:	Medication side effect.

Adding or editing a patient's insurance

You can add or edit a patient's insurance company information in the **Add Patient Insurance** or **Edit Patient Insurance** dialog box.

1. In a patient record, click the **Patient Information** tab.
2. Click the **Insurance** tab.
3. Determine which action to take.
   - To add an insurance company, click **Add**.
   - To edit an insurance company, select the insurance company and click **Edit**.

   The **Add Patient Insurance** or the **Edit Patient Insurance** window is displayed.

4. In the **Insurance Information** section, enter or edit the **Company Name**. To search for an existing insurance company click the **[...]** button.
5. Select the **Type** of insurance from the drop-down list.

6. In the **Policy Holder Information** section, enter or edit any relevant policy holder information.
7. Click **Save**.

The updated insurance information is displayed on the **Insurance** tab.

Field and button definitions for the Add or Edit a patient insurance dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Insurance Information	
*Company Name:	The name of the patient's insurance company. To select an insurance company from the list, click the [...] button. Required field.
*Type:	The insurance type (primary, secondary, or other). Required field.
Active:	Indicates if the insurance policy is active.
Policy Holder Information	
Policy Holder Name:	The name of the insurance policy holder.
Policy Holder Employer:	The primary policy holder's employer.
Policy Holder SSN:	The primary policy holder's social security number.
Policy Number:	The policy number of the holder's insurance.
Certificate Number:	The insurance certificate number.
Effective Date:	The date the insurance policy became effective for the patient.
Comments:	Miscellaneous comments.

Selecting an insurance company

You can search for and select an insurance company.

1. Click the **[...]** button next to the **Company Name** field.
   The **Select Insurance** dialog box opens.
2. Type the search criteria in the **Search String** field.
3. Click **Search**.
   The items that match your search criteria are displayed in the **Results** list.
4. Select an insurance company from the **Results** list.
5. Click **Select**.
   The insurance company you selected is displayed in the field.

Field and button definitions for the Select insurance company dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Search String:	Text box for entering whole or partial keywords.
Search	Shows the selected item in the main window.
Company Name:	The name of the Insurance company.
Address	The insurance company's address.
Country:	The insurance company's country.
Comments:	Miscellaneous comments.
Code:	Insurance company code.
Phone:	The insurance company's phone number.
Fax:	The insurance company's fax number.

Adding an appointment from a patient's record

You can add an appointment from a patient's record.

1. Open the patient's record.
2. Click the **Patient Information** tab.
3. Click the **Schedule** tab.
4. Click **Add...** to add a new appointment.
5. Enter the information for the appointment.

   If needed, you can change the display interval for the hours shown on the Resource Schedule calendar using the right-click menu. You can divide the hours displayed on the calendar into 5, 6, 10, 15, 20, 30, or 60 minute intervals.
6. Click **Save**.

Field definitions for Add or Edit Appointment dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields	Field definitions
*Patient Name:	The patient's name. To select a patient from the list, click the **[...]** button. Required field.
*Type:	The type of appointment such as in-clinic, remote, TTM, implant, phone note, or miscellaneous. Required field.

Dialog box fields	Field definitions
*Location:	The location of care for the scheduled appointment. Required field.
*Resource:	The resource such as clinic staff or room that is assigned when creating an appointment. Required field.
Start Time:	The date and time for which the appointment is scheduled.
Duration:	The amount of time assigned to the appointment.
Visit ID:	Identifies all interactions with a patient related to a single encounter. Maximum length 75 characters.
Comments:	Miscellaneous comments.
In-Patient:	When selected, indicates the patient is hospitalized.
Cancel Appointment:	A check mark indicates that the appointment has been scheduled and then canceled.
Auto	Automatically assigns the date and time for the appointment based on schedule preferences.
Create Encounter	Creates an associated encounter for the appointment.
Save	Saves all changes.
Cancel	Cancels and closes the dialog.
Delete	Removes the item or items from the list.

Deleting an appointment

You can delete an appointment. Deleted appointments cannot be reinstated.

There are multiple places from which you can open the appointment. Where you open it is determined by your role and the workflow within your clinic.

The following procedure shows you how to delete an appointment once you have selected it.

1. Click **Edit**.
   The **Edit Appointment** dialog box is displayed.
2. Click **Delete**.
3. Click **Yes** to confirm that you want to delete the appointment.
   You cannot reinstate a deleted appointment.
4. Click **Save**.

Setting a patient's scheduling preferences

You can set and edit the appointment frequency, the preferred week day, and the preferred time for a patient. The Paceart System stores this information in the patient's record.

1. From within a patient record click the **Patient Information** tab.
2. Click the **Schedule** tab.
3. In the **Preferences** section, click **Edit**.
4. Enter patient preferences and, if desired, comments.
5. Click **Save**.

Field definitions for Edit Preferences dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields	Field definitions
Interval number	The interval number. Click the up and down arrows or enter a number.
Interval label	The interval label (day(s), week(s), or month(s)) that applies to the interval number.
Week	Indicates if the patient has a week of the month preference for scheduling an appointment.
Day	Indicates if the patient has a day of the week preference for scheduling an appointment.
Time	Indicates if the patient has a time preference for scheduling an appointment.
Comments:	Miscellaneous comments.

Editing a patient's allergy information

You can edit a patient's allergy information on the **Edit Allergies** dialog box.

1. In the patient record, click the **Patient Information** tab.
2. Click the **Miscellaneous** tab.
3. In the **Allergy Information** section, click **Edit**.
   The **Edit Allergies** dialog box is displayed.
4. Enter the patient's allergy information. Click the F9 key to select standardized text.
5. Click **Save**.

The allergy information is displayed in the **Allergies** section of the **Miscellaneous** tab.

Field and button definitions for the Edit Allergies dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Allergy Information	The patient's allergies.

Editing a patient's pharmacy information

You can edit a patient's pharmacy information from the **Miscellaneous** tab.

1. In a patient record, click the **Patient Information** tab.
2. Click the **Miscellaneous** tab.
3. In the **Pharmacy Information** section, click **Edit**.
   The **Edit Pharmacy** dialog box is displayed.
4. Enter pharmacy information and click **Save**.

The pharmacy information is displayed in the **Pharmacy Information** section of the **Miscellaneous** tab.

Field and button definitions for the Edit Pharmacy dialog box

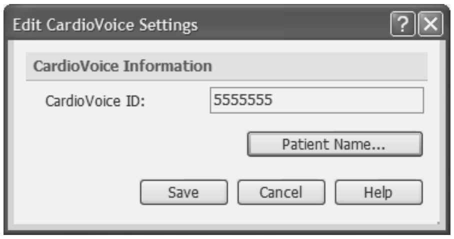
This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Name:	The name of the patient's primary pharmacy.
Address:	The first line of the pharmacy's street address.
Address:	The second line of the pharmacy's street address.
City:	The city for the pharmacy's street address.
State/Province:	The state for the pharmacy's street address.
Country:	The country of the pharmacy's street address.
Phone:	The pharmacy's phone number.
Fax:	The pharmacy's fax number.

Editing a patient's CardioVoice information

You can edit a patient's CardioVoice settings from the **Miscellaneous** tab in the patient record.

1. In the patient record, click the **Patient Information** tab.
2. Click the **Miscellaneous** tab.
3. In the **CardioVoice Information** section, click **Edit**.
   The **Edit CardioVoice Settings** dialog box is displayed.



4. Enter the patient's CardioVoice information and click **Save**.

The patient's CardioVoice settings are displayed in the **CardioVoice Information** section of the **Miscellaneous** tab.

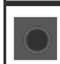
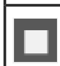
Field and button definitions for the Edit CardioVoice Settings dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
CardioVoice ID	The patient's CardioVoice ID. A CardioVoice ID must be between 4 and 10 digits.
Patient Name	Opens a dialog to record an audio file of the patient's name. The audio file will be used during CardioVoice calls.

Recording and playing a patient's spoken name

You can record a patient's spoken name from the **Miscellaneous** tab in the patient record. The spoken name audio file is played during CardioVoice calls.

Button	Name
	Record
	Stop
	Play

1. In the patient record, click the **Patient Information** tab.
2. Click the **Miscellaneous** tab.
3. In the **CardioVoice Information** section, click **Edit**.
   The **Edit CardioVoice Settings** dialog box is displayed.
4. Click **Patient Name**.
   The **Patient Spoken Name** dialog box is displayed.
5. To record the patient's name, click the record button.
6. To stop recording, click the stop button.
7. To play back the patient's name, click the play button.
8. When you have finished recording the patient's name click **Close** to close the **Patient Spoken Name** dialog box.
9. In the **Edit CardioVoice Settings** dialog box, click **Save**.

In the **CardioVoice Information** section the **Patient Name** field status changes to "Recorded".

Device Details tab

You can add, edit, and delete a device from a patient's record on the **Device Details** tab. You can also edit the information about the device and mitigate a device on alert. You must have sufficient privileges to view and modify information on this tab.

The **Device Details** tab gives you a quick overview of the patient's device details including the device manufacturer and model, the serial number, the implant/given dates, and any leads associated with the primary device. If the patient has multiple devices, only one device name will be displayed in the tab at a time. If **Active Devices** is selected, then only active devices are displayed on this tab. If **All Devices** is selected, the display order preference is given to active devices. Then preference is given to both Pacemakers and ICDs, then ICM/ILRs, and then event recorders. Then preference is given to the most recent implant date.

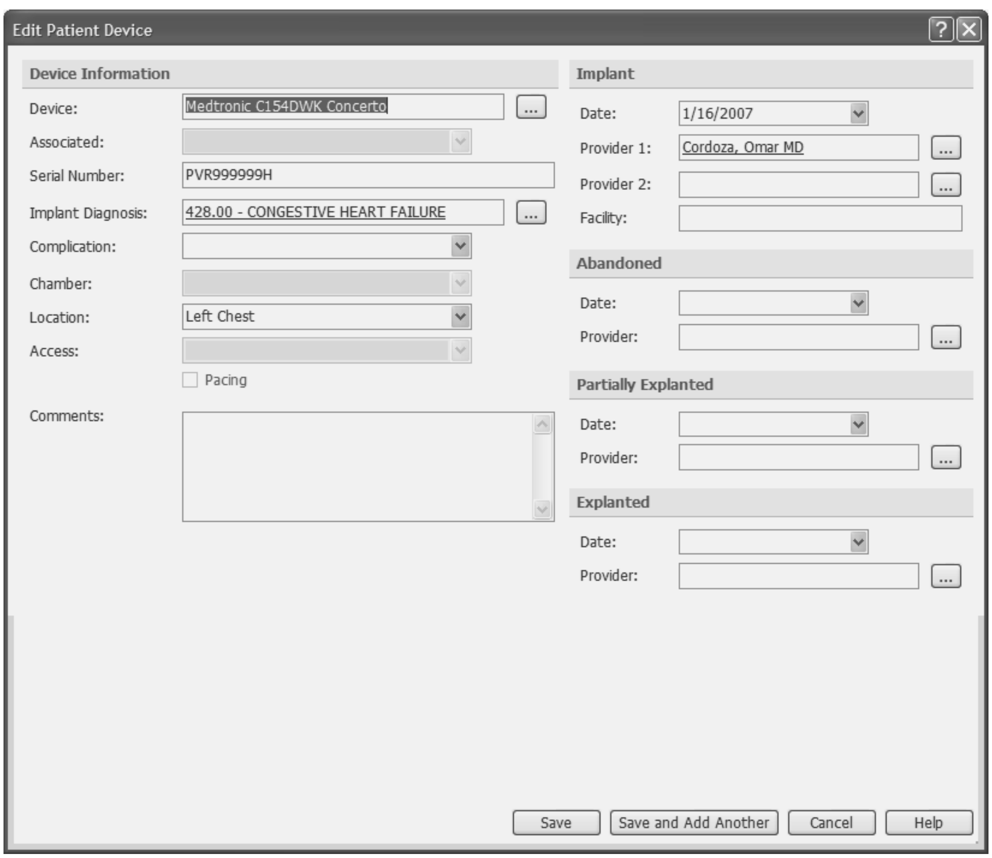
If the patient has a device on alert or watch, the device name on the **Device Details** tab is displayed in red along with the alert or watch icon. If the device alert has been mitigated, the green check mark icon is displayed next to the device name.

Adding or editing a patient's device

You can add or edit a patient's device in the **Add Patient Device** or **Edit Patient Device** dialog box.

1. In the patient record, click the **Device Details** tab.
2. Determine which action to take.
   - To add a device, click **Add**.
   - To edit a device, click **Edit**.

   The **Add Patient Device** or the **Edit Patient Device** dialog is displayed.



3. In the **Device Information** section, enter the device or search for an existing device by clicking the **[...]** button.
4. Enter or edit relevant device and implant information.
5. Click **Save**.

The device information is displayed on **Device Details** tab. If you entered **Abandoned**, **Partially Explanted**, or **Explanted** information for the device you must select **All Devices** to view the device information.

Field and button definitions for the Add or Edit patient device dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Device Information	
*Device:	The patient's device. To select a device from the list, click the **[...]** button. Required field.
Associated:	The leads or adapters that are associated with the device.
Serial Number:	The serial number for the device. This field is required for matching incoming CareLink, SessionSync, and other transmissions to the correct patient.
Implant Diagnosis:	The patient's implant diagnosis. To select a diagnosis from the list, click the **[...]** button.
Complication:	Any complication stemming from patient's implant procedure.
Chamber:	The heart chamber where the lead or adapter is implanted.
Location	The location in the patient's body where the device is implanted.
Access:	The entry site access for the lead.
Pacing:	Indicates if the lead is used for pacing.
Comments:	Miscellaneous comments.
Implant	
Date:	The date the device was implanted. This must be today's date or a date in the past for the Paceart System to consider it an active device. The device must be active to match CareLink, SessionSync, or Latitude transmissions. Also the device must be active to use the Retrieve from Programmer feature.

Dialog box fields and buttons	Field and button definitions
Provider 1:	The primary medical provider for the implant . To select a provider from the list, click the **[...]** button.
Provider 2:	The secondary medical provider for the implant. To select a provider from the list, click the **[...]** button.
Facility:	The facility where the device was implanted.
Abandoned	
Date:	The date the device was abandoned.
Provider:	The medical provider for the abandoned device. To select a provider from the list, click the **[...]** button.
Partially Explanted	
Date:	The date the device was partially explanted.
Provider:	The medical provider for the partial explant. To select a provider from the list, click the **[...]** button.
Explanted	
Date:	The date the device was explanted.
Provider:	The medical provider for the explant. To select a provider from the list, click the **[...]** button.
Buttons	
Save	Saves all changes.
Save and Add Another:	Saves the information that is displayed and redisplays the window with unpopulated fields so you can add another.

Selecting a device

You can search for and select a device.

1. Click the **[...]** button next to the **Device** field.
   The **Select Device** dialog box opens.
2. Type the search criteria in the **Search String** field.
3. Click **Search**.
   The items that match your search criteria are displayed in the **Results** list.
4. Select a device from the **Results** list.
5. Click **Select**.

The device you selected is displayed in the field.

Field and button definitions for the Select Device dialog box

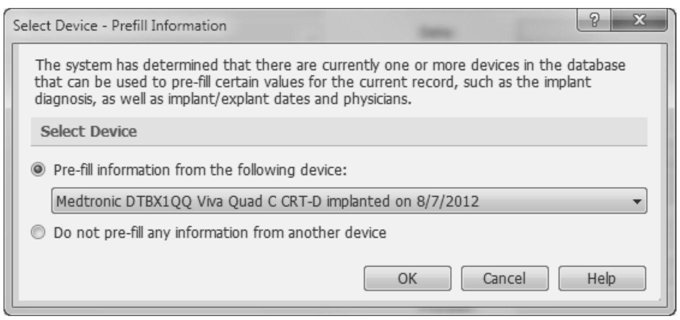
This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Device Type:	A drop-down list of available device types.
Search String:	Text box for entering whole or partial keywords.
Search	Invokes the search.

Pre-filling device information

If you are adding a new lead or adapter, you can use an existing device in the patient's record to pre-fill values for the new device.

1. From the **Select Device** dialog box, select a new device to add to the patient's record and click **Select**.
   The Paceart Optima System displays the **Select Device - Pre-fill Information** dialog box.



2. Select whether to use information from a patient's existing device to automatically update values for the new device.
   - To use values from an existing device, select **Pre-fill information from the following device** and then select the device from the list. The Paceart System updates the new device's implant dates, provider names, diagnosis values, and implant facility with the existing device's data and automatically associates the new device with the existing one.
   - To leave the values in the new device blank for later updates, select **Do not pre-fill any information from another device**.
3. Click **OK**.
   The Paceart System returns you to the Add Patient Device dialog box. If you chose to pre-fill information, the Paceart System automatically updates the associated device, implant diagnosis, implant date, provider, and implant facility fields with information from the existing device you selected.

Field and button definitions for the Select Device - Prefill Information dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Pre-fill information from the following device:	Indicates that you want the system to pre-fill information from the selected device.

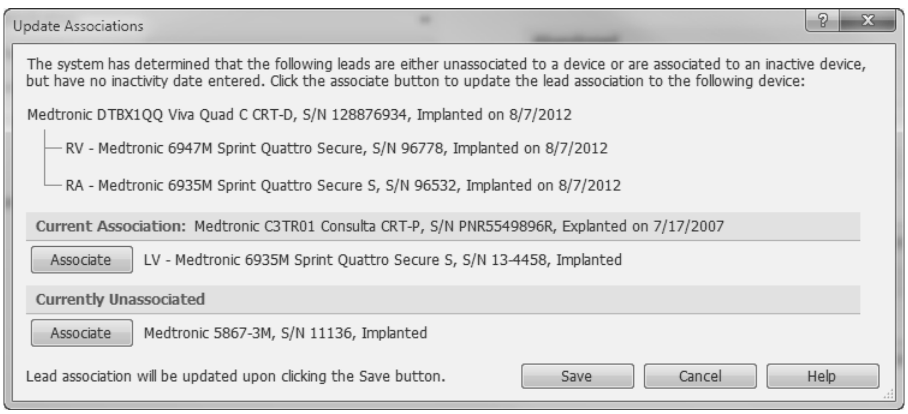
Dialog box fields and buttons	Field and button definitions
Device selection drop-down list	Select the device that you want to pre-fill information from.
Do not pre-fill any information from another device	Indicates that you do not want the system to automatically pre-fill information from another device.

Updating Device Associations

You can update the leads or adaptors associated with a patient's current ICD or pacemaker.

1. Add or edit a device on the **Device Details** tab.

   When you save your changes, the Paceart System identifies any lead or adaptor devices that either are associated with an inactive device or are not associated with any device. If any exist, the Paceart System displays the **Update Associations** dialog box that lists current device associations and any unassociated devices from the patient's record.



   The association tree at the top of the dialog box lists the patient's currently active ICD or pacemaker along with any leads or adapters associated with it. The **Current Association** section lists any leads or adapters associated with explanted, partially explanted, or abandoned devices. The **Currently Unassociated** section lists lead or adapter devices in the patient record that are not associated with an ICD or pacemaker.

2. Click **Associate** to associate the lead or adapter with the currently active device.
   The Paceart System updates the association and lists that lead or adapter in the association tree. You can click **Remove** to preserve the original device association, if needed.
3. Click **Save**.
   The Paceart System updates the list on the **Device Details** tab with any new associations.

Field and button definitions for the Update Associations dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button descriptions
Associate	Associates the selected lead or adaptor with the patient's current ICD or pacemaker device.

Dialog box fields and buttons	Field and button descriptions
Remove	Removes the association between the selected lead or adaptor and the patient's current ICD or pacemaker and restores any original associations.

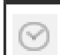
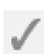
Device Alerts and Watches

Device alerts and watches allow you to flag devices that require special management due to a manufacturer alert or recall.

Both device watches and device alerts are configured in the device encyclopedia. When a device is placed on watch or alert, that device is shown on the **Device Alerts** tab in the device encyclopedia and an alert or watch icon is always displayed next to the device name in the Paceart System and in reports.

Device alerts can be set for an entire device model type or for specific serial numbers. Device watches are set for an entire device model type.

If a patient has a device on alert or watch, the device name on the **Device Details** tab, in the patient record, is displayed in red along with the alert or watch icon. Also, the device alert or device on watch icon is displayed next to the device name in the device list. Any reports that list a device on alert or watch also display the icons.

Icon	Definition
	The device is on watch.
	The device is on alert.
	The device alert was mitigated.

Alerts can be mitigated at a patient level. Mitigating a device alert means that you have changed the condition that triggered the alert or that the alert is not relevant to the patient due to the specific details of the alert. For example, you may have changed a device setting to mitigate the alert. When a device alert is mitigated, the alert icon changes to a green check mark.

A device watch can be escalated to a device alert, but a device alert cannot be downgraded to a device watch. Device alerts and watches can both be deleted in the device encyclopedia.

Viewing device alert or watch details from the patient record

You can view additional information about a device alert or watch from within a patient record.

1. In the patient record, click the **Device Details** tab.
2. Select the device from the device list.
3. Click the **Show Device Alert Information** in the lower-right corner of the window.

The **Device Alert Information** section is displayed.

Mitigating a device alert

A device alert may be mitigated by an action taken at the patient level, such as a change in device settings. From a patient record you can enter the device alert mitigation. You can continue to add to a mitigation until it is marked complete. After the mitigation is marked as complete, the device alert icon will change to a green checkmark in reports and searches, but no further changes can be made to the mitigation details.

1. In the patient record, select the **Device Details** tab.

2. Select the device from the devices list.
3. Click **Show Device Alert Information** in the lower-right corner of the window.
   The expanded device alert information is displayed.
4. Click **Mitigate**.
5. In the **Mitigate Device Alert** dialog enter information about how the device alert was mitigated for the patient.
6. If no further mitigation is needed, check the **Mitigation Complete** check box.
7. Click **Save**.

When a mitigation is marked as complete, a green checkmark is displayed next to the device name on the **Device Details** tab and no further mitigation details can be added. The device name is still displayed in red to indicate the overall device alert.

Encounters tab

You can view, add, edit, delete, sign (or lock), route, and amend patient encounters information from the **Encounters** tab. You must have sufficient privileges to view and modify information on the tab.

The **Encounters** tab shows the next scheduled future encounter and the most recent past encounter.

Encounters can be manually entered, imported from remote follow-up services, imported from a programmer, or retrieved from a previous encounter and then manually updated. A patient record can have up to 5,000 encounters.

From the **Encounters** tab, you can view all of the encounters for that patient. The encounters are organized into the encounter tree. You can sort the encounter tree by encounter type or by encounter date.

The tabs that you see within an encounter are dependent on the type of encounter you have selected and on the patient's device capabilities and modes.

Encounter types

Remote	A remote encounter documents an interaction with a patient with an implanted device via a remote follow-up service, such as the Medtronic CareLink Network. The data for a remote encounter directly corresponds to the data for a clinical follow-up.
In-clinic	An in-clinic encounter documents the interaction with a patient that happens in person at the location of care.
TTM	A TTM encounter documents an interaction with a patient that happens over the phone or via CardioVoice. If the patient has an implanted device there is additional ECG data that can be captured, such as magnet rate.
Implant	An implant encounter documents an interaction with a patient at the time of implant of a device.
Programming	A programming encounter documents programming changes to an implanted device.
Phone Note	A phone note encounter documents the interaction with a patient that occurred over the phone.
Miscellaneous	A miscellaneous encounter documents an interaction with a patient that is not covered by any other encounter type.

Encounter tree

The **Encounters** tab includes a list of the encounters that can be sorted by either date or type.

The default order is by date starting with the most recent. To change the sort order, select either the **By Date** or **By Type** radio button. If you have an encounter that has been signed or locked, and then that encounter is amended, the amended encounter is shown as the parent of the locked encounter.

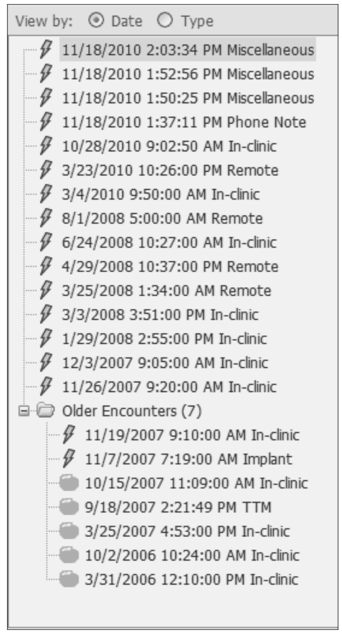


Figure 1: Encounter tree sorted by date

When the encounter tree is sorted by date the 15 most recent encounters are displayed in the list, or approximately three years of encounters for a typical patient. Any other encounters go into the **Older Encounters** folder.

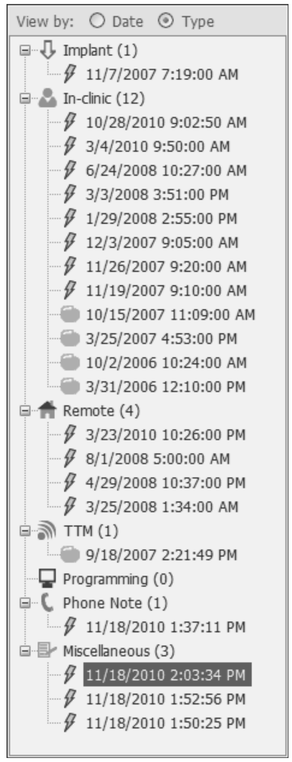


Figure 2: Encounter tree sorted by encounter type

Patient Record Icons

The patient record contains icons for device types, lead chamber, and encounter types.

Device type icons

Icon	Definition
	ICD
	Pacemaker
	ICM/ILR
	Event Recorder
	Remote Monitor
	Adapter
	Other Device
	Encounter not associated to a device

Lead placement icons

Icon	Definition
	Lead placed in left atrium
	Lead placed in right atrium
	Lead placed in left ventricle
	Lead placed in right ventricle
	Lead without chamber specified

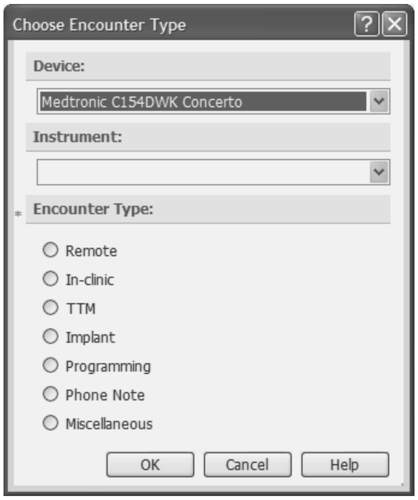
Encounter type icons

Icon	Definition
	Implant
	In-clinic
	Remote
	TTM
	Programming
	Phone Note
	Miscellaneous

Adding an encounter

Interactions, or encounters, with the patient can be entered in the patient's record.

1. From the patient record, click **Add Encounter**.
   The **Choose Encounter Type** dialog box is displayed.



2. Select the device from the drop-down box. If you don't want to associate the encounter to a patient's device then clear the drop-down box.
3. Select the instrument, such as an event recorder or home monitor, if one is being used in the encounter. If you don't want to associate an encounter to an instrument then clear the drop-down box.
4. Select an encounter type. This a required field.
5. Click **OK**.
   The **Add Encounter** dialog box will display with one or more tabs. The tabs that are displayed are related to the device capabilities selected in the device encyclopedia.
6. Depending on the tab, enter or download the encounter information.
7. Click **Save.**

The new encounter is displayed in the encounter tree.

Field and button definitions for the Choose Encounter Type dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Device:	The device to which you are adding an encounter.
Instrument:	The remote monitor, event recorder or other non-implantable device used during the encounter.
Encounter Type:	List of available encounter types.
Remote	Documents the interaction with a patient with an implanted device via a remote follow-up service such as the Medtronic CareLink Network.
In-clinic	Documents the interaction with a patient with an implanted device that happens in person with a provider.
TTM	Documents the interaction with a patient with data that is obtained either interactively on the phone or via CardioVoice. If the patient has a device there is

Dialog box fields and buttons	Field and button definitions
	additional ECG data that can be captured such as magnet rate.
Implant	Documents the interaction with a patient at the time of implant of an implantable device.
Programming	Documents programming changes to an implanted device.
Phone Note	Documents the interaction with a patient that is captured in a phone call.
Miscellaneous	Documents the interaction with a patient not covered by any other encounter type. It can contain description and commentary.

Programmer Data Transfer Methods

Programmers are used in the clinical environment to test patients with medical devices. The programmer uses telemetered RF (radio frequency) communication with the implanted medical device to determine the current programmed values, change the current programmed values, and collect diagnostic information stored in the device.

For some device manufacturers you can automatically import device data from the programmer into the Paceart System. You can manually enter device data if automatic methods do not exist.

You can import device data from a programmer into an in-clinic encounter, a remote encounter, an implant encounter, or a programming encounter in the Paceart Optima System.

There are several ways to import device data into the Paceart System. Not all import options are available for all manufacturers' programmers.

- Save the device data on removable media (such as floppy disks and USB flash drives), and then insert the media into the Paceart Optima System workstation and copy the data.
- Save device data to a local hard drive folder or network path.
- Save device data using SessionSync. This method is for Medtronic CareLink 2090 or Encore programmers only.

The automatic data transfer is intended to be a timesaving convenience feature. It is not a substitute for careful examination of the entire follow-up form prior to saving the test and printing a report.

Configuring the device data import options

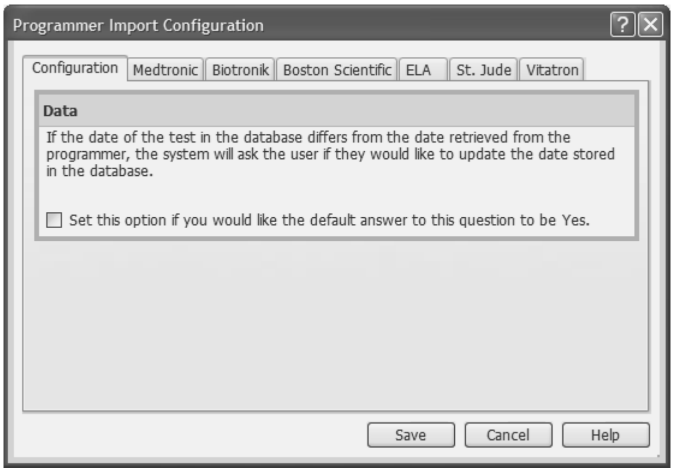
You can configure the import file location. The Paceart System will automatically retrieve files from the location you configure. You can override the default location for a single session when necessary.

This icon is used in this topic.

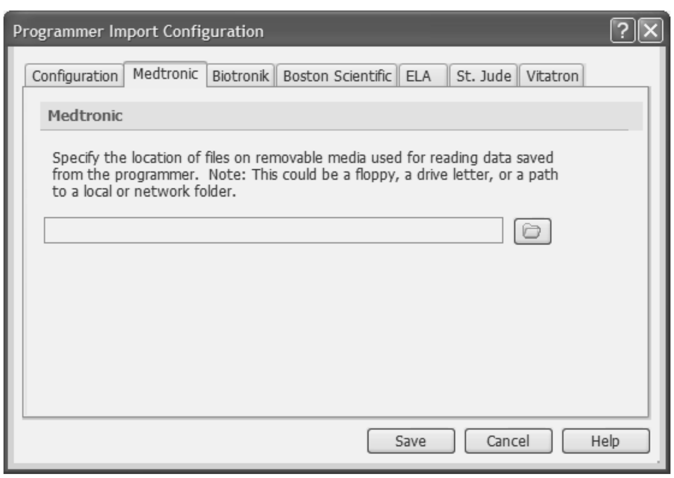
Icon	Description
	Open folder

1. In the patient record, click **Add Encounter**.
   The **Choose Encounter Type** dialog box is displayed.
2. Select the device.
3. Select the encounter type (in-clinic, implant, or programming).

4. Click **OK**.
   The **Add Encounter** dialog box is displayed. It defaults to the **Quick View** tab, which contains the **Retrieve from Programmer** button. If you do not see this button then the patient does not have an active device, the device you selected is not supported for that encounter type, or the encounter type does not support this functionality.
5. Click **Retrieve from Programmer**.
   The **Programmer Import** dialog box is displayed.
6. Click **Configuration**.
   The **Programmer Import Configuration** dialog box is displayed. It contains a **Configuration** tab and a tab for each of the manufacturers that the Paceart Optima System supports.



7. On the **Configuration** tab, select the check box if you want the default answer to be "Yes" when a file is imported that doesn't match the device serial number or the encounter date in the Paceart System.
8. Click the programmer manufacturer-specific tab.



9. Click the open folder icon, navigate to the file location, and select the folder.
10. Click **OK**.
    The Paceart System enters the file location in the text box on the manufacturer's tab.
11. Click **Save**.
12. The **Programmer Import** dialog box is displayed showing a list of available files at that location. If you are importing Boston Scientific files, multiple files may be displayed for the same session. If there are multiple files, the most recent file saved as part of the session is marked with an asterisk in the **Date/Time** column.

The Paceart System will default to this file location every time you click **Retrieve from Programmer**. Go through the configuration process whenever you want change the default location of the device data files. You can also configure a temporary file location for a single session by overriding the default location.

Field and button definitions for the Programmer Import Configuration dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Data	If the encounter date from the programer differs from the encounter date in the database, selecting this checkbox will set the default answer to "Yes" to update information in the database.
Browse	Opens a browse dialog and allows you to select a file.

Overriding the device data location for a single session

You can temporarily override the configured location for device data for a single session. This allows you to select a different location for the device data file containing the programmer device data.

This icon is used in this topic.

Icon	Description
	Open folder

1. In the **Programmer Import** dialog box, click the Open folder icon.
2. Navigate to the folder containing the data and select the folder.
3. Click **OK**.
   The temporary file path is displayed in the **Temporary Import Source** field in the **Programmer Import** dialog box.
4. Select the data file.
5. Click **Import.**

Biotronik Programmer

The Paceart Optima System supports data import from the Biotronik ICS3000 for select Biotronik pacemakers and ICDs. You can import device data into the Paceart System using a USB flash drive.

Performing a USB flash drive import from a Biotronik Programmer

You can import device data from a programmer for a specific manufacturer and model for in-clinic, implant, and programming encounters. Import the data by copying it from the programmer onto a USB flash drive, and then copying the data from the flash drive into the Paceart System. You may need to configure the location of the data files and how you want to resolve mismatched dates and serial numbers.

If you require assistance performing this operation on your programmer, consult your programmer user manual or your Biotronik representative.

These icons are used in this topic.

Icon	Description
	Open folder
	Refresh

1. Insert the USB flash drive into the programmer and copy the device data to it.
2. Insert the same USB flash drive into the Paceart Optima System computer.

3. In the patient record, click **Add Encounter**.
   The **Choose Encounter Type** dialog box is displayed.
4. Select the device.
5. Select the encounter type (in-clinic, implant, or programming).
6. Click **OK**.
   The **Add Encounter** dialog box is displayed. It defaults to the **Quick View** tab, which contains the **Retrieve from Programmer** button. If you do not see this button then the patient does not have an active device, the device you selected is not supported for that encounter type, or the encounter type does not support this functionality.
7. Click **Retrieve from Programmer**.
   The **Programmer Import** dialog box is displayed.
8. Select the file that you want to import and click **Import**.
   If the data that is retrieved from the programmer is different from the data stored in the database, then the **Programmer Import** dialog box is displayed.
9. Select the check boxes of the properties that you would like to have updated with data from the programmer device data.
10. Click **Import**.
    The patient's record is updated but has not been saved.
11. Click **Save** to save the encounter.

    You can view the imported device data by selecting the encounter, and then looking at the appropriate subtabs on the **Encounters** tab.

12. Select and examine each data entry tab and form prior to printing a report. Manually enter any data and comments that did not import.

ELA Programmer

The Paceart Optima System supports data import from the ELA Medical Corporation Orchestra programmer for select ELA Medical devices. You can import device data into the Paceart System by saving the device data to a floppy disk.

Performing a floppy disk import from an ELA Programmer

You can import device data from a programmer for a specific manufacturer and model for in-clinic, implant, and programming encounters. Import the data by copying it from the programmer onto a floppy disk, and then copying the data from the floppy disk into the Paceart System. You may need to configure the location of the data files and how you want mismatched dates handled.

If you require assistance performing this operation on your programmer, consult your programmer user manual or your ELA representative.

These icons are used in this topic.

Icon	Description
	Open folder
	Refresh

1. Insert the disk into the programmer and copy the device data to it.
2. Insert the same floppy disk into the Paceart Optima System computer.
3. In the patient record, click **Add Encounter**.
   The **Choose Encounter Type** dialog box is displayed.
4. Select the device.
5. Select the encounter type (in-clinic, implant, or programming).
6. Click **OK**.

The **Add Encounter** dialog box is displayed. It defaults to the **Quick View** tab, which contains the **Retrieve from Programmer** button. If you do not see this button then the patient does not have an active device, the device you selected is not supported for that encounter type, or the encounter type does not support this functionality.

7. Click **Retrieve from Programmer**.
   The **Programmer Import** dialog box is displayed.
8. Select the file that you want to import and click **Import**.
   If there is data retrieved from the programmer is different from the data stored in the database the **Programmer Import** dialog box is displayed listing the data that is different.
9. Select the check boxes of the properties that you would like to have updated with data from the programmer device data.
10. Click **Import**.
    The patient's record is updated but has not been saved.
11. Click **Save** to save the encounter.

    You can view the imported device data by selecting the encounter, and then looking at the appropriate subtabs on the **Encounters** tab.
12. Select and examine each data entry tab and form prior to printing a report. Manually enter any data and comments that did not import.

Boston Scientific Programmer

The Paceart Optima System supports data import from the Guidant 2901 and 2920/ZOOM programmers for select Guidant devices. You can import device data into the Paceart System by saving the device data to a floppy disk or to a USB flash drive.

Performing a floppy disk import from a Boston Scientific Programmer

You can import device data from a programmer for a specific manufacturer and model for in-clinic, implant, and programming encounters. Import the data by copying it from the programmer onto a floppy disk, and then copying the data from the floppy disk into the Paceart System. You may need to configure the location of the data files and how you want mismatched dates handled.

If you require assistance performing this operation on your programmer, consult your programmer user manual or your Boston Scientific representative.

These icons are used in this topic.

Icon	Description
	Open folder
	Refresh

1. Insert the disk into the programmer and copy the device data to it.
2. Insert the same floppy disk into the Paceart Optima System computer.
3. In the patient record, click **Add Encounter**.
   The **Choose Encounter Type** dialog box is displayed.
4. Select the device.
5. Select the encounter type (in-clinic, implant, or programming).
6. Click **OK**.
   The **Add Encounter** dialog box is displayed. It defaults to the **Quick View** tab, which contains the **Retrieve from Programmer** button. If you do not see this button then the patient does not have an active device, the device you selected is not supported for that encounter type, or the encounter type does not support this functionality.
7. Click **Retrieve from Programmer**.
   The **Programmer Import** dialog box is displayed.

8. Select the file that you want to import and click **Import**.
   If there is data retrieved from the programmer is different from the data stored in the database the **Programmer Import** dialog box is displayed listing the data that is different.
9. Select the check boxes of the properties that you would like to have updated with data from the programmer device data.
10. Click **Import**.
    The patient's record is updated but has not been saved.
11. Click **Save** to save the encounter.

    You can view the imported device data by selecting the encounter, and then looking at the appropriate subtabs on the **Encounters** tab.
12. Select and examine each data entry tab and form prior to printing a report. Manually enter any data and comments that did not import.

Performing a USB flash drive import from a Boston Scientific Programmer

You can import device data from a programmer by copying the data on the programmer to a USB flash drive, and then copying the data on the flash drive onto the Paceart Optima System computer.

1. Insert the USB flash drive into the programmer and copy the device data to it.
2. Insert the same USB flash drive into the Paceart Optima System computer.
3. Extract the encrypted files from the USB flash drive. Contact Boston Scientific for instructions on how to extract the encrypted files from the USB flash drive.
4. In the patient record, click **Add Encounter**.
   The **Choose Encounter Type** dialog box is displayed.
5. Select the device.
6. Select the encounter type (in-clinic, implant, or programming).
7. Click **OK**.
   The **Add Encounter** dialog box is displayed. It defaults to the **Quick View** tab, which contains the **Retrieve from Programmer** button. If you do not see this button then the patient does not have an active device, the device you selected is not supported for that encounter type, or the encounter type does not support this functionality.
8. Click **Retrieve from Programmer**.
   The **Programmer Import** dialog box is displayed.
9. Select the check boxes of the properties that you would like to have updated with data from the programmer device data.
10. Click **Import**.
    The patient's record is updated but has not been saved.
11. Click **Save** to save the encounter.

    You can view the imported device data by selecting the encounter, and then looking at the appropriate subtabs on the **Encounters** tab.
12. Select and examine each data entry tab and form prior to printing a report. Manually enter any data and comments that did not import.

Medtronic Programmer

The Paceart Optima System supports data import from the Medtronic 9790 programmer and the Medtronic CareLink 2090 or Encore programmer for select Medtronic devices. You can import device data into the Paceart System by saving the device data to a disk, to a USB flash drive, or by using SessionSync.

Performing a floppy disk import from a Medtronic Programmer

You can import device data from a programmer for a specific manufacturer and model for in-clinic, implant, and programming encounters. Import the data by copying it from the programmer onto a floppy disk, and then copying the data from the floppy disk into the Paceart System. You may need to configure the location of the data files and how you want to resolve mismatched dates and serial numbers.

If you are using the Medtronic 9790 programmer or the Medtronic CareLink 2090 programmer you can save data using a floppy disk. If you require assistance performing this operation on your programmer, consult your programmer user manual or your Medtronic representative.

These icons are used in this topic.

Icon	Description
	Open folder
	Refresh

1. Insert the disk into the programmer and copy the device data to it.
2. Insert the same floppy disk into the Paceart Optima System computer.
3. In the patient record, click **Add Encounter**.
   The **Choose Encounter Type** dialog box is displayed.
4. Select the device.
5. Select the encounter type (in-clinic, implant, or programming).
6. Click **OK**.
   The **Add Encounter** dialog box is displayed. It defaults to the **Quick View** tab, which contains the **Retrieve from Programmer** button. If you do not see this button then the patient does not have an active device, the device you selected is not supported for that encounter type, or the encounter type does not support this functionality.
7. Click **Retrieve from Programmer**.
   The **Programmer Import** dialog box is displayed.
8. Select the file that you want to import and click **Import**.
   If there is data retrieved from the programmer is different from the data stored in the database the **Programmer Import** dialog box is displayed listing the data that is different.
9. Select the check boxes of the properties that you would like to have updated with data from the programmer device data.
10. Click **Import**.
    The patient's record is updated but has not been saved.
11. Click **Save** to save the encounter.

    You can view the imported device data by selecting the encounter, and then looking at the appropriate subtabs on the **Encounters** tab.
12. Select and examine each data entry tab and form prior to printing a report. Manually enter any data and comments that did not import.

Performing a SessionSync import from a Medtronic Programmer

For an in-clinic encounter using the Medtronic CareLink 2090 or Encore programmer you can save device data from the programmer directly to the Paceart System using your clinic's network by using SessionSync. The information is sent from the programmer through the clinic's network to the Paceart System. The encounter data that is available for import is the same encounter data that is available for floppy disk or USB flash drive import.

Downloaded patient data from a single encounter is automatically displayed in the encounter list. It can be opened, viewed, and edited like any other encounter. A SessionSync encounter shows the date and time of the device session, not the date and time the encounter is created in the Paceart System. For example, you performed an in-clinic device interrogation at 10:30 AM. If SessionSync with the programmer occurred at 10:45 AM and created a Paceart System in-clinic encounter then this encounter would have a time of 10:30 AM.

If a SessionSync transmission is received and an encounter was already created on that date for the patient, for example to collect surface ECGs, one of two things will occur.

- If the patient record is open, the Paceart System will ask you if you would like to add the SessionSync data to the already created encounter or create a new encounter.
- If the patient record is closed, a new encounter is automatically created. This results in two encounters of the same type on the same date. To reconcile the two encounters you must save the SessionSync data to your computer using **File** > **Save to Disk** and then use **Retrieve from Programmer** feature to import the file into the original encounter.

For information on how to use SessionSync consult the SessionSync software documentation supplied with the software or contact Paceart Technical Services.

Performing a USB flash drive import from a Medtronic Programmer

You can import device data from a programmer for a specific manufacturer and model for in-clinic, implant, and programming encounters. Import the data by copying it from the programmer onto a USB flash drive, and then copying the data from the flash drive into the Paceart System. You may need to configure the location of the data files and how you want to resolve mismatched dates and serial numbers.

If you are using the Medtronic CareLink 2090 or Encore programmer you can save data using a USB flash drive. If you require assistance performing this operation on your programmer, consult your programmer user manual or your Medtronic representative.

These icons are used in this topic.

Icon	Description
	Open folder
	Refresh

1. Insert the USB flash drive into the programmer and copy the device data to it.
2. Insert the same USB flash drive into the Paceart Optima System computer.
3. In the patient record, click **Add Encounter**.
   The **Choose Encounter Type** dialog box is displayed.
4. Select the device.
5. Select the encounter type (in-clinic, implant, or programming).
6. Click **OK**.
   The **Add Encounter** dialog box is displayed. It defaults to the **Quick View** tab, which contains the **Retrieve from Programmer** button. If you do not see this button then the patient does not have an active device, the device you selected is not supported for that encounter type, or the encounter type does not support this functionality.
7. Click **Retrieve from Programmer**.
   The **Programmer Import** dialog box is displayed.
8. Select the file that you want to import and click **Import**.
   If the data that is retrieved from the programmer is different from the data stored in the database, then the **Programmer Import** dialog box is displayed.
9. Select the check boxes of the properties that you would like to have updated with data from the programmer device data.
10. Click **Import**.
    The patient's record is updated but has not been saved.
11. Click **Save** to save the encounter.

    You can view the imported device data by selecting the encounter, and then looking at the appropriate subtabs on the **Encounters** tab.
12. Select and examine each data entry tab and form prior to printing a report. Manually enter any data and comments that did not import.

St. Jude Medical Programmer

The Paceart Optima System supports data imported from the St. Jude Medical Model 3510 Programmer, the St. Jude Medical PR-3500 Programmer and the St. Jude Medical Model Merlin for select St. Jude Medical devices. You can import device data into the Paceart System by using a floppy disk (St. Jude Medical Model 3510 Programmer and St. Jude Medical PR-3500 Programmer) or a St. Jude Medical approved USB flash drive.

St. Jude devices can report therapy energy in volts rather than joules. The Paceart System displays therapy energy in volts when joules are not reported.

Performing a floppy disk import from a St. Jude Medical Programmer

You can import device data from a programmer for a specific manufacturer and model for in-clinic, implant, and programming encounters. Import the data by copying it from the programmer onto a floppy disk, and then copying the data from the floppy disk into the Paceart System. You may need to configure the location of the data files and how you want mismatched dates handled.

For more information on how to save device data to a floppy disk on St. Jude Medical programmers, consult your St. Jude Medical programmer user guide or your St. Jude Medical representative.

These icons are used in this topic.

Icon	Description
	Open folder
	Refresh

1. Insert the disk into the programmer and copy the device data to it.
2. Insert the same floppy disk into the Paceart Optima System computer.
3. In the patient record, click **Add Encounter**.
   The **Choose Encounter Type** dialog box is displayed.
4. Select the device.
5. Select the encounter type (in-clinic, implant, or programming).
6. Click **OK**.
   The **Add Encounter** dialog box is displayed. It defaults to the **Quick View** tab, which contains the **Retrieve from Programmer** button. If you do not see this button then the patient does not have an active device, the device you selected is not supported for that encounter type, or the encounter type does not support this functionality.
7. Click **Retrieve from Programmer**.
   The **Programmer Import** dialog box is displayed.
8. Select the file that you want to import and click **Import**.
   If there is data retrieved from the programmer is different from the data stored in the database the **Programmer Import** dialog box is displayed listing the data that is different.
9. Select the check boxes of the properties that you would like to have updated with data from the programmer device data.
10. Click **Import**.
    The patient's record is updated but has not been saved.
11. Click **Save** to save the encounter.

    You can view the imported device data by selecting the encounter, and then looking at the appropriate subtabs on the **Encounters** tab.

12. Select and examine each data entry tab and form prior to printing a report. Manually enter any data and comments that did not import.

Performing a USB flash drive import from a St. Jude Medical Programmer

You can import device data from a programmer by copying the data on the programmer to a St. Jude Medical approved USB flash drive, and then copying the data on the flash drive onto the Paceart Optima System computer.

If you require assistance performing this operation on your programmer, consult your programmer user manual or your St. Jude Medical representative.

These icons are used in this topic.

Icon	Description
	Open folder
	Refresh

1. Insert the USB flash drive into the programmer and copy the device data to it.
2. Insert the same USB flash drive into the Paceart Optima System computer.
3. In the patient record, click **Add Encounter**.
   The **Choose Encounter Type** dialog box is displayed.
4. Select the device.
5. Select the encounter type (in-clinic, implant, or programming).
6. Click **OK**.
   The **Add Encounter** dialog box is displayed. It defaults to the **Quick View** tab, which contains the **Retrieve from Programmer** button. If you do not see this button then the patient does not have an active device, the device you selected is not supported for that encounter type, or the encounter type does not support this functionality.
7. Click **Retrieve from Programmer**.
   The **Programmer Import** dialog box is displayed.
8. Select the file that you want to import and click **Import**.
   If the data that is retrieved from the programmer is different from the data stored in the database, then the **Programmer Import** dialog box is displayed.
9. Select the check boxes of the properties that you would like to have updated with data from the programmer device data.
10. Click **Import**.
    The patient's record is updated but has not been saved.
11. Click **Save** to save the encounter.

    You can view the imported device data by selecting the encounter, and then looking at the appropriate subtabs on the **Encounters** tab.
12. Select and examine each data entry tab and form prior to printing a report. Manually enter any data and comments that did not import.

Vitatron Programmer

The Paceart Optima System supports data import from the Medtronic 9790 programmer and the Medtronic CareLink 2090 or Encore programmer for select Vitatron devices. Refer to the Medtronic Programmer topic for additional information.

Field and button definitions for the Programmer Import dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Configuration	Opens the Programmer Import Configuration dialog box.

Dialog box fields and buttons	Field and button definitions
Browse	Opens a browse dialog and allows you to select a file.
Refresh	Refreshes the data.
Import	Imports the data.

Retrieving data from a previous encounter

For a new encounter, you can retrieve programming, episode, and billing information from a previous encounter, and then update the fields that have changed. This is quicker than entering data manually, and can also decrease data-entry mistakes.

Make sure the patient record is open.

Using the **Retrieve from** feature is the only way to import billing information from a previous encounter.

1. Click **Add Encounter**.
2. Select the device from the drop-down box. If you don't want to associate the encounter to a patient's device then clear the drop-down box.
3. Select the instrument, such as a home monitor, if one is being used in the encounter. If you don't want to associate an encounter to an instrument then clear the drop-down box.
4. Select the encounter type. This is a required field.
5. Click **OK**.
   The **Add Encounter** dialog box is displayed. It defaults to the **Quick View** tab, which contains the **Retrieve from** button. If you do not see this button then either the device you selected is not supported for that encounter type, the encounter type does not support this functionality, or a previous encounter has not been added for the patient.
6. Click **Retrieve from**.
   The **Retrieve from** dialog box is displayed.
7. Select the encounter you want from the list. By default, the most recent encounter is highlighted.
8. Click **OK**.
   The patient's record is updated but has not been saved.
9. Update and verify the encounter information.
10. Click **Save** to save the encounter.

    You can view the imported device data by selecting the encounter, and then looking at the appropriate subtabs on the **Encounters** tab.

11. Select and examine each data entry tab and form prior to printing a report. Manually enter any data and comments that did not import.

Field and button definitions for the Retrieve from dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Current Encounter Device:	The device associated with the current encounter.
Serial Number:	The serial number of the device associated with the current encounter.

Dialog box fields and buttons	Field and button definitions
Encounter	List of encounters in the patient record, showing the date, time, and type.
Device	The device associated with the listed encounter.
Serial Number	The serial number of the device associated with the listed encounter.

Device Data Import Icons

Imported device data files may contain values or formatted data that the Paceart System doesn't expect. After an encounter is imported icons may be displayed to the left of the fields with these unexpected values. You can resolve these unexpected values in the encounter edit mode.

Device data import icons are displayed in the Paceart System, but they do not appear on generated reports.

Import icon	Name	Explanation
	Unexpected parameter	The value of this parameter is unexpected, it does not match expected type, or is out of range.
	Unreported value	The device did not report a value during import of this parameter.
	Processing error	A processing error occurred during import of this parameter.

Unexpected parameter

This icon indicates the field has an unexpected value or format. Some common errors involve an unexpected number of decimal places, an imported value that contains words instead of a numbers, and an imported value that does not match one of the values in a Paceart System drop-down list.

Sometimes the data imported is correct, even though it does not match the expected value or format. For example, a programmed numeric setting, such as **PVARP**, might have a value of **Auto**. In this case, you can ignore the icon. To remove the icon, you must change the value to the expected format. For more information on the expected value or format click on the "?" icon and then click in the field to display the online Help.

For example, a device import file may contain "OK" as the value for **Battery Status**. In the encounter edit mode, you can remove the icon by selecting an appropriate value from the drop-down list.

Unreported value

This icon indicates that the Paceart System expects a value from the device but a value was not imported. Importing files from older devices usually means you will have more of these icons.

To remove this icon, you must manually enter the data.

For example, a device import file may not contain a value for **Sensing Pathway**. That value is expected. In edit mode, you can remove the icon by selecting an appropriate pathway value.

Processing error

This icon indicates that a calculation done by the Paceart System resulted in an invalid output or that a parameter required for a calculation was missing. In edit mode, you can remove the icon by providing an appropriate value.

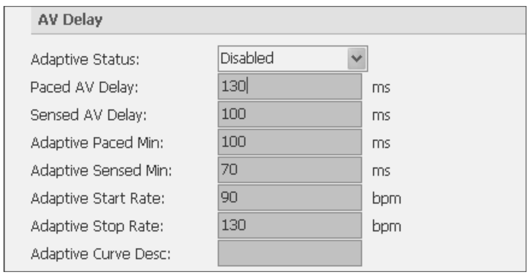
Pertinence

Some fields in an encounter are not applicable to all devices, features, and modes. Fields with gray backgrounds are not pertinent to the device based on the selected features and modes.

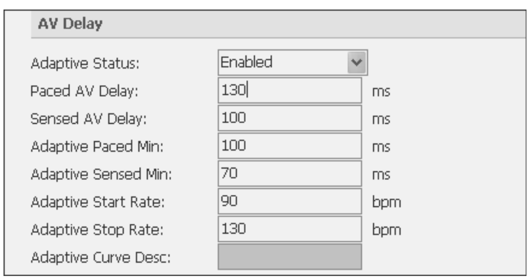
If a field is grayed out you can still enter a value. Non-pertinent fields that are grayed out in the Paceart System are also grayed out on reports.

Field description	What it means
A gray field without a value	For this device and selected feature this field is not pertinent.
A gray field with a value	For this device and selected feature this field is not pertinent but the device reported a value.

For example, although the **Adaptive Status** is "Disabled" the device reported values for **Paced AV Delay** and **Sensed AV Delay**. The values are displayed but the gray background indicates that the fields aren't pertinent because **Adaptive Status** is disabled.



If you change **Adaptive Status** to "Enabled" the shading is removed because the values are pertinent.



Modes

Some fields in an encounter are not applicable to all devices, features, and modes. Fields with gray backgrounds are not pertinent to the device based on the selected features and modes.

The following modes are available: AAI, AAIR, AAT, AATR, ADI, ADIR, AOO, AOOR, DAD, DDD, DDDR, DDI, DDIR, DDT, DDTR, DOO, DOOR, DVI, DVIR, DVTR, ODO, OOO, OOOR, OVO, VAT, VDD, VDDR, VDI, VDIR, VDT, VDTR, VOO, VOOR, VVI, VVIR, VVT, VVTR, AAI<=>DDD, AAIR<=>DDDR, AAIsafeR, SafeR, SafeR/DDIR, DDD-CLS, DDDR-CLS.

Each mode has different fields that are applicable and changing the mode will change which fields show up with a gray background. Only the fields applicable to a selected feature or mode, for example, atrial amplitude in the AAI mode, are shown without a gray background. This is called pertinence. For AAI mode, which stands for Atrial chamber paced, Atrial Chamber sensed, and Inhibiting response to sensing, the following fields have gray backgrounds:

- PVARP
- PVAB
- AV Delay fields

- Pacing and Sensing for RV and LV fields
- Rate Response fields
- Automatic Mode Switch fields

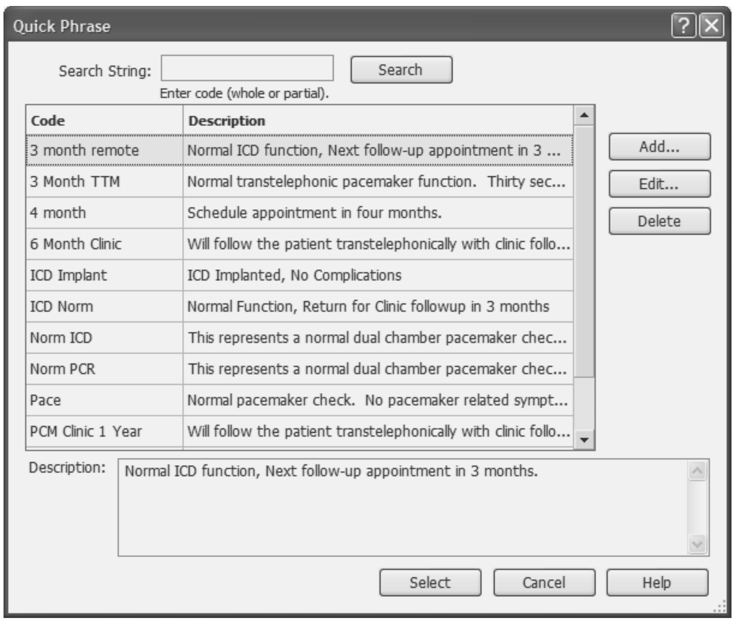
In this example, the ventricular fields are not pertinent for the atrial mode and are grayed out.

Quick Phrase

You can use quick phrase to create standardized text to use throughout the Paceart System application. You can designate a code to make your quick phrase easier to find.

Quick phrases are available in most comment fields in the Paceart System. To access quick phrases put your cursor in a text field and then press the F9 keyboard key. The **Quick Phrase** dialog box is displayed. You can either select a quick phrase or enter new quick phrase text.

For example, you could create a quick phrase with code "3 month remote" and a description of "Normal ICD function, next follow-up appointment in 3 months." When you select that quick phrase the description is inserted into the field.



Selecting a quick phrase

You can insert an existing quick phrase into most fields in the Paceart System.

1. Click in a text field. Most text fields in the Paceart System allow you to insert a quick phrase.
2. Press the F9 key.
   The **Quick Phrase** dialog box is displayed.
3. Select the quick phrase you want to insert into the field.
4. Click **Select**.

The quick phrase you selected is inserted into the field.

Field and button definitions for the Quick Phrase dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Search String:	Text box for entering whole or partial keywords.

Dialog box fields and buttons	Field and button definitions
Search	Invokes the search.
Add	Adds information.
Edit	Allows you to edit existing information.
Delete	Removes the item or items from the list.
Code	The code for the quick phrase. This code will be displayed in the list.
Description:	The description of the quick phrase. This is the actual text that will be inserted into the field.

Adding or editing a quick phrase

You can add a new quick phrase or edit an existing quick phrase.

1. Click in a text field. Most text fields in the Paceart System allow you to insert a quick phrase.
2. Press the F9 key.
   The **Quick Phrase** dialog box is displayed.
3. Determine which action to take.
   - To add a quick phrase, click **Add**.
   - To edit an existing quick phrase, select the quick phrase and click **Edit**.
4. In the **Code** field you can enter a code to make searching for the quick phrase easier.
5. In the **Description** field enter the actual text you want to be inserted for that quick phrase. This is a required field.
6. Select the **Make above text available for all encounter types** check box if the quick phrase applies to all encounter types. If you do not select this option the quick phrase will only apply to the encounter type you are in when you create it.
7. Click **Save**.

The new quick phrase is displayed in the search results section of the **Quick Phrase** dialog box.

Field and button definitions for the Add or Edit Quick Phrase dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Code	The code for the quick phrase. This code will be displayed in the list.
*Description	The description of the quick phrase. This is the text that will be added to the reports. Required field.
Make above text available for all encounter types.	Selecting this option makes this quick phrase available for all encounter types. If you do not select this option the quick phrase is only available for the type of encounter you are in when you create it.

Deleting a quick phrase

You can delete existing quick phrases.

1. Click in a text field. Most text fields in the Paceart System allow you to insert a quick phrase.
2. Press the F9 key.
   The **Quick Phrase** dialog box is displayed.
3. Select the quick phrase you want to delete and click **Delete**.
4. In the confirmation dialog box click **Yes**.

The quick phrase is deleted from the list.

Editing an encounter

You can edit all types of encounters. You cannot edit an encounter that has been signed or locked.

1. Open the patient record.
2. Click the **Encounters** tab.
3. Select an encounter from the encounter tree.
4. Click **Edit**.
   The **Edit Encounter** dialog box is displayed.
5. Edit the information on the tabs in the dialog box.
6. Click **Save**.

The edited encounter information is saved.

Locking an encounter

You can lock an encounter to prevent any future changes to the encounter. If desired, in **Administration: Encounter Export**, you can also configure the Paceart System to automatically export an encounter to the clinic's EMR when the encounter is locked. A clinic can either sign or lock an encounter which can be configured in **Administration: Task Management**. If an encounter is locked and you need to make changes, you will need to amend the encounter instead of edit.

1. Open the patient record.
2. Click the **Encounters** tab.
3. Select the encounter you want to lock from the list.
4. Click **Lock**.
5. In the confirmation dialog box, click **OK** to lock the encounter.

The encounter is locked and cannot be edited. The **Lock** button is no longer accessible for the encounter.

Signing an encounter

You can electronically sign an encounter from within the Paceart System. When an encounter is signed it is also locked (meaning changes can not be made to the encounter without an amendment).

Your clinic can either sign or lock an encounter which is configured in **Administration: Task Management**.

1. Open the patient record.
2. Click the **Encounters** tab.
3. Select the encounter you want to sign from the list.
4. Click **Sign**.
   The **Sign Encounter** dialog box is displayed.
5. Enter your password and click **OK**.

The encounter is signed and locked. The **Sign** button is no longer accessible for the encounter.

Amending an encounter

You can modify encounter data for an encounter that was previously signed or locked.

The signed/locked version of the encounter remains intact and no modifications will be allowed. An editable version, or amendment, will be created and will continue to be editable until it is signed or locked.

1. Open then patient record.
2. Click the **Encounters** tab.
3. Select the locked encounter you want to amend from the list.
4. Click **Amend**.
5. Make the changes to the encounter and click **Save**.

The amended encounter is shown above the original locked encounter in the encounter tree.

Exporting an encounter

You can export an encounter to an external location or to an external system.

XML Export and HL7 Export are optional features. You must have an appropriate license and have the feature configured in **Administration: Encounter Export** before you can export an encounter.

1. Open the patient record.
2. Click the **Encounters** tab.
3. Select the encounter you want to export from the list.
4. Click **File** > **Export**, or click the **Export** button on the **Encounters** tab.
   The **Export** dialog box is displayed. The encounter date, time, and type are displayed in the dialog box title bar.
5. Select the export options for your system.

   These options are enabled or disabled by your **Administration: Encounter Export** configuration.
6. Click **Export** to export the encounter.

The encounter is exported to the configured external location or external system.

Field and button definitions for the Encounter export dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Export Type	Select XML File or External System as the type of export.
Include PDF Report:	Select whether to include a PDF report with the encounter export. The report that is included for each encounter and device type is controlled by the Default Encounter Report settings.
Available Reports	The list of available reports.
Address To Provider:	Select a provider to address letter reports to.

Dialog box fields and buttons	Field and button definitions
XML Version:	Allows you to choose which version of the Paceart XML schema to use for exporting encounters in XML format.
Include Attachments:	Select whether to include attachments with the encounter export.
File Handling:	Select whether to embed or link to attachments for the encounter export.
Sign By Provider:	Select a provider to sign the reports.
Path:	The file path for PDF reports and attachments to the encounter export. The export path is the physical file system path on the server.
Location:	If you choose to link reports and attachments with exported encounters, enter the location of PDF reports and attachments to the encounter export. The location is the URL that is placed in the export file for attachments and linked Paceart System reports.
External System	Selects the export destination of the file (only applicable for HL7 export).
Export	Exports the encounter to the specified location or external system.
Preview:	Shows a preview of the printed report.

Field and button definitions for the Select Provider dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Search String:	Text box for entering whole or partial keywords.
Search	Invokes the search.
Name:	Full name of the provider.
Address:	The provider's street address.
Country:	The country of the provider's street address.
Comments:	Miscellaneous comments.

Dialog box fields and buttons	Field and button definitions
Phone	The provider's phone number.
Provider ID:	The provider's ID number.
Specialty:	The provider's medical specialty, for example, cardiology.
Provider Code:	The provider code.

Routing an encounter task

You can route an encounter task to another Paceart System user or workgroup.

1. Open the patient record.
2. Click the **Encounters** tab.
3. Select the encounter from the list.
4. Click **Route**.
   The **Select Assignee** dialog is displayed.
5. Select the **Assignee Type** from the drop-down list or enter the user or workgroup name in the search field.
6. Click **Search**.
7. Select the workgroup or user you want to route the encounter task to and click **Select**.

The encounter task is routed to the selected user or workgroup.

Saving data to disk

You can save imported data to a network, local disk drive, disk, or other location.

Patient follow-up information that has been exported from a programmer and imported into the Paceart System can be copied from the Paceart System and saved to a network, local disk drive, disk, or some other type of removable device such as a USB flash drive. Consult the manual for the originating instrument or system for information on whether it is possible to load and view the original data from that system.

1. Select the encounter.
2. Click **File** > **Save to Disk**. If the **Save to Disk** menu selection is disabled there is no downloaded data available.
3. In the **Browse for Folder** window, navigate to the desired disk or USB flash drive, or a network or local disk drive folder, and then click **OK**.
4. Click **OK** to save the data.

Reassigning an encounter

You can reassign an encounter to a different patient if the encounter is currently assigned to the incorrect patient. The encounter cannot be reassigned if it has already been signed or locked.

1. Open the patient record.
2. Click the **Encounters** tab.
3. Select the encounter you want to reassign from the list.
4. Click **File** > **Reassign Encounter**.
   The **Reassign Encounter** dialog box is displayed.

5. Enter the name of the patient to whom you are reassigning the encounter or search for the patient by clicking the **[...]** button. The patient you are reassigning the encounter to must have an implanted device.
   The **Select Patient** dialog box is displayed.
6. Select the patient device from the drop-down list. This is not a required field.
7. Select the instrument from the drop-down list. This is not a required field.
8. Click **Save**.
9. In the confirmation dialog box click **Yes**.

The encounter is reassigned to the other patient.

Field and button definitions for the Reassign Encounter dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Enter Patient Name:	Click [...] to search for the patient.
Select Patient Device:	Select the patient's device.
Select Instrument:	Select the patient's instrument.

Deleting an encounter

You can delete an encounter from a patient record.

1. Open the patient record you want to delete the encounter from.
2. Click the **Encounters** tab.
3. Select the encounter you want to delete from the list.
4. Click **File** > **Delete Encounter**.
5. In the confirmation dialog box, click **Yes**.

The encounter is deleted from the patient record.

Quick View

The **Quick View** tab gives you a way to quickly view summary information for the patient.

You must be in add or edit mode to edit information on the **Quick View** tab. Most of the information displayed in the **Quick View** tab is read-only, except for the **Rhythm Assessment** and **Encounter Summary** sections. Comments you enter in the **Encounter Summary** field will be displayed on reports. Click **Expand** or **Collapse** next to **Encounter Summary** to expand or collapse the comments in this section.

You can retrieve encounter data from the programmer by clicking **Retrieve from Programmer**.

You can also retrieve from a previous encounter. Click **Retrieve from** to select the encounter you want to retrieve information from. The latest encounter is at the top of the list. If the **Retrieve from** is grayed out there isn't a previous encounter to retrieve from or that encounter type doesn't allow for retrieve from a previous encounter. You cannot retrieve from a previous encounter for TTM encounters.

Field and button definitions for the Quick View tab

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Underlying Rhythm:	The status of the patient's underlying heart rhythm.
Dependency:	The patient's dependency on bradycardia pacing. Enter a value or select one from the drop-down box.
Encounter Summary	A field to enter information you would like to record about the encounter. Comments you enter in the **Encounter Summary** field will be displayed on reports. Click **Expand** or **Collapse** to change the size of this field.
Retrieve from Programmer	Click to begin importing encounter data from a programmer.
Retrieve from...	Click to retrieve information from a previous encounter.

ECGs

The **ECGs** tab gives you access to the ECG recorder and displays the captured ECG data and associated measurements from ECG recordings. You must be in add or edit mode to modify any information.

Existing strips are listed in the drop-down box. Select a strip from the drop-down box to view specific information about that strip.

You can manually enter or edit values related to recorded strips in the **Measurements** and **Assessment** sections.

Click **Launch Recorder** to launch the ECG recorder application.

Field and button definitions for the ECGs tab

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Launch Recorder	Launches the ECG recorder.
Selected Strip	A previously selected and saved strip. Select a strip to view more detailed information about it.
Presenting:	The externally measured cardiac rate and interval in beats per minute and milliseconds when the implantable device is in demand (presenting) mode.
AV Delay (ms):	The externally measured atrioventricular delay in milliseconds when the implantable device is operating in demand (presenting) mode.

Dialog box fields and buttons	Field and button definitions
Magnet:	The externally measured cardiac rate and interval in beats per minute and milliseconds when the implantable device is operating in magnet mode.
AV Delay (ms):	The externally measured atrioventricular delay in milliseconds when the implantable device is operating in magnet mode.
A. Duration:	The externally measured duration in milliseconds of the right atrial pacing pulse.
V. Duration:	The externally measured duration in milliseconds of the right ventricular pacing pulse.
Rate	The externally measured cardiac rate in beats per minute, measured from an area containing the minimum observed heart rate. Typically measured from an electrocardiogram.
QRS width	The externally measured cardiac interval in milliseconds measuring the width of the QRS complex, measured from an area containing the minimum observed heart rate. Typically measured from an electrocardiogram.
QRS width	The externally measured cardiac interval in milliseconds measuring the width of the QRS complex, measured from an area containing the maximum observed heart rate. Typically measured from an electrocardiogram.
PR interval	The externally measured cardiac interval in milliseconds measured from the beginning of the P wave to the beginning of the QRS complex, measured from an area containing the minimum observed heart rate. Typically measured from an electrocardiogram.
PR interval	The externally measured cardiac interval in milliseconds measured from the beginning of the P wave to the beginning of the QRS complex, measured from an area containing the maximum observed heart rate. Typically measured from an electrocardiogram.
QT interval	The externally measured cardiac interval in milliseconds measured from the beginning of the QRS complex to the end of the T wave, measured from an area containing the minimum observed heart rate. Typically measured from an electrocardiogram.

Dialog box fields and buttons	Field and button definitions
QT interval	The externally measured cardiac interval in milliseconds measured from the beginning of the QRS complex to the end of the T wave, measured from an area containing the maximum observed heart rate. Typically measured from an electrocardiogram.
Atrial Sensing	The external observation of whether atrial sensing has been achieved. The value must be one of the following values: Yes, No, Dependent, Undetermined, N/A.
Ventricular Sensing	The external observation of whether ventricular sensing has been achieved. The value must be one of the following values: Yes, No, Dependent, Undetermined, N/A.
Atrial Capture	The external observation of whether atrial capture has been achieved. The value must be one of the following values: Yes, No, Undetermined, N/A.
Ventricular Capture	The external observation of whether ventricular capture has been achieved. The value must be one of the following values: Yes, No, Undetermined, N/A.

ECG Recorder

The Paceart System ECG recorder gives you the ability to obtain, measure, modify, and view ECG data.

You can capture ECG data from a patient through a 12-lead hardware module that is connected to the patient, from transtelephonic monitoring (TTM) devices, and parsed FSK data associated to the ECG.

There are three types of encounters (remote, in-clinic, and TTM) that you can select to record an ECG strip. ECG data and the associated measurements are saved as a part of an encounter.

You can configure your ECG recording preferences in the **User Preferences** tab in **Administration**. These preferences apply to your user account and will be applied to any workstation you log into.

ECG waveforms can be printed as part of a report.

Launching the ECG Recorder

You can launch the recorder from the **ECGs** tab in an encounter.

Before you can launch the ECG recorder you must have an encounter selected. If the patient has no encounters, you must create a new encounter and open it before you can access the **Launch Recorder** button.

1. With the patient record open, click the **Encounters** tab.
2. Select an existing encounter from the left side of the tab, or create a new encounter and then open it.
3. Click the **ECGs** tab.
4. Click **Launch Recorder**.
   The **ECG Application** window is displayed.

Field and button definitions for the ECG Application window

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Auto-dialer	Click to automatically dial a patient's phone number or press CTRL+D.
Record	Click to start recording the ECG or press CTRL+R.
Gain	The selected Gain setting in mm/mV. Gain is used to increase or decrease the amplitude of an ECG signal. Press F3 to decrease the gain and F4 to increase the gain.
Speed	The selected Speed setting in mm/sec. The strip speed indicates the horizontal scale of the ECG strip. Press F5 to decrease the speed and F6 to increase the speed.
Filter	The selected Filter setting in Hz. Filtering is used to eliminate "noise" on the ECG display. Press CTRL+F to change the setting.
Invert	When selected, inverts the polarity on an ECG strip. Press CTRL+I to toggle between the settings.
Detect Heart Rate	Displays intrinsic heart rate and markers.
Detect Pacer Intervals	Displays pacing intervals and markers.
Detect Pacer Intervals and Pulse Width	Displays pacing intervals and the pulse width markers.
Zoom	Click to measure the ECG or press CTRL+Z.
Calculate Measurements	Automatically calculates measurements from the ECG.
Send Alert	Sends an alert tone to the patient.
Display Format	Allows you to change how you view the strip. You can set a default display format in your user preferences.
Comment	Select a strip comment from the drop-down box or enter one.
[...]	Click to edit the existing strip comment.
<	Allows you to toggle between ECG strips.
>	Allows you to toggle between ECG strips.

Dialog box fields and buttons	Field and button definitions
Print	When selected, indicates that the strip should appear on reports.
FSK	Detects embedded FSK information and detected events from the strip.
Parse	If your event recorder supports FSK and the Paceart System receives the data, parsing allows you to separate a transmission into different events.
Select Strip	Click to select a strip from the ECG.
Symptoms	The patient's arrhythmia or device-related symptoms.
Location	The patient's location when they experienced the symptoms.
Activity	The patient's activity when they experienced the symptoms.
Findings	The findings of the arrhythmia evaluation.
History	Opens the Arrhythmia History dialog box, which displays the patient's past arrhythmia symptoms.
Save	Saves all changes.
Save and Close	Saves all changes and closes the ECG recorder.
Close	Closes without saving your changes.

Configuring your ECG hardware

You can configure the ECG hardware that is connected to your workstation from within the ECG Application.

You can configure your transtelephonic and your in-clinic hardware.

- On the **Transtelephonic** tab, select the TTM hardware that is connected to your workstation.
- On the **Clinic** tab, select the hardware you use to acquire ECG data from an in-clinic patient .

Configuring the hardware

You can configure hardware for the **Transtelephonic** and **Clinic** tabs.

1. From within the ECG application, click **File** > **Configure Hardware**.
   The **Hardware Configuration** dialog box is displayed with the **Transtelephonic** tab active.
2. Select the button designating the type of hardware you have installed.
   - Select **None** if no transtelephonic ECG receiving hardware is installed. TTM ECG acquisition will be disabled and the **Hardware Settings** section will contain no settings.
   - Select **Paceart USB TTM** if the Paceart System USB Module is connected to a USB port on the computer. The Paceart System USB Module must be either a TTM or TTM/Clinic model. This allows the telephone line input on the module to be used for TTM ECG acquisition.

- Select **Modem** if a Paceart System-approved modem is installed for TTM ECG acquisition.

3. Select the hardware setting for the Paceart System USB TTM module or modem in the **Hardware Settings** section.
   - Select **Phone Line Input** if you are using a POTS analog phone line.
   - Select **PBX Handset Input** if you are using a PBX digital phone line.
   - Select the modem that has been set up and configured for your system if you are using a modem.
4. Click the **Clinic** tab.
5. Select the connected hardware in the **Hardware** section.
   - Select **None** if there is no transtelephonic ECG receiving hardware installed.
   - Select **Paceart USB 12 Lead Module** if a Paceart System USB Module is connected to the USB port of the computer. The Paceart System USB Module must be either a Clinic or TTM/Clinic model.
6. Click **OK**.

Shortcuts in the ECG Recorder

You can use shortcut combinations and function keys while in the ECG Recorder.

Shortcut key combinations

Shortcut keys	What it does
Ctrl+A	Sends the patient an alert tone
Ctrl+C (when the cursor is in a text field)	Copies selected text
Ctrl+D	Starts the auto dialer
Ctrl+F	Changes the filter
Ctrl+I	Inverts the polarity
Ctrl+M	Toggles the motion filter on/off
Ctrl+P	Print
Ctrl+R	Starts or stops the recording
Ctrl+T	Selects a 30 second strip
Ctrl+V	Selects a variable size strip
Ctrl+V (when the cursor is in a text field)	Pastes copied text
Ctrl+X (when the cursor is in a text field)	Cuts selected text
Ctrl+Z	Makes manual measurements

Function keys

Function key	What it does
F1	Opens the online Help
F2	Saves the current strip
F3	Decreases gain
F4	Increases gain
F5	Decreases speed

Function key	What it does
F6	Increases speed
F8	Makes automatic measurements
F9	Accesses Quick Phrases, in fields where Quick Phrases are enabled.

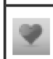
Key combinations in the ECG box

Key combinations	What it does
Left and Right arrows	Moves the cursor within an ECG box with no highlighting
Ctrl+Left arrow and Ctrl+Right arrow	Moves the cursor left or right in larger increments within an ECG box with no highlighting
Up and Down arrows	Moves the cursor within an ECG box between segments with no highlighting
Home & End keys	Moves the cursor, within a selected row, to the beginning or end of the row
Page Up & Page Down keys	Moves the cursor a page forward and a page back in a strip
Shift with any of the above	Highlights the ECG with any movement of the cursor
Double-clicking	Highlights 6 seconds on an ECG strip

Adjusting ECG display settings

You can adjust display settings when recording or viewing an Arrhythmia, ICD, or Pacemaker patient's ECG.

These buttons are used in this topic.

Buttons	Description
	Invert
	Detect heart rate
	Detect pacer intervals
	Detect pacer intervals and pulse width

You can adjust one or more of the following settings when necessary.

- You can invert the ECG by clicking the **Invert** button.
- You can display heart rate markers and the intrinsic heart rate by clicking the **Detect heart rate** button. This option is primarily used in arrhythmia and TTM clinics or to view the intrinsic rate and other scenarios where pacing artifacts are not present.
- You can display pacing markers and the paced heart rate by clicking the **Detect pacer intervals** button.
- You can display pacing markers, pacing rates, and pacing pulse widths by clicking the **Detect pacer intervals and pulse width** button.

Adjusting ECG recording settings for one encounter

You can change your recording settings in the ECG recorder. These settings are defaulted from your user preference settings and will not be saved. To change your default recording settings go to **Administration** > **User Preferences** > **ECG Recording** tab.

Make sure that the strip recording parameters are correct.

These buttons are used in this topic.

Buttons	Description
	Invert waveform

You can adjust one or more of the following settings.

- You can change the display scaling by selecting a value from the **mm/mV** (gain) on the toolbar.
- You can change high frequency filtering to eliminate "noise" on the display by selecting a value from the **Hz** (filter) list on the toolbar.
- You can block low frequency baseline drift by selecting **ECG** > **Motion filter**.
- You can adjust marker detection sensitivity by selecting **Detect** > **Sensitivity**.
- You can invert the waveform by clicking the **Invert waveform** button.

Recording an arrhythmia patient's ECG transtelephonically (TTM)

You can record a TTM ECG by calling the patient, or when the patient calls you. For an Arrhythmia TTM, the patient normally calls the clinic.

These buttons are used in this topic.

Button	Description
	Start/Stop ECG recording

1. Open the patient's record and click the **Encounters** tab.
2. Click **Add Encounter**.
3. In the **Choose Encounter Type** dialog box, ensure no device is listed in the **Device** drop-down list and then select the correct event recorder from the **Instrument** drop-down list.
4. In the **Encounter Type** section, select **TTM**.
5. Click **OK**.
   The **Add Encounter** window is displayed.
6. Click the **ECGs** tab.
7. Click **Launch Recorder**.
   The **ECG Application** window is displayed.
8. When the patient is ready to transmit the ECG, click the **Start/Stop ECG recording** button. Be sure to start recording before the patient begins to send the data to ensure that the entire ECG and event data are captured.

   The ECG is displayed live. The amount of time being recorded is displayed in the upper right side of the **ECG Application** window.
9. While you are recording the ECG you can review the patient's information and history. You can enter any relevant information in the **Symptoms**, **Locations**, **Activity**, and **Findings** fields.

   Information you enter into the **Symptoms** and **Findings** fields will appear in the **History** section of reports, on the encounter's **Quick View** tab for this encounter, and on the **Patient Data** tab for subsequent encounters.
10. Click the **Start/Stop ECG recording** button to stop the recording.
11. In the **Comment** field, enter or select the name of the strip as you would like it to appear on reports.

"Presenting" is no longer available in the **Comment** field but you can type it into the field or add it to your quick phrase.

12. In the **Strip Type** field, select **Variable Size**.
13. Strips with the **Print** check box selected will print on reports. Extracted strips will default to print and the original strip will default to not print.
    For example, if you extracted a 6-second strip from the original strip, the 6-second strip will print and the original strip will not print by default.
14. If the patient's event recorder supports event parsing and it is properly configured, the Paceart System will automatically parse the events.
    a) Click **Parse**.
    If the FSK data was properly detected, the **Save Extracted Events** dialog box is displayed.
    b) Review the data. The **Extracted Events** section shows details for the particular strip being displayed, including the number of seconds pre-event and post-event, and an indication of whether the event was automatically or manually triggered. This section allows you to select the extracted events you want to view. The **Transmissions Details** section shows the full decoding of all FSK data. Click in the text box to scroll through and view all of the FSK data.
    c) If you want to save all extracted strips on the current encounter, select **Save all strips on current encounter**.
    d) If you want each extracted strip to be a separate encounter, leave the **Save all strips on current encounter** check box unchecked. The Paceart System will save the extracted strips in separate encounters with the data and time stamp shown for each event in the **Save Extracted Events** dialog box.
    e) Click **OK**.

    If the patient's event recorder supports automatic parsing but the strip cannot be parsed, it is most likely because of noise in the transmission. Ask the patient to retransmit from a different phone or location.
15. If the patient's event recorder doesn't support parsing or if you cannot automatically parse the strip, you can manually extract events from a strip.

    To extract a 6-second strip:
    a) Double-click on the strip. This automatically selects six seconds.
    b) Click **Select Strip**.

    To extract a variable sized strip:
    a) Click **Select Strip**.
    b) In the **Strip Type** drop-down, select **Variable size**.
    c) Click and drag to select the strip.
16. If you want to create a new encounter for the extracted strip, select the **Create New Encounter** check box.

    Any text you entered in the **Symptoms**, **Location**, **Activity**, or **Findings** fields will be copied to each extracted encounter.
17. Click **Add**.
    - If you did not select the **Create New Encounter** check box, the Paceart System adds the strip to the current encounter. Click **Save** to save the ECG and leave the recorder open, or click **Save and Close** to save the ECG and close the recorder.
    - If you selected the **Create New Encounter** check box, the **Create New Encounter** dialog box is displayed. Enter and save the date and time of the encounter, and then click **Save**. Click **Close** to close the recorder.

The encounter(s) are saved and added to the list of encounters in the left pane of the **Encounter** tab.

Automated parsing of event recorder transmissions

The Paceart System can decode transmission information sent in FSK (Frequency Shift Key) format.

For some event recorders, the Paceart System can decode the transmission information sent over the telephone line, and then use that information to perform automated parsing of the complex signals. The automated parsing feature does not apply to ECG strips recorded using CardioVoice.

For parsing and FSK to work, you must do the following things in the Paceart System.

- When you add the encounter, the event recorder must be selected in the **Instrument** section of the **Add Encounter** dialog box.
- The event recorder must use the correct transmission speed. You can verify or change this setting in **Administration** > **User Preferences** > **ECG Recording** tab

FSK data is typically sent by event recorders at the beginning of the transmission. The type of FSK data sent with the ECG varies with the event recorder and can include the following type of information:

- Device ID
- Number of events in the transmission
- Length of the events
- Event trigger type (automatic versus manual)
- Type of event recorder
- Serial number of event recorder
- Number of seconds of recorded ECG before and after the event

Field and button definitions for the Create New Encounter dialog box

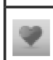
This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Encounter Date:	Select the encounter date for the new encounter you are creating.

Recording a pacemaker patient's ECG transtelephonically (TTM)

You can record a TTM ECG by calling the patient, or when the patient calls you. For a pacemaker TTM, the clinic usually calls the patient.

These buttons are used in this topic.

Button	Description
	Run the Auto-Dialer
	Start/Stop ECG recording
	Send Alert Signal to Patient
	Detect pacer intervals and pulse width
	Detect heart rate

1. Open the patient's record and click the **Encounters** tab.
2. Click **Add Encounter**.
3. In the **Choose Encounter Type** dialog box, verify that the correct device is listed in the **Device** drop-down list and that the correct instrument (if applicable) is listed in the **Instrument** drop-down list.
4. In the **Encounter Type** section, select **TTM**.
5. Click **OK**.

The **Add Encounter** dialog box is displayed.

6. Click the **ECGs** tab.
7. Click **Launch Recorder**.
   The **ECG Application** window is displayed.
8. If you are calling the patient perform the following sub-steps.
   a) Click the **Run the Auto-Dialer** icon.
   b) Click the **Number** tab.
   c) The patient's primary phone number is displayed in the **Number to Dial** field. To change to a different phone number, select one from the **Available Numbers** drop-down.
   d) Pick up the phone attached to your transtelephonic receiver and click **Dial**.
9. When the patient is ready to transmit the ECG, click the **Start/Stop ECG recording** button.

   The ECG is displayed. The amount of time recorded is displayed in the right-hand corner of the ECG window.
10. Pacer intervals and pulse width are displayed if the patient is pacing and the interval and pulse width are detected appropriately. This will allow the Paceart System to automatically calculate measurements from the strip. If pacing artifacts are not present, click the **Detect Heart Rate** button.
11. Click the **Send Alert Signal to Patient** button on the toolbar if you need to talk to the patient. The alert tones signal the patient to pick up the telephone.
12. After you've recorded an acceptable length strip, the typical length is 30-seconds, click **Start/Stop ECG recording** to stop recording.
13. In the **Comment** drop-down list, type or select the name of the strip as you want it to appear on the reports. By default, the first strip is named **Additional presenting cardiogram**.
14. Select the **Strip-Type** drop-down list. The strip type determines the length of the strip and the location of the strip in the report. If you want to save a length other than 6 or 30 seconds, select **Variable size**.
15. Click **Add** to add the ECG to the encounter.
16. Save the ECG.
    - Click **Save** to save the ECG and remain in the recorder.
    - Click **Save and Close** to save the ECG and exit the recorder.

Repeat the record and save steps for the next two 30-second strips (Magnet and Post-Magnet.)

Editing an ECG strip for a pacemaker patient

You can edit, and then save a strip by adding a copy to the database using the **Select Strip** feature.

You can launch the ECG Recorder from the view, add, or edit encounter modes as long as the ECG window is not already open.

1. Click **Launch Recorder**.
2. Click **Select Strip**.
3. Double-click the strip to select a 6-second segment or click and drag across the strip to select a section of the strip. If you used the click and drag method and select less than 6 seconds, when you click select strip it will default back to 6 seconds.
4. Click **Select Strip**.
   The **Add Strip** section is displayed.
5. In the **Comment** field, select a name for the strip or enter a name as you want it to appear on reports.
6. In the **Strip Type** field, select a type from the drop-down list.

   If you have used the drag and highlight method to select longer than a 6 second strip, the system will default to **Variable**. Double-clicking will default to 6 seconds.
   - To print strips on page 1 of reports, save as **Presenting**, **Magnet**, or **Optional**. For TTM follow-ups, **Optional** strips print only on the **Encounter TTM (3 strips)** report. For clinic follow-ups, **Optional** prints only on page 1 of the **Encounter Brady (3 strips)** report.

- **Presenting** and **Magnet** type strips will automatically calculate and update corresponding measurements.

7. To save the strip to a new encounter, select the **Create New Encounter** check box.
8. Click **Add**.
9. Click either **Save** or **Save and Close**.

Configuring auto dialing

When you call patients for a TTM encounter, you can use auto dialing to save time. You may need to configure auto dialing for you clinic's specific telephone configuration.

This button is used in this topic.

Button	Description
	Run the Auto-Dialer

1. Open a patient's record and click the **Encounters** tab.
2. Click **Add Encounter** and select TTM for the encounter type.
3. In the **Add Encounter** dialog box, click the **ECGs** tab.
4. Click **Launch Recorder**.
   The **ECG Application** window is displayed.
5. Click the **Run the Auto-Dialer** button.
   The **Auto Dialer** dialog box is displayed.
6. Click the **Configuration** tab.
7. Enter the information applicable to your clinic's telephone configuration.
   - Enter the area code the auto dialer will use.
   - For local calls, enter any leading or trailing numbers. For example, you may need to dial "9" to get a line outside of the clinic phone system.
   - For long distance calls, enter any leading or trailing numbers. For example, you may need to dial a country code before the phone number if you are calling a country other than the one in which you are located.
8. Click **Save**.

Recording an in-clinic ECG

In-clinic ECGs are recorded for a patient that is at the clinic, rather than sending the signal remotely or as a TTM.

This button is used in this topic.

Button	Description
	Start/Stop ECG recording

1. Open the patient's record and click the **Encounters** tab.
2. Click **Add Encounter**.
3. In the **Choose Encounter Type** dialog box, verify that the correct implanted device is listed in the **Device** drop-down list, and then select the **In-Clinic** encounter type.
4. Click OK.
5. In the **Add Encounter** dialog box, click the **ECGs** tab.
6. Click **Launch Recorder**.
7. On the toolbar, select the recording profile from the drop-down list in the **Lead**.

   This will allow you to record a multilead ECG when using the 12-lead patient cable.

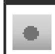
There are profiles for single lead recording of each lead. There is a profile for 2, 3, 6, and 12-lead ECG recording.

8. When the leads are properly connected to the patient, click the **Start/Stop ECG recording** icon to begin ECG recording.
   The ECG strip is displayed in the **ECG** window.
9. Click the **Start/Stop ECG recording** icon to stop and save the ECG recording. The **Real-Time ECG** section displays the live ECG after you have stopped recording.
10. Select the **Save All Leads** check box to save all leads of a multi-lead strip. To save one lead of a multi-lead strip, position the cursor on that lead, and then clear the **Save All Leads** check box. To change the starting point of the strip, click the point where you want the strip to start.
11. In the **Save As** list box, select a strip type. The strip type determines the length of the strip and the location of the strip in the report. If you want to save a length other than 6 or 30 seconds, select **Variable size**.
12. In the **Comment** box, type or select the name of the strip as you want it to appear on the reports.
13. Click **Save**.
   The strip will print on the report unless you clear the **Print** check box. Click the check box to clear it.

Adding an ECG prior to stopping the recording

You can automatically add an entire ECG recording strip prior to stopping the recording.

This button is used in this topic.

Buttons	Description
	Start/Stop ECG recording

1. Click the **Start/Stop ECG recording** button to begin ECG recording.
2. Click **Add** at any time during the recording to stop the ECG recording and automatically add the entire strip to the drop-down.
3. Save the data.
   - Click **Save** to save all of the data you have recorded or modified.
   - Click **Save and Close** to save all of the data you have recorded or modified, and then automatically close the ECG application window.

   If you do not want to save the data you have recorded or modified, click **Close**. The Paceart System reminds you that you have unsaved data. You can click **Yes** to save your data or **No** to not save your data.

Adjusting spike detection sensitivity and filtering while recording

If you are using a USB module for ECG acquisition, the **Receiver** menu item provides a **Spike Detector** submenu. Spike detection sensitivity applies only to the ECG recording and cannot be used to remove false spikes after an ECG has been saved.

You can launch the ECG Recorder from the view, add, or edit encounter modes as long as the ECG window is not already open.

1. Start the recording.
2. Set the spike detection sensitivity.
   - If this is a TTM encounter, click **Receiver** > **Spike Detector**, and then click one of the options on the menu to complete setting the sensitivity.
   - If this is a Pacemaker or an ICD encounter, click **Receiver** > **Spike Detector** > **Sensitivity**.
3. Use the slider bar in the **Pacemaker Spike Detection Sensitivity** dialog box to adjust the sensitivity to spike detection.
   - Move the bar to the left to increase sensitivity to spike detection.

- Click **Default** if you want to return the slider bar to the default position.

4. Click **Apply** to see the results of your adjustment. You should adjust and test your results in small increments.
5. Click **Okay** when you are satisfied with your adjustments.

   The Paceart System retains your setting between sessions so you should not need to readjust spike detection sensitivity unless you experience a change in electromagnetic interference in your environment.

Automatically measuring an ECG strip

The Paceart System can automatically calculate the heart rate, pacer intervals, and pulse widths (depending on detection settings) from the ECG strip. To calculate measurements automatically the strip must contain detection markers.

These buttons are used in this topic.

Button	Description
	Calculate measurements

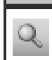
1. Record an ECG strip or open an existing strip.
2. Highlight an area of the strip.
3. Click the **Calculate measurements** button. You can also press F8 or click **ECG** > **Measurements** from the menu bar. The Paceart System automatically calculates measurements from the detection markers on the strip.
   - For a pacemaker device, the Paceart System will automatically calculate and update the appropriate measurements if the strip type is **Presenting** or **Magnet**.
   - For all other strip types, the Paceart System will calculate the measurements and display them at the bottom of the recorder window but the system will not save them to the database.

Manually measuring an ECG strip

You can use calipers to manually measure cardiac cycle intervals in Zoom mode, including R-R, PR, QRS, QT, and QTC intervals

You can launch the ECG Recorder from the view, add, or edit encounter modes as long as the ECG window is not already open.

This button is used in this topic.

Button	Description
	Zoom to make measurements

1. Click **Launch Recorder**.
2. Select the strip that you want to measure from the drop-down list.
3. Click the **Zoom to make measurements** button to magnify the waveform.
4. Adjust the vertical marking lines by clicking and dragging the **P**, **q**, **R**, **s**, and **T** letters located above the horizontal lines.
   - Move the blue **R** so that its associated vertical line is aligned with the peak of an **R** wave.
   - Move the gray **R** so that its associated vertical line is aligned with the peak of an adjacent **R** wave.
   - Move the **q**, **s**, and **T** letters to align with their corresponding ECG waveform elements.

   As you make these adjustments, the **Rate**, **RR**, **PR**,**QRS**, **QT**, and **QTC** values at the bottom of the window change automatically.
5. Click **Save** when the adjustments reflect accurate measurements.

6. Click **Save as Min** or **Save as Max** to save the measurements. These measurements are recorded on the **Encounters** tab **ECGs** subtab in the **Measurements** section.

Renaming an ECG strip

You can rename an ECG strip.

You can launch the ECG Recorder from the view, add, or edit encounter modes as long as the ECG window is not already open.

1. Click **Launch Recorder**.
2. Display the strip that you want to rename.
3. Click the **[...]** button.
4. Enter the new strip name in the **Edit Strip Comment** dialog box.
5. Click **OK**.
6. Click **Save** to save the strip and stay in the recorder, or **Save and Close** to save the strip and close the recorder.

Field and button definitions for the Edit Strip Comment dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Strip Comment	The strip comment. Press F9 to use a quick phrase.

Replacing an ECG strip

You can replace an ECG strip in a patient's record with a selected portion of that strip. Any part of the original strip that is not selected is deleted by this function.

You can launch the ECG Recorder from the view, add, or edit encounter modes as long as the ECG window is not already open.

1. Click **Launch Recorder**.
2. From the drop-down list, select the ECG strip that you want to replace.
3. Select a section of the strip.
4. Click **File** > **Replace ECG Strip**.
5. Confirm your action.
6. Click the **[...]** button if you want to rename the strip, and then click **OK**.
7. Click **Save** to save the strip and stay in the recorder, or **Save and Close** to save the strip and close the recorder.

Extracting a strip from an existing ECG

You can extract a smaller strip from an existing ECG or make a copy of the whole ECG.

You can launch the ECG Recorder from the view, add, or edit encounter modes as long as the ECG window is not already open.

1. From the drop-down list, select the strip you want to open.
2. Click **Select Strip**.
   The fields for adding a strip are displayed above the waveform.
3. In **Comment**, enter a name for, or a comment about, the selected strip or select something from the drop-down list.
4. Select a strip type from the drop-down list.
5. Select what you would like to extract or copy into another strip.

- If there are multiple leads and you want to select all of them, select the **Save All Leads** check box. This is the default.
- If there are multiple leads and you want to select the same segment in all of them, select the **Save All Leads** check box, and then click and drag over the segment of the ECG that you
- If there are multiple leads and you want to select only one of them, remove the check mark from the **Save All Leads** check box and double-click the lead you want to copy.
- If you want to select a part of a single lead, remove the check mark from the **Save All Leads** check box and click and drag the section of the ECG that you want to copy.

6. If you want to save the ECG as a new encounter select the **Create New Encounter** check box.
7. Click **Add**.

   If you chose to create a new encounter confirm or change the default date and time, and then click **Save**.
8. Click **Save** to save the strip and stay in the recorder, or **Save and Close** to save the strip and close the recorder.

Deleting an ECG strip

You can delete any ECG strip from a patient's ECG strip collection.

You can launch the ECG Recorder from the view, add, or edit encounter modes as long as the ECG window is not already open.

1. Click **Launch Recorder**.
2. From the drop-down list, select the ECG strip that you want to delete.
3. Click **File** > **Delete ECG Strip**.
4. Confirm your action.
   The strip is deleted.

Printing a waveform

You can print an ECG waveform in an encounter report such as the **Encounter ECG 12 Lead (3 x 4)** report.

1. In an encounter, select the **ECGs** tab.
   The **ECG Application** window is displayed.
2. Open the strip you want to print, and make sure the **Print** check box selected.
3. Print the report.

Episodes

The **Episodes** tab lists episodes, episode details and waveform information. You must be in add or edit mode to modify any information.

The **Episodes** tab contains the last interrogation date and time, the episodes last reset date and time, and a list of all episodes that you can filter based on various criteria. You can view more detail about the selected episode by double-clicking the episode or by clicking **View** (in view-only mode) or **Edit** (in edit mode).

Use the filters at the top of the tab to list only the episodes that correspond to the selected criteria.

- Select the check boxes to filter the episodes in the list by episode type. You can select multiple types.
- Use the **Select View** and **Durations** lists to filter the episodes by treatment delivered and episode duration.
- Use the encounter start list to view only the episodes that have occurred since the last encounter or to view all episodes for that device.
- Use the **Assessments** list to filter the list by therapy assessment.

Field and button definitions for the Episode subtab

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Last Interrogation	The date and time of the last episode interrogation.
Episodes Last Reset	The date and time the episodes were last reset.
VT/VF (VHR)	When checked, includes ventricular tachycardias (VT), ventricular fibrillations (VF), and ventricular high rate (VHR) episodes in the list.
SVT	When checked, includes supraventricular tachycardias (SVT) episodes in the list.
VT-NS	When checked, includes ventricular tachycardia non-sustained (VT-NS) episodes in the list.
AT/AF/Mode Switch	When checked, includes atrial tachycardias (AT), atrial fibrillations (AF), atrial high rate (AHR), and mode switch episodes in the list.
Other	When checked, includes other episodes in the list.
Select View	Select the type of episodes you want to view.
Episode duration	Selecting a time shows you episodes lasting longer than the selected time.
Encounter start	Select **Since Last Encounter** to view only episodes that have occurred since the date and time of the last recorded encounter. Select **Since Last In-Clinic Encounter** to view only episodes that have occurred since the date and time of the last in-clinic encounter. Select **Since Last Summary** to view only episodes that have occurred since the date and time of the last encounter marked as a summary. Select **All Episodes** to view all episodes for that device.
Assessment:	Select an assessment value to view only the episodes associated with that therapy assessment.
View	Allows you to view more information about the selected episode. This button is only available when you are in view mode.
Add	Adds information.
Edit	Allows you to edit existing information.

Dialog box fields and buttons	Field and button definitions
Delete	Removes the item or items from the list.
Comments:	Additional information about the episodes.

Adding an episode

You can manually add the information for an episode.

1. Open the patient record.
2. Select the encounter containing the episode that you want to add an episode to and click **Edit**.
3. Click the **Episodes** tab.
4. Click **Add**.
   The **Add Episode** dialog box is displayed.
5. Enter the data in the **Episode Information** section.
6. If you have episode parameter and value details to enter, click **Details**, then enter the data in the **Edit Episode Details** dialog box and click **OK**.
7. Click **OK** on the **Add Episode** dialog box.
8. Click **Save** on the **Edit Encounter** dialog box to save the encounter.

The encounter is displayed in the encounter tree. The newly added episode data is displayed on the **Episodes** tab.

Editing an episode

You can add, delete, or change information in an existing episode by editing the encounter containing the episode.

1. Click the **Encounters** tab.
2. Select the encounter containing the episode that you want to edit and click **Edit**.
   The **Edit Encounter** dialog box is displayed.
3. Click the **Episodes** tab to edit information specific to an episode within the selected encounter.
4. Change the **Last Interrogation** or **Episodes Last Reset** dates as needed.
5. Use the filters at the top of the tab to locate a specific episode, then click the episode that contains the data you want to edit.
6. Click **Edit**.
   The **Edit Episode** dialog box opens.
7. Update the **Episode Information** as needed, or click **Details** to update detailed episode parameters and their values.

   You can also view the episode's EGM waveform at the bottom of the dialog box.
8. Click **OK**.
9. Click **Save** on the **Edit Encounter** dialog box to save the encounter.

Field and button definitions for the View, Add, and Edit Episode dialog boxes

This is a list of fields and buttons and their definitions.

The **Plots and Waveforms** section of the dialog box appears only if you are editing an episode. This section is not present on the Add Episode dialog box.

Dialog box fields and buttons	Field and button definitions
Episode Information	
ID	The numeric identifier for the episode.
Type	The type of the episode as a general category. The value must be one of the following values: AT-NS, AF (AHR), AF (AHR) Monitor, Asystole, AT, AT Monitor, Brady, Brady Mode Switch, Brady Rate Drop Response, Other, Patient Activated, Periodic, SVT, VT-NS, VF (VHR), VF (VHR) Monitor, Fast VT, VT Monitor, Slow VT, Slow VT Monitor, Very Slow VT, Very Slow VT Monitor, or no value.
Start	The date and time of the episode.
Duration	The duration of the episode. Click [...] to open the Edit Duration dialog box where you can update the duration value.
Avg. Atrial Rate	The average atrial rate in beats per minute measured during the episode. The value, in beats per minute, must be ten digits or less and cannot have a decimal point.
Max. Atrial Rate	The maximum atrial rate in beats per minute measured during the episode. The value, in beats per minute, must be ten digits or less and cannot have a decimal point.
Avg. Ventricular Rate	The average ventricular rate in beats per minute measured during the episode. The value, in beats per minute, must be ten digits or less and cannot have a decimal point.
Max. Ventricular Rate	The maximum ventricular rate in beats per minute measured during the episode. The value, in beats per minute, must be ten digits or less and cannot have a decimal point.
Activity	Patient activity at the time of the onset of the episode.
Location	Location of the patient at the time of the onset of the episode.
Symptoms	Patient-reported symptoms at the time of the onset of the episode.
Findings	Findings about the episode.

Dialog box fields and buttons	Field and button definitions
# ATPs Delivered	The number of anti-tachycardia pacing therapies delivered. The value must be ten digits or less and cannot have a decimal point.
# Shocks Delivered	The number of shocks delivered. The value must be ten digits or less and cannot have a decimal point.
Result	The result of the therapy used to treat the episode. The value must be one of the following values: Successful, Unsuccessful, or no value.
Assessment	The assessment of whether the detection or therapy was appropriate. The value must be one of the following values: Appropriate, Inappropriate, Indeterminate, or no value.
Print	The clinician's evaluation as to whether the episode should be printed on the corresponding reports. When selected, indicates the episode should be printed. If the Print Strip check box for the waveform is selected, the episode is also marked to be printed.
Previous	Navigates to the previous episode in the episode list.
Next	Navigates to the next episode in the episode list.
Details	Opens the Edit Episode Details dialog box where you can view and edit episode parameters and values.
Plots and Waveforms	
View strip	Select the strip you want to view from the list.
[...]	Opens the Edit Strip dialog box where you can change the strip's name or type.
<<	Opens the previous EGM waveform strip saved with the episode.
>>	Opens the next EGM waveform strip saved with the episode.
Print Strip	The clinician's evaluation as to whether the waveform should be printed on the corresponding reports. When selected, indicates the waveform should be printed.
Delete Strip	Deletes the strip from the encounter. This deletion is not saved until you save the edited encounter.

Dialog box fields and buttons	Field and button definitions
Display Plot	Select the display format to use to display the EGM data: Interval, Rate, or Waveform. If you select Waveform, you can select the waveform channels and A-A, V-A, and A-V interval data to display, when available. Waveform plots also allow you to save a section from the waveform to a new strip.
Inverted	Allows you to display the waveform inverted (top to bottom).
Full Disclosure	The clinician's evaluation as to whether the waveform should be viewed or printed in a full disclosure format. The full disclosure format does not include the atrial or ventricular intervals or event markers and displays 30 seconds per row in a vertical format.
Speed	The Speed setting in mm/sec. Select the horizontal scale for viewing waveforms. This setting allows you to see more detail in waveforms but is not saved or used for printing.
Gain	The Gain setting in mm/mV. Select the vertical scale for viewing waveforms. This setting allows you to see more detail in waveforms but is not saved or used for printing.
Clear Selection	Allows you to clear any selected sections in the waveform plot.
Save Selection	Allows you to save the selected section of the waveform plot to a new strip. This new strip is saved with the episode when you save the edited encounter.
Selected	Displays the time interval for the selected section of the waveform. If the selection is less than 3 seconds, the equivalent rate, assuming a V-V interval, is also displayed.
Waveform channel	Select the interval channel to display on the waveform plot.
Interval data	Select the interval data to display on the waveform plot: A-A (atrial event) intervals, V-A (atrial event) intervals, or A-V (ventricular event) intervals.
Edit	Allows you to edit information about the strip.
Delete	Removes the item or items from the list.

Field and button definitions for the Edit Episode Details dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Add	Adds information.
Edit	Allows you to edit existing information.
Delete	Removes the item or items from the list.
Parameter	The name of the parameter for the episode.
Value	The value of the parameter for the episode.

Field and button definitions for the Add and Edit Episode Data dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Parameter	The name of the parameter for the episode.
Value	The value of the parameter for the episode.

Field and button definitions for the Edit Duration dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Duration	Displays the total duration based on the values you enter.
Years	The duration in years. This field is displayed when you edit the device's remaining longevity.
Months	The duration in months. This field is displayed when you edit the device's remaining longevity.
Days	The duration in days.
Hours	The duration in hours.
Minutes	The duration in minutes.
Seconds	The duration in seconds.

Dialog box fields and buttons	Field and button definitions
Milliseconds	The duration in milliseconds. While the Paceart System does save and use any millisecond values you enter, fractions of seconds are not displayed on screens or dialog boxes or printed on reports.
Duration text box	Allows you to manually enter the duration. Valid formats are dd.hh:mm:ss or YYyr, MMmo.

Navigating to Next and Previous episodes when editing an encounter

You can navigate to a different episode on the **Edit Episode** dialog box when editing an encounter.

1. Open the patient record.
2. Click the **Encounters** tab, then select the encounter and click **Edit**.
3. On the **Edit Encounter** dialog box, click **Edit**.
4. On the **Edit Episode** dialog box, click the **Previous** or the **Next** button.

Deleting an episode, episode details, or waveform

You can delete a selected episode, episode details, or waveform from an encounter. You cannot recover these once they are deleted from the Paceart System database. Make sure that you want to delete the information.

1. Open the patient record.
2. Click the **Encounters** tab.
3. Select the encounter that contains the episode that you want to delete.
4. Click **Edit**.
   The **Edit Encounter** dialog box is displayed.
5. Click the **Episodes** tab.
6. Select the episode that you want to delete.
7. Click **Delete**.
8. Confirm that you want to delete the information from the database.
   The Paceart System deletes it from the database. This deletion is not saved until you save the edited encounter.
9. Click **Save** on the **Edit Encounter** tab to save the edited encounter or **Cancel** to cancel any changes that you made to the encounter information.

EGM waveform viewer overview

You can view EGM waveforms from within the Paceart System by using the EGM waveform viewer on the View Episode or Edit Episode dialog box.

The waveform viewer shown under **Plots and Waveforms** on the View Episode or Edit Episode dialog box has three display formats: interval plot, rate plot, and waveform. The viewer defaults to the interval plot.

In the interval plot and rate plot formats you can select the focus area on the interval or rate display. This focus area carries over to all of the display formats. The default focus area is the beginning of the strip. You can also choose to see a V-V only plot, an A-A only plot, or a plot with both V-V and A-A. The plot marks are color-coded.

In the waveform format you can select an area, clear a selected area, and save a selected area.

EGM waveforms can be printed as part of a report.

EGM waveform display formats

EGM data can be displayed using an interval plot, rate plot, or waveform. The default display is interval plot. Change the display by selecting a format in the **Display** field in the waveform viewer.

Plots

An interval plot display is a graphical representation of data associated with intervals in milliseconds across time in seconds. The time axis is compressed to better show episode trends.

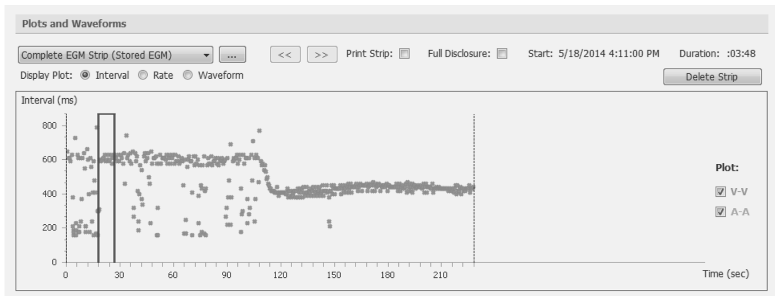


Figure 3: Interval Plot

A rate plot display is a graphical representation of data associated with rate in beats per minute across time in seconds. As with the interval plot, the time axis is compressed to better show episode trends.

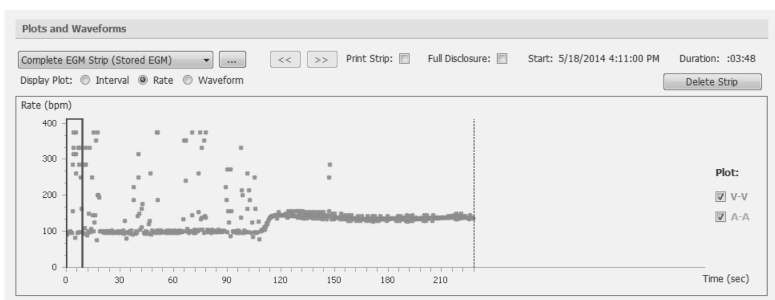


Figure 4: Rate Plot

By default, both V-V and A-A values are plotted. You can choose to display only the V-V or only the A-A points.

The Paceart System displays the plot with a blue rectangle surrounding the default focus area. You can move the focus area by clicking in an area of the plot that is outside the blue rectangle. The rectangle automatically moves to the area you selected centering itself on the cursor location. The same focus area is the same in all three display formats. You can use the scroll bar at the bottom of the plot to see other areas of the strip without changing the focus area.

Waveform

This type of display is a graphical representation of any varying quantity against time. The Paceart System passes in the waveform channels and an atrial channel (A-A) to display by default. When available, the Paceart System displays interval data for the A-A (atrial event), V-A (atrial event), and A-V (ventricular event). Other event outputs are not displayed in the viewer.

The viewer displays waveform data from two waveform channels along with the interval and marker information associated with a strip. Markers are two or three letter acronyms. For definitions, see the Waveform Markers table in the "EGM waveform markers" topic.

The time between two dark gray grid lines is a 1 second interval. The Paceart System supports up to a 32 minute strip. The longer the recording, the longer it takes the Paceart System to open it.

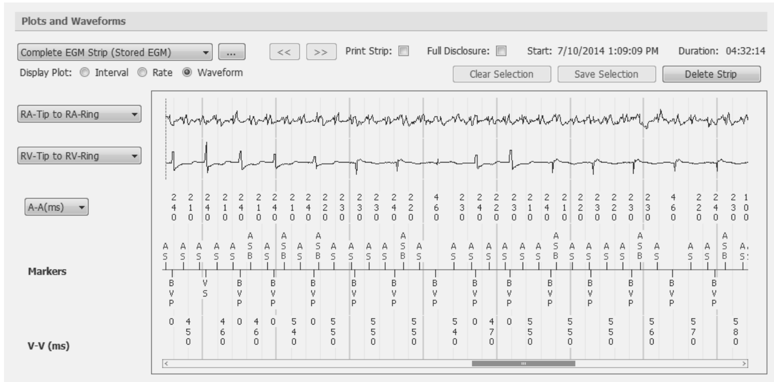


Figure 5: Waveform

EGM waveform viewer

The Paceart System EGM waveform viewer gives you the ability to view EGM data. The waveform viewer functionality is restricted to stored EGM data that is imported into the Paceart System from device files and is associated to an episode in an encounter.

The viewer supports importing EGMs through the Medtronic 2090 or Encore Programmer, CareLink, and data retrieved from the programmer through SessionSync.

The Paceart System defaults to passing in the first and second (if applicable) waveform channels for the EGM display unless you have saved another configuration. You can select two channels from a list of available waveform channels in the strip. Both of the channels can be the same.

You can view atrial and ventricular interval data associated with the strip. If there is missing data in the strip, you will not see any stored waveform, interval, and marker data. The Paceart System may also display some text in the portion of the strip with missing data that may include an indication of the length, in time, of the missing data.

Opening an EGM waveform file

You can import waveform files into the Paceart System by creating an in-clinic or implant encounter. You can import waveform files from CareLink into a remote encounter.

Make sure that you have a patient record open, that you have created an encounter and retrieved the waveform file from the programmer, and that you have the patient record open to the **Encounters** > **Episodes** tab.

1. Select the encounter and click **Edit** on the **Encounters** tab.
   The Edit Encounter dialog box opens.
2. On the **Episodes** tab, select the episode and click **Edit**.
   The Edit Episode dialog box opens and displays the waveform under **Plots and Waveforms**. It defaults to the Interval Plot display. You can change the display by clicking a different **Display Plot** option.
3. Click **OK** to close the **Edit Episode** dialog box and return to the **Episodes** tab on the **Edit Encounter** dialog box.
4. Click **Save** to save a new or edited encounter.

Selecting and saving a section of an EGM waveform

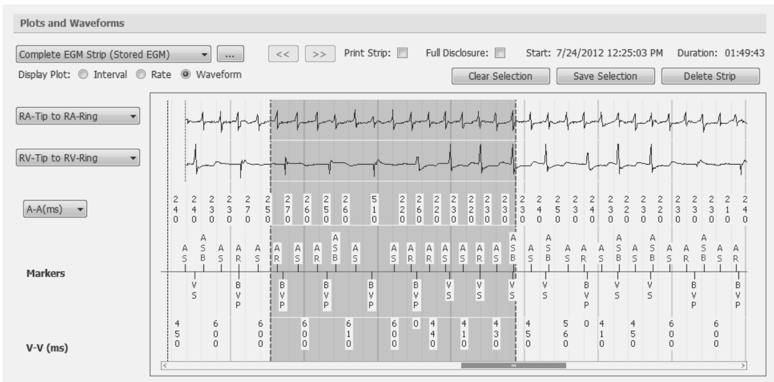
You can select and save a section of an EGM strip in the waveform display.

1. Click once in the waveform where you want your selection to begin. Ensure that you click within one of the regions where the hand cursor is visible.
   A red broken line is displayed.

2. Click once in the waveform where you want your selection to end. Ensure that you click within one of the regions when the hand cursor is visible.

   A second red broken line is displayed and the space between the red lines is highlighted. This highlighted section is the selected area. You can click a third time anywhere on the strip to clear your selection and insert a new red broken line.

   The time interval of the selection is also displayed. If the interval is less than 3 seconds, the corresponding rate, assuming a V-V interval, is also displayed.



3. Click **Save Selection**.
   The **Add Strip** dialog box is displayed.
4. Enter a name for the strip in the **Name** field.
5. Select the type of strip in the **Type** field.

   You can leave the field blank or select **Stored EGM** or **Sample EGM**.
6. Select the **Print Strip** check box if you want the waveform to be printed as part of the Encounter Episode Details report.
7. Select the **Full Disclosure** check box to display the waveform in the full disclosure format. The full disclosure format does not include the atrial or ventricular intervals or event markers and displays 30 seconds per row in a vertical format. Clear the check box to include atrial and ventricular intervals as well as event markers in the strip.
8. Click **OK.**
   The Paceart System returns you to the waveform display on the **Edit Episode** dialog box. Be sure to save the encounter to save the new waveform strip with the encounter episode.

Clearing an EGM strip selection

You can remove the selection of an area of a strip in the waveform display format by clicking **Clear Selection**. This will remove all red broken lines.

Printing a waveform

You can print an EGM waveform within an encounter report such as the **Encounter Episode Details** report.

The height of the image will be the same as the height of the waveform on the display. You cannot print the EGM plot displays.

1. Make sure that the strip has the **Print** check box selected in one of the following locations on the **Episodes** tab of the encounter.

   - The **Add Strip** dialog box
   - The **Edit Episodes** dialog box

2. Print the report.

Increasing the viewable size of a waveform

You can adjust the vertical and horizontal scale of a waveform in Edit mode to show more or less detail on the screen.

Adjust the horizontal scale by adjusting the **Speed** setting, and adjust the vertical scale by adjusting the **Gain** setting. Select small values to zoom out and show more of the waveform. Select larger values to zoom in and show more detail.

You can also increase the vertical size of a waveform channel by clicking the icon  next to the channel name. This hides the other channel and the interval markers. Click the icon  again to restore the original display.

Additionally, you can increase the vertical size of display plots and waveforms by increasing or maximizing the **View Episode** or **Edit Episode** window.

These adjustments are not saved and do not affect the display of the waveform in the corresponding reports.

Waveform Viewer log

The Paceart System will generate a log with exceptions and messages triggered by the waveform viewer and log it to the same log file as the Paceart System. You can find this file at `\PaceartLogs\paceart_log.txt`.

EGM waveform markers

Event markers are Paceart System-specific two and three letter acronyms that represent device-recorded aspects of the recorded waveform (for example, a sensed or paced beat, a detected arrhythmia, or a therapy).

The Paceart System displays the markers in the waveform display according to the mappings in the following table. If a marker has no known association, the Paceart System assigns it UNK (unknown marker). Atrial markers are displayed above the baseline. Ventricular and other markers are displayed below the baseline. The baseline is the black horizontal line in the **Marker** section of the **Waveform** display.

Waveform Markers

Category	Event Description	Marker Display Annotation
BRADY	Non Refractory Sense - Atrium	AS
	Pace - Atrium	AP
	Refractory Sense - Atrium	AR
	Non- Refractory Sense - Ventricle	VS
	Pace - Ventricle	VP
	Refractory Sense - Ventricle	VR
	Sensor Detect - Ventricle/Dual	VSD
	Sensor Detect - Atrium	ASD
	Pace (Positive) - Dual	P
	Sense (Positive) - Dual	S
	Refractory Sense (Positive) - Dual	SR
	Trigger Pace - Ventricle/Dual	VPT
	Trigger Sense - Ventricle/Dual	VST
	[Sensor Derived Event - Atrium]	AE
	[Sensor Derived Event - Dual]	SE

Category	Event Description	Marker Display Annotation
	[Pace (Negative) - Dual]	P
	[Sense (Negative) - Dual]	S
	[Refractory Sense (Negative) - Dual]	R
	[Trigger Sense - Atrium]	AST
	[Trigger Pace - Atrium]	APT
	[Idle Marker]	ID
	[Activity Sensor Pace - Atrium]	AXP
	[Activity Sensor Pace - Ventricle]	VXP
	[MV Sensor Pace - Atrium]	AMP
	[MV Sensor Pace - Ventricle]	VMP
	[Sensor Derived Event - Ventricle]	VE
	[Mode Switch - Dual]	MS
	[Atrial Sense in PVAB - Atrium]	ASB
TACHY	[Tachy Pace - Atrium]	ATP
	[Tachy Sense - Atrium]	ATS
	[Fibrillation Sense - Atrium]	AFS
	[Fibrillation Sense - Ventricle]	VFS
	[Tachy Sense - Ventricle]	VTS
	[Tachy Pace - Ventricle]	VTP
	[Tachy Detect Complete - Atrium]	ATD
	[Fibrillation Detect Complete - Atrium]	AFD
	[Fibrillation Detect Complete - Ventricle]	VFD
	[Slow Tachy Detect Complete - Ventricle]	VTD
	[Cardioversion/Defib Pulse - Ventricle]	VCD
	[Cardioversion /Defib Pulse - Atrium]	ACD
	[Data Uplink]	DU
	[End of Charge]	CE
	[Fast Tachy Sense via VT -Ventricle]	VTT
	[Fast Tachy Sense via VF -Ventricle]	VTF
	[Fast Tachy Detect Complete - Ventricle]	FTD
	[Ventricle Safety Pace Trigger - Dual]	VSP
	[Fast Tachy Sense - Dual]	ATF
	[Preventative Pace - Dual]	APP
	[VT Monitor & SVT Detected - Ventricle]	VTM

Category	Event Description	Marker Display Annotation
	[Fast A&V Detected - Dual]	FD
	[Rejected Fast Tachycardia Detection - Dual]	FDR
	[Rejected Tachycardia Detection - Dual]	TDR
CAPTURE	[Capture - Atrium]	AC
	Capture - Ventricle	VC
HF	[Biventricular Pace - Dual]	BVP
ERROR	Error Marker	ER
ANY OTHER MARKER	UNKNOWN	UNK
REVEAL	Asystole detection - escape time-out/Asystole detection - overrange/Asystole detection - ventricular sense	AD
	Rejected Asystole detection	ADR
	Patient Activation	PA
	Brady Detection	BD
	Brady Sense	BS
	Ignored Event	IG

Programming

The **Programming** tab is for entering detections, therapies, and brady data. You must be in add or edit mode to modify any information.

Programming data can be imported or entered directly into the Paceart System.

Brady

The **Brady** section includes information about modes and rates, AV delay, pacing and sensing, heart failure, automatic mode switch, and rate response.

To enable the **Brady** section in an encounter, the device must have the **Brady Detections** capability, the **Brady Therapies** capability, or both selected in the encyclopedia.

Detections/Therapies

The **Detections/Therapies** section includes information about detection status, interval, and duration, redetection interval and duration, classifier, committed shock, sudden onset status and duration, rate stability status and duration, QRS morphology status and match, SHR to current status, duration, and rate, and SHR to VF status, duration and rate. It also includes summary and detailed information on therapies.

To enable the **Detections/Therapies** section in an encounter, the device must have the **Asystole**, **Heart failure**, **Brady Detections**, **Brady Therapies**, **AT/AF Detections**, **AT/AF Therapies**, **VT/VF Detections**, and/or **VT/VF Therapies** capabilities selected in the encyclopedia.

The Detections and Therapies table shows a list of detections according to related device capabilities. Each row is shaded gray if the zone is disabled or contains no detection values. You can select a row to see more details. The Therapies summary table displays the count and type of active therapies in the same order as programmed. Antitachycardia pacing (ATP) therapies list the type of ATP and the number of sequences. For example, a value of **Burst(2)** indicates two sequences of Burst ATP. Shock therapies list the energy and count.

For example, a value of **35J X 4** indicates four sequential shocks of 35J each. If the zone is active but contains no active therapies, **Monitored** is displayed in the summary.

Field and button definitions for the Detections/Therapies section

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Detection Status:	The detection status for the selected zone. The value must be one of the following values: Enabled, Disabled.
Detection Rate/Interval:	The programmed detection rate in beats per minute and interval in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Detection Duration	The minimum duration of time in seconds or beats that the arrhythmia must persist above the Detection Rate before the rate is considered arrhythmic.
Redetection Rate/Interval:	The programmed redetection rate in beats per minute and interval in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Redetection Duration:	The minimum duration of time in seconds or beats that the arrhythmia must persist above the redetection rate before the rate is considered arrhythmic after therapy has been applied.
Classifier:	The detection classification scheme to be used for the zone if not independently configured. The value must be one of the following values: Via VF, Via VT.
Committed Shock:	The indicator of whether a shock therapy will be delivered without reconfirming the diagnosis/detection after charging is complete (inverse of reconfirm). The value must be one of the following values: Enabled, Disabled.
Sudden Onset Status:	The indicator of whether sudden onset criteria are used in classifying an arrhythmia in the current zone. The value must be one of the following values: Enabled, Disabled.
Sudden Onset Duration:	The threshold of change, expressed as a percentage or interval length, used to determine if the rate acceleration is sudden.
Rate Stability Status:	The indicator of whether rate stability criteria are used in classifying an arrhythmia in the current zone. The

Dialog box fields and buttons	Field and button definitions
	value must be one of the following values: Enabled, Disabled.
Rate Stability Duration:	The interval in milliseconds used to distinguish irregular rhythms from stable rhythms. The value, in milliseconds, must not have more than two numbers after a decimal point.
QRS Morphology Status:	The indicator of whether waveform morphology criteria are used in classifying an arrhythmia in the current zone. The value must be one of the following values: Enabled, Disabled.
QRS Morphology Match:	The percentage of time over which the sudden onset criteria are applied. The value, in a percentage, must not have more than two numbers after a decimal point.
SHR to Current Status:	The indicator of whether rejection rules in the current zone will be disabled if a high rate episode is sustained. The value must be one of the following values: Enabled, Disabled.
SHR to Current Duration:	The duration of time in seconds a high rate episode must endure before rejection rules in the current zone are disabled. The value, in seconds, must not have more than two numbers after a decimal point.
SHR to Current Rate:	The minimum rate in beats per minute that must be sustained before rejection rules in the current zone are disabled. The value, in beats per minute, must be ten digits or less and cannot have a decimal point.
SHR to VF Status:	The indicator of whether an episode will be promoted to the Ventricular Fibrillation zone if a high rate episode is sustained. The value must be one of the following values: Enabled, Disabled.
SHR to VF Duration:	The duration of time in seconds a high rate episode must endure before being promoted to the Ventricular Fibrillation zone. The value, in seconds, must not have more than two numbers after a decimal point.
SHR to VF Rate:	The minimum rate in beats per minute that must be sustained before being promoted to the Ventricular Fibrillation zone. The value, in beats per minute, must be ten digits or less and cannot have a decimal point.
Add	Adds information.
Edit	Allows you to edit existing information.

Dialog box fields and buttons	Field and button definitions
Delete	Removes the item or items from the list.
Move Up	Moves the selected item up in the list box.
Move Down	Moves the selected item down in the list box.

Field and button definitions for the Add/Edit Therapy dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Therapy Type: Shock	When selected, indicates a shock is delivered as therapy.
Therapy Type: ATP	When selected, indicates antitachycardia pacing (ATP) is delivered as therapy.
Status	Indicates the therapy status. The value must be one of the following values: Enabled, Disabled.
Energy	Energy for therapy in Joules. The value, in joules, must not have more than two numbers after a decimal point.
Voltage:	The voltage for therapy in volts. The value, in volts, must not have more than two numbers after a decimal point.
Pathway:	The indicator of whether the pathway is between the can and a single electrode on a lead or between two electrodes on the same or different leads.
WaveForm	The type of shock waveform. The value must be one of the following values: Monophasic, Biphasic.
CV Delay	Cardioversion therapy delay after a sensed R-wave in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Pulse Width (+)	The width of the positive phase in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Pulse Width (-)	The width of the negative phase in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Tilt (+):	The percentage fall in voltage on the capacitor from the beginning to the end of the negative phase of the

Dialog box fields and buttons	Field and button definitions
	waveform over the course of the entire pulse. The value, in a percentage, must not have more than two numbers after a decimal point.
Tilt (-):	The percentage fall in voltage on the capacitor from the beginning to the end of the positive phase of the waveform over the course of the entire pulse. The value, in a percentage, must not have more than two numbers after a decimal point.
Therapy	The basic antitachycardia pacing (ATP) type. The value must be one of the following values: Burst, Ramp, Burst Scan, Ramp Scan.
Description:	The description of the pacing.
Timing:	The timing of anti-tachycardia pacing. The value must be one of the following values: Before Charging Next Therapy, While Charging Next Therapy.
Amplitude:	The programmed pulse amplitude in volts. The value, in volts, must not have more than two numbers after a decimal point.
Pulse Width:	The programmed pulse width in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Stimuli Count	Initial number of stimuli in the ATP train. The value must be ten digits or less and cannot have a decimal point.
Coupling Interval	The measure of the delay between a conducted atrial event and a subsequent ventricular event measured in milliseconds or as a percentage. The value, in a percentage, must not have more than two numbers after a decimal point.
Coupling Int. Dec.	The coupling interval decrement for each pacing train in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Ramp Dec.	The interpulse decrement within each ATP pace train in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Minimum BCL	The minimum burst cycle length in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.

Dialog box fields and buttons	Field and button definitions
# of Sequence	The number of sequences of antitachycardia pacing (ATP) for this therapy. The value must be ten digits or less and cannot have a decimal point.
Max # of Pulse	The maximum number of pulses. The value must be ten digits or less and cannot have a decimal point.
Pulse Increment	The value to increase the number of pulses per burst for each successive burst in antitachycardia pacing (ATP) scheme. The value must be ten digits or less and cannot have a decimal point.
Scan Decrement	The scan decrement in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Smart Mode	Disables an antitachycardia pacing (ATP) therapy that was unsuccessful in 4 consecutive episodes so that the device can treat subsequent episodes more quickly with therapies that have been effective.
Disabled by Smart Mode:	An indicator of whether the therapy was automatically disabled by the implantable device due to repeated unsuccessful therapy delivery.
BCL	The initial antitachycardia pacing (ATP) burst cycle length in milliseconds.
S1S2 Ramp	S1S2 ramp used for Ramp + therapy. The value must be ten digits or less and cannot have a decimal point.
S2SN Ramp	S2SN ramp used for Ramp + therapy. The value must be ten digits or less and cannot have a decimal point.
Scan Sequence	The scan sequence.

Field and button definitions for the Specify Duration dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Fixed	The fixed duration of time in seconds required at or above the rate criteria which will satisfy the criteria. The value, in seconds, must not have more than two numbers after a decimal point.
Beat Count:	The specified number in beats of cardiac cycles required at or above the rate criteria which will satisfy

Dialog box fields and buttons	Field and button definitions
	the detection criteria.The value must be ten digits or less and cannot have a decimal point.
Beat Ratio:	The specified ratio of cardiac cycles required at or above the rate criteria which will satisfy the detection criteria.The value must be ten digits or less and cannot have a decimal point.

Field and button definitions for the Specify Interval Length dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Fixed	The fixed duration of time in milliseconds required at or above the rate criteria which will satisfy the criteria.
Percent:	The percentage of time required at or above the rate criteria which will satisfy the criteria.The value, in a percentage, must not have more than two numbers after a decimal point.

Field and button definitions for the Brady section

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Modes and Rates	
Mode:	The programmed pacing mode. The value must be one of the following values: AAI, AAIR, AAT, AATR, ADI, ADIR, AOO, AOOR, DAD, DDD, DDDR, DDI, DDIR, DDT, DDTR, DOO, DOOR, DVI, DVIR, DVTR, ODO, OOO, OOOR, OVO, VAT, VDD, VDDR, VDI, VDIR, VDT, VDTR, VOO, VOOR, VVI, VVIR, VVT, VVTR, AAI<=>DDD, AAIR<=>DDDR, AAIsafeR, SafeR, SafeR/DDIR, DDD-CLS, DDDR-CLS.
Lower Rate:	The programmed lower rate in beats per minute. The value, in beats per minute, must be ten digits or less and cannot have a decimal point.
Upper Rate:	The programmed upper rate in beats per minute. The value, in beats per minute, must be ten digits or less and cannot have a decimal point.
Upper Sensor:	The programmed maximum sensor rate in beats per minute. The value, in beats per minute, must be ten digits or less and cannot have a decimal point.

Dialog box fields and buttons	**Field and button definitions**
Hysteresis Rate:	The programmed hysteresis rate in beats per minute. The value, in beats per minute, must be ten digits or less and cannot have a decimal point.
Sleep Rate:	The programmed sleep rate in beats per minute. The value, in beats per minute, must be ten digits or less and cannot have a decimal point.
PVARP:	The programmed post-ventricular atrial refractory period in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
PVAB:	The programmed post-ventricular atrial blanking period in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
AV Delay	
Adaptive Status:	The status of adaptive AV delay. The value must be one of the following values: Enabled, Disabled.
Paced AV Delay:	The base paced AV delay in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Sensed AV Delay:	The sensed AV delay in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Adaptive Paced Min:	The minimum AV delay at Stop Rate or Upper Rate in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Adaptive Sensed Min:	The minimum sensed AV delay in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Adaptive Start Rate:	The lower rate when AV Delay begins to shorten in beats per minute. The value, in beats per minute, must be ten digits or less and cannot have a decimal point.
Adaptive Stop Rate:	The upper rate when AV Delay will be the shortest in beats per minute. The value, in beats per minute, must be ten digits or less and cannot have a decimal point.
Adaptive Curve Desc:	Adaptive Curve Description in AV Delay.
Pacing and Sensing	

Dialog box fields and buttons	Field and button definitions
Amplitude:	The programmed atrial pulse amplitude in volts. The value, in volts, must not have more than two numbers after a decimal point.
Amplitude:	The programmed right ventricular pulse amplitude in volts. The value, in volts, must not have more than two numbers after a decimal point.
Amplitude:	The programmed left ventricular pulse amplitude in volts. The value, in volts, must not have more than two numbers after a decimal point.
Pulse Width:	The programmed atrial pulse width in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Pulse Width:	The programmed right ventricular pulse width in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Pulse Width:	The programmed left ventricular pulse width in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Pacing Polarity:	The programmed atrial pacing configuration. The value must be one of the following values: Unipolar, Bipolar.
Pacing Polarity:	The programmed right ventricular pacing configuration. The value must be one of the following values: Unipolar, Bipolar.
Pacing Polarity:	The programmed left ventricular pacing configuration. The value must be one of the following values: Unipolar, Bipolar.
Pacing Pathway	The atrial pacing pathway.
Pacing Pathway	The right ventricular pacing pathway.
Pacing Pathway	The left ventricular pacing pathway.
Pacing Adapt Mode	The indicator of whether the atrial capture (pacing) threshold is automatically adjusted by the implantable device without user intervention. The value must be one of the following values: Adaptive, Fixed, Monitor.
Pacing Adapt Mode	The indicator of whether the right ventricular capture (pacing) threshold is automatically adjusted by the implantable device without user intervention. The value

Dialog box fields and buttons	Field and button definitions
	must be one of the following values: Adaptive, Fixed, Monitor.
Pacing Adapt Mode	The indicator of whether the left ventricular capture (pacing) threshold is automatically adjusted by the implantable device without user intervention. The value must be one of the following values: Adaptive, Fixed, Monitor.
Sensitivity:	The programmed atrial sensitivity in millivolts. The value, in millivolts, must not have more than three numbers after a decimal point.
Sensitivity:	The programmed right ventricular sensitivity in millivolts. The value, in millivolts, must not have more than three numbers after a decimal point.
Sensitivity:	The programmed left ventricular sensitivity in millivolts. The value, in millivolts, must not have more than three numbers after a decimal point.
Blanking:	The programmed atrial blanking period in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Blanking:	The programmed right ventricular blanking period in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Blanking:	The programmed left ventricular blanking period in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Refractory:	The programmed atrial refractory period in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Refractory:	The programmed right ventricular refractory period in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Refractory:	The programmed left ventricular refractory period in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Sensing Polarity:	The programmed atrial sensing configuration. The value must be one of the following values: Unipolar, Bipolar.

Dialog box fields and buttons	Field and button definitions
Sensing Polarity:	The programmed right ventricular sensing configuration. The value must be one of the following values: Unipolar, Bipolar.
Sensing Polarity:	The programmed left ventricular sensing configuration. The value must be one of the following values: Unipolar, Bipolar.
Sensing Pathway	The atrial sensing pathway.
Sensing Pathway	The right ventricular pacing pathway.
Sensing Pathway	The left ventricular pacing pathway.
Sensing Adapt Mode:	The indicator of whether the atrial sensitivity threshold is automatically adjusted by the implantable device without user intervention. The value must be one of the following values: Adaptive, Fixed, Monitor.
Sensing Adapt Mode:	The indicator of whether the right ventricular sensitivity threshold is automatically adjusted by the implantable device without user intervention. The value must be one of the following values: Adaptive, Fixed, Monitor.
Sensing Adapt Mode:	The indicator of whether the left ventricular sensitivity threshold is automatically adjusted by the implantable device without user intervention. The value must be one of the following values: Adaptive, Fixed, Monitor.
Heart Failure	
Vent Adapt Mode:	The indicator of whether the ventricular pacing configuration is monitored or adjusted by the device to ensure effective cardiac resynchronization therapy without user intervention. The value must be one of the following values: Adaptive, Fixed, Monitor.
Vent Pacing Config:	Ventricular pacing configuration allows the left, right or both ventricles to be paced.
V-V Adapt Mode:	The indicator of whether the ventricular pacing sequence or V-V delay are monitored or adjusted by the device to ensure effective cardiac resynchronization therapy without user intervention. The value must be one of the following values: Adaptive, Fixed, Monitor.
First Chamber Paced:	When biventricular (RV+LV) pacing is enabled, this parameter sets the first chamber to be paced as RV or LV. The delay interval between delivery of a pace

Dialog box fields and buttons	Field and button definitions
	to the first and second chamber is programmable. The value must be one of the following values: Sequential LV First, Sequential RV First, Simultaneous.
VV Delay:	The delay between pacing the two ventricles during cardiac resynchronization therapy in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Automatic Mode Switch	
Status:	The status of automatic mode switch. The value must be one of the following values: Enabled, Disabled.
Detection Rate:	The atrial tachycardia mode switch rate in beats per minute. The value, in beats per minute, must be ten digits or less and cannot have a decimal point.
Detection Duration	The minimum duration of time in seconds or beats that the arrhythmia must persist above the Detection Rate before the rate is considered arrhythmic.
Fallback Rate:	The rate at which the heart will be paced during the interval in which a mode switch is active in beats per minute. The value, in beats per minute, must be ten digits or less and cannot have a decimal point.
Fallback Mode:	The mode at which the heart will be paced during the interval in which a mode switch is active. The value must be one of the following values: AAI, AAIR, AAT, AATR, ADI, ADIR, AOO, AOOR, DAD, DDD, DDDR, DDI, DDIR, DDT, DDTR, DOO, DOOR, DVI, DVIR, DVTR, ODO, OOO, OOOR, OVO, VAT, VDD, VDDR, VDI, VDIR, VDT, VDTR, VOO, VOOR, VVI, VVIR, VVT, VVTR, AAI<=>DDD, AAIR<=>DDDR, AAIsafeR, SafeR, SafeR/DDIR, DDD-CLS, DDDR-CLS.
Rate Response	
Threshold:	The programmed sensor threshold setting.
Slope:	The programmed sensor slope setting.
Slope Exertion:	The slope of the function defining the mapping from sensor measurements to target pacing rates during the exertion phase for a dual slope model.
Accel/Reaction:	The programmed sensor acceleration time or reaction setting in seconds. The value, in seconds, must not have more than two numbers after a decimal point.

Dialog box fields and buttons	Field and button definitions
Decel/Recovery:	The programmed sensor deceleration time or recovery setting in minutes. The value, in minutes, must not have more than two numbers after a decimal point.
ADL Rate:	The activities of daily living rate is the target rate which the patient's heart rate is expected to reach during moderate exercise in beats per minute. The value, in beats per minute, must be ten digits or less and cannot have a decimal point.
Miscellaneous	
PMT Intervention:	The pacemaker-mediated tachycardia termination algorithm.
PVC Response:	The premature ventricular contraction response algorithm.
Notes:	Miscellaneous notes about programming and parameters.

Field and button definitions for the Polarity Pathways dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Add	Adds information.
Edit	Allows you to edit existing information.
Delete	Removes the item or items from the list.

Field and button definitions for the Add/Edit Pathways dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Type:	The indicator of whether the polarity type is an anode or cathode. Required field. The value must be one of the following values: Anode, Cathode.
Location:	The anatomical location of the anode or cathode terminal of the sensing pathway. The value must be one of the following values: RA, LA, RV, LV, SVC, CS.
Electrode:	The electrode used as the anode or cathode terminal of the sensing pathway. The value must be one of the

Dialog box fields and buttons	Field and button definitions
	following values: Tip, Ring, Ring1, Ring2, Ring3, Ring4, Coil, Patch, Can.

Device Status

The **Device Status** tab is for device information including implantable devices and leads. You must be in add or edit mode to modify any information.

For this tab to be visible in an encounter you must have **Battery**, **Capacitor**, **High Voltage**, and/or **Low Voltage** device capabilities selected in the encyclopedia for this device. Or you must have imported device data with this information.

Device Data

Select **Device Data** to add or edit device-related data. Depending on which capabilities are enabled for the device, this section can include battery and capacitor data.

Lead Data

Select **Lead Data** to add or edit lead-related data. To view more lead data in read-only mode, click **Show More Lead Information**. Depending on which capabilities are enabled for the device, this section can include status, sensing integrity counts, polarization, evoked response, and lead impedance data.

Field and button definitions for the Device Data section

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Battery	
Timestamp:	The date and time of the device status.
Status:	The status of the battery in terms of lifecycle phase. The value must be one of the following values: Beginning of Service, Middle of Service, Recommended Replacement Time, End of Service.
Voltage:	The current device battery voltage as measured by the implantable device in volts. The value, in volts, must not have more than two numbers after a decimal point.
RRT Criteria:	The trigger/event required for the battery lifecycle phase to be indicated as recommended replacement time.
Remaining Longevity:	The estimated remaining longevity of the battery expressed in years and months.
Remaining Percentage:	The estimated remaining longevity of the battery expressed as a percentage of the expected total

Dialog box fields and buttons	Field and button definitions
	lifetime of the battery. The value, in a percentage, must not have more than two numbers after a decimal point.
Impedance:	The measured electrical impedance/resistance of the battery in ohms. The value, in ohms, must not have more than two numbers after a decimal point.
Capacitor	
Energy	The maximum energy achieved during the charge in Joules. The value, in joules, must not have more than two numbers after a decimal point.
Voltage	The maximum voltage achieved during the charge in Volts. The value, in volts, must not have more than two numbers after a decimal point.
Last Full Energy Charge:	The date and time of the last full energy charge.
Duration:	The duration of the last full energy charge in seconds. The value, in seconds, must not have more than two numbers after a decimal point.
Capacitor Therapy Charge:	The date and time of the last capacitor therapy charge.
Duration:	The duration of the last capacitor therapy charge in seconds. The value, in seconds, must not have more than two numbers after a decimal point.
Last Capacitor Reform:	The date and time of the last capacitor reform.
Duration:	The duration of the last capacitor reform in seconds. The value, in seconds, must not have more than two numbers after a decimal point.

Field and button definitions for the Lead Data section

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Lead Data	
Defib Status:	The indicator of whether the defibrillator lead should be checked for integrity concerns. The value must be one of the following values: Check Lead, Null.
Status	The indicator of whether the sensing and pacing lead should be checked for integrity concerns. The value must be one of the following values: Check Lead, Null.

Dialog box fields and buttons	Field and button definitions
Start Date	The date and time of the start of the measurement period.
End Date	The date and time of the end of the measurement period.
Integrity Count:	The cumulative count of very short interval detections over the defined time period. The value must be ten digits or less and cannot have a decimal point.
Polarization:	The residual charge at the electrode following a pacing pulse. The value, in millivolts must not have more than two numbers after a decimal point.
Evoked Response:	The physiological response evoked by a pacing pulse as measured by the time duration between the pacing pulse and the desired physiological response (i.e. QRS Onset). The value, in milliseconds, must not have more than two numbers after a decimal point.
Add	Adds information.
Edit	Allows you to edit existing information.
Delete	Removes the item or items from the list.

Field and button definitions for the Add/Edit Lead Impedance dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Chamber	The chamber the threshold was measured for. Required field. The value must be one of the following values: RA, LV, RV.
Method	The method of data recording. The value must be one of the following values: Instrument Initiated, Device Initiated, Device Initiated Daily Trend, Device Initiated Weekly Trend.
Variance	The variance of the measurement start and end dates for the specified method of measurement in days. The value, in days, must not have more than two numbers after a decimal point.
Polarity	The lead polarity. The value must be one of the following values: Unipolar, Bipolar.

Dialog box fields and buttons	Field and button definitions
Pathway	The indicator of whether the pathway is between the can and a single electrode on a lead or between two electrodes on the same or different leads.
Start Date	The date and time of the start of the measurement period.
End Date	The date and time of the end of the measurement period.
Type	The statistical type of measurement (for example, measured, mean). The value must be one of the following values: Measured, Minimum, Mean, Maximum, or no value.
Impedance:	The electrical resistance across the lead, electrode, and electrode-myocardial interface in ohms. The value, in ohms, must not have more than two numbers after a decimal point.
Primary	When selected, indicates that the measurement is the primary measurement. Primary measurements are graphed on reports and displayed on the Quick View tab.

Counters

The **Counters tab** provides the number of detections, pacing, and therapy data. You must be in add or edit mode to modify any information.

For this tab to be visible in an encounter you must have **Asystole**, **Heart Failure**, **Brady Detections**, **Brady Therapies**, **AT/AF Detections**, **AT/AF Therapies**, **VT/VF Detections**, and/or **VT/VF Therapies** capabilities selected in the encyclopedia for this device. Or you must have imported device data with this information.

Values are displayed for since the last device reset in the **Since Last Reset** column and for the device lifetime in the **Lifetime** column.

Ventricular Detections

Select **Ventricular Detections** to add or edit ventricular detection data including start and end dates, VF(VHR) total and monitored, fast VT total and monitored, slow VT total and monitored, very slow VT total and monitored, VT-NS total, PVCs, runs of PVCs, and extended high rate.

To enable this section in an encounter you must have the **VT/VF Detections** capability enabled for this device in the device encyclopedia.

Atrial Detections

Select **Atrial Detections** to add or edit atrial detection data including start and end dates, AF(AHR) total and monitored, AT total and monitored, SVT total, AT-NS total, AT/AF burden, mode switch count, average daily count, burden, average daily burden, and maximum duration.

To enable this section in an encounter you must have the **AT/AF Detections** capability enabled for this device in the device encyclopedia.

Other Detections

Select **Other Detections** to add or edit other detection data including start and end dates, brady mode switch and rate drop, asystole, periodic, patient activated, and other detections.

To enable this section in an encounter you must have the **Asystole**, **Heart Failure**, **Brady Detections**, **Brady Therapies**, **AT/AF Detections**, **AT/AF Therapies**, **VT/VF Detections**, and/or **VT/VF Therapies** capability enabled for this device in the device encyclopedia.

Therapies

Select **Therapies** to add or edit therapy data including start and end dates, shocks delivered, shocks aborted, and ATP delivered.

To enable this section in an encounter you must have the **Asystole**, **Heart Failure**, **Brady Therapies**, **AT/AF Therapies**, and/or **VT/VF Therapies** capability enabled for this device in the device encyclopedia.

Pacing

Select **Pacing** to add or edit pacing data including start and end dates, pacing location and percentages, heart failure pacing start and end dates, pacing location and percentage.

To enable this section in an encounter you must have the **Heart Failure** and/or **Brady Therapies** capability enabled for this device in the device encyclopedia.

Field and button definitions for the Ventricular Detections section

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Since Last Reset	Values since the last device reset.
Lifetime	Values for the lifetime of the device.
Start Date	The date and time of the start of the measurement period.
End Date	The date and time of the end of the measurement period.
VF (VHR) Total:	The number of ventricular fibrillations for specific ventricular tachyarrhythmias or non-specific ventricular tachyarrhythmias (not classified as a fibrillation or tachycardia specifically). The value must be ten digits or less and cannot have a decimal point.
Monitored:	The number of observed (not treated) ventricular fibrillations for specific ventricular tachyarrhythmias or observed (not treated) non-specific ventricular tachyarrhythmias (not classified as a fibrillation or tachycardia specifically). The value must be ten digits or less and cannot have a decimal point.
Fast VT Total:	The number of ventricular tachycardias (fast) for specific ventricular tachycardias or non-specific

Dialog box fields and buttons	Field and button definitions
	ventricular tachycardias. The value must be ten digits or less and cannot have a decimal point.
Monitored:	The number of observed (not treated) ventricular tachycardias (fast) for specific ventricular tachycardias or observed (not treated) non-specific ventricular tachycardias. The value must be ten digits or less and cannot have a decimal point.
Slow VT Total:	The number of ventricular tachycardias (slow). The value must be ten digits or less and cannot have a decimal point.
Monitored:	The number of observed (not treated) ventricular tachycardias (slow). The value must be ten digits or less and cannot have a decimal point.
Very Slow VT Total:	The number of ventricular tachycardias (very slow). The value must be ten digits or less and cannot have a decimal point.
Monitored:	The number of observed (not treated) ventricular tachycardias (very slow). The value must be ten digits or less and cannot have a decimal point.
VT-NS Total:	The number of ventricular non-sustained tachycardias (high rate) or self-terminating non-specific ventricular tachycardias. The value must be ten digits or less and cannot have a decimal point.
PVCs:	The number of premature ventricular contractions detected. The value must be ten digits or less and cannot have a decimal point.
Runs of PVCs:	The number of multiple consecutive premature ventricular contractions detected. The value must be ten digits or less and cannot have a decimal point.
Extended High Rate:	The number of sustained rate or extended high rate episodes. The value must be ten digits or less and cannot have a decimal point.

Field and button definitions for the Atrial Detections section

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Since Last Reset	Values since the last device reset.

Dialog box fields and buttons	Field and button definitions
Lifetime	Values for the lifetime of the device.
Start Date	The date and time of the start of the measurement period.
End Date	The date and time of the end of the measurement period.
AF (AHR) Total:	The number of atrial fibrillations for specific atrial tachyarrhythmias or non-specific atrial tachyarrhythmias (not classified as a fibrillation, flutter, or tachycardia specifically). The value must be ten digits or less and cannot have a decimal point.
Monitored:	The number of observed (not treated) atrial fibrillations for specific atrial tachyarrhythmias or observed (not treated) non-specific atrial tachyarrhythmias (not classified as a fibrillation, flutter, or tachycardia specifically). The value must be ten digits or less and cannot have a decimal point.
AT Total:	The number of atrial tachycardias for specific atrial tachyarrhythmias. The value must be ten digits or less and cannot have a decimal point.
Monitored:	The number of observed (not treated) atrial tachycardias for specific atrial tachyarrhythmias. The value must be ten digits or less and cannot have a decimal point.
SVT Total:	The number of supraventricular tachycardias. A non-specific junctional or atrial tachycardia originating above the ventricles. The value must be ten digits or less and cannot have a decimal point.
AT-NS Total:	The number of atrial non-sustained tachycardias (high rate). Self-terminating non-specific atrial tachycardias. The value must be ten digits or less and cannot have a decimal point.
AT/AF Burden:	The percent of time spent in AT/AF per day over the specified time period. The value, in a percentage, must not have more than two numbers after a decimal point.
Count:	The number of mode switches over the specified time period. The value must be ten digits or less and cannot have a decimal point.

Dialog box fields and buttons	Field and button definitions
Average Daily Count:	The average number of mode switches per day over the specified time period. The value must be ten digits or less and cannot have a decimal point.
Burden:	The percentage of time the device is operating in mode switch over the specified time period. The value in a percentage, must be ten digits or less and cannot have a decimal point.
Average Daily Burden:	The percentage of time per day the device is operating in mode switch over the specified time period. The value in a percentage, must be ten digits or less and cannot have a decimal point.
Maximum Duration:	The maximum contiguous time during which the device is operating in mode switch over the specified time period in seconds. The value, in seconds, must not have more than two numbers after a decimal point.

Field and button definitions for the Other Detections section

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Since Last Reset	Values since the last device reset.
Lifetime	Values for the lifetime of the device.
Start Date	The date and time of the start of the measurement period.
End Date	The date and time of the end of the measurement period.
Brady:	The number of non-specific bradyarrhythmias. The value must be ten digits or less and cannot have a decimal point.
Mode Switch:	The number of episodes during which the device changes bradycardia pacing modes to prevent conduction/tracking of atrial tachyarrhythmias to the ventricles. The value must be ten digits or less and cannot have a decimal point.
Rate Drop:	The number of episodes during which the heart rate drops quickly. The value must be ten digits or less and cannot have a decimal point.

Dialog box fields and buttons	Field and button definitions
Asystole:	The number of episodes during which all electrical heart activity ceases. The value must be ten digits or less and cannot have a decimal point.
Periodic:	The number of episodes not triggered by the detection of a specific cardiac arrhythmia. The value must be ten digits or less and cannot have a decimal point.
Patient Activated:	The number of recordings initiated by the action of a patient. The value must be ten digits or less and cannot have a decimal point.
Other:	The number of unclassified episodes. The value must be ten digits or less and cannot have a decimal point.

Field and button definitions for the Therapies section

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Since Last Reset	Values since the last device reset.
Lifetime	Values for the lifetime of the device.
Start Date	The date and time of the start of the measurement period.
End Date	The date and time of the end of the measurement period.
# Shocks Delivered	The number of shocks delivered. The value must be ten digits or less and cannot have a decimal point.
Shocks Aborted	The number of shocks aborted. The value must be ten digits or less and cannot have a decimal point.
# ATPs Delivered	The number of anti-tachycardia pacing therapies delivered. The value must be ten digits or less and cannot have a decimal point.

Field and button definitions for the Pacing section

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Since Last Reset	Values since the last device reset.

Dialog box fields and buttons	Field and button definitions
Lifetime	Values for the lifetime of the device.
Start Date	The date and time of the start of the measurement period.
End Date	The date and time of the end of the measurement period.
RA:	The percent of paced events in the chamber over the total events (sensed and paced) in the chamber. The value, in a percentage, must not have more than two numbers after a decimal point.
RV:	The percent of paced events in the chamber over the total events (sensed and paced) in the chamber. The value, in a percentage, must not have more than two numbers after a decimal point.
LV:	The percent of paced events in the chamber over the total events (sensed and paced) in the chamber. The value, in a percentage, must not have more than two numbers after a decimal point.
AS-VS:	The percent of sequences where the AV sequence was an atrial sense followed by a ventricular sense in relation to all sequences in the given time period. The value, in a percentage, must not have more than two numbers after a decimal point.
AS-VP:	The percent of sequences where the AV sequence was an atrial sense followed by a ventricular pace in relation to all sequences in the given time period. The value, in a percentage, must not have more than two numbers after a decimal point.
AP-VS:	The percent of sequences where the AV sequence was an atrial pace followed by a ventricular sense in relation to all sequences in the given time period. The value, in a percentage, must not have more than two numbers after a decimal point.
AP-VP:	The percent of sequences where the AV sequence was an atrial pace followed by a ventricular pace in relation to all sequences in the given time period. The value, in a percentage, must not have more than two numbers after a decimal point.
LV (CRT):	The percent of paced events in the left ventricular chamber over the total ventricular events (right and left, sensed and paced). The value, in a percentage,

Dialog box fields and buttons	Field and button definitions
	must not have more than two numbers after a decimal point.

Thresholds

The **Thresholds** tab is for recording thresholds. You must be in add or edit mode to modify any information.

The **Thresholds** tab provides a place to record sensing and capture thresholds by chamber. To include threshold data in corresponding reports, the **Primary** checkbox must be selected so the **Primary** column displays "Yes".

Field and button definitions for the Thresholds tab

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Atrial Sensing	The external observation of whether atrial sensing has been achieved. The value must be one of the following values: Yes, No, Dependent, Undetermined, N/A.
Atrial Capture	The external observation of whether atrial capture has been achieved. The value must be one of the following values: Yes, No, Undetermined, N/A.
Ventricular Sensing	The external observation of whether ventricular sensing has been achieved. The value must be one of the following values: Yes, No, Dependent, Undetermined, N/A.
Ventricular Capture	The external observation of whether ventricular capture has been achieved. The value must be one of the following values: Yes, No, Undetermined, N/A.
Move Top	Moves the selected item to the top of the list box.
Move Up	Moves the selected item up in the list box.
Move Down	Moves the selected item down in the list box.
Add	Adds information.
Edit	Allows you to edit existing information.
Delete	Removes the item or items from the list.

Field and button definitions for the Add/Edit Sensing Threshold dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields	Field and button definitions
*Chamber	The chamber the threshold was measured for. Required field. The value must be one of the following values: RA, LV, RV.
Method	The method of data recording. The value must be one of the following values: Instrument Initiated, Device Initiated, Device Initiated Daily Trend, Device Initiated Weekly Trend.
Variance	The variance of the measurement start and end dates for the specified method of measurement in days. The value, in days, must not have more than two numbers after a decimal point.
Polarity	The lead polarity. The value must be one of the following values: Unipolar, Bipolar.
Pathway	The indicator of whether the pathway is between the can and a single electrode on a lead or between two electrodes on the same or different leads.
Start Date	The date and time of the start of the measurement period.
End Date	The date and time of the end of the measurement period.
Type	The statistical type of measurement (for example, measured, mean). The value must be one of the following values: Measured, Minimum, Mean, Maximum, or no value.
Amplitude	The threshold amplitude in millivolts. The value, in millivolts, must not have more than three numbers after a decimal point.
Primary	When selected, indicates that the measurement is the primary measurement. Primary measurements are graphed on reports and displayed on the Quick View tab.

Field and button definitions for the Add/Edit Capture Threshold dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Chamber	The chamber the threshold was measured for. Required field. The value must be one of the following values: RA, LV, RV.
Method	The method of data recording. The value must be one of the following values: Instrument Initiated, Device Initiated, Device Initiated Daily Trend, Device Initiated Weekly Trend.
Variance	The variance of the measurement start and end dates for the specified method of measurement in days. The value, in days, must not have more than two numbers after a decimal point.
Polarity	The lead polarity. The value must be one of the following values: Unipolar, Bipolar.
Pathway	The indicator of whether the pathway is between the can and a single electrode on a lead or between two electrodes on the same or different leads.
Start Date	The date and time of the start of the measurement period.
End Date	The date and time of the end of the measurement period.
Amplitude	The threshold amplitude in volts. The value, in volts, must not have more than three numbers after a decimal point.
Duration	The threshold duration in milliseconds. The value, in milliseconds, must not have more than two numbers after a decimal point.
Primary	When selected, indicates that the measurement is the primary measurement. Primary measurements are graphed on reports and displayed on the Quick View tab.

Patient Data

The **Patient Data** tab is available for all encounter types, except for phone note and miscellaneous encounters. You must be in add or edit mode to modify any information.

The tab includes fields for entering patient data related to the encounter including measurements such as height, weight, blood pressure, and underlying rhythm. You can press the F9 keyboard key in some fields to enter quick phrases.

Field and button definitions for the Patient Data tab

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Height:	The patient's height.
Weight:	The patient's weight.
Body Mass Index:	The patient's body mass index.
Blood Pressure:	The patient's blood pressure.
Symptoms	Patient-reported symptoms related to arrhythmia or the device.
Location	Patient location at the time of the reported arrhythmia symptoms.
Activity	Patient activity at the time of the reported arrhythmia symptoms.
Findings	Findings of the arrhythmia evaluation.

Scheduling

The **Scheduling** tab allows you to add and edit information about appointments and patient scheduling preferences. You must be in add or edit mode to modify any information.

Appointments section

The **Appointments** section provides a way to view all of a patient's appointments. You can filter on different appointment statuses. You can also add, edit, or delete appointments.

Associated Appointment section

The **Associated Appointment** section allows you to associate or disassociate an encounter to an appointment. This is used primarily for billing purposes.

Preferences section

The **Preferences** section allows you to set scheduling preferences for the patient by appointment type. Click the **Edit** button to change the patient's preferences.

Associating an encounter with an appointment

You can associate an appointment with an encounter within a patient's record. Once an appointment is associated with an encounter, the appointment status will become complete.

Encounters can be automatically associated to an appointment of the same type, based on a configurable time window configured in the **Administration: Schedule** section.

1. Open the patient record.
2. Click the **Encounters** tab.
3. Select an encounter or create a new encounter.
4. Click the **Scheduling** tab.
5. Select the appointment to which you want to associate the encounter.
    - If you are selecting an existing appointment, select it from the **Add Encounter** dialog box.
    - If you are creating a new appointment, click **Add**, enter the information about the appointment in the **Add Appointment** dialog box, and then click **OK** to return to the **Add Encounter** dialog box and select the appointment.
6. Click **Associate/Disassociate**.
   You are given a choice to continue or to cancel the process.
7. Click **OK** to complete the association.
   The Paceart System automatically enters the information from the selected appointment into the **Associate Appointment** section.

Disassociating an encounter with an appointment

You can disassociate an encounter from an appointment. You must disassociate an appointment from an encounter before you can delete the appointment.

1. Open the patient record.
2. Click the **Encounters** tab.
3. Select the encounter that is associated with an appointment.
4. Click the **Scheduling** tab.
5. Click **Associate/Disassociate**.
   You are given a choice to continue or to cancel the process.
6. Confirm the disassociation.
    - Click **Yes** to disassociate the appointment from the encounter.
    - Click **No** to leave the association intact.

   When you confirm a disassociation, data regarding the encounter is removed from the **Associated Appointment** section.

Field definitions for Add or Edit Appointment dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields	Field definitions
*Patient Name:	The patient's name. To select a patient from the list, click the **[...]** button. Required field.

Dialog box fields	Field definitions
*Type:	The type of appointment such as in-clinic, remote, TTM, implant, phone note, or miscellaneous. Required field.
*Location:	The location of care for the scheduled appointment. Required field.
*Resource:	The resource such as clinic staff or room that is assigned when creating an appointment. Required field.
Start Time:	The date and time for which the appointment is scheduled.
Duration:	The amount of time assigned to the appointment.
Visit ID:	Identifies all interactions with a patient related to a single encounter. Maximum length 75 characters.
Comments:	Miscellaneous comments.
In-Patient:	When selected, indicates the patient is hospitalized.
Cancel Appointment:	A check mark indicates that the appointment has been scheduled and then canceled.
Auto	Automatically assigns the date and time for the appointment based on schedule preferences.
Create Encounter	Creates an associated encounter for the appointment.
Save	Saves all changes.
Cancel	Cancels and closes the dialog.
Delete	Removes the item or items from the list.

Field definitions for Edit Preferences dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields	Field definitions
Interval number	The interval number. Click the up and down arrows or enter a number.
Interval label	The interval label (day(s), week(s), or month(s)) that applies to the interval number.

Dialog box fields	Field definitions
Week	Indicates if the patient has a week of the month preference for scheduling an appointment.
Day	Indicates if the patient has a day of the week preference for scheduling an appointment.
Time	Indicates if the patient has a time preference for scheduling an appointment.
Comments:	Miscellaneous comments.

Billing

The **Billing** tab is for entering billing information related to the encounter including payment method and charge codes. You must be in add or edit mode to modify any information.

To import billing and programming information from the previous encounter, click the **Retrieve from...** button on the **Quick View** tab. You can do this for all encounter types except for TTMs, phone notes, and miscellaneous encounters. Retrieving information from a previous encounter will overwrite information you have manually entered.

General Information

In the **General Information** section you can enter high level billing information for the encounter. You can enter the appointment date, appointment cost, visit number, charge code, billing provider, and payment method.

Diagnoses

In the **Diagnoses** section you can enter the diagnosis associated with the encounter. Click the **[...]** button to select a diagnosis from the encyclopedia.

Procedures

In the **Procedures** section you can enter the procedure associated with the encounter. Click the **[...]** button to select a procedure from the encyclopedia.

Adding billing information

You can add the billing information for a patient encounter at the time you add the encounter.

1. Open a patient record.
2. Click **Add Encounter**.
3. Select a device from the drop-down box (optional).
4. Select an encounter type.
5. Click **OK**.
   The **Add Encounter** dialog box will display with one or more tabs.
6. Click the **Billing** tab.
7. Enter the billing information.
   - Transfer billing information from a previous encounter by clicking **Retrieve From...** on the **Quick View** tab. Retrieving information from a previous encounter will overwrite information you have manually entered.
   - Manually enter the information or edit any field that needs modification.

8. Click **Save**.
9. To print a billing report, from the menu, select **File** > **Print** and select the Billing report.

Editing billing information

You can edit the billing information for a patient encounter within the encounter itself.

1. In the patient record, click the **Encounters** tab.
2. From the list of encounters in the left pane, select the encounter you want.
3. Click the **Billing** tab.
4. Change the billing information as necessary.
5. Click **Save**.
6. To print a billing report, from the menu, select **File** > **Print** and select the Billing report.

Field and button definitions for the Billing tab

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Admission Date:	The admission date of the patient's encounter.
Visit Number:	An identifier used within the clinic or hospital to associate a particular bill to a particular encounter using the local clinic or hospital coding system.
Billing Provider:	The name of the patient's billing provider.
Amount:	The dollar amount of the billing charge.
Charge Code:	A clinic or hospital-defined charge code and description indicating the services provided in the local clinic or hospital coding system, for example Pacemaker follow-up.
Payment Method:	A clinic or hospital-defined payment method code indicating the method of payment to be received for the services provided.
Diagnosis:	The code and description of the diagnoses for which the services were provided.
Procedure:	The procedure code and description indicating the services provided.

Field and button definitions for the Select Diagnosis dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Search String:	Text box for entering whole or partial keywords.
Search	Invokes the search.
Code	The code assigned to the diagnosis.
Description	The description of the diagnosis.
Coding System	The coding system of the diagnosis.
Comments:	Comments about the diagnosis.

Field and button definitions for the Select Procedure dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Search String:	Text box for entering whole or partial keywords.
Search	Invokes the search.
Code	The code number assigned to the procedure.
Description	The description of the procedure.

Field and button definitions for the Select Charge Code dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Search String:	Text box for entering whole or partial keywords.
Search	Invokes the search.
Internal Code	The internal charge code number.
External Code	The external charge code number.
Description	Description of the charge code.

Attachments

Use the **Attachments** tab to attach relevant files to the encounter. You can include up to 200 attachments. You must be in add or edit mode to modify any information.

You can open, add, edit, copy, paste, or delete attachments. You can also save attachments currently in the Paceart System to your workstation. To open an attachment you must have the appropriate program installed on your workstation.

Field and button definitions for the Attachments tab

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Open	Opens another window or dialog box.
Save As	Opens a Save As dialog and allows you to rename and save the file to a location.
Add	Adds information.
Edit	Allows you to edit existing information.
Copy	Copies the previous selection.
Paste	Pastes the copied selection.
Delete	Removes the item or items from the list.

Field and button definitions for the Edit Attachment dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
File Name:	The name and file extension of the attached file.
Size:	The size of the attached file. The attachment cannot exceed 50MB.
Comment:	Text entry field where you can enter additional information about the attachment.

Miscellaneous

Use the **Miscellaneous** tab to record information related to a miscellaneous encounter type. This tab is only available for miscellaneous encounters. You must be in add or edit mode to modify any information.

The tab includes fields for entering a description and comments associated with the miscellaneous encounter. Also, if the patient has a valid email address listed in the patient record, you can click **Email Patient** to send an email message to the patient. Clicking this button creates a message using the contents of the **Description** field as the subject line and the **Comments** field as the body text.

Field and button definitions for the Miscellaneous tab

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Description:	Brief description of the miscellaneous encounter.
Comments:	Miscellaneous comments.
Email Patient	If the patient has a valid email address, click to create and send an email message using the **Description** field as the subject line and the **Comments** field as the body text.

Phone Note

The **Phone Note** tab is for collecting data from a phone call with a patient. You must be in add or edit mode to modify any information.

The **Phone Note** tab is only available in the phone note encounter type.

The **Phone Note** tab includes the phone call date and time, who the caller was, the staff member who spoke with the caller, the reason for the call, and details about the call. There is also a call history that displays summary information for previous phone note encounters.

Field and button definitions for the Phone Note tab

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Date:	The date and time the encounter took place.
Caller:	The person who called the clinic or was called by the clinic.
Staff:	The person at the clinic who answered the call or made the call.
Reason for Call:	Brief description of the reason for the call.
Details:	Miscellaneous comments.

Encounter Info

The **Encounter Info** tab includes high-level information about the encounter. You must be in add or edit mode to modify any information.

The **Encounter Info** tab includes high-level information about the encounter including the encounter date, the encounter type, and the device. If an encounter has been signed, the read-only **Electronically Signed By** and **Date** fields are displayed with the user name and the date and time the encounter was signed.

Field and button definitions for the Encounter Info tab

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Encounter Date	The date and time the encounter took place.
Encounter Type	The encounter type, for example, in-clinic or remote.
Device:	The device to which you are adding an encounter.
Instrument:	The remote monitor, event recorder or other non-implantable device used during the encounter.
Location of Care:	The encounter location of care.
In-Patient:	When selected, indicates the patient is hospitalized.
Summary Encounter:	When selected, indicates that this encounter contains information summarizing a series of other encounters.
Billable Encounter	When selected, indicates that this encounter is considered billable.
Comments:	Miscellaneous comments.
Visit ID:	Identifies all interactions with a patient related to a single encounter. Maximum length 75 characters.
CardioVoice	The auto-populated indicator of whether or not the encounter was received from CardioVoice.
Exported	The auto-populated indicator of whether or not the encounter was exported by the Paceart System.
Last Modified By	The auto-populated user name of the last user who modified the encounter. This text is automatically populated based on which user last modified the encounter. You will not see this field until after the encounter has saved for the first time.
Message	Click this button to listen to the CardioVoice message associated with this encounter.
Electronically Signed By	The auto-populated user name of the user who electronically signed the encounter. You must have Sign Encounter configured in the **Administration** > **Task Management** before you can use this feature.

Dialog box fields and buttons	Field and button definitions
Date	The auto-populated date and time the encounter was electronically signed. You must have Sign Encounter configured in the **Administration** > **Task Management** before you can use this feature.

Workflow

The **Workflow** tab includes information about the task related to the encounter and the history of actions performed on the encounter and related task.

Related Task Information

The **Related Task Information** section shows information about the related encounter task, including status, who it is assigned to, the task priority, the due date, who assigned it, and the date the task was created. To edit the task details, click **Edit Task**.

If your clinic has configured encounter tasks to be completed by electronic signature in the **Administration: Task Management** section, you can click **Mark Pending** to mark the task as pending for approval. To clear the pending task status, click **Clear Pending**.

Workflow History

The **Workflow History** section shows a history of actions involving the encounter or related task. For example, when a user modifies the encounter or routes the related task, the action is displayed here. This section also provides information about each action, including the time when the action occurred, the user who performed the action, the type of action, and details about the action.

Click **Export Results** to export the workflow history to a Microsoft Excel spreadsheet.

Field and button definitions for the Adding or Editing a Task dialog box

The field definitions in the **Add User Task** and **Edit Task** dialog boxes.

Dialog box fields and buttons	Field and button definitions
*Assigned To:	The workgroup or user to whom the task is assigned. Required field.
*Description:	The description of the task. Required field.
Due Date:	The date the task is due.
Priority:	The priority level of the task.
Comments History:	A read-only list of comments previously added to the task.
Comments:	Miscellaneous comments.
Complete	Completes the selected task.

Exporting workflow history to a spreadsheet

You can export data to an Excel spreadsheet (*.xlsx) from multiple places in the Paceart System. This capability replaces some reports that you may have used in earlier Paceart System versions.

1. Click **Export Results**.
   The **Workflow History Export** dialog box is displayed.
2. Enter the name you want to assign to the spreadsheet page.
3. Check **Show Grid Lines** if you want visible grid lines on your spreadsheet.
4. Check **Show Grid Lines** if you want visible grid lines on your spreadsheet.
5. Check **Use Native Format** if you want to use the default Excel format.
6. Click **Save** to save the spreadsheet to a file or click **Open** to open the spreadsheet.

Working with reports

Use reports to retrieve patient information from patient records and structure it in a meaningful way. Some reports summarize patient encounters into a concise, convenient format and others provide more detail. You can also use the ad hoc reporting tool to gather information from the system that is not currently contained on standard reports.

Available reports

A current list of available reports is displayed in the **Print patient reports for [selected patient name]** and the **Print reports** dialog boxes. For example, if you are on the **Patients** tab in the **Search Criteria** window and click **File** > **Print**, the Paceart System displays all the pertinent patient-related reports.

If you have customized reports, some of the information provided about reports may not be applicable even if a report has the same name as a help topic.

Types of reports

- Standard reports such as Patient Summary, Patient Listing, and Patient Summary Encounter
- Standard letters such as Reminder Letter, Missed Appointment Letter, Remote Monitoring Prescription Letter
- Encounter reports such as Arrhythmia, Brady, ECG, and Tachy reports
- Mailing labels such as Provider Labels and Patient Labels

Additional report features

- Allow for mail merge of patient information into a letter
- Support report groups of standard reports and letters that are generated based on encounter and device type as defined by the clinic
- Generate the same reports and letters for both in-clinic and remote encounters
- Provide the ability for group printing so that you can print each report defined in a report group when the report group is selected to print
- Provide scheduled reports that print when the system date and time reach a predetermined date and time
- Allow you to generate PDF files

Adding a subtitle to a report

Some reports allow you to add a subtitle to the report. These reports are usually patient listings or search results.

1. Search for a patient from the **Patient** search tab.
   A list of matching patients is displayed in the **Results** section.
2. Select the patient and click **Reports**.
   The **Print reports** dialog box is displayed.
3. Select the report to which you want to add a subtitle. Not all reports allow a subtitle.
   The **Subtitle** field becomes available.
4. Enter the subtitle into the **Subtitle** field.
5. Continue with either printing or previewing the report.

Previewing a report

For many reports, you can preview the report before you print it. You cannot preview the report if it is printed individually for each patient when you select to print the report for all the patients in a list. The margins for reports appear on the preview but not on the printed reports.

1. Select a report from the **Print reports** or **Print patient reports for [patient name]** dialog box.
2. Click **Print Preview**.
   The **Preview** window opens.
3. Click the Exit icon to close the **Preview** window.
   The **Print reports** or **Print patient reports for [patient name]** dialog box is displayed.

Printing a report

You can print any report. Reports are designed to print on 8.5 x 11 or A4 paper. This design results in slightly larger margins on the right side or bottom of reports, depending on the paper size.

1. Click **Reports** or **File** > **Print**.
   The **Print reports** or **Print patient reports for [patient name]** dialog box opens.
2. Select the report from the **Available Reports** section.
   The available options based on the selected report are enabled in the **Options** section.
3. In the **Options** section, select to print the report for the selected patient or for all the patients in the list and add a subtitle, if necessary.
4. To change printer settings, click **Settings** in the **Printer** section.
5. If necessary, change the defaults in the **Page Range** and **Copies** sections.
6. To preview the report, click **Preview** and preview it on the **Preview** window.
7. Click **Print**.

Emailing or faxing a report

If an email address or fax number is entered in the provider's record, you can email or fax reports to that provider.

1. If needed, add a fax number and email address to the provider's record in the Encyclopedia.

   You can also add a passphrase to email PDF reports securely. Be sure to send this passphrase to the provider so that the PDF can be opened upon receipt.
2. Click **Reports** or select **File** > **Print** to open the Print Reports dialog box.
3. Select the report to email or fax and update the options for the report as needed.
4. Select the provider to address the report to.

5. Click either **Email** or **Fax** to send the report electronically to the provider.
   If a passphrase is entered in the provider's record, the **Secure PDF (Email Only)** check box is automatically selected. Clear it if you do not want to secure the PDF report with the provider's passphrase.

Printing a report for a specific patient

You can print a report for a specific patient or for all the patients in a list.

1. Search for the patient from the **Patient** tab search screen.
   Search results are displayed in the **Results** section.
2. Select the patient from the **Results** list.
3. Click the printer icon.
   The **Print patient reports for [patient name]** dialog box is displayed.
4. Select a report **Preview**.
5. To preview the report before printing it, click **Preview**.
6. In the **Options** section, select to print the report for the selected patient.
7. Click **Print**.

Printing a report for multiple patients

You can print a report for more than one patient in a list. To print the report for multiple patients, select the appropriate option on the **Print** dialog box.

1. Search for the patients on the **Patients** search tab.
2. Click the printer icon.
   The **Print reports** or **Print patient reports for [patient name]** dialog box opens.
3. In the **Options** section, select to print the report for the selected patient or for all the patients in the list and add a subtitle, if necessary.
4. Click **Print**.

Report Graphing in the Paceart Optima System

Report graphing in the Paceart Optima System has several notable differences from the graphing in previous releases.

Graphing changes from previous releases

- Data migrated from the Get Connected editions of the Paceart System is included in lead data graphs.
- More data from previous encounters, including alternate pathways, is displayed on graphs. For example, a pacemaker impedance graph displays both unipolar and bipolar measurements, if both values were present in the encounter data.
- The pathway used for therapy is highlighted on graphs. For example, if both unipolar and bipolar data are graphed, the polarity used for pacing/sensing will be drawn in black with any other polarities drawn in gray.
- Measurement dates are no longer required. Measurements are graphed using the Encounter Date/Time if the measurement date is empty.

Encounter device data

Graphs are limited to data from the encounter device, relative to the implant date for the encounter device. If the device implant date is blank, the graphing data is relative to the oldest encounter for that device. This creates a consistent time scale for all graphs. All lead implant events are marked on the appropriate graphs to draw attention to lead replacements.

Encounter types

Graphs include previous In-clinic, Remote, Programming, and Implant encounters, regardless of the type of the current encounter. Magnet Rate graphs also include TTM encounters.

Lead data graphs

Lead data graphs include lead impedance, capture threshold, and sensing threshold graphs. All available lead data corresponding to the device associated with the encounter is graphed, even if it is not marked as primary. Because this information includes the measurement pathway (for example, "RVtip to Can") in addition to polarity, it can result in multiple lines on a graph, one for each unique polarity/pathway. To help distinguish important data, the pathway used to provide therapy (the pathway that matches the programmed pacing/sensing) is highlighted. Non-programmed polarity/pathways are displayed in grey so the data can be evaluated but not detract from the primary data.

Capture Threshold graphs require a measurement to be marked as primary because a capture threshold measurement contains both amplitude and duration. The graphing logic compares thresholds from previous encounters that match either the amplitude or duration of the primary threshold. After all encounters are examined, a duration or amplitude graph is generated depending on which measurement had the most matches.

Chapter 3

Searching in the Paceart System

The Paceart System has a powerful search capability. There are multiple ways you can search the Paceart System database to find a patient record. From the search screen you can search for patient records that have specific device information, encounter information, patient information, or scheduled appointments.

You can also search for a combination of these types of data by combining search elements to create your own search expression using the options on the **Advanced** tab.

Sorting search results by columns

In search results tables you can sort the table by column. You can sort the information in the column by ascending or descending alphabetical order.

1. Perform a search.
2. In the search results table, click on the column you want to sort by.

Results: 103 patient(s) found — Export Results...

Patient Name △	Paceart	DOB	Phone	City	State	Affiliati...	Status
Melbourn, Patrick I.	A10000013	8/5/1949	(555)555-5555	Mounds View	MN	SAMPLE	A
Menard, Clara C.	A10000005	7/11/1925	(555)555-5555	Mounds View	MN	SAMPLE	A
Merenese, Angelo P.	A10000014	8/22/1962	(555)555-5555	Mounds View	MN	SAMPLE	A
Meyer, Petre I.	A10000015	10/30/1953	(555)555-5555	Mounds View	MN	SAMPLE	A
Michaels, Irving I.	A10000016	8/15/1948	(555)555-5555	Mounds View	MN	SAMPLE	A
Micra, Test	A10000057						A
Mobley, Jocelyn R.	A10000017	7/15/2006	(555)555-5555	Mounds View	MN	SAMPLE	A
Montare, Barry I.	A10000018	3/16/1945	(555)555-5555	Mounds View	MN	SAMPLE	A
Mooreston, Paul P.	A10000019	3/16/1945	(555)555-5555	Mounds View	MN	SAMPLE	A
Morse, Samantha J.	A10000042	2/16/1929	(555) 555-5555	Mounds View	MN		A
Munroe, Elenore P.	A10000020	1/16/1957	(555)555-5555	Mounds View	MN	SAMPLE	A

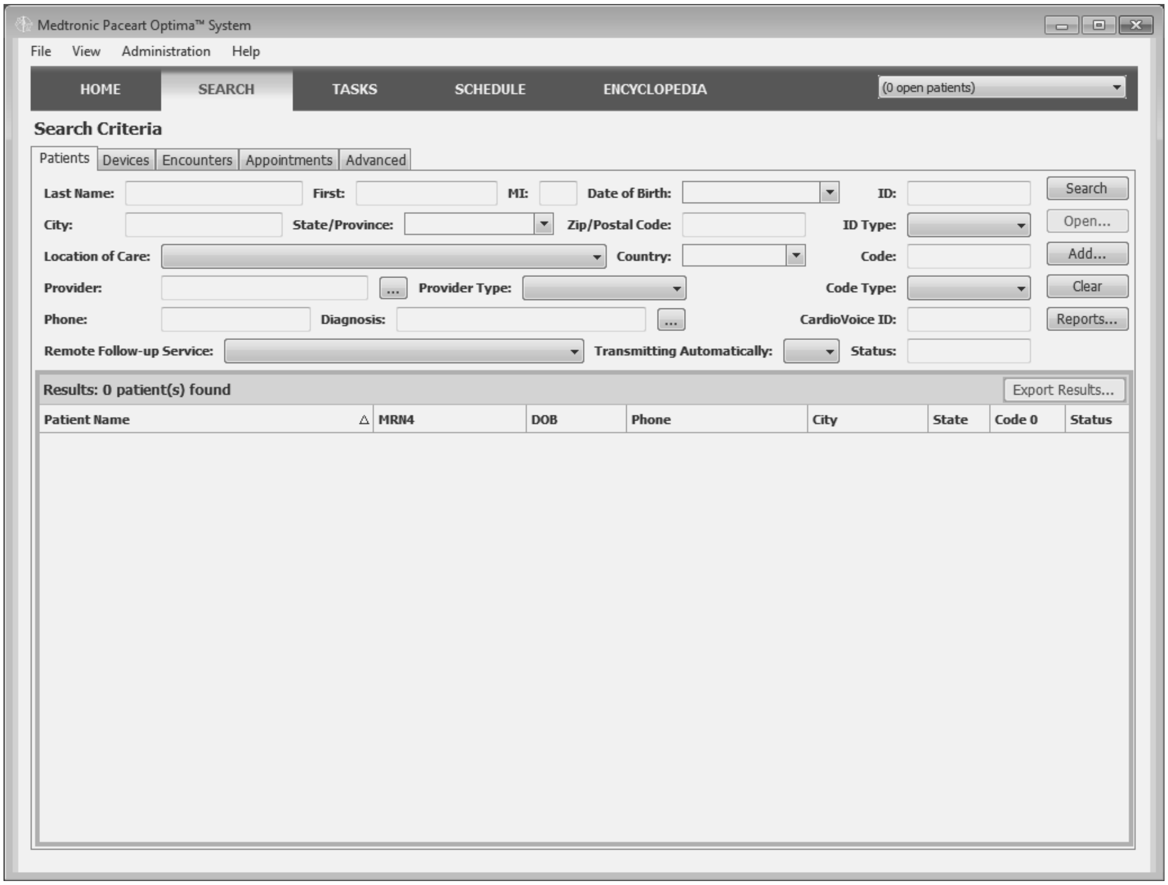
The table is sorted by the column you selected. Also the column you sorted by has a triangle next to the column name.

Patients search tab

The **Patients** tab has options that allow you to search using patient demographic data. If the patient is not in the Paceart System database you can add the patient directly from this tab.

From this tab you can export the search results to a spreadsheet, and select and print a report.

To delete all of the search criteria click **Clear**.



Searching for a patient

The patient record must match all of the search criteria that you enter to be considered a match. You can add a new patient by clicking **Add**. The search criteria that you entered is automatically carried over to the **New Patient** dialog box.

1. Click the **Search** tab.
2. Click the **Patients** tab.
3. Enter your search criteria in one or more of the following fields. The more criteria you enter, the more specific your search will be. If you want to see all of the patients in the database, do not enter any search criteria.

Criteria	Description
Name	Search for a patient by name.
Date of Birth	Search for a patient by birth date.
City	Search for a patient by city.
State/Province	Search for a patient by state or province.
Zip/Postal Code	Search for a patient by zip code or postal code.
Location of Care	Search for a patient by location of care.
Country	Search for a patient by country.
Provider	Search for a patient by provider. Click the **[...]** button to select a provider from the encyclopedia.

Criteria	Description
Provider Type	Search for a patient by provider type.
Phone	Search for a patient by phone number.
Diagnosis	Search for a patient by diagnosis. Click the **[...]** button to select a diagnosis from the encyclopedia.
Remote Follow-up Service	Search for a patient by remote follow-up service.
Transmitting Automatically	Search for a patient whose device automatically transmits data using wireless telemetry.
ID	Search for a patient by ID.
ID Type	Search for a patient by ID type.
Code	Search for a patient by code type.
Code Type	Search for a patient by code type.
CardioVoice ID	Search for patient by their CardioVoice ID
Status	Search for a patient by status.

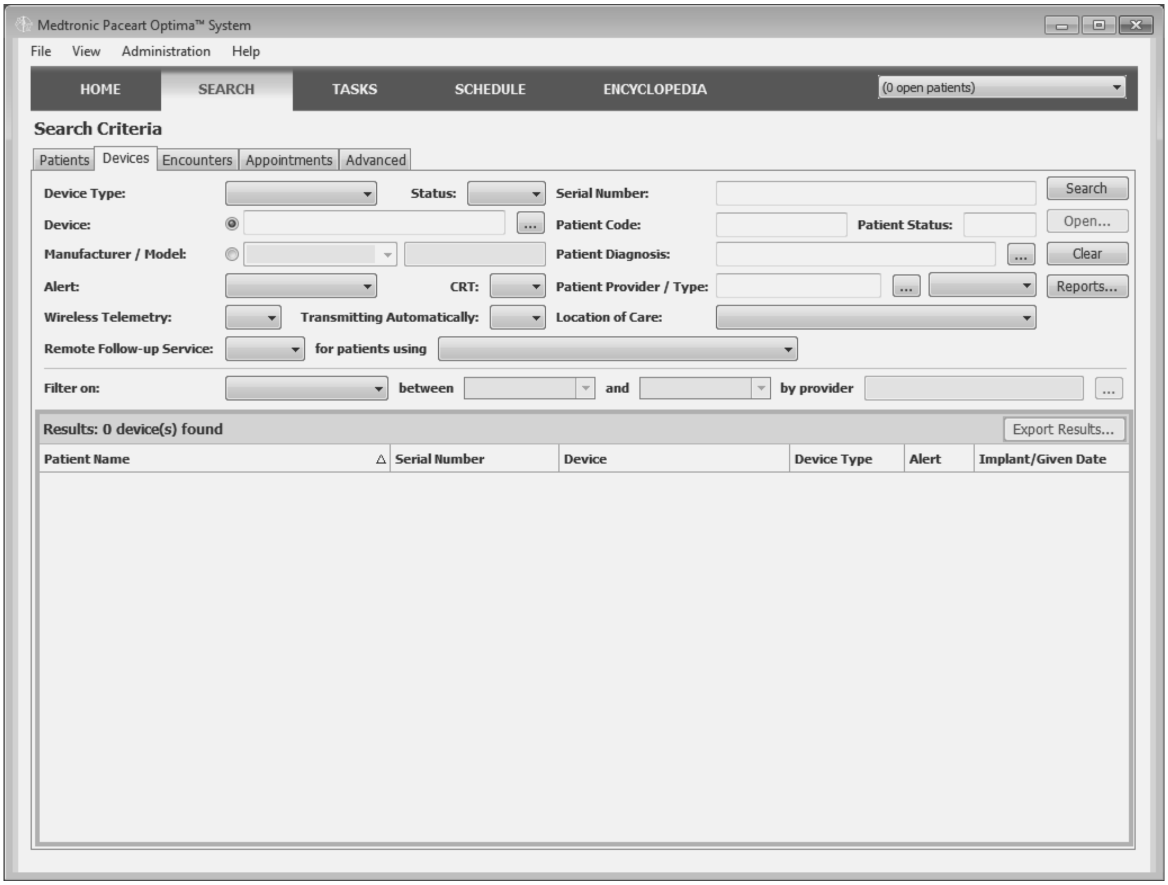
4. Click **Search**.
   The initial search results are sorted in ascending order by patient last name, patient first name, and then patient middle initial. You can change the sort criteria and order by clicking on any of the column headings.
5. In the **Results** section, select a patient and click **Open** or double-click the patient to automatically open the patient record.

Devices search tab

The **Devices** tab has options that allow you to search for a patient based on the device the patient has and the data associated with that device such as a patient diagnosis or a patient provider.

From this tab you can export the search results to a spreadsheet, and select and print a report.

To delete all of the search criteria click **Clear**.



Searching for a device

The device must match all of the search criteria that you enter to be considered a match.

1. Click the **Search** tab.
2. Click the **Devices** tab.
3. Enter your search criteria in one or more of the following fields. The more criteria you enter, the more specific your search will be. If you want to see all patients with all types of devices, do not enter any search criteria.

Criteria	Description
Device Type	Search for a specific device type.
Status	Search for either **Active** or **Inactive** devices.
Device	Search for a specific device. Click **[...]** to open the **Select Device** dialog box to select a device from the encyclopedia.
Manufacturer/Model	Search for a specific manufacturer and model.
Alert	Search for a device with a specific alert status.
CRT	Search for a device that has CRT either enabled or disabled.
Wireless Telemetry	Search for a device that uses wireless telemetry.
Transmitting Automatically	Search for devices where the patient is configured to receive transmissions automatically using wireless telemetry.

Criteria	Description
Remote Follow-up Service	Search for devices supported on a remote follow-up service. You can also select an option from the **for patients using** list, which limits the results to patients using the specified remote follow-up service.
Serial Number	Search for a specific serial number.
Patient Code	Search for a specific patient code.
Patient Status	Search for a specific patient status.
Patient Diagnosis	Search for a specific patient diagnosis. Click the **[...]** button to select a diagnosis from the encyclopedia.
Patient Provider	Search for a specific patient provider. Click the **[...]** button to select a provider from the encyclopedia.
Provider Type	Search for a specific patient provider by type.
Location of Care	Search for a location of care.
Filter on	Filter the search results by a device that has been **Abandoned**, **Explanted/Returned**, **Implanted/Given**, or **Partially Explanted**. You can also select a date range and a provider that applies to your **Filter on** selection.

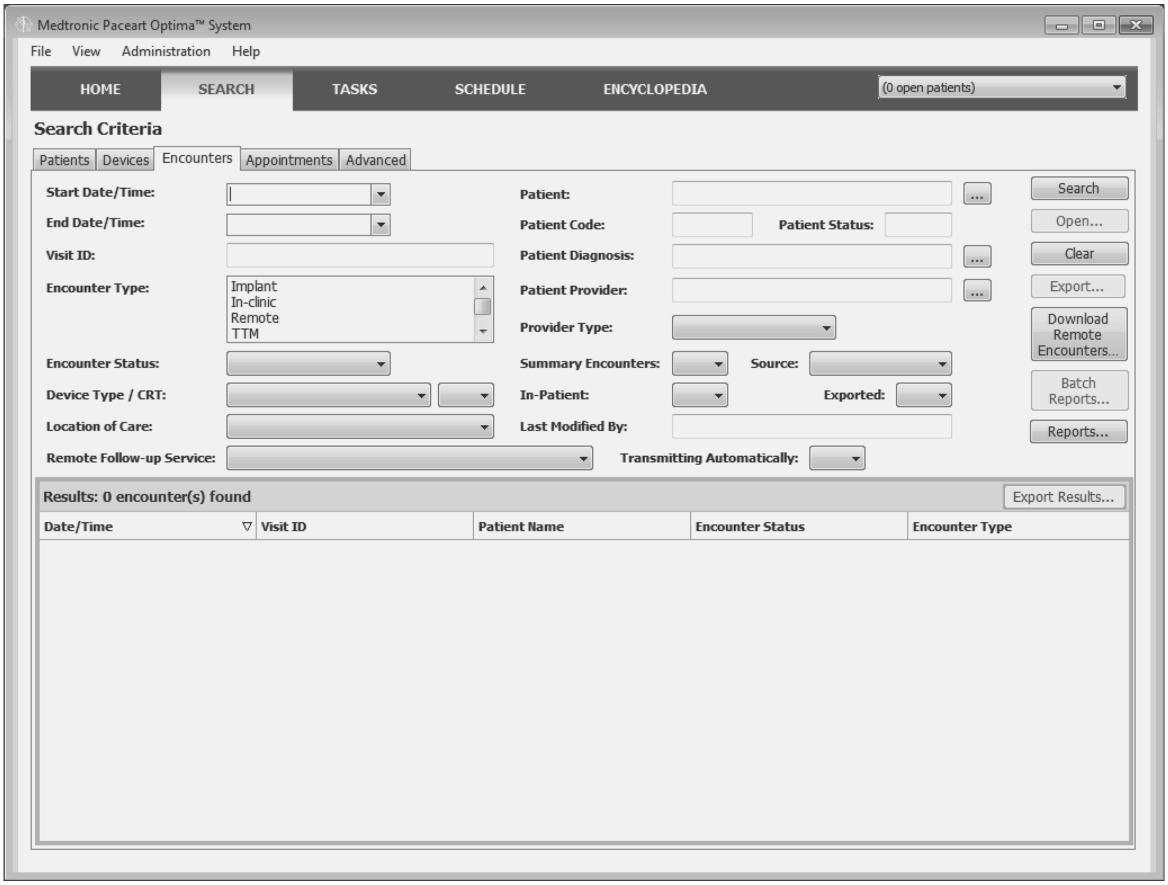
4. Click **Search**.
   The initial search results are sorted in ascending order by patient last name, patient first name, and then patient middle initial. You can change the sort criteria and order by clicking on any of the column headings.
5. In the **Results** section, select a device and click **Open**, or double-click the device to automatically open the patient record.

Encounters search tab

The **Encounters** tab has options that allow you to search for a patient based on the patient's encounters and data associated with an encounter such as a patient diagnosis or a patient provider.

From this tab you can export the search results to a spreadsheet, select and print a single or batch report, or open a patient encounter. If you have CareLink Remote Encounter Acquisition active, you can also download remote encounters from Medtronic CareLink Network.

To delete all of the search criteria click **Clear**.



Searching for an encounter

You can search for an encounter. The encounter must match all of the search criteria that you enter to be considered a match.

1. Click the **Search** tab.
2. Click the **Encounters** tab.
3. Enter your search criteria in one or more of the following fields. The more criteria you enter the more specific your search will be. If you want to see all of the encounters do not enter any search criteria.

Criteria	Description
Start Date/Time	Search for an encounter by its start date and time. By default, after the Start Date/Time is set, the End Date/Time is set to the same date with a time of 11:59 pm.
End Date/Time	Search for an encounter by its end date and time.
Visit ID	Search for an encounter by its visit ID.
Encounter Type	Search for an encounter by its encounter type.
Encounter Status	Search for an encounter by its encounter status.
Device Type	Search for an encounter by device type.
Device CRT	Search for an encounter that contains a device with CRT enabled or disabled.
Location of Care	Search for an encounter by location of care.

Criteria	Description
Remote Follow-up Service	Search for encounters involving patients with the specified remote follow-up service.
Patient	Search for an encounter by a patient's name. Click the **[...]** button to select an existing patient.
Patient Code	Search for an encounter by patient code.
Patient Status	Search for an encounter by the patient status.
Patient Diagnosis	Search for an encounter by patient diagnosis. Click the **[...]** button to select a diagnosis from the encyclopedia.
Patient Provider	Search for an encounter by patient provider. Click the **[...]** button to select a provider from the encyclopedia.
Provider Type	Search for an encounter by patient provider type.
Summary Encounters	Search for an encounter that is marked as a summary encounter.
Source	Search for an encounter by whether the source was CardioVoice.
In-Patient	Search for an encounter by whether the patient is an in-patient.
Exported	Search for an encounter by its export status.
Last Modified By	Search for encounter that was last modified by this person.
Transmitting Automatically	Search for encounters involving patients configured to receive transmissions automatically using wireless telemetry.

4. Click **Search**.
   The system searches for the most recent version of an encounter. The initial search results are sorted in descending order based on encounter date. You can change the sort criteria and order by clicking on any of the column headings.
5. In the **Results** section, select an encounter and click **Open** or double-click the encounter to automatically open the patient record.

Exporting an Encounter

You can export an encounter to an XML file or to an external system.

XML Export and External System Export are optional features. You must have the export functionality and have the feature configured in **Administration: Encounter Export** before you can export an encounter.

1. Select the encounter you want to export from the search list.
2. Click **Export**.
   The **Export** dialog box is displayed. The encounter date, time, and type are displayed in the dialog box title bar.
3. Select the export options for your system.

   These options are enabled or disabled by your **Administration: Encounter Export** configuration.
4. Click **Export** to export the encounter.

The encounter is exported to the configured external destination.

Field and button definitions for the Encounter export dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Export Type	Select XML File or External System as the type of export.
Include PDF Report:	Select whether to include a PDF report with the encounter export. The report that is included for each encounter and device type is controlled by the Default Encounter Report settings.
Available Reports	The list of available reports.
Address To Provider:	Select a provider to address letter reports to.
XML Version:	Allows you to choose which version of the Paceart XML schema to use for exporting encounters in XML format.
Include Attachments:	Select whether to include attachments with the encounter export.
File Handling:	Select whether to embed or link to attachments for the encounter export.
Sign By Provider:	Select a provider to sign the reports.
Path:	The file path for PDF reports and attachments to the encounter export. The export path is the physical file system path on the server.
Location:	If you choose to link reports and attachments with exported encounters, enter the location of PDF reports and attachments to the encounter export. The location is the URL that is placed in the export file for attachments and linked Paceart System reports.
External System	Selects the export destination of the file (only applicable for HL7 export).
Export	Exports the encounter to the specified location or external system.
Preview:	Shows a preview of the printed report.

Downloading remote encounters

You can download remote encounters from an external system, such as the Medtronic CareLink Network.

Before you can download encounters from an external system, you must have **Remote Encounter Acquisition** enabled in Paceart Administration and have the Mainspring Data Express software configured.

1. Click the **Search** tab.
2. Click the **Encounters** tab.
3. Click **Download Remote Encounters**.
   The **Remote Encounter Download** dialog box is displayed.
4. Click **Request Data**.
   The **Request status** section displays the download progress.
5. Click **Close** to close the dialog box.

If you have encounter tasks enabled for remote encounters from the remote system, such as the Medtronic CareLink Network, an encounter task is created for each downloaded encounter.

Field and button definitions for the Remote Encounter Download and Update Remote Appointment Status dialog boxes

This is a list of fields and buttons and their definitions.

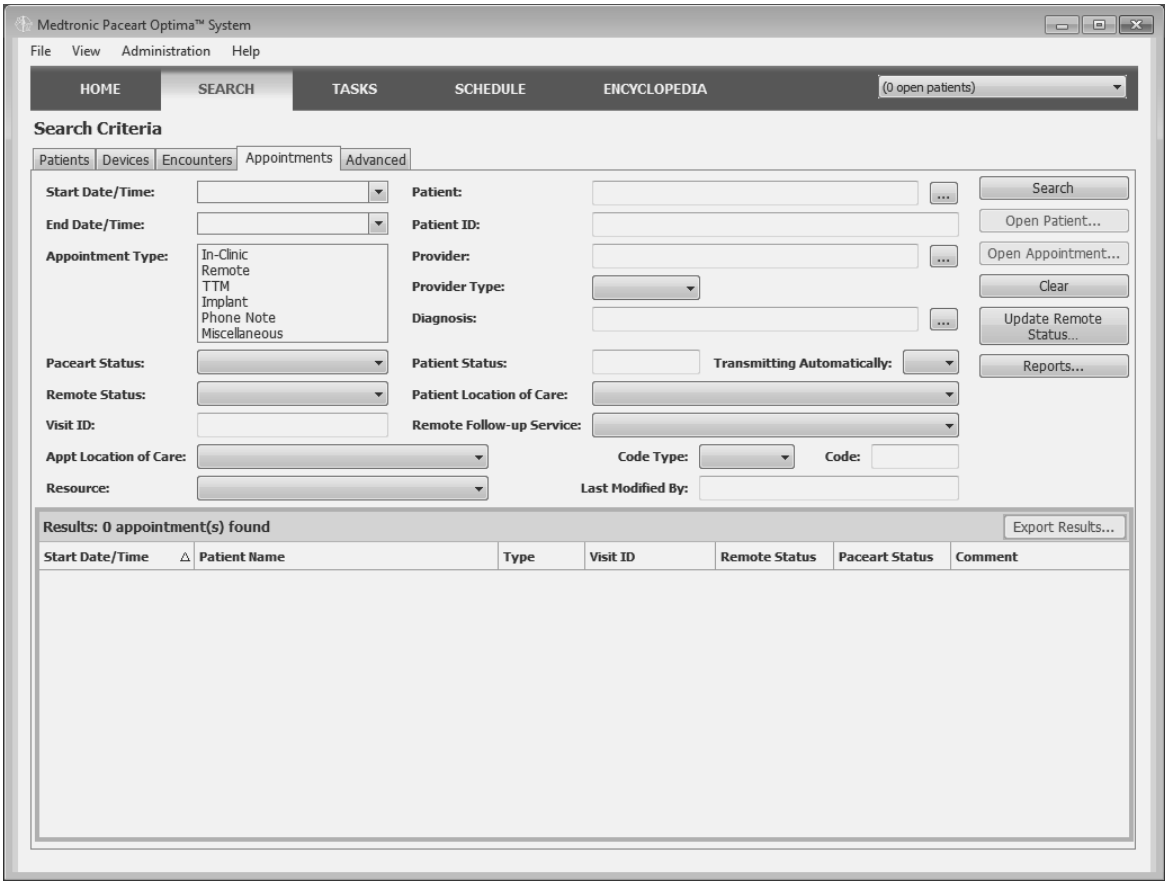
Dialog box fields and buttons	Field and button definitions
Request Data	Initiates a batch download from the remote follow-up service.
Close	Saves and closes the dialog box.

Appointments search tab

The **Appointments** tab contains options that allow you to search for a patient based on the patient's appointments and data associated with an appointment, such as a patient diagnosis or a patient provider.

From this tab you can export the search results to a spreadsheet, select and print a report, open a patient record, open an appointment, reschedule an appointment, and download the statuses of appointments scheduled in external systems.

To delete all of the search criteria click **Clear**.



Searching for an appointment

You can search the schedule. To be considered a match, the appointments must match all of the search criteria that you enter.

1. Click the **Search** tab.
2. Click the **Appointments** tab.
3. Enter your search criteria in one or more of the following fields. The more criteria you enter the more specific your search will be. If you want to see all of the appointments do not enter any search criteria.

Criteria	Description
Start Date/Time	Constrains the Appointment search results to appointments that have a start date / time that is equal to or after the specified criteria. By default, after the Start Date/Time is set, the End Date/Time is set to the same date with a time of 11:59 pm.
End Date/Time	Constrains the Appointment search results to appointment that have a start date / time that is equal to or before the specified criteria.
Appointment Type	Search for an appointment by the appointment type.
Paceart Status	Search for an appointment by its Paceart System status (Canceled, Completed, Missed, Scheduled).
Remote Status	Search for an appointment by its remote status (Error, Ignored, Processing, Pending).
Visit ID	Search for an appointment by the visit ID.

Criteria	Description
Appt Location of Care	Search for an appointment by its location of care.
Resource	Search for an appointment by its resource.
Patient	Search for an appointment by the patient's name. Click the **[...]** button to select an existing patient.
Patient ID	Search for an appointment by the patient's ID. This will constrain the appointment search result to appointments associated with patient that has matching patient id value. The search uses the configured default patient id type when searching.
Provider	Search for an appointment by the provider. Click the **[...]** button to select a provider from the encyclopedia.
Provider Type	Search for an appointment by provider type.
Diagnosis	Search for an appointment by the diagnosis. Click the **[...]** button to select a diagnosis from the encyclopedia.
Patient Status	Search for an appointment by the patient status.
Transmitting Automatically	Search for appointments involving patients configured to receive transmissions automatically using wireless telemetry.
Patient Location of Care	Search for an appointment by patient location of care.
Remote Follow-up Service	Search for an appointment by the remote follow-up service.
Code Type	Search for an appointment by the code type.
Code	Search for an appointment by the code.
Last Modified By	Search for an appointment that was last modified by this person.

4. Click **Search**.
5. Select an appointment in the **Results** section, and click **Open** or double-click the appointment to automatically open the patient record.

Downloading a remote appointment status update

You can update the status of remote appointments from an external system, such as the Medtronic CareLink Network.

Before you can download remote appointments from a external system you must have **Scheduling Integration** enabled in Paceart Administration and you must have the Mainspring Data Express software configured.

1. You can download a remote appointment status update from three locations.
   - Click the **Search** > **Appointments** tab.
   - Click the **Schedule** tab.
   - In an open patient record, click the **Patient Information** > **Schedule** tab.
2. Click the **Update Remote Status** button.
   The **Update Remote Appointment Status** dialog box is displayed.
3. Click **Request Data**.
   The **Request status** section displays the download progress.

4. Click **Close** to close the dialog box.
   The updated remote status is displayed in the **Remote Status** column in the **Results** section.

Field and button definitions for the Remote Encounter Download and Update Remote Appointment Status dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Request Data	Initiates a batch download from the remote follow-up service.
Close	Saves and closes the dialog box.

Advanced search

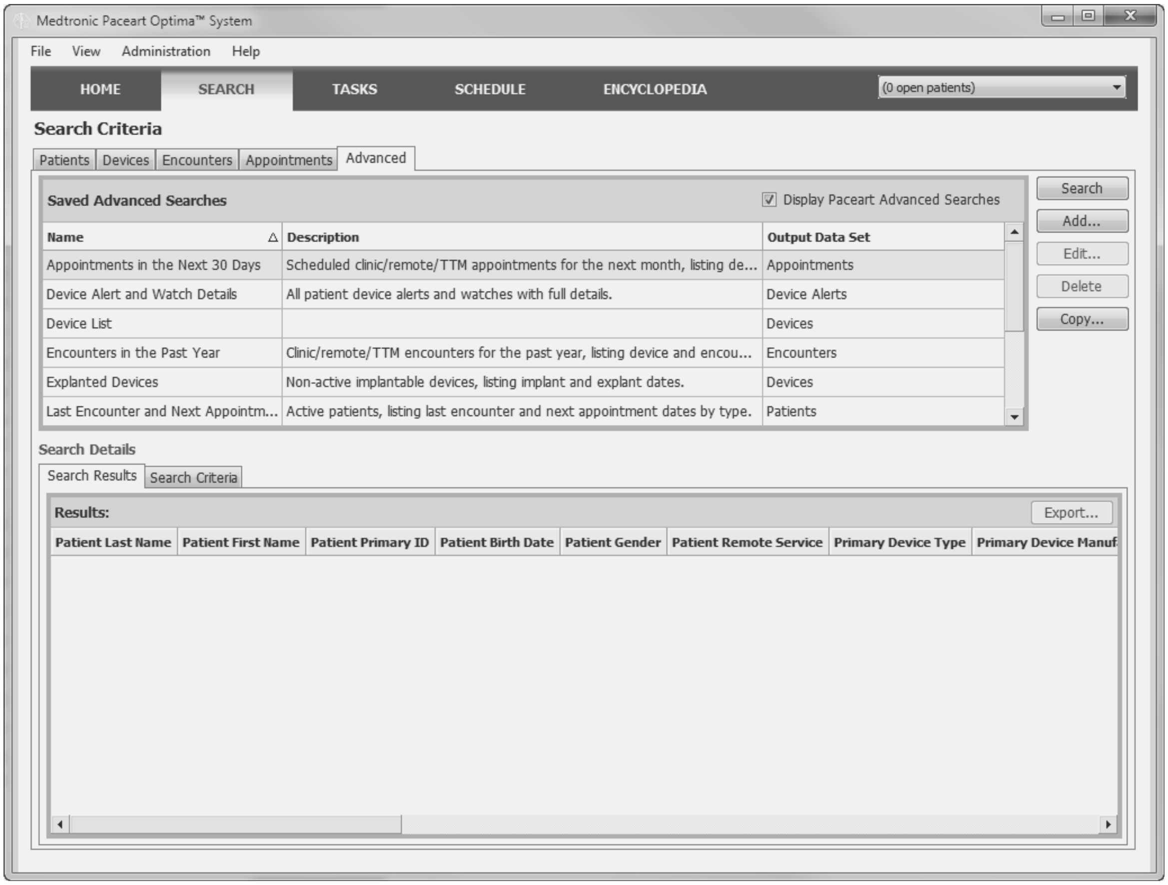
Advanced search is a data-gathering tool that lets you use saved pre-defined and user-defined search queries to filter specific data from your Paceart System database. This allows you to repeat exact searches, saves you time, and reduces the possibility of errors that could occur if you were trying to recreate an unsaved search. If you want to manipulate the search results, you can export the raw data to Excel for filtering or to create reports that show the relationships between specified database elements.

The Paceart Optima System is initially installed with several pre-defined search queries. You can use these pre-defined searches as designed or you can use them as a basis for creating your own searches. You can also create searches that are not based on any saved search. The **Search Criteria** tab displays the search criteria used in the selected pre-defined or user-defined search.

An advanced search query is a way to pull specific raw data from your Paceart System database. For a search to be successful, it is important for you to determine what results you are trying to find, what level of detail you want in your search results, and what data you want to display before you select or create your search query.

The Paceart System user interface uses shading to indicate when data is not pertinent to the device. Pertinence is not taken into account in an advanced search. Data in output columns is always returned regardless of data validity or pertinence. There is no indication in the user interface when data is not valid or pertinent.

Due to the volume of data and possible complexity of the search conditions, it is important to verify the search results against the expected results before using the results for clinical purposes.



Paceart System pre-defined advanced search queries

The Paceart System supplies you with several pre-defined advanced searches. You can use the pre-defined searches as they are designed or as the basis for a user-defined query. You can copy a pre-defined search, and then edit it and save it with a different name. You cannot delete a pre-defined search.

The Paceart System allows you to choose whether you want to display the pre-defined search queries on the **Advanced** tab.

- Select the **Display Paceart Advanced Searches** check box to display the predefined search queries and all of the user-defined queries.
- Clear the **Display Paceart Advanced Searches** check box to hide the predefined search queries. Only user-defined queries are displayed. If there are no user-defined queries, nothing is displayed.

You can determine if a query in the list is a Paceart System pre-defined query by selecting it, and then looking at the **Edit** and **Delete** buttons. If these buttons are grayed out you know that it is a pre-defined search because you cannot edit or delete a pre-defined search.

User-created advanced search queries

You can create a new search query by basing it on an existing query or by building a new one.

For an advanced search query to be valid it must contain one or more defined output data fields from a selected output data set.

A search query may also contain one or more search constraints. If a search query contains no search constraints the Paceart System searches all of the data in the database, and then displays data for the selected search results columns.

Advanced search queries are not owned by a specific user. All queries are available to any user that has the Access Advanced Search permission. Alternatively, you can see and use any query that another user has created.

Search fields

Search fields are a Paceart System defined set of one or more data fields. By default, the Paceart System searches all data in the database. Usually a search is designed to return a subset of data defined by search conditions. The Paceart System allows you to constrain the search using most patient-related data fields used in the Paceart System. A search field can be specified for most Paceart System data elements, and also includes some special fields such as next appointment or most recent encounter.

All data fields are related directly to data found in the application except for **Patient ID** and **Patient Code**. Those data fields are based on administrative settings in your clinic.

Patient ID

The Patient ID field set depends on administration configuration for Patient ID Types. If a type is removed, it could invalidate saved searches that were valid when they were saved. The Paceart System will warn you if you try to run an invalidated search.

You can have up to 20 patient ID types. Two patient IDs are already set up in the Paceart System (Default and Paceart). There are 18 more that you can define. The names that you assign to the IDs are the names that will appear in the field set list.

Patient Code

You can define the names for four patient codes. The names that you assign to the codes are the names that will show up in field set list.

Output data sets

After any search conditions have been defined, you need to define output columns, or data fields, to display data from the search results. Before output data fields can be selected, first you need to select an output data set. An output data set tells the Paceart System what kind of data is being searched and directly affects the data that can be selected for output data fields. All search queries must have an output data set associated with it.

When you create a search you need to make sure that you select the output data set that will give you the information that you are looking for. The column headings in the **Search Details** section on the **Search Results** tab are the data fields in the data set for the current search.

An output data set is specific to a type of data such as patients or encounters; it determines which data objects the Paceart System will search and affects the context of the search.

Here are the types of output data sets defined in the Paceart System.

Output data sets	Description
Patients	Specific to the patient
Devices	Specific to the patient's devices
Device Alerts	Specific to device alerts
Diagnoses	Specific to the patient's diagnoses
Providers	Specific to the patient's providers
Medications	Specific to the patient's medications
Appointments	Specific to appointments

Output data sets	Description
Encounters	Specific to information about the encounter.

The output data set you select will determine which output columns are available. Once the data set is selected, add the columns you want to have displayed for your search from the output data fields provided. You will only see data that has a column selected for it. If there is no column for the data, you will not see the data even if it is found in the search.

You may not need to include columns for fields that are in your search expression if you know that any results found have already included those fields. For example, if you search for a Patient Status of "A", you do not need to have Patient Status in the output data set because the Paceart System will only search for patients with a Patient Status of "A".

Here are some examples to show you how the output data set influences the search results that you see.

For example, if you are interested in medications you need to determine if you are interested in the medications of a specific patient or if you are interested in which patients are associated with a specific medication. If you are searching for Coumadin but select the Patient output data set you will not see anything related to medications because there are no “medication” columns in the Patient output data set. However there are "medication" columns in the Medications output data set.

- If you pick the Patient output data set, the Paceart System will search for patients where any of the patient's medication records match the medication criteria. The output will be a list of patients, with each patient appearing only once, no matter how many of the patient's medications matched the criteria.
- If you pick the Patient Medication output data set, the Paceart System will search all medication records associated to all patients. The output will be a list of patient medication records, and can also include information about the patient associated to each medication. Each medication that met the criteria will be included in the output, which means each patient may appear multiple times.

Here is another example involving patients and appointments. If you do a search on appointments and then pick the Patients output data set your search results are very different than if you search on appointments and pick the Appointments output data set.

- If you select the Patients output data set you can only see patient data along with special appointment-related patient fields such as that patient's next in-clinic appointment.
- If you select the Appointments output data set you can see all of the appointments for a patient.

Creating an advanced search query

You can create your own search query instead of using a Paceart System pre-defined query.

If you have a complex search or a search you want to run on a regular basis, you may want to create specific searches that you can save and reuse. You need to determine what results and level of detail you want. The level of detail is very important when creating your searches.

You can create a search in one of two ways:

- You can copy an existing search, and then edit it to fit your search requirements.
- You can build a new search.

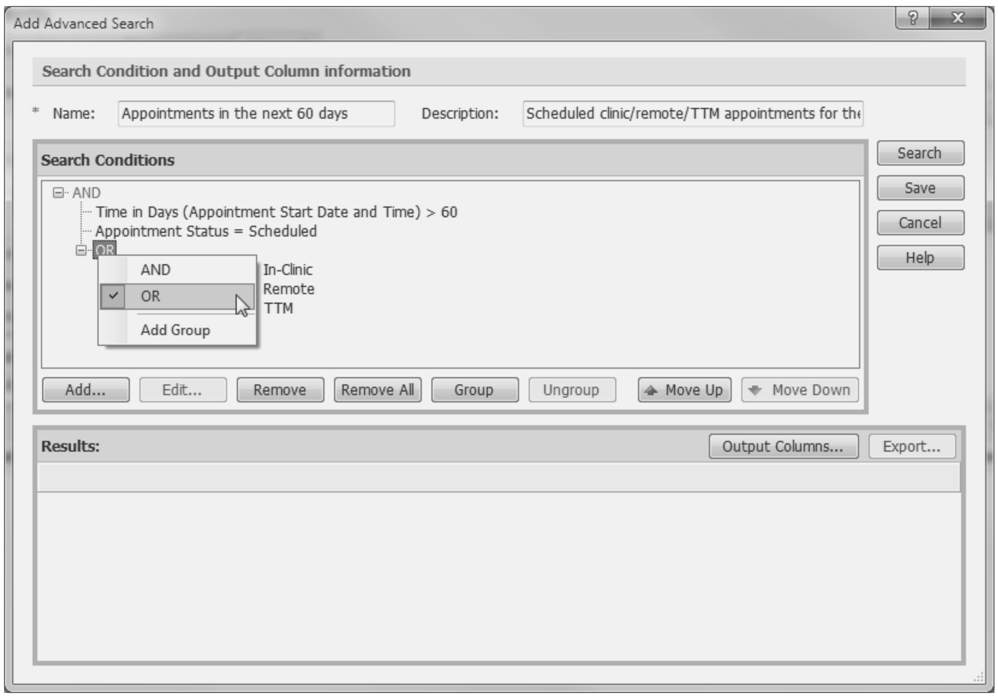
If you want to see the search criteria used for an existing search click on the **Search Criteria** tab in the **Search Details** section of the **Advanced** tab.

1. Click the **Search** tab.
2. Click the **Advanced** tab.
3. Click **Add**.
   The **Add Advanced Search** dialog box is displayed.
4. Enter a name for the search in the **Name** field. Make it descriptive so that you will be able to recognize the saved search by its name. This is a required field.

5. Enter a short description of the search in the **Description** field. For example, if you are saving an output data set (the column names for the search results) but no search condition you may want to give it a name that specifies the saved search is for all data items such as all medications if the output data set is medications.
6. Click **Add** in the **Search Conditions** section to display the **Add Search Condition** dialog box.

   Search conditions are not required for a search. For example, the pre-defined search named Device Alert and Watch Details has no search conditions. Searches with no conditions will search all Paceart System data. This may take some time depending on the amount of data and the speed of your system.

   By default all search conditions are combined using an AND operator. You can group search conditions to use different OR logic, if needed. Right-click the AND or OR search operator to open a list from which you can insert an AND operator, OR operator, or add a new group to the search conditions.



7. To add a new search condition, click **Add**. When the **Add Search Condition** dialog box opens, enter the following information for each search condition that you add.
   a) Select a field from the **Available Search Fields** section of the dialog box.
   b) Select a search condition from the **Condition** section of the dialog box.
   c) Enter or select the search condition value in the **Condition Value(s)** section of the dialog box.
   d) Click **OK** to return to the **Add Advanced Search** dialog box.

   Repeat this process until you have added all of your search conditions. Use the buttons under **Search Conditions** to change the conditions in the search or rearrange their order.

8. When you have completed creating your search, click **Output Columns**.

   Output columns are required for every search because they determine the search results that the Paceart System displays.

   The **Choose Output Columns** dialog box is displayed.
9. Select the columns to use to display the search results.
   a) Select an output data set from the **Output Data Set** field.
   b) Click the plus (+) sign next to a field set in the **Available Output Columns** list.
   A list of column names is displayed.
   c) Select a column and click **Add** to move it to the **Selected Output Columns** list.

d) Continue to add columns in this manner until you have selected all of the ones that you want.
e) Rearrange the column order by selecting the column name and clicking **Move Up** or **Move Down**.
f) Click **OK** when you have finished adding and arranging the columns to return to the **Add Advanced Search** dialog box.

10. If you want to test the search before saving it, click **Search**.
Review the results to determine if the search is finding the results that you want.
11. From the **Add Advanced Search** dialog box, click **Save** to save the search expression and return to the **Advanced** tab.

Performing an advanced search

You can search the Paceart System database for specific data by using a saved search query. The search results that the Paceart System displays is determined by your Output Data Set and the columns you selected.

1. Click the **Search** tab.
2. Click the **Advanced** tab.
3. Select a saved search. Remove the check mark from the **Display Paceart Advanced Searches** if you only want to see the user-defined searches.
4. Click **Search**.

The search results are displayed in the **Results** section.

Editing a saved advanced search query

You can edit any user-defined search query or a copy of a Paceart System pre-defined search query.

1. Click the **Search** tab.
2. Click the **Advanced** tab.
3. Select a saved search.
4. Click **Edit** to open the **Edit Advanced Search** dialog box. If **Edit** is not available then the search you selected is a Paceart System pre-defined search. You cannot edit a pre-defined search directly but you can make a copy of the search, and then edit the copy.
5. Edit your output columns and one or more of the search conditions using these commands:
   - Right-click a Boolean operator (AND or OR) to change the operator or to add a new group. The new group defaults to using the AND operator.
   - Select a search condition or a Boolean operator and click **Add** to add a new search condition.
   - Select a search condition and click **Edit** to edit the condition's criteria and values.
   - Select one or more search conditions and click **Remove** to remove all selected search conditions. Use the CTRL key to select multiple search conditions.
   - Click **Remove All** to clear all of the search conditions.
   - Select two or more search conditions and click **Group** to group the selected search conditions. Use the CTRL key to select multiple search conditions.
   - Select one or more search conditions and click **Ungroup** to remove the selected search conditions from their current group. You must keep two or more search conditions within each AND or OR operator.
   - Select one or more search conditions and click **Move Up** or **Move Down** to rearrange their order in the list.
   - Click **Output columns**, edit your Output Data Set or your output columns, and then click **OK**.
6. Save the search query.
   - To save the edited search query with the same name, click **Save** on the **Edit Advanced Search** window.
   - To save the edited query with a different name, enter a new name in the **Name** field and, if desired, a description in the **Description** field, and then click **Save.**

Copying an advanced search query

You can create a new search query by copying an existing query and editing it. If you are copying a Paceart System pre-defined search query make sure that the **Display Paceart Advanced Searches** check box is selected so the pre-defined search queries are visible.

1. Click the **Search** tab.
2. Click the **Advanced** tab.
3. Select a saved advanced search.
4. Click **Copy**.
   The **Add Advanced Search** dialog box is displayed containing a copy of the search you selected.
5. Enter a new name in the **Name** field. This is required.
6. Edit the search description.
7. Edit the search conditions if you want to change the search criteria.
8. Edit the output columns if you want to change the data output that the Paceart System will display.
9. Test the search expression before saving it to make sure that you are getting the results that you expect by clicking **Search**.
   If you do not get the results that you expect, add or edit the search conditions or the output columns.
10. Once you are satisfied with the search query click **Save**.

The Paceart System saves the new search query and makes it available immediately for any user who has the Access Advanced Search permission that you have.

Deleting an advanced search query

You can delete a user-defined advanced search query.

Use this option cautiously since other users may be using the search query even if you no longer use it. You can never delete a Paceart System pre-defined search query.

1. Click **Search** > **Advanced** tabs.
2. Select the user-defined saved search query that you want to delete.
3. Click **Delete**.
4. Click **Yes** to confirm that you want to continue with the delete process.

The search query is deleted.

Pre-defined searches

The Paceart System comes with several pre-defined advanced searches. You cannot edit or delete a Paceart System pre-defined search expression. To modify a pre-defined search, you can copy the search and edit the copied version.

Query: Appointments in the Next 30 Days

Output Data Set: Appointments

Description: Scheduled clinic/remote/TTM appointments for the next month, listing device and appointment details.

Search Query

```
 Time in Days (Appointment Start Date and  Time) < 30
AND
 Appointment Status = Scheduled
AND
   Appointment Type = In-Clinic
```

```
   OR
   Appointment Type = Remote
   OR
   Appointment Type = TTM
```

Additional Search Results Columns

- Patient Last Name
- Patient First Name
- Patient Primary ID
- Patient Birth Date
- Patient Gender
- Patient Remote Service
- Primary Device Type
- Primary Device Manufacturer
- Primary Device Model
- Primary Device Serial Number
- Primary Device Status
- Appointment Start Date and Time
- Appointment Duration (min)
- Appointment Type
- Appointment Remote Status
- Appointment Remote System Name
- Appointment Visit ID
- Appointment In-patient Status
- Resource Name
- Appointment Location of Care Name

Query: Billable Encounters in the last 30 Days

Output Data Set: Encounters

Description: Billable clinic/remote/TTM encounters for the last month, listing device and encounter information.

Search Query

```
 Time in Days (Encounter Date and Time) < 30
AND
 Encounter Has No Amendments = Yes
AND
 Encounter Billable Indicator = Yes
AND
   Encounter Type = In-clinic
   OR
   Encounter Type = Remote
   OR
   Encounter Type = TTM
```

Additional Search Results Columns

- Patient Last Name
- Patient First Name
- Patient Primary ID
- Patient Birth Date
- Patient Gender
- Patient Status
- Encounter Date and Time

- Encounter Type
- Encounter Locked
- Encounter Signed
- Encounter Signature User Name
- Encounter Signature Date and Time
- Encounter Exported Indicator
- Encounter Location of Care Name
- Encounter Device Type
- Encounter Device Manufacturer
- Encounter Device Model
- Encounter Device Serial Number

Query: Device Alert and Watch Details

Output Data Set: Device Alerts

Description: All patient device alerts and watches with full details.

Search Query: There are no limiting search criteria so the **Search Criteria** tab is blank. This search looks at all of the Paceart System data and may take some time depending on the amount of data and the speed of your system.

Additional Search Results Columns

- Patient Last Name
- Patient First Name
- Patient Primary ID
- Patient Birth Date
- Patient Gender
- Patient Status
- Device Type
- Device Manufacturer
- Device Model
- Device Serial Number
- Device Status
- Alert Status
- Alert Created Date
- Alert Created By
- Alert For Device Model
- Alert Details
- Alert Details Website URL
- Alert Resolution Details
- Alert Resolution Date
- Alert Resolution By
- Alert Mitigation Details
- Alert Mitigation Date
- Alert Mitigation By
- Alert Mitigation Complete

Query: Encounters in the Past Year

Output Data Set: Encounters

Description: Clinic/remote/TTM encounters for the past year, listing device and encounter information.

Search Query:

```
 Time in Days (Encounter Date and Time) <365
AND
 Encounter Has No Amendments = Yes
AND
   Encounter Type = In-Clinic
   OR
   Encounter Type = Remote
   OR
   Encounter Type = TTM
```

Additional Search Results Columns

- Patient Last Name
- Patient First Name
- Patient Primary ID
- Patient Birth Date
- Patient Gender
- Patient Status
- Encounter Date and Time
- Encounter Type
- Encounter Locked
- Encounter Signed
- Encounter Signature User Name
- Encounter Signature Date and Time
- Encounter Exported Indicator
- Patient Location of Care Name
- Encounter Device Type
- Encounter Device Manufacturer
- Encounter Device Model
- Encounter Device Serial Number

Query: Explanted Devices

Output Data Set: Devices

Description: Non-active implantable devices, listing implant and explant dates.

Search Query:

```
 Device Status   Active
AND
    Device Type = ICD
   OR
    Device Type = Pacemaker
   OR
    Device Type = ICM/ILR
```

Additional Search Results Columns

- Patient Last Name
- Patient First Name
- Patient Primary ID
- Patient Birth Date
- Patient Gender
- Patient Status
- Device Type

- Device Manufacturer
- Device Model
- Device Serial Number
- Device Status
- Device Implant Date
- Device Explant Date

Query: Last Encounter and Next Appointment List

Output Data Set: Patients

Description: Active patients, listing last encounter and next appointment dates by type.

Search Query:

```
Patient Status = 'A'
```

Additional Search Results Columns

- Patient Last Name
- Patient First Name
- Patient Primary ID
- Patient Birth Date
- Patient Gender
- Primary Device Type
- Primary Device Manufacturer
- Primary Device Model
- Primary Device Serial Number
- Most Recent Encounter - In-clinic
- Most Recent Encounter - Remote
- Most Recent Encounter - TTM
- Next Appointment - In-clinic
- Next Appointment - Remote
- Next Appointment - TTM

Query: Pacing Dependency

Output Data Set: Patients

Description: Active patients with active devices whose most recent encounter indicated pacing dependency.

Search Query:

```
 Patient Status = 'A'
AND
 Primary Device Status = Active
AND
 Most Recent Programming Dependency = Yes
```

Additional Search Results Columns

- Patient Last Name
- Patient First Name
- Patient Primary ID
- Patient Birth Date
- Patient Gender

- Primary Device Type
- Primary Device Manufacturer
- Primary Device Model
- Primary Device Serial Number
- Primary Device Implant Date
- Primary Device Lead 1 Chamber
- Primary Device Lead 1 Manufacturer
- Primary Device Lead 1 Model
- Primary Device Lead 1 Serial Number
- Primary Device Lead 1 Implant Date
- Primary Device Lead 1 Status
- Primary Device Lead 2 Chamber
- Primary Device Lead 2 Manufacturer
- Primary Device Lead 2 Model
- Primary Device Lead 2 Serial Number
- Primary Device Lead 2 Implant Date
- Primary Device Lead 2 Status
- Primary Device Lead 3 Chamber
- Primary Device Lead 3 Manufacturer
- Primary Device Lead 3 Model
- Primary Device Lead 3 Serial Number
- Primary Device Lead 3 Implant Date
- Primary Device Lead 3 Status
- Primary Device Lead 4 Chamber
- Primary Device Lead 4 Manufacturer
- Primary Device Lead 4 Model
- Primary Device Lead 4 Serial Number
- Primary Device Lead 4 Implant Date
- Primary Device Lead 4 Status
- Primary Device Lead 5 Chamber
- Primary Device Lead 5 Manufacturer
- Primary Device Lead 5 Model
- Primary Device Lead 5 Serial Number
- Primary Device Lead 5 Implant Date
- Primary Device Lead 5 Status
- Most Recent Programming Date and Time
- Most Recent Programming Rhythm
- Most Recent Programming Dependency

Query: Patients Lost to Follow-up

Output Data Set: Patients

Description: Active patients with no recent In-clinic or Remote/TTM encounters. (The default time frame for a recent encounter for an in-clinic is 365 days, for a remote is 180 days, and for a TTM is 180 days.)

Search Query:

```
Patient Status = 'A'
AND
Primary Device Status = Active
AND
   Most Recent Encounter - In-clinic is Blank
```

```
  OR
   Time in Days (Most Recent Encounter - In-clinic) > 365
 AND
   Most Recent Encounter - Remote Is Blank
  OR
   Time In Days (Most Recent Encounter - Remote) > 180
 AND
   Most Recent Encounter - TTM Is Blank
  OR
   Time In Days (Most Recent Encounter - TTM) > 180
```

Additional Search Results Columns

- Patient Last Name
- Patient First Name
- Patient Primary ID
- Patient Birth Date
- Patient Gender
- Patient Language
- Patient Phone Number 1
- Patient Phone Number 1 Type
- Patient Phone Number 2
- Patient Phone Number 2 Type
- Primary Device Type
- Primary Device Manufacturer
- Primary Device Model
- Primary Device Serial Number
- Primary Device Implant Date
- Most Recent Encounter - In-clinic
- Most Recent Encounter - Remote
- Most Recent Encounter - TTM
- Next Appointment Type
- Next Appointment Date
- Next Appointment - In-clinic
- Next Appointment - Remote
- Next Appointment - TTM

Query: Patients Taking Coumadin

Output Data Set: Medications

Description: Active patients with an active Coumadin medication.

Search Query:

```
Patient Status = 'A'
AND
Medication Description contains 'Coumadin'
AND
Patient Medication Status = Active
```

Additional Search Results Columns

- Patient Last Name
- Patient First Name
- Patient Primary ID
- Patient Birth Date

- Patient Gender
- Primary Device Type
- Primary Device Manufacturer
- Primary Device Model
- Primary Device Serial Number
- Primary Device Implant Date
- Medication Description
- Patient Medication Date Dispensed
- Patient Medication Comments

Using operators and conditions in advanced searches

You can create your own advanced searches in the Paceart System by using the operators and conditions on the **Advanced** tab.

Operators

The Paceart System uses two Boolean operators in its advanced search function. Boolean operators define the relationships between search conditions. You can access these operators by right-clicking on an existing operator. When you add a new group, the operator defaults to AND. If you want to change the AND to OR, right click on AND, then select OR from the menu.

Operator	Description	Example	Search Results
AND	Using "AND" between search conditions narrows the search by making it more specific. The search results must contain all of the search conditions in the entire search expression.	patient last name is not blank AND patient date of birth equals 2/18/1948	Any patient records that have something in the last name field and have a birth date of February 18, 1948
OR	Using "OR" between search conditions broadens the search by making it less specific. The search results contain at least one of the search conditions preceded by "OR".	patient last name begins with qu OR patient date of birth equals 2/18/1948	Any patient records where either the patient's last name begins with "Qu" or the patient's birth date is February 18, 1948

Grouping

Grouping defines relationships between search conditions. They force the Paceart System to process the search query in the order that you want it processed. You can add a new group by right-clicking on an AND or OR at the same level that you want to add the new group.

Conditions

The Paceart System has multiple conditions from which you can choose to build your search query. You are not required to have conditions in a search expression. The Paceart System searches all of the data in the database when there are no conditions.

Values used in operations must be valid values. If non-conforming values are also desired, add the **Has Non-Conforming Value** condition grouped using an OR operator.

Conditions

Condition	Description
Equals	The patient record has to have an exact match of the value that you specify.
Does Not Equal	The patient record cannot have the condition value that you specify. This is good when you want to exclude specific records.
Greater Than	The patient record has to have the something greater than the condition value that you specify.
Less Than	The patient record has to have a value less that the condition value that you specify.
Contains	The patient record has to have a value that contains the condition value that you specify.
Starts with	The patient record has to have the condition value you specified at the beginning of the field.
Range	The patient record has to have a value equal to or within the minimum and maximum value that you specified.
Is Blank	The patient record has to have nothing in the specified field.
Is Not Blank	The patient record has to have something in the specified field.
Time in Days Greater Than	Searches for date values that are outside of a date range relative to the current date by the number of dates specified. This can be used to find date records that are older than the specified number of days, and will also find dates in the future that are further in the future than the specified number of days. This operator allows you to define a date search that is relative to the current date. For example in previous versions your search would be something like March 1-May 30. Now the effective date moves with the flow of time so you can reuse the search without changing the date. Past dates and future dates are both considered to be positive numbers. For example, an encounter one day in the past and an appointment one day in the future are both considered to have an "age in days" of "1".
Time in Days Less Than	Searches for date values that are within a date range relative to the current date by the number of dates specified. This can be used to find date records that are older than the specified number of days, and will also find dates in the future that are further in the future than the specified number of days.

Condition	Description
	This operator allows you to define a date search that is relative to the current date. For example in previous versions your search would be something like March 1-May 30. Now the effective date moves with the flow of time so you can reuse the search without changing the date. Past dates and future dates are both considered to be positive numbers. For example, an encounter one day in the past and an appointment one day in the future are both considered to have an "age in days" of "1".

Exporting search results to a spreadsheet

You can export data to an Excel spreadsheet (*.xlsx) from multiple places in the Paceart System. This capability replaces some reports that you may have used in earlier Paceart System versions.

1. Click **Export Results**.
   The **Search Results Export** dialog box is displayed.
2. Enter the name you want to assign to the spreadsheet page.
3. Check **Show Grid Lines** if you want visible grid lines on your spreadsheet.
4. Check **Use Native Format** if you want to use the default Excel format.
5. Click **Save** to save the spreadsheet to a file or click **Open** to open the spreadsheet.

Using an exported spreadsheet to create letters and mailings

After you have exported the Paceart System search results to Microsoft Excel, you can then use standard Microsoft Office mail merge capabilities to generate a wide range of letters, labels, and envelopes from the data in the Excel file.

This is a standard feature in Microsoft Office. Microsoft documents this feature at *http://support.microsoft.com/kb/294683*.

Chapter 4

Home tab

When you open the **Home** tab, the Paceart System automatically displays all of today's appointments for the selected resource, the task counts for the configured task types for the current user, and any links that your clinic has added that may be useful to you.

The schedule, tasks and links that you see are determined by how your clinic configured these options in the Paceart System administration section. In the tasks count, the Paceart System excludes tasks assigned to work groups even if you are a member.

You can perform the following tasks from the **Home** tab.

In the **Appointments for [date]** section you can do the following:

- Select the resource that determines the appointments the Paceart System displays.
- Select an appointment.
- Open either the selected appointment or the patient record affiliated with the selected appointment.

In the **Tasks** section you can open the **Tasks** tab or add a user task if you have permission to add tasks to the Paceart System.

In the **Links** section you can click any of the available links to go to that resource.

The Paceart System defaults to opening to the **Search** tab. Your clinic can configure the Paceart System to open to the **Home** tab instead of the **Search** tab. This is especially useful if you use the Paceart System scheduling or tasks workflow features.

Displaying today's appointments for a resource

The Paceart System Home tab will automatically display the day's appointments for the selected resource. You can select a different resource by selecting it from the **Resource** field drop-down box in the **Appointments for [date]** section.

Opening an appointment or patient record from a selected appointment

The Paceart System displays all of today's appointments for your clinic in the appointments section of the **Home** tab. You can open either the appointment or the patient record from this tab.

1. Click the **Home** tab.
   The Paceart System defaults to display all of today's appointments.
2. Click an appointment.
3. Open either the appointment or the patient record for a selected appointment.
   - Click **Open Appointment** to open the **Edit Appointment** dialog box.

- Click **Open Patient** or double-click the appointment to open the patient's record to the **Patient Information** tab.

Opening a task

You can open the **Tasks** tab from the **Home** tab by double-clicking on a task type. This is useful if you have your default opening window set to the **Home** tab and you want to check your tasks.

1. Click the **Home** tab.
   The Paceart System displays the number of the tasks assigned to you. What type of tasks you see depends on how your clinic is configured in **Administration: Task Management**.
2. Select the type of task that you want to see on the **Tasks** tab.
   - Double-click **All Tasks** to see all of the open tasks on the **Tasks** tab.
   - Double-click a specific type of task (User, Encounter, or System) to see all of the open tasks of that type on the **Tasks** tab.

The Paceart System opens the **Tasks** tab and displays all open tasks of the type you selected.

Adding a user task

You can add a user task from the Home tab.

1. Click the **Home** tab.
2. Click **Add Task**.
   The **Add User Task** dialog box is displayed.
3. Enter the task information.
4. Click **OK**.
   The Paceart System adds the user task to the database.

Field and button definitions for the Adding or Editing a Task dialog box

The field definitions in the **Add User Task** and **Edit Task** dialog boxes.

Dialog box fields and buttons	Field and button definitions
*Assigned To:	The workgroup or user to whom the task is assigned. Required field.
*Description:	The description of the task. Required field.
Due Date:	The date the task is due.
Priority:	The priority level of the task.
Comments History:	A read-only list of comments previously added to the task.

Dialog box fields and buttons	Field and button definitions
Comments:	Miscellaneous comments.
Complete	Completes the selected task.

Selecting an assignee

You can search for an assignee by selecting **Assigned To**, **Assigned By**, or **Completed By**.

1. Click the **[...]** button next to the **Assigned To**, **Assigned By**, or the **Completed By** field.
   The **Select Assignee** dialog box opens.
2. If applicable, select the type from the **Assignee Type** drop-down box.
3. Type the search criteria in the **Search String** field.
4. Click **Search**.
   The items that match your search criteria are displayed in the **Results** list.
5. Select a assignee name from the **Results** list.
6. Click **Select**.
   The assignee you selected is displayed in the field.

Field and button definitions for the Select Assignee dialog box

This is a list of fields and buttons and their definitions.

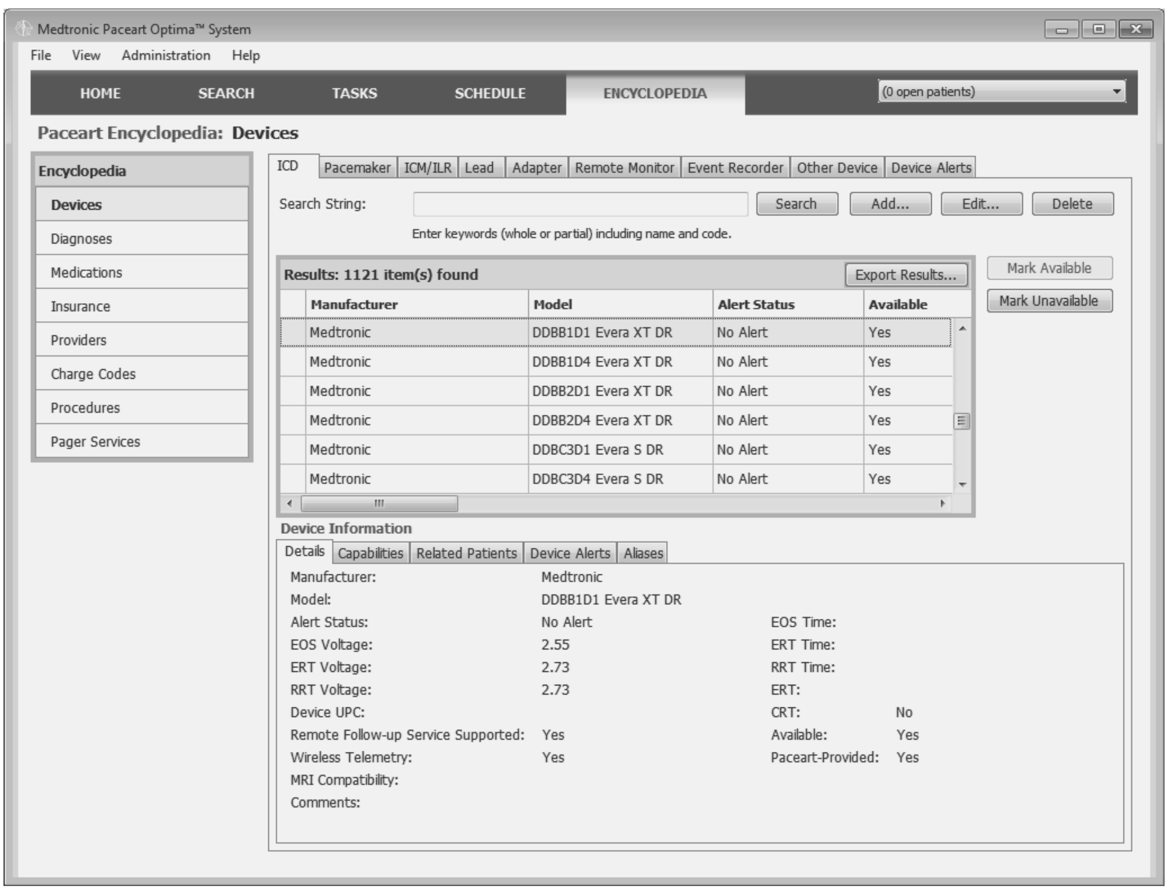
Dialog box fields and buttons	Field and button definitions
Assignee Type:	The type of user (workgroup or user) that is assigned to a task.
Search String:	Text box for entering whole or partial keywords.
Search	Invokes the search.
Name	Search results table of users and/or workgroups matching the search criteria.

Chapter
5

Paceart System Encyclopedias

Encyclopedias contain information about devices, diagnoses, medications, insurance companies, providers, charge codes, procedures, and pager services. Encyclopedia entries are used to populate fields throughout the Paceart System. The **[...]** button next to a field will allow you to search for and select an encyclopedia entry for that field.

There are different encyclopedias for different categories of information. The encyclopedias are listed on the left side of the window. Within an encyclopedia, specific information about each entry is displayed in subtabs at the bottom of the screen. To add, edit, or delete information in an encyclopedia, you must have the appropriate Encyclopedias user permissions. There is a separate permission for each encyclopedia. Encyclopedia permissions can be edited for a user role from the **Administration: Security** window.



Searching for information in the encyclopedia

You can search for specific encyclopedia entries. Once you search for and select an encyclopedia entry, you can view, edit, or delete it. To search for all entries leave the search string blank. You cannot use the * for wildcard searches.

The search is a contains search, rather than a "starts with" search. For example, if you enter "210" in the search you will get all encyclopedia entries that have 210 in the name.

When you search and select an item from the results list, the information for the encyclopedia entry is displayed in the subtabs below the **Results** section.

Deleting an entry from an encyclopedia

You can delete an encyclopedia entry. Once an entry is deleted, it cannot be associated with a patient and it is no longer displayed in the encyclopedia search results.

Before you can delete an encyclopedia entry you must make sure it is not associated with any patients, providers, or bills. Also, if it is a device, make sure that it does not have a device watch or a device alert. If you attempt to delete an encyclopedia entry with associated records, you will have the option to mark the item or items as unavailable instead. Unless the encyclopedia entry was created in error, consider marking it as unavailable. Marking an entry as unavailable preserves any historical records but removes it from the list of entries displayed to users when creating associations.

1. Click the **Encyclopedia** tab.
2. Select the encyclopedia you would like to edit from the left pane.
3. Search for the entry you want to delete using full or partial words. For wildcard searches, clear the fields. You cannot use * for wildcard searches.
4. Select the entry you want to delete and click the **Related Patients**, **Related Providers**, or **Related Bills** tab. This section must be empty in order to delete an entry.
5. Click **Delete**.
   A confirmation dialog box is displayed.
6. Click **Yes** on the confirmation dialog box to delete the entry.

The item is removed from the encyclopedia.

Exporting search results to a spreadsheet

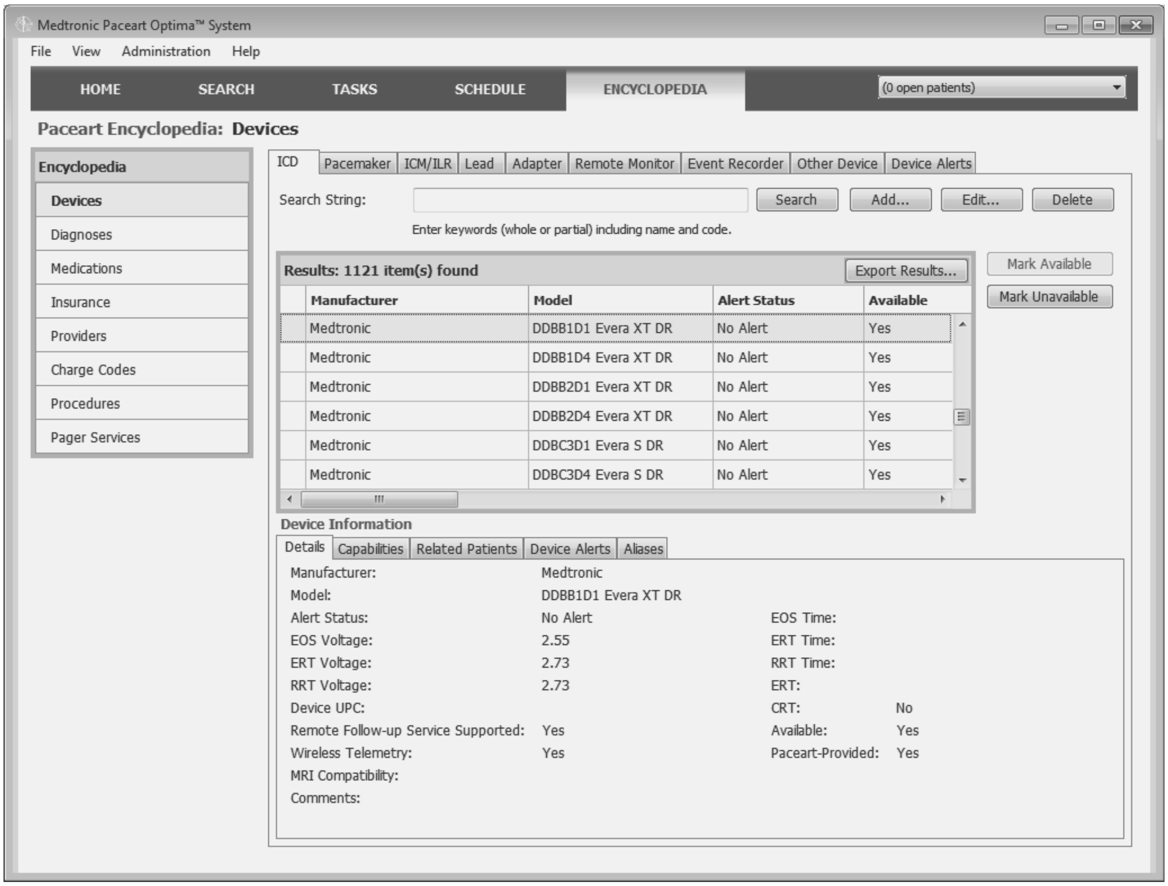
You can export data to an Excel spreadsheet (*.xlsx) from multiple places in the Paceart System. This capability replaces some reports that you may have used in earlier Paceart System versions.

1. Click **Export Results**.
   The **Search Results Export** dialog box is displayed.
2. Enter the name you want to assign to the spreadsheet page.
3. Check **Show Grid Lines** if you want visible grid lines on your spreadsheet.
4. Check **Use Native Format** if you want to use the default Excel format.
5. Click **Save** to save the spreadsheet to a file or click **Open** to open the spreadsheet.

Using the Devices Encyclopedia

The devices encyclopedia lists devices, leads, non-implanted devices, and adapters. You can add, edit, delete devices and mark them as available or unavailable from the device encyclopedia. You can add device alerts. You can also export the search results to a spreadsheet. Once an item is added to the encyclopedia, you can associate it with a patient.

You can search for manufacturer and model, using either whole or partial words. To search for all entries leave the search string blank. You cannot use the * for wildcard searches.



Details tab

The **Details** tab provides more information on the device you selected, such as the device replacement time parameters like ERT voltage and RRT voltage.

Capabilities tab

The **Capabilities** tab provides a list of available device capabilities.

Related Patients tab

The **Related Patients** tab shows a list of patients who have the device.

Device Alerts tab

The **Device Alerts** tab displays information about a device alert or advisory for a device model type or for specific serial numbers.

Alias tab

The **Alias** tab displays alternate names for the manufacturer or device model.

Searching for information in the encyclopedia

You can search for specific encyclopedia entries. Once you search for and select an encyclopedia entry, you can view, edit, or delete it. To search for all entries leave the search string blank. You cannot use the * for wildcard searches.

The search is a contains search, rather than a "starts with" search. For example, if you enter "210" in the search you will get all encyclopedia entries that have 210 in the name.

When you search and select an item from the results list, the information for the encyclopedia entry is displayed in the subtabs below the **Results** section.

Adding or editing a device in the encyclopedia

You can add a device to the encyclopedia or edit an existing device.

Before you add a new device, it is a good idea to search for the device in the encyclopedia to avoid duplicate entries.

1. Click the **Encyclopedia** tab.
2. Click **Devices** from the left pane.
3. Select the device tab for the type of device you would like to add or edit.
4. Determine which action to take.
   - To add a device, click **Add**.
   - To edit a device, select the device and click **Edit**.

   The **Add Device** or **Edit Device** dialog box is displayed.
5. On the **Details** tab, add or edit the information as necessary. The **Manufacturer** and **Model** are required fields.
6. Enter any additional information and comments into the appropriate boxes. To enter standard comment text, click in the **Comments** box and press F9.
7. On the **Capabilities** tab, select the applicable device capabilities.

   If you are manually adding a device to the encyclopedia, certain capabilities are set by default based on the device type.
8. To add or edit an alert for the device, click the **Device Alerts** tab and add or edit the alert information.
9. To add or edit a manufacturer or model alias, click the **Aliases** tab and add or edit the alias information.
10. Click **Save**.

Field and button definitions for the Add or Edit ICD dialog boxes

This is a list of fields and buttons and their definitions.

Details tab

Dialog box fields and buttons	Field and button definitions
*Manufacturer:	The device manufacturer. Required field.
*Model:	The model name and number of the device. Required field.

Dialog box fields and buttons	Field and button definitions
EOS Time	The capacitor charge time at the device end of service (EOS).
EOS Voltage	The voltage for the device end of service (EOS).
ERT Time	The elective replacement time (ERT) indicated full energy charge time.
ERT Voltage	The elective replacement time (ERT) indicated battery voltage.
RRT Time	The recommended replacement time (RRT) full energy charge time at end of service.
RRT Voltage	The recommended replacement time (RRT) battery voltage at end of service.
ERT	The manufacturer-specified indicator signifying the device model should be considered for replacement.
CRT	When selected, indicates that the device is for cardiac resynchronization therapy (CRT-P and CRT-D).
Remote Follow-up Service Supported:	When selected, indicates the device supports a remote follow-up service.
Wireless Telemetry	When selected, indicates that the device uses wireless telemetry.
Device UPC:	The Universal Product Code, HIBCC, or harmonized product code identifier for the device.
MRI Compatibility	Indicates the device's magnetic resonance imaging (MRI) compatibility - the extent to which use of the device in an MRI environment does not significantly alter the quality of the MRI diagnostic data, and the device's operations are not affected by the MRI. The value must be one of the following values: MR Safe, MR Conditional, MR Unsafe.
Available:	When selected, indicates the device is available for association to the patient record.
Paceart-Provided	Identifies a device that was provided with Paceart.
Comments:	Miscellaneous comments.

Capabilities Tab

Dialog box fields and buttons	Field and button definitions
Battery	When selected, enables the **Battery** section on the **Device Status** tab in an encounter.
Capacitor	When selected, enables the **Capacitor** section on the **Device Status** tab in an encounter.
Low Voltage	When selected, enables the **Lead Data** > **Sense/Pace Lead Impedance** section on the **Device Status** tab in an encounter.
High Voltage	When selected, enables the **Lead Data** > **Defib Lead Impedance** section on the **Device Status** tab in an encounter.
Asystole	When selected, enables the Asystole zone in the **Detections/Therapies** > **Asystole** section on the **Programming** tab in an encounter. It also enables **Other Detections** and **Therapies** on the **Counters** tab in an encounter.
Heart Failure	When selected, enables the **Brady** > **Heart Failure** section on the **Programming** tab in an encounter. It also enables **Other Detections** and **Pacing** on the **Counters** tab.
Brady Detections	When selected, enables Bradycardia detections in the **Detections/Therapies** > **Bradycardia Detection** section and the **Brady** > **Sensing** section on the **Programming** tab in an encounter. It also enables **Other Detections** > **Brady** on the **Counters** tab.
Brady Therapies	When selected, enables the Bradycardia zone in the **Detections/Therapies** > **Bradycardia** section and the **Brady** section on the **Programming** tab in an encounter. It also enables **Other Detections**, **Therapies**, and **Pacing** on the **Counters** tab in an encounter.
AT/AF Detections	When selected, enables the atrial (AT/AF(AHR)) detections in the **Detections/Therapies** section on the **Programming** tab in an encounter. It also enables **Atrial Detections** and **Other Detections** on the **Counters** tab in an encounter.
AT/AF Therapies	When selected, enables the AT and AF (AHR) zones in the **Detections/Therapies** section on the **Programming** tab in an encounter. It also enables

Dialog box fields and buttons	Field and button definitions
	Other Detections and **Therapies** on the **Counters** tab in an encounter.
VT/VF Detections	When selected, enables the **Detections/Therapies** section for the VF (VHR), Fast VT, Slow VT, and V-Slow VT zones on the **Programming** tab in an encounter. It also enables **Ventricular Detections** and **Other Detections** on the **Counters** tab in an encounter.
VT/VF Therapies	When selected, enables the ventricular therapies in the **Detections/Therapies** section on the **Programming** tab in an encounter. It also enables **Other Detections** and **Therapies** on the **Counters** tab

Related Patients tab

Dialog box fields and buttons	Field and button definitions
Select All	Highlights all the items in the list.
Change	Allows you to change an entry to a different entry in the same encyclopedia.

Device Alerts tab

Dialog box fields and buttons	Field and button definitions
Created By:	The auto-populated name of the user who created the device alert or watch.
Created On:	The auto-populated date and time the user created the device alert or watch.
Add	Adds information.
Edit	Allows you to edit existing information.
Delete	Removes the item or items from the list.

Aliases Tab

Dialog box fields and buttons	Field and button definitions
Manufacturer	An alternate name for the manufacturer. Allows you to match multiple manufacturer names to a single manufacturer listed in the encyclopedia. The alias must be less than 50 characters. IDCO defined values are

Dialog box fields and buttons	Field and button definitions
	included in the manufacturer aliases, which for example, look like "MDC_IDC_ENUM_MFG_MDT" for Medtronic.
Model	Alternate names for a device model. Allows you to match multiple device model names to a single model listed in the encyclopedia. The alias must be less than 50 characters.
Add	Adds information.
Edit	Allows you to edit existing information.
Delete	Removes the item or items from the list.

Field and button definitions for the Add or Edit Pacemaker dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Manufacturer:	The device manufacturer. Required field.
*Model:	The model name and number of the device. Required field.
BOS	The pacemaker's beginning of service (BOS) value with a fully charged battery typically in paces per minute.
EOS	The pacemaker's end of service (EOS) or elective replacement indicator (ERI) value typically in paces per minute.
ERT Voltage	The elective replacement time (ERT) indicated battery voltage.
RRT Voltage	The recommended replacement time (RRT) battery voltage at end of service.
ERT	The manufacturer-specified indicator signifying the device model should be considered for replacement.
CRT	When selected, indicates that the device is for cardiac resynchronization therapy (CRT-P and CRT-D).
Remote Follow-up Service Supported:	When selected, indicates the device supports a remote follow-up service.

Dialog box fields and buttons	Field and button definitions
Wireless Telemetry	When selected, indicates that the device uses wireless telemetry.
Device UPC:	The Universal Product Code, HIBCC, or harmonized product code identifier for the device.
MRI Compatibility	Indicates the device's magnetic resonance imaging (MRI) compatibility - the extent to which use of the device in an MRI environment does not significantly alter the quality of the MRI diagnostic data, and the device's operations are not affected by the MRI. The value must be one of the following values: MR Safe, MR Conditional, MR Unsafe.
Available:	When selected, indicates the device is available for association to the patient record.
Paceart-Provided	Identifies a device that was provided with Paceart.
Comments:	Miscellaneous comments.

Capabilities Tab

Dialog box fields and buttons	Field and button definitions
Battery	When selected, enables the **Battery** section on the **Device Status** tab in an encounter.
Capacitor	When selected, enables the **Capacitor** section on the **Device Status** tab in an encounter.
Low Voltage	When selected, enables the **Lead Data** > **Sense/Pace Lead Impedance** section on the **Device Status** tab in an encounter.
High Voltage	When selected, enables the **Lead Data** > **Defib Lead Impedance** section on the **Device Status** tab in an encounter.
Asystole	When selected, enables the Asystole zone in the **Detections/Therapies** > **Asystole** section on the **Programming** tab in an encounter. It also enables **Other Detections** and **Therapies** on the **Counters** tab in an encounter.
Heart Failure	When selected, enables the **Brady** > **Heart Failure** section on the **Programming** tab in an encounter. It also enables **Other Detections** and **Pacing** on the **Counters** tab.

Dialog box fields and buttons	Field and button definitions
Brady Detections	When selected, enables Bradycardia detections in the **Detections/Therapies** > **Bradycardia Detection** section and the **Brady** > **Sensing** section on the **Programming** tab in an encounter. It also enables **Other Detections** > **Brady** on the **Counters** tab.
Brady Therapies	When selected, enables the Bradycardia zone in the **Detections/Therapies** > **Bradycardia** section and the **Brady** section on the **Programming** tab in an encounter. It also enables **Other Detections**, **Therapies**, and **Pacing** on the **Counters** tab in an encounter.
AT/AF Detections	When selected, enables the atrial (AT/AF(AHR)) detections in the **Detections/Therapies** section on the **Programming** tab in an encounter. It also enables **Atrial Detections** and **Other Detections** on the **Counters** tab in an encounter.
AT/AF Therapies	When selected, enables the AT and AF (AHR) zones in the **Detections/Therapies** section on the **Programming** tab in an encounter. It also enables **Other Detections** and **Therapies** on the **Counters** tab in an encounter.
VT/VF Detections	When selected, enables the **Detections/Therapies** section for the VF (VHR), Fast VT, Slow VT, and V-Slow VT zones on the **Programming** tab in an encounter. It also enables **Ventricular Detections** and **Other Detections** on the **Counters** tab in an encounter.
VT/VF Therapies	When selected, enables the ventricular therapies in the **Detections/Therapies** section on the **Programming** tab in an encounter. It also enables **Other Detections** and **Therapies** on the **Counters** tab

Related Patients tab

Dialog box fields and buttons	Field and button definitions
Select All	Highlights all the items in the list.
Change	Allows you to change an entry to a different entry in the same encyclopedia.

Device Alerts tab

Dialog box fields and buttons	Field and button definitions
Created By:	The auto-populated name of the user who created the device alert or watch.
Created On:	The auto-populated date and time the user created the device alert or watch.
Add	Adds information.
Edit	Allows you to edit existing information.
Delete	Removes the item or items from the list.

Aliases Tab

Dialog box fields and buttons	Field and button definitions
Manufacturer	An alternate name for the manufacturer. Allows you to match multiple manufacturer names to a single manufacturer listed in the encyclopedia. The alias must be less than 50 characters. IDCO defined values are included in the manufacturer aliases, which for example, look like "MDC_IDC_ENUM_MFG_MDT" for Medtronic.
Model	Alternate names for a device model. Allows you to match multiple device model names to a single model listed in the encyclopedia. The alias must be less than 50 characters.
Add	Adds information.
Edit	Allows you to edit existing information.
Delete	Removes the item or items from the list.

Field and button definitions for the Add or Edit ICM/ILR dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Manufacturer:	The device manufacturer. Required field.
*Model:	The model name and number of the device. Required field.
Symptom Activated:	Indicates if the device has a symptom-activated trigger.

Dialog box fields and buttons	Field and button definitions
Asystolic Pause:	Indicates if the device has an asystolic pause trigger.
High Rate:	Indicates if the device has a high heart rate trigger.
AT/AF:	Indicates if the device has a atrial tachycardia or atrial fibrillation trigger.
Low Rate:	Indicates if the device has a low heart rate trigger.
ECG Max Record Time:	The ECG maximum recording time in minutes.
ERT Voltage	The elective replacement time (ERT) indicated battery voltage.
RRT Voltage	The recommended replacement time (RRT) battery voltage at end of service.
ERT	The manufacturer-specified indicator signifying the device model should be considered for replacement.
Remote Follow-up Service Supported:	When selected, indicates the device supports a remote follow-up service.
Wireless Telemetry	When selected, indicates that the device uses wireless telemetry.
Device UPC:	The Universal Product Code, HIBCC, or harmonized product code identifier for the device.
MRI Compatibility	Indicates the device's magnetic resonance imaging (MRI) compatibility - the extent to which use of the device in an MRI environment does not significantly alter the quality of the MRI diagnostic data, and the device's operations are not affected by the MRI. The value must be one of the following values: MR Safe, MR Conditional, MR Unsafe.
Available:	When selected, indicates the device is available for association to the patient record.
Paceart-Provided	Identifies a device that was provided with Paceart.
Comments:	Miscellaneous comments.

Capabilities Tab

Dialog box fields and buttons	Field and button definitions
Battery	When selected, enables the **Battery** section on the **Device Status** tab in an encounter.
Capacitor	When selected, enables the **Capacitor** section on the **Device Status** tab in an encounter.
Low Voltage	When selected, enables the **Lead Data** > **Sense/Pace Lead Impedance** section on the **Device Status** tab in an encounter.
High Voltage	When selected, enables the **Lead Data** > **Defib Lead Impedance** section on the **Device Status** tab in an encounter.
Asystole	When selected, enables the Asystole zone in the **Detections/Therapies** > **Asystole** section on the **Programming** tab in an encounter. It also enables **Other Detections** and **Therapies** on the **Counters** tab in an encounter.
Heart Failure	When selected, enables the **Brady** > **Heart Failure** section on the **Programming** tab in an encounter. It also enables **Other Detections** and **Pacing** on the **Counters** tab.
Brady Detections	When selected, enables Bradycardia detections in the **Detections/Therapies** > **Bradycardia Detection** section and the **Brady** > **Sensing** section on the **Programming** tab in an encounter. It also enables **Other Detections** > **Brady** on the **Counters** tab.
Brady Therapies	When selected, enables the Bradycardia zone in the **Detections/Therapies** > **Bradycardia** section and the **Brady** section on the **Programming** tab in an encounter. It also enables **Other Detections**, **Therapies**, and **Pacing** on the **Counters** tab in an encounter.
AT/AF Detections	When selected, enables the atrial (AT/AF(AHR)) detections in the **Detections/Therapies** section on the **Programming** tab in an encounter. It also enables **Atrial Detections** and **Other Detections** on the **Counters** tab in an encounter.
AT/AF Therapies	When selected, enables the AT and AF (AHR) zones in the **Detections/Therapies** section on the **Programming** tab in an encounter. It also enables

Dialog box fields and buttons	Field and button definitions
	Other Detections and **Therapies** on the **Counters** tab in an encounter.
VT/VF Detections	When selected, enables the **Detections/Therapies** section for the VF (VHR), Fast VT, Slow VT, and V-Slow VT zones on the **Programming** tab in an encounter. It also enables **Ventricular Detections** and **Other Detections** on the **Counters** tab in an encounter.
VT/VF Therapies	When selected, enables the ventricular therapies in the **Detections/Therapies** section on the **Programming** tab in an encounter. It also enables **Other Detections** and **Therapies** on the **Counters** tab

Related Patients tab

Dialog box fields and buttons	Field and button definitions
Select All	Highlights all the items in the list.
Change	Allows you to change an entry to a different entry in the same encyclopedia.

Device Alerts tab

Dialog box fields and buttons	Field and button definitions
Created By:	The auto-populated name of the user who created the device alert or watch.
Created On:	The auto-populated date and time the user created the device alert or watch.
Add	Adds information.
Edit	Allows you to edit existing information.
Delete	Removes the item or items from the list.

Aliases Tab

Dialog box fields and buttons	Field and button definitions
Manufacturer	An alternate name for the manufacturer. Allows you to match multiple manufacturer names to a single manufacturer listed in the encyclopedia. The alias must be less than 50 characters. IDCO defined values are

Dialog box fields and buttons	Field and button definitions
	included in the manufacturer aliases, which for example, look like "MDC_IDC_ENUM_MFG_MDT" for Medtronic.
Model	Alternate names for a device model. Allows you to match multiple device model names to a single model listed in the encyclopedia. The alias must be less than 50 characters.
Add	Adds information.
Edit	Allows you to edit existing information.
Delete	Removes the item or items from the list.

Field and button definitions for the Add or Edit Lead dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Manufacturer:	The device manufacturer. Required field.
*Model:	The model name and number of the device. Required field.
Polarity	The polarity of the lead. The value must be one of the following values: Unipolar, Bipolar, Tripolar, Quadripolar, Multipolar.
Device UPC:	The Universal Product Code, HIBCC, or harmonized product code identifier for the device.
MRI Compatibility	Indicates the device's magnetic resonance imaging (MRI) compatibility - the extent to which use of the device in an MRI environment does not significantly alter the quality of the MRI diagnostic data, and the device's operations are not affected by the MRI. The value must be one of the following values: MR Safe, MR Conditional, MR Unsafe.
Available:	When selected, indicates the device is available for association to the patient record.
Paceart-Provided	Identifies a device that was provided with Paceart.
Comments:	Miscellaneous comments.

Related Patients tab

Dialog box fields and buttons	Field and button definitions
Select All	Highlights all the items in the list.
Change	Allows you to change an entry to a different entry in the same encyclopedia.

Device Alerts tab

Dialog box fields and buttons	Field and button definitions
Created By:	The auto-populated name of the user who created the device alert or watch.
Created On:	The auto-populated date and time the user created the device alert or watch.
Add	Adds information.
Edit	Allows you to edit existing information.
Delete	Removes the item or items from the list.

Field and button definitions for the Add or Edit Adapter dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Manufacturer:	The device manufacturer. Required field.
*Model:	The model name and number of the device. Required field.
Polarity	The polarity of the lead. The value must be one of the following values: Unipolar, Bipolar, Tripolar, Quadripolar, Multipolar.
Device UPC:	The Universal Product Code, HIBCC, or harmonized product code identifier for the device.
MRI Compatibility	Indicates the device's magnetic resonance imaging (MRI) compatibility - the extent to which use of the device in an MRI environment does not significantly alter the quality of the MRI diagnostic data, and the device's operations are not affected by the MRI. The value must be one of the following values: MR Safe, MR Conditional, MR Unsafe.

Dialog box fields and buttons	Field and button definitions
Available:	When selected, indicates the device is available for association to the patient record.
Paceart-Provided	Identifies a device that was provided with Paceart.
Comments:	Miscellaneous comments.

Related Patients tab

Dialog box fields and buttons	Field and button definitions
Select All	Highlights all the items in the list.
Change	Allows you to change an entry to a different entry in the same encyclopedia.

Device Alerts tab

Dialog box fields and buttons	Field and button definitions
Created By:	The auto-populated name of the user who created the device alert or watch.
Created On:	The auto-populated date and time the user created the device alert or watch.
Add	Adds information.
Edit	Allows you to edit existing information.
Delete	Removes the item or items from the list.

Field and button definitions for the Add or Edit Remote Monitor dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Manufacturer:	The device manufacturer. Required field.
*Model:	The model name and number of the device. Required field.
Device UPC:	The Universal Product Code, HIBCC, or harmonized product code identifier for the device.
Available:	When selected, indicates the device is available for association to the patient record.

Dialog box fields and buttons	Field and button definitions
Paceart-Provided	Identifies a device that was provided with Paceart.
Comments:	Miscellaneous comments.

Related Patients tab

Dialog box fields and buttons	Field and button definitions
Select All	Highlights all the items in the list.
Change	Allows you to change an entry to a different entry in the same encyclopedia.

Device Alerts tab

Dialog box fields and buttons	Field and button definitions
Created By:	The auto-populated name of the user who created the device alert or watch.
Created On:	The auto-populated date and time the user created the device alert or watch.
Add	Adds information.
Edit	Allows you to edit existing information.
Delete	Removes the item or items from the list.

Field and button definitions for the Add or Edit Event Recorder dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Manufacturer:	The device manufacturer. Required field.
*Model:	The model name and number of the device. Required field.
TTM Waveform Invert	When selected, inverts the TTM Waveform.
Waveform Display Gain	Waveform gain is used to increase or decrease the amplitude of an ECG signal.
Transmit Multiplier	The default transmission speed multiplier the device uses.

Dialog box fields and buttons	Field and button definitions
Transmission Format:	The Transmission Format of the event recorder. The Transmission format depends on the event recorder's manufacturer. The Paceart System will not be able to decode FSK data if you select the incorrect transmit format.
Device UPC:	The Universal Product Code, HIBCC, or harmonized product code identifier for the device.
Available:	When selected, indicates the device is available for association to the patient record.
Paceart-Provided	Identifies a device that was provided with Paceart.
Comments:	Miscellaneous comments.

Related Patients tab

Dialog box fields and buttons	Field and button definitions
Select All	Highlights all the items in the list.
Change	Allows you to change an entry to a different entry in the same encyclopedia.

Device Alerts tab

Dialog box fields and buttons	Field and button definitions
Created By:	The auto-populated name of the user who created the device alert or watch.
Created On:	The auto-populated date and time the user created the device alert or watch.
Add	Adds information.
Edit	Allows you to edit existing information.
Delete	Removes the item or items from the list.

Field and button definitions for the Add or Edit Other Device dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Manufacturer:	The device manufacturer. Required field.

Dialog box fields and buttons	Field and button definitions
*Model:	The model name and number of the device. Required field.
Device UPC:	The Universal Product Code, HIBCC, or harmonized product code identifier for the device.
Available:	When selected, indicates the device is available for association to the patient record.
Paceart-Provided	Identifies a device that was provided with Paceart.
Comments:	Miscellaneous comments.

Related Patients tab

Dialog box fields and buttons	Field and button definitions
Select All	Highlights all the items in the list.
Change	Allows you to change an entry to a different entry in the same encyclopedia.

Device Alerts tab

Dialog box fields and buttons	Field and button definitions
Created By:	The auto-populated name of the user who created the device alert or watch.
Created On:	The auto-populated date and time the user created the device alert or watch.
Add	Adds information.
Edit	Allows you to edit existing information.
Delete	Removes the item or items from the list.

Field and button definitions for the Add or Edit Device Alerts

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Created By:	The auto-populated name of the user who created the device alert or watch.

Dialog box fields and buttons	Field and button definitions
Created On:	The auto-populated date and time the user created the device alert or watch.
On Watch	A way to track patients with devices that may require special management or specific observation. A watch is applied to all devices of that model number.
Device Model	Puts all devices of that model number on alert.
Serial Numbers	Puts specified device serial numbers on alert. Use this if the alert only applies to specific serial numbers and you have the list of affected serial numbers.
Alert Details	Details about the alert or watch.
Website:	A website address that provides information about the alert or watch.
Resolution Details	Information on how to resolve the alert or watch.
Resolution Made By:	The auto-populated name of the user who entered the device watch or alert resolution.
Resolution Made On:	The auto-populated time and date the user entered the device watch or alert resolution.

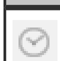
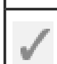
Device Alerts and Watches

Device alerts and watches allow you to flag devices that require special management due to a manufacturer alert or recall.

Both device watches and device alerts are configured in the device encyclopedia. When a device is placed on watch or alert, that device is shown on the **Device Alerts** tab in the device encyclopedia and an alert or watch icon is always displayed next to the device name in the Paceart System and in reports.

Device alerts can be set for an entire device model type or for specific serial numbers. Device watches are set for an entire device model type.

If a patient has a device on alert or watch, the device name on the **Device Details** tab, in the patient record, is displayed in red along with the alert or watch icon. Also, the device alert or device on watch icon is displayed next to the device name in the device list. Any reports that list a device on alert or watch also display the icons.

Icon	Definition
	The device is on watch.
	The device is on alert.
	The device alert was mitigated.

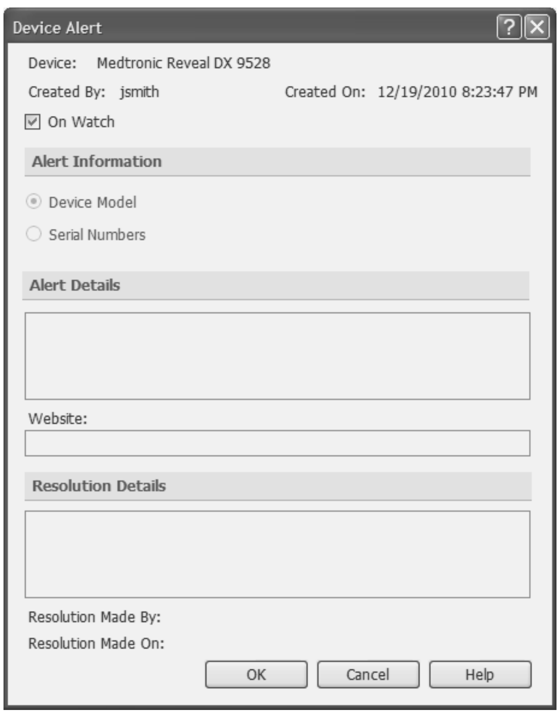
Alerts can be mitigated at a patient level. Mitigating a device alert means that you have changed the condition that triggered the alert or that the alert is not relevant to the patient due to the specific details of the alert. For example, you may have changed a device setting to mitigate the alert. When a device alert is mitigated, the alert icon changes to a green check mark.

A device watch can be escalated to a device alert, but a device alert cannot be downgraded to a device watch. Device alerts and watches can both be deleted in the device encyclopedia.

Putting a device on alert from the Encyclopedia

Device alerts are used to identify devices that require an action, such as a manufacturer alert or recall. You can put device alerts on all devices of a certain model type or by specific device serial numbers.

1. Click the **Encyclopedia** tab.
2. Click the tab for the type of device you want to put on alert.
3. Search for the specific device you want to put on alert.
4. Select the device and click **Edit**.
5. In the edit window, select the **Device Alerts** tab.
6. Click **Add**.
   The **Device Alert** window is displayed.



7. To put the device on alert, clear the **On Watch** checkbox.
8. In the **Alert Information** section, you can put all devices of that model on alert or you can choose specific device serial numbers to place on alert.
   - To put all devices of that model type on alert, select **Device Model**.
   - To put only certain devices on alert, select **Select Serial Numbers**.
9. Enter any additional details about the alert.
10. If there is a mitigation action for the alert, enter that information in the **Resolution Details** section.
11. Click **OK**.
12. In the confirmation dialog box select **Yes**.

A dialog box with the number of devices put on alert is displayed.

13. Click **OK**.
    The device alert is displayed on the **Device Alerts** tab in the Encyclopedia.
14. Click **Save**.

Devices on alert will have the device on alert symbol in all searches, reports, and in a patient record. Also, within a patient record the device name on the **Device Details** tab is red.

Selecting serial numbers for a device on alert

When placing specific devices on alert by serial number, you can either enter serial numbers manually or import a list of serial numbers from an external file.

1. From the **Devices on Alert** dialog box, click **Select Serial Numbers**.
2. Enter or import the serial numbers.

Option	Steps
Enter serial numbers manually	1. To enter serial numbers manually, click **Add New**. 2. Enter a serial number. 3. Click **Save**. 4. Repeat steps for multiple serial numbers.
Import a list of serial numbers	1. Click **Browse**. The **Select File to Open** dialog box opens. 2. Navigate to the file, select it, and click **Open**. You can import a comma separated file (*.csv or *.txt) where each of the serial numbers are separated by a comma and/or a line break.

If you put a device on alert by serial numbers but do not enter any serial numbers the device will be shown as on alert in the Encyclopedia but not on alert in the patient record. The patient will be listed in under the **Device Alerts** > **Related Patients** tab.

3. Click **OK**.

A count of the serial numbers you added are displayed in the **Alert Information** section of the **Device Alert** window.

Field and button definitions for the Select Serial Number dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Add New	Click to enter serial numbers in the adjacent field.
Add New field	Enter the serial number you want to put on alert.
Save	Saves the serial number to the list.
Cancel	Cancels the add serial number action.
Delete	Deletes the serial number from the list.
Serial number list	Lists the entered serial numbers.

Dialog box fields and buttons	Field and button definitions
Browse...	Allows you to navigate to an external file that contains a list of serial numbers.

Putting a device on watch from the Encyclopedia

Putting a device on watch allows you to track devices that may require an action. A device on watch is less severe than a device on alert. A device watch applies to all devices of a model type.

1. Click the **Encyclopedia** tab.
2. Click the tab for the type of device you want to put on watch.
3. Search for the specific device you want to put on watch.
4. Select the device, and click **Edit**.
5. In the edit window, select the **Device Alerts** tab.
6. Click **Add**.
   The **Device Alert** window is displayed.

7. To put the device model on watch, make sure that the **On Watch** checkbox is selected.
8. Enter any additional details about the watch.
9. If there is a resolution action for the watch, enter that information in the **Resolution Details** section.
10. Click **OK**.
11. In the confirmation dialog box select **Yes**.
    A dialog box with the number of devices put on watch is displayed.
12. Click **OK**.
13. Click **Save**.

Devices on watch will have the device on watch symbol in all searches and in a patient record. Also, within a patient record the device name on the **Device Details** tab is red.

Field and button definitions for the Add or Edit Device Alerts

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Created By:	The auto-populated name of the user who created the device alert or watch.
Created On:	The auto-populated date and time the user created the device alert or watch.
On Watch	A way to track patients with devices that may require special management or specific observation. A watch is applied to all devices of that model number.
Device Model	Puts all devices of that model number on alert.
Serial Numbers	Puts specified device serial numbers on alert. Use this if the alert only applies to specific serial numbers and you have the list of affected serial numbers.
Alert Details	Details about the alert or watch.
Website:	A website address that provides information about the alert or watch.
Resolution Details	Information on how to resolve the alert or watch.
Resolution Made By:	The auto-populated name of the user who entered the device watch or alert resolution.
Resolution Made On:	The auto-populated time and date the user entered the device watch or alert resolution.

Aliases

Aliases are used to automatically match encyclopedia device entries to interrogated device data.

Aliases are configured in the device encyclopedia. Once a device has an alias assigned it is shown on the **Alias** tab in the device encyclopedia.

Aliases can be assigned to a manufacturer or a device model. Model aliases apply to a single model in the device encyclopedia, while manufacturer aliases apply to every model from that manufacturer in the encyclopedia.

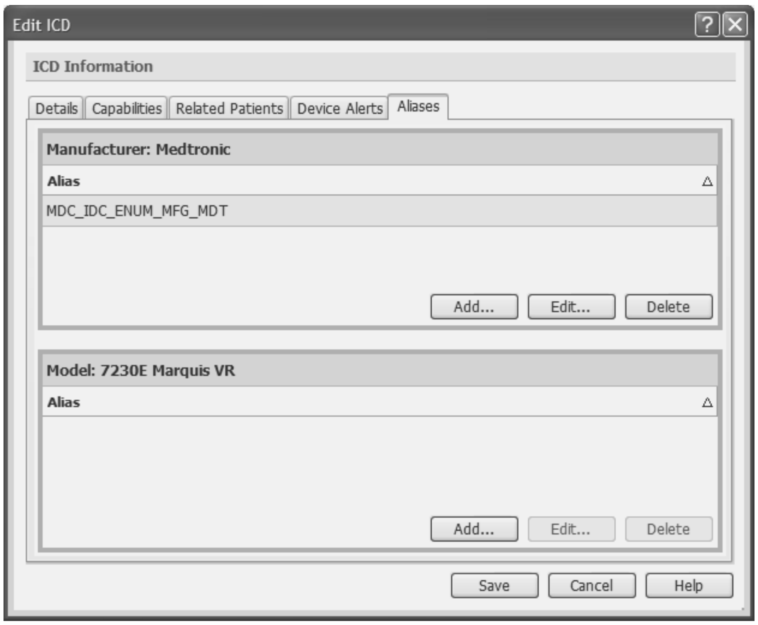
You can have up to ten aliases for each alias type.

> For example, Medtronic has the manufacturer alias "MDC_IDC_ENUM_MFG_MDT" for IDCO compatibility. If an incoming device data file contains "MDC_IDC_ENUM_MFG_MDT" then it will be matched to "Medtronic".

Adding or editing an alias

Aliases can be assigned to a manufacturer or a device model. Model aliases apply to a single model in the device encyclopedia, while manufacturer aliases apply to every model from that manufacturer in the encyclopedia.

1. Click the **Encyclopedia** tab.
2. Click the tab for the type of device you want to add the alias to.
3. Search for the device you want.
4. Select the device and click **Edit**.
5. In the edit window, select the **Aliases** tab.



6. Determine which action to take.
   - To add an alias, click **Add**.
   - To edit an existing alias, select the alias and click **Edit**.
7. Enter or edit the alias.
8. Click **OK**.
   The alias is displayed in either the **Manufacturer** section or the **Model** section.
9. Click **Save**.

Field and button definitions for the Aliases tab

This is a list of fields and buttons and their definitions.

Aliases Tab

Dialog box fields and buttons	Field and button definitions
Manufacturer	An alternate name for the manufacturer. Allows you to match multiple manufacturer names to a single manufacturer listed in the encyclopedia. The alias must

Dialog box fields and buttons	Field and button definitions
	be less than 50 characters. IDCO defined values are included in the manufacturer aliases, which for example, look like "MDC_IDC_ENUM_MFG_MDT" for Medtronic.
Model	Alternate names for a device model. Allows you to match multiple device model names to a single model listed in the encyclopedia. The alias must be less than 50 characters.
Add	Adds information.
Edit	Allows you to edit existing information.
Delete	Removes the item or items from the list.

Device Capabilities

The **Capabilities** tab in the device encyclopedia allows you to configure what information is displayed in an encounter for that device. You can configure device capabilities based on the device's features.

If you receive information from a device download for a capability that you do not have enabled, the Paceart System will still display the data in the appropriate location.

For example, if you select the **Capacitor** capability for an ICD, then the **Capacitor** section is displayed on the **Device Status** tab in an encounter. If you do not select the **Capacitor** capability then that section is not displayed on the **Device Status** tab.

If you are manually adding a device to the encyclopedia, certain capabilities are set by default based on the device type.

Capabilities tab values

Capability	What is enabled in an encounter when the capability is selected
Battery	Selecting this capability enables the **Battery** section on the **Device Status** tab. It includes information about battery status, voltage, RRT criteria, remaining longevity, remaining percentage, and impedance.
Capacitor	Selecting this capability enables the **Capacitor** section on the **Device Status** tab. It includes information about last full energy charge, capacitor therapy charge, and last capacitor reform.
Low Voltage	Selecting this capability enables the **Lead Data** > **Sense/Pace Lead Impedance** section on the **Device Status** tab. It includes information about lead status, sensing start date, end date, and integrity count, polarization, and evoked response. You can also add, edit, or delete sensing and pacing lead impedance. Selecting this capability also enables **Threshold** tab.
High Voltage	Selecting this capability enables the **Lead Data** > **Defib Lead Impedance** section on the **Device Status** tab. It includes information about defibrillation status and you can add, edit, or delete defibrillation lead impedance.

Capability	What is enabled in an encounter when the capability is selected
Asystole	Selecting this capability enables the **Detections/Therapies** > **Asystole** section on the **Programming** tab which allows viewing and editing of all summary and detailed information for the Asystole zone. The summary includes detection status and rate/interval and enabled therapies, and the details include all detection and therapy programmed settings. Selecting this capability also enables **Other Detections** and **Therapies** on the **Counters** tab.
Heart Failure	Selecting this capability enables the **Brady** > **Heart Failure** section on the **Programming** tab. It includes information about ventricular pacing configuration, first chamber paced, and VV delay. Selecting this capability also enables **Other Detections** and **Pacing** on the **Counters** tab.
Brady Detections	Selecting this capability enables the Bradycardia detections in the **Detections/Therapies** > **Bradycardia Detection** section and the **Brady** > **Sensing** section on the **Programming** tab. This allows viewing and editing of summary and detailed detection information for the Bradycardia zone. The summary includes detection status and rate/interval, and details including all detection programmed settings. The **Brady Sensing** section includes information about RA, RV, and LV sensitivity, blanking, refractory, sensing polarity, sensing pathway, and sensing adapt mode. Selecting this capability also enables **Other Detections** > **Brady** on the **Counters** tab.
Brady Therapies	Selecting this capability enables Bradycardia therapies in the **Detections/Therapies** > **Bradycardia** section and the **Brady** section on the **Programming** tab. This allows viewing and editing of summary and detailed therapy information for the Bradycardia zone. The summary includes enabled therapies, and the details include all therapy programmed settings. The **Brady** section includes information about modes and rates, AV delay, pacing, automatic mode switch, and rate response. Selecting this capability also enables **Other Detections**, **Therapies**, and **Pacing** on the **Counters** tab.
AT/AF Detections	Selecting this capability enables atrial (or AT/AF (AHR)) detections in the **Detections/Therapies** section on the **Programming** tab. This allows viewing and editing of summary and detailed detection information for the AT and AF (AHR) zones. The summary includes detection status and rate/interval, and details including all detection programmed settings. Selecting this capability also enables **Atrial Detections** and **Other Detections** on the **Counters** tab.
AT/AF Therapies	Selecting this capability enables atrial therapies in the **Detections/Therapies** section on the **Programming** tab. This allows viewing and editing of summary and detailed therapy information for the AT and AF (AHR) zones. The summary includes enabled therapies, and the details include all therapy programmed settings. Selecting this capability also enables **Other Detections** and **Therapies** on the **Counters** tab.

Capability	What is enabled in an encounter when the capability is selected
VT/VF Detections	Selecting this capability enables ventricular (or VT/VF) detections in the **Detections/Therapies** section on the **Programming** tab. This allows viewing and editing of summary and detailed detection information for the VF (VHR), Fast VT, Slow VT, and V-Slow VT zones. The summary includes detection status and rate/interval, and details including all detection programmed settings. Selecting this capability also enables **Ventricular Detections** and **Other Detections** on the **Counters** tab.
VT/VF Therapies	Selecting this capability enables ventricular therapies in the **Detections/Therapies** section on the **Programming** tab. This allows viewing and editing of summary and detailed therapy information for the VF (VHR), Fast VT, Slow VT, and V-Slow VT zones. The summary includes enabled therapies, and the details include all therapy programmed settings. Selecting this capability also enables **Other Detections** and **Therapies** on the **Counters** tab.

Changing references of a device to a different device

You cannot delete a device from the encyclopedia if there are patients associated with that device. Before you can delete a device, any patients with that device must have their device changed to a different device. You can change patients' devices individually, or you can change all associated patients at once.

1. Click the **Encyclopedia** tab.
2. Click **Devices**.
3. Select the device tab for the type of device you would like to edit.
4. Select the device you want to edit and click **Edit**.
   The **Edit Device** window is displayed.
5. Click the **Related Patients** tab.
   The patients with that device are displayed in the **Results** section.
6. Determine which action to take.
   - Click **Select All** to select all the related patients and then click **Change**.
   - Select the desired patient and then click **Change** to change only the selected patient's device.

   The **Change Patients** dialog box is displayed.
7. In the **Change to** field enter the new device's name or click the **[...]** button to select the device from the list.
8. Click **Save**.
9. In the confirmation dialog box click **Yes** to change devices for the selected patients. You cannot undo this change.

Field and button definitions for the Change patients, Change bills, and Change providers dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Change To:	Enter the name of the encyclopedia entry you want to change the related patients, bills or providers to. Or click the **[...]** button to search the encyclopedia.

Making an entry unavailable for future association

If an encyclopedia entry is associated with historical records but is no longer needed (for example, there's an old device that is no longer being implanted at your clinic), the entry can be marked as unavailable. This retains the historical records, but disables the encyclopedia item from being used in any new associations.

1. Click the **Encyclopedia** tab.
2. Select the encyclopedia you would like to edit from the left pane.
3. Search for the entry you want to delete using full or partial words. For wildcard searches, clear the fields.

   Note: You cannot use * for wildcard searches.

4. Select the entry or entries you want to make unavailable.

   You can select multiple entries by holding the CTRL key, and you can select a range of entries by holding the SHIFT key.

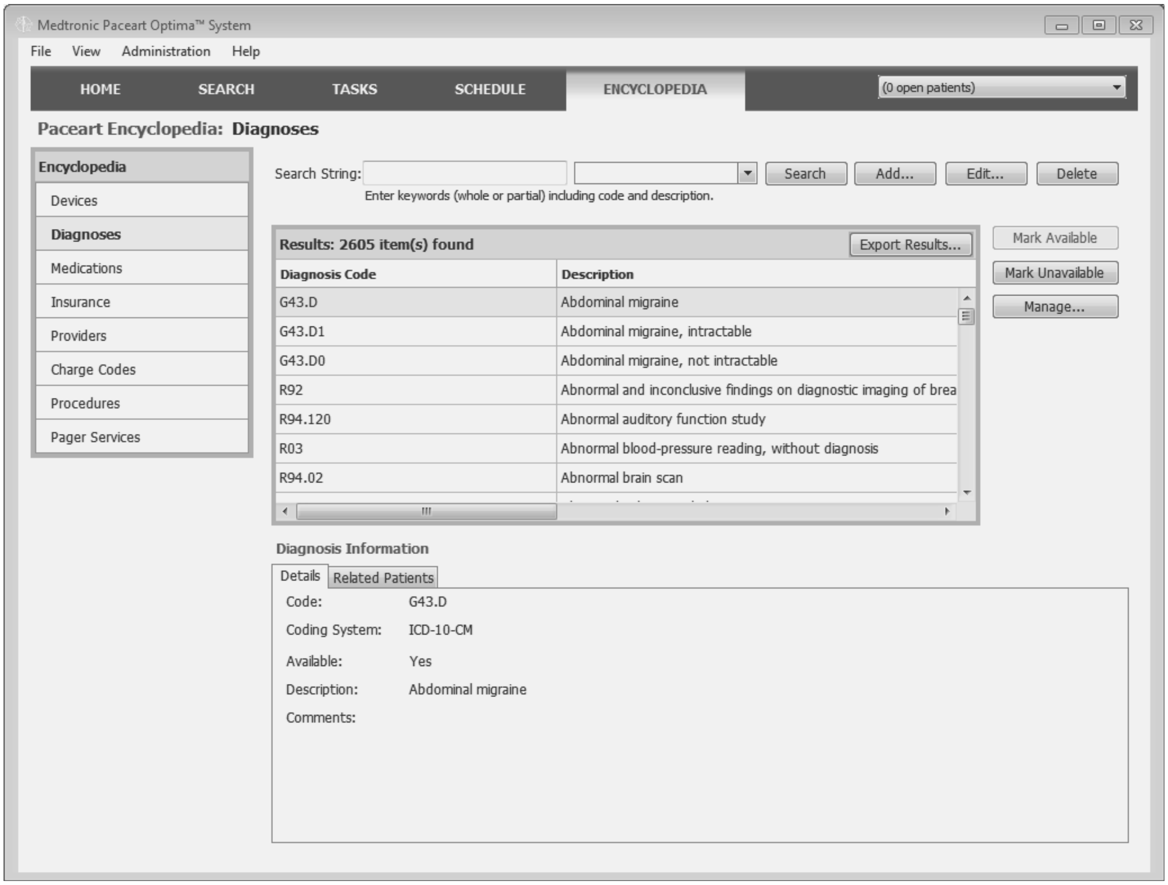
5. Click **Mark Unavailable**.
   The item lists **No** in the **Available** column.

The item is marked as unavailable in the encyclopedia. Click **Mark Available** to make the item or items available again.

Using the Diagnoses Encyclopedia

This encyclopedia is a repository of medical diagnoses that have been entered into the Paceart System. You can search for a diagnosis and add, edit, delete a code or mark it available and unavailable in the encyclopedia. You can also export the search results to a spreadsheet. Once a diagnosis is added, it can be associated with a patient.

You can search for diagnoses using either whole or partial words. To search for all entries leave the search string blank. You cannot use the * for wildcard searches.



Details tab

The **Details** tab provides more information on the diagnosis you selected, such as the code and the description.

Related Patients tab

The **Related Patients** tab shows a list of patients with that diagnosis.

Adding or editing a diagnosis in the encyclopedia

You can add a diagnosis to the encyclopedia or edit an existing diagnosis.

Before you add a new diagnosis, it is a good idea to search for the diagnosis in the encyclopedia to avoid duplicate entries.

1. Click the **Encyclopedia** tab.
2. Select **Diagnoses** from the left pane.
3. Determine which action to take.
   - To add a diagnosis, click **Add**.
   - To edit a diagnosis, select the diagnosis and click **Edit**.

   The **Add Diagnosis** or **Edit Diagnosis** dialog box is displayed.
4. On the **Details** tab, add or edit the information as necessary. **Code**, **Coding System**, and **Description** are required fields.
5. Type comments into the **Comments** box. To enter standard comment text, click in the **Comments** box and press F9.

6. Click **Save**.

Field and button definitions for the Add or Edit Diagnosis dialog boxes

This is a list of fields and buttons and their definitions.

Details tab

Dialog box fields and buttons	Field and button definitions
*Code:	The code for the diagnosis, for example the ICD-10 code. Required field.
*Coding System	The coding system used to classify the diagnosis code, for example ICD-10-CM. Required field.
*Description:	The description of the diagnosis. Required field.
Comments:	Miscellaneous comments.
Available	When selected, indicates the diagnosis is available for association to the patient record.

Related Patients tab

Dialog box fields and buttons	Field and button definitions
Select All	Highlights all the items in the list.
Change	Allows you to change an entry to a different entry in the same encyclopedia.

Changing references of a patient's diagnosis to a different diagnosis

You cannot delete a diagnosis from the encyclopedia if there are patients associated with that diagnosis. Before you can delete a diagnosis, any patients with that diagnosis must have their diagnosis changed to a different diagnosis. You can change patients' diagnoses individually, or you can change all associated patients at once.

1. Click the **Encyclopedia** tab.
2. Click **Diagnoses**.
3. Select the diagnosis you want to edit and click **Edit**.
   The **Edit Diagnosis** window is displayed.
4. Click the **Related Patients** tab.
   The patients with that diagnosis are displayed in the **Results** section.
5. Determine which action to take.
   - Click **Select All** to select all the related patients and then click **Change**.
   - Select the desired patient and then click **Change** to change only the selected patient's diagnosis.

   The **Change Patients** dialog box is displayed.
6. In the **Change to** field enter the new diagnosis' name or click the **[...]** button to select the diagnosis from the list. You can also leave this field blank to remove the information from the patient record.

7. Click **Save**.
8. In the confirmation dialog box click **Yes** to change diagnosis for the selected patients. You cannot undo this change.

Field and button definitions for the Change patients, Change bills, and Change providers dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Change To:	Enter the name of the encyclopedia entry you want to change the related patients, bills or providers to. Or click the **[...]** button to search the encyclopedia.

Making an entry unavailable for future association

If an encyclopedia entry is associated with historical records but is no longer needed (for example, there's an old device that is no longer being implanted at your clinic), the entry can be marked as unavailable. This retains the historical records, but disables the encyclopedia item from being used in any new associations.

1. Click the **Encyclopedia** tab.
2. Select the encyclopedia you would like to edit from the left pane.
3. Search for the entry you want to delete using full or partial words. For wildcard searches, clear the fields.

   Note: You cannot use * for wildcard searches.

4. Select the entry or entries you want to make unavailable.

   You can select multiple entries by holding the CTRL key, and you can select a range of entries by holding the SHIFT key.
5. Click **Mark Unavailable**.
   The item lists **No** in the **Available** column.

The item is marked as unavailable in the encyclopedia. Click **Mark Available** to make the item or items available again.

Importing diagnoses from a spreadsheet

You can import diagnoses from an Excel spreadsheet (*.xls, *.xlsx, *.csv) into the Paceart System.

1. Click **Manage**.
   The **Import Diagnoses from Excel File** dialog box is displayed.
2. Click **Load New File**.
   A Windows Explorer **Open** window is displayed.
3. Browse to the file containing the Diagnoses and click **Open**.
   The diagnoses are displayed in the Detailed Results table.
4. If you need to reload the file, click **Reload File** and repeat steps 2 and 3.
5. The Import Summary displays which records will be imported. Click **Import Diagnoses** to import the diagnoses.
   The imported diagnoses are added to the Diagnoses Encyclopedia.

Field and button definitions for the Import Diagnoses from Excel File dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Reload File	Allows you to reload an Excel file to be imported.
Load New File	Allows you to select a new Excel file to be imported.
Import Diagnoses	Imports the diagnoses you have loaded from an Excel file.

Import data format

The data file being imported uses the same format and column headings as the format exported from the encyclopedia. The import merges the file contents with the encyclopedia, allowing you to make bulk additions or updates.

The import functionality updates an existing entry if the code and coding system match (for example, I49.0 and ICD-10-CM). If there is no existing entry, the item from the import file will be added.

Before you import, each item in the imported file will be displayed in the **Detailed Results** section with an indication of any errors and whether the item will be added or updated.

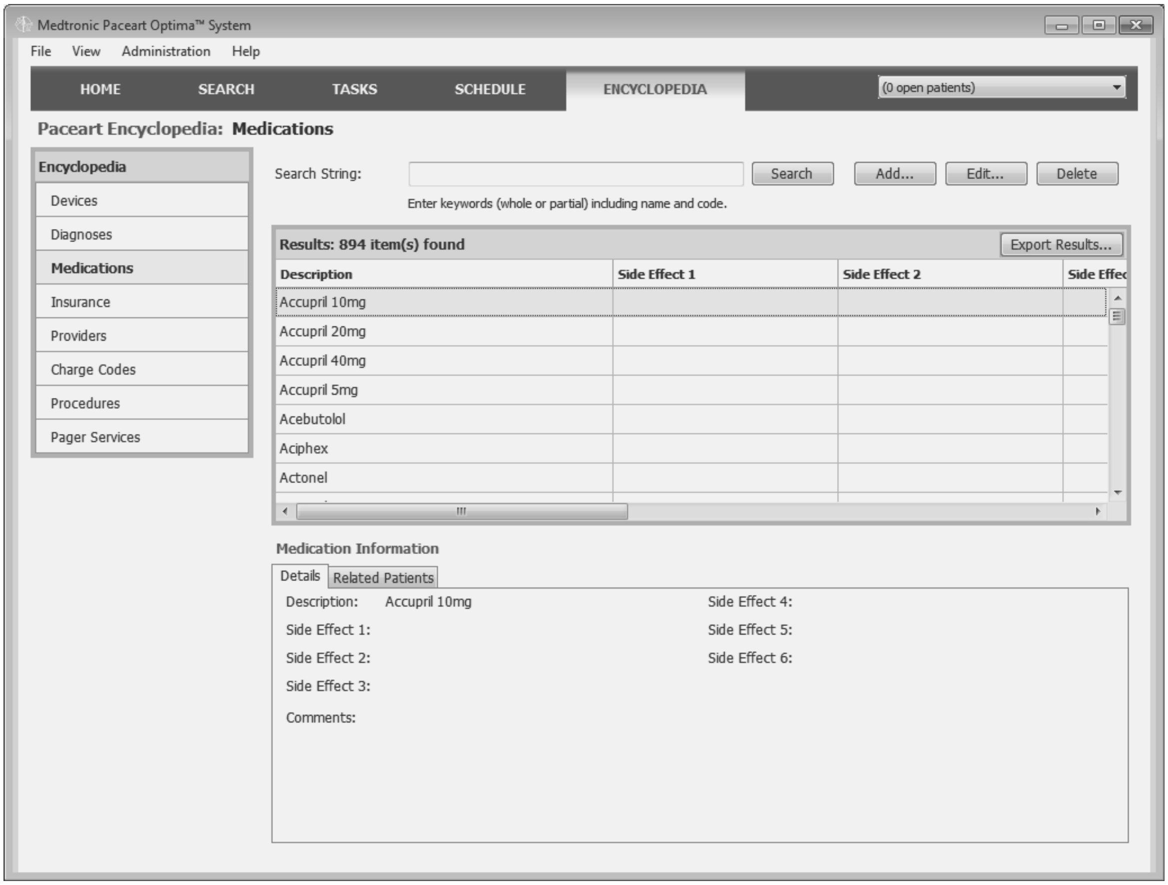
The following columns are required in the import data file:

- Diagnosis Code
- Description
- Coding System
- Available

Using the Medications Encyclopedia

This encyclopedia is a repository for medications that have been entered into the Paceart System. You can search for a medication, and add, edit, and delete medications from the encyclopedia. You can also export the search results to a spreadsheet. Once a medication is added, it can be associated with a patient.

You can search for medication description using either whole or partial words. To search for all entries leave the search string blank. You cannot use the * for wildcard searches.



Details tab

The **Details** tab provides more information on the medication you selected, such as description and side effects.

Related Patients tab

The **Related Patients** tab shows a list of patients who are using that medication.

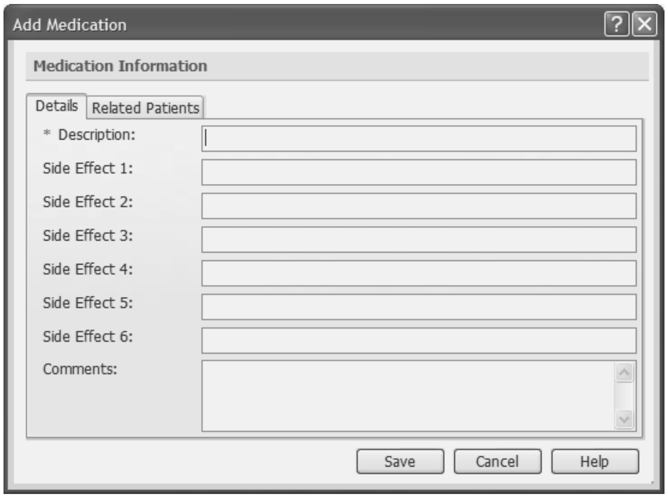
Adding or editing a medication in the encyclopedia

You can add a medication to the encyclopedia or edit existing medications.

Before you add a new medication, it is a good idea to search for the medication in the encyclopedia to avoid duplicate entries.

1. Click the **Encyclopedia** tab.
2. Select **Medication** from the left pane.
3. Determine which action to take.
   - To add a medication, click **Add**.
   - To edit a medication, select the medication and click **Edit**.

   The **Add Medication** or **Edit Medication** dialog box is displayed.



4. On the **Details** tab, add or edit the information as necessary. **Description** is a required field.
5. Type comments into the **Comments** box. To enter standard comment text, click in the **Comments** box and press F9.
6. Click **Save**.

Field and button definitions for the Add or Edit Medication dialog boxes

This is a list of fields and buttons and their definitions.

Details tab

Dialog box fields and buttons	Field and button definitions
Description:	A description of the medication.
Side Effect 1:	Medication side effect.
Side Effect 2:	Medication side effect.
Side Effect 3:	Medication side effect.
Side Effect 4:	Medication side effect.
Side Effect 5:	Medication side effect.
Side Effect 6:	Medication side effect.
Comments:	Miscellaneous comments.

Related Patients tab

Dialog box fields and buttons	Field and button definitions
Select All	Highlights all the items in the list.

Dialog box fields and buttons	Field and button definitions
Change	Allows you to change an entry to a different entry in the same encyclopedia.

Changing references of a medication to a different medication

You cannot delete a medication from the encyclopedia if there are patients associated with that medication. Before you can delete a medication, any patients with that medication must have their medication changed to a different medication. You can change patients' medications individually, or you can change all associated patients at once.

1. Click the **Encyclopedia** tab.
2. Click **Medication**.
3. Select the medication you want to edit and click **Edit**.
   The **Edit Medication** window is displayed.
4. Click the **Related Patients** tab.
   The patients with that medication are displayed in the **Results** section.
5. Determine which action to take.
   - Click **Select All** to select all the related patients and then click **Change**.
   - Select the desired patient and then click **Change** to change only the selected patient's medication.

   The **Change Patients** dialog box is displayed.
6. In the **Change to** field enter the new medication's name or click the **[...]** button to select the medication from the list.
7. Click **Save**.
8. In the confirmation dialog box click **Yes** to change medications for the selected patients. You cannot undo this change.

Field and button definitions for the Change patients, Change bills, and Change providers dialog boxes

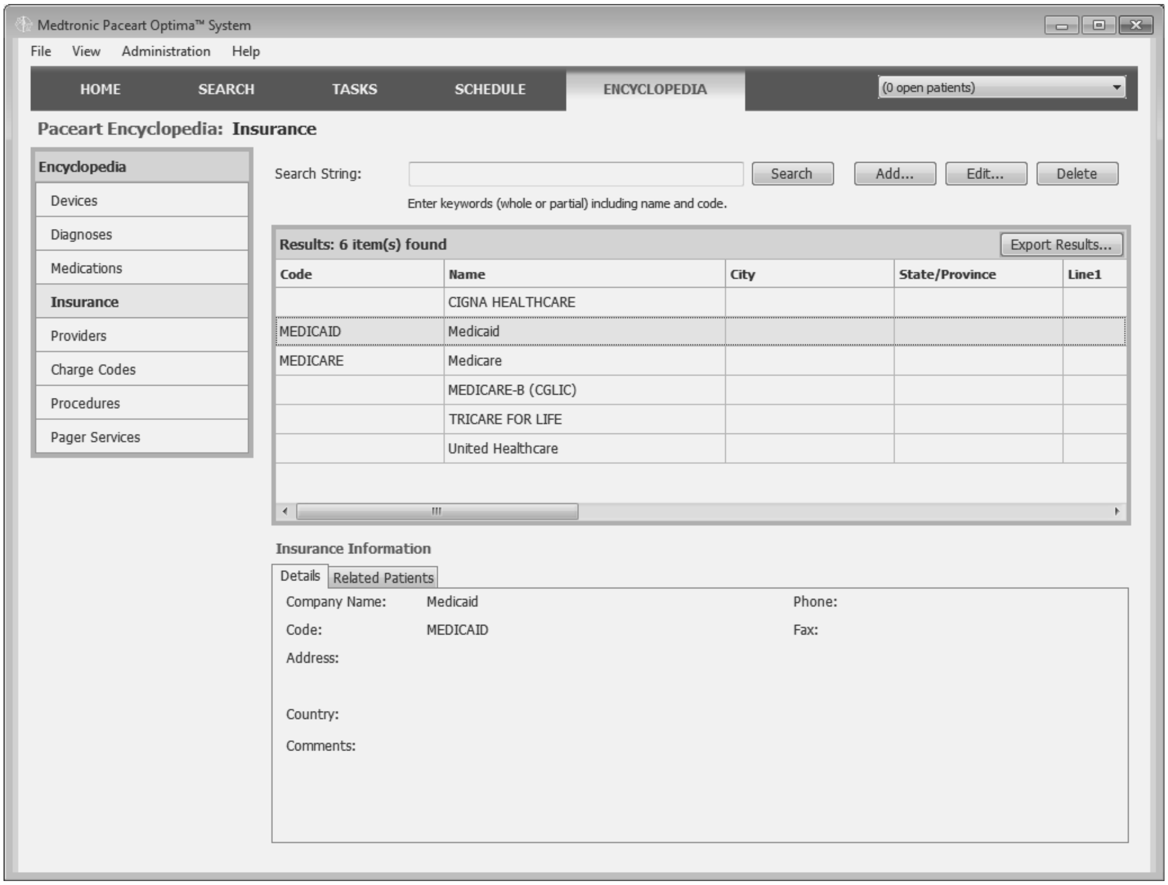
This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Change To:	Enter the name of the encyclopedia entry you want to change the related patients, bills or providers to. Or click the **[...]** button to search the encyclopedia.

Using the Insurance Encyclopedia

This encyclopedia is a repository of medical insurance companies that have been added to the Paceart System. You can search for insurance companies, and add, edit and delete insurance companies in the encyclopedia. You can also export the search results to a spreadsheet. Once an insurance company is added, it can be associated with a patient.

You can search for insurance company name and code, using either whole or partial words. To search for all entries leave the search string blank. You cannot use the * for wildcard searches.



Details tab

The **Details** tab provides more information on the insurance company you selected, such as the name and address.

Related Patients tab

The **Related Patients** tab shows a list of patients who have medical insurance with the company.

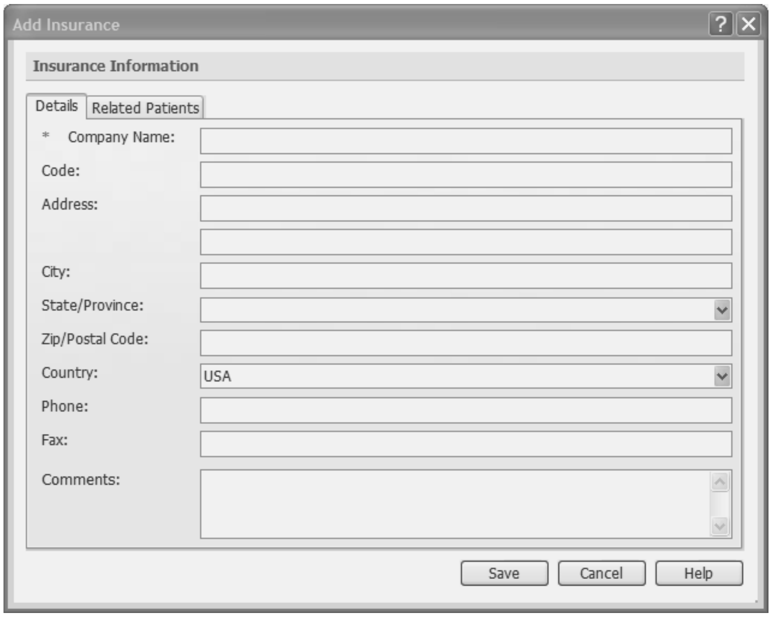
Adding or editing insurance companies in the encyclopedia

You can add an insurance company to the encyclopedia or edit existing insurance companies.

Before you add new insurance information, it is a good idea to search for the insurance company in the encyclopedia to avoid duplicate entries.

1. Click the **Encyclopedia** tab.
2. Select **Insurance** from the left pane.
3. Determine which action to take.
   - To add an insurance company, click **Add**.
   - To edit an insurance company, select the insurance company and click **Edit**.

   The **Add Insurance** or **Edit Insurance** dialog box is displayed.



4. On the **Details** tab, add or edit the information as necessary. **Company Name** is a required field.
5. Type comments into the **Comments** box. To enter standard comment text, click in the **Comments** box and press F9.
6. Click **Save**.

Field and button definitions for the Add or Edit Insurance dialog boxes

This is a list of fields and buttons and their definitions.

Details tab

Dialog box fields and buttons	Field and button definitions
Company Name:	The name of the Insurance company.
Code:	Insurance company code.
Address:	Address line 1 of the insurance company's address.
Address:	Address line 2 of the insurance company's address.
City:	The city for the insurance company's address.
State/Province:	The insurance company's state or province.
Zip/Postal Code:	The insurance company's zip code or postal code.
Country:	The insurance company's country.
Phone:	The insurance company's phone number.

Dialog box fields and buttons	Field and button definitions
Fax:	The insurance company's fax number.
Comments:	Miscellaneous comments.

Related Patients tab

Dialog box fields and buttons	Field and button definitions
Select All	Highlights all the items in the list.
Change	Allows you to change an entry to a different entry in the same encyclopedia.

Changing references of an insurance company to a different insurance company

You cannot delete an insurance company from the encyclopedia if there are patients associated with that insurance company. Before you can delete an insurance company, any patients with that insurance company must have their insurance companies changed to a different insurance company. You can change patients' insurance companies individually, or you can change all associated patients at once.

1. Click the **Encyclopedia** tab.
2. Click **Insurance**.
3. Select the insurance company you want to edit and click **Edit**.
   The **Edit Insurance** window is displayed.
4. Click the **Related Patients** tab.
   The patients with that insurance company are displayed in the **Results** section.
5. Determine which action to take.
   - Click **Select All** to select all the related patients and then click **Change**.
   - Select the desired patient and then click **Change** to change only the selected patient's insurance company.

   The **Change Patients** dialog box is displayed.
6. In the **Change to** field enter the new insurance company's name or click the **[...]** button to select the insurance company from the list.
7. Click **Save**.
8. In the confirmation dialog box click **Yes** to change insurance companies for the selected patients. You cannot undo this change.

Field and button definitions for the Change patients, Change bills, and Change providers dialog boxes

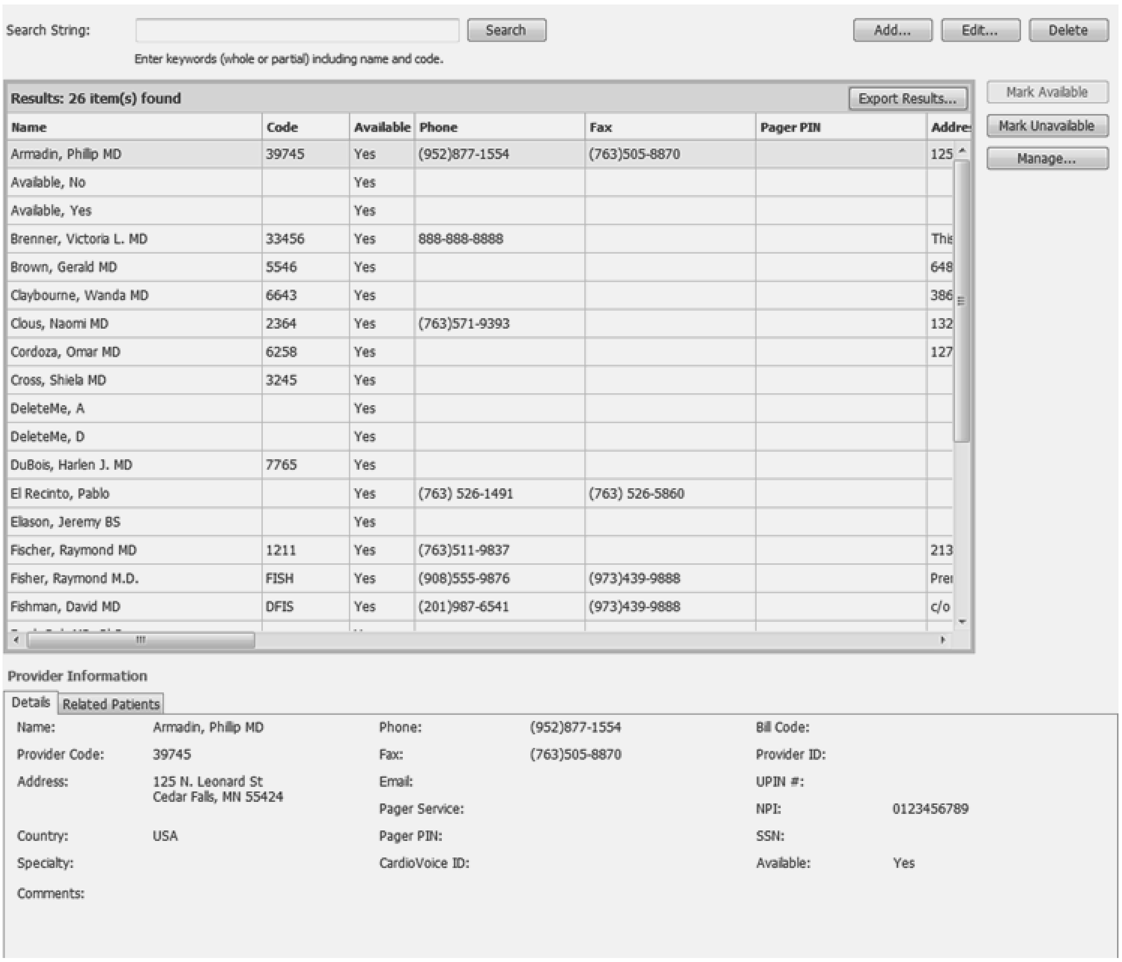
This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Change To:	Enter the name of the encyclopedia entry you want to change the related patients, bills or providers to. Or click the **[...]** button to search the encyclopedia.

Using the Providers Encyclopedia

This encyclopedia is a repository of medical care providers that have been entered into the Paceart System. You can search for providers, and add, edit and delete providers in the encyclopedia. You can also export the search results to a spreadsheet. Once a provider is added, he can be associated with a patient.

You can search for provider first name, last name, or code using either whole or partial words. To search for all entries leave the search string blank. You cannot use the * for wildcard searches.



Details tab

The **Details** tab provides more information on the provider you selected, such as the name and address.

Related Patients tab

The **Related Patients** tab shows a list of patients who receive care through the provider.

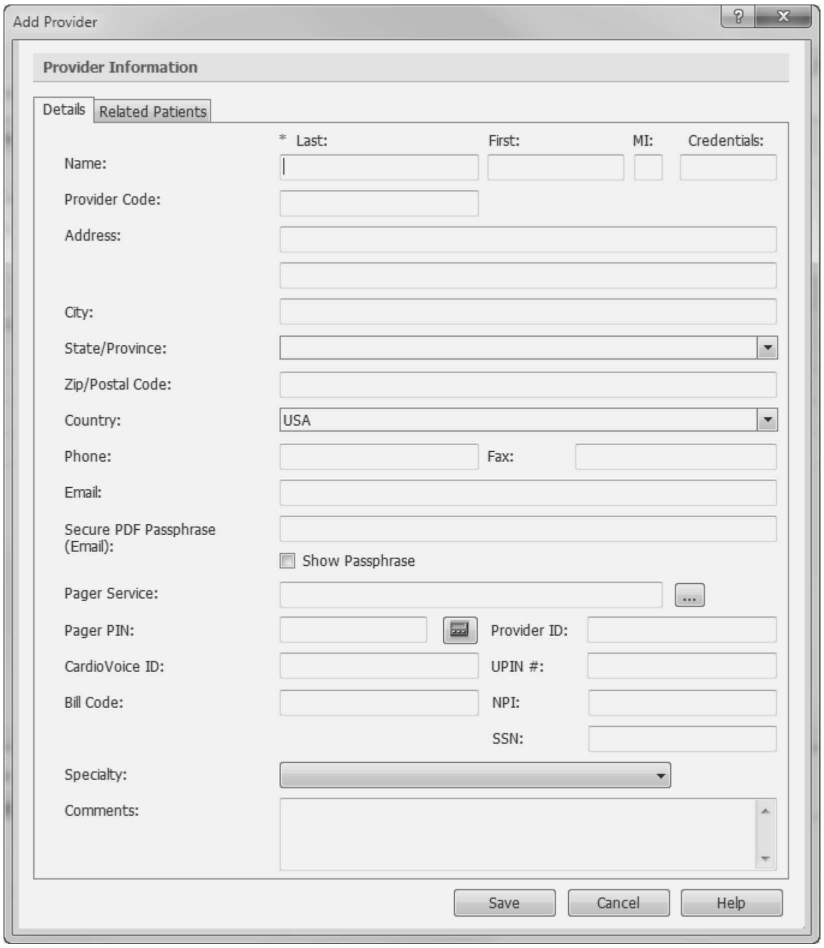
Adding or editing a provider in the encyclopedia

You can add a provider to the encyclopedia or edit existing providers.

Before you add a new provider, it is a good idea to search for the provider in the encyclopedia to avoid duplicate entries.

1. Click the **Encyclopedia** tab.
2. Select **Providers** from the left pane.
3. Determine which action to take.
   - To add a provider, click **Add**.
   - To edit a provider, select the provider and click **Edit**.

   The **Add Provider** or **Edit Provider** dialog box is displayed.



4. On the **Details** tab, add or edit the information as necessary. **Last Name** is a required field.
5. Type comments into the **Comments** box. To enter standard comment text, click in the **Comments** box and press F9.
6. Click **Save**.

Field and button definitions for the Add or Edit Provider dialog boxes

This is a list of fields and buttons and their definitions.

Details tab

Dialog box fields and buttons	Field and button definitions
*Last	The surname (e.g. family name) of the provider. Required field.

Dialog box fields and buttons	Field and button definitions
First	The first given name (e.g. primary forename or primary personal name) of the provider.
MI	The first letter of the second given name (e.g. secondary forename, secondary personal name, patronymic, or matronymic) of the provider.
Credentials:	The user's clinical certification credentials. For example, MD, PA, NP, and others.
Provider Code:	The provider code.
Available	When selected, indicates the provider is available for association to the patient record.
Address	The first line of the provider's street address.
Address	The second line of the provider's street address.
City	The provider's city.
State/Province	The provider's state or province.
Zip/Postal Code	The provider's zip or postal code.
Country	The provider's country.
Phone	The provider's phone number.
Fax	The provider's fax number.
Email	The provider's email address. When the email address is provided, reports can be emailed to that provider.
Secure PDF Passphrase (Email)	The passphrase to use to securely email reports to the provider.
Show Passphrase	When selected, displays the secure PDF passphrase in clear text. When cleared, the passphrase is obscured by asterisks.
Pager Service	The name of the provider's pager service. Click the **[...]** button to select a pager service from the encyclopedia.
Pager PIN	The provider's pager PIN number.

Dialog box fields and buttons	Field and button definitions
Pager icon button	Click the button to send a page using the configured pager service and PIN.
Provider ID:	The provider's ID number.
CardioVoice ID	The provider's unique CardioVoice ID.
UPIN #	The Unique Physician Identification Number (UPIN) for the provider.
Bill Code	The provider's bill code.
NPI	The National Provider Identifier (NPI). If specified, value must be unique.
SSN	The social security number of the provider.
Specialty:	The provider's medical specialty, for example, cardiology.
Comments:	Miscellaneous comments.

Related Patients tab

Dialog box fields and buttons	Field and button definitions
Select All	Highlights all the items in the list.
Change	Allows you to change an entry to a different entry in the same encyclopedia.

Changing references of a provider to a different provider

You cannot delete a provider from the encyclopedia if there are patients associated with that provider. Before you can delete a provider, any patients with that provider must have their provider changed to a different provider. You can change patients' providers individually, or you can change all associated patients at once.

1. Click the **Encyclopedia** tab.
2. Click **Providers**.
3. Select the provider you want to edit and click **Edit**.
   The **Edit Provider** window is displayed.
4. Click the **Related Patients** tab.
   The patients with that provider are displayed in the **Results** section.
5. Determine which action to take.
   - Click **Select All** to select all the related patients and then click **Change**.
   - Select the desired patient and then click **Change** to change only the selected patient's provider.

   The **Change Patients** dialog box is displayed.

6. In the **Change to** field enter the new provider's name or click the **[...]** button to select the provider from the list.
7. Click **Save**.
8. In the confirmation dialog box click **Yes** to change providers for the selected patients. You cannot undo this change.

Field and button definitions for the Change patients, Change bills, and Change providers dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Change To:	Enter the name of the encyclopedia entry you want to change the related patients, bills or providers to. Or click the **[...]** button to search the encyclopedia.

Making an entry unavailable for future association

If an encyclopedia entry is associated with historical records but is no longer needed (for example, there's an old device that is no longer being implanted at your clinic), the entry can be marked as unavailable. This retains the historical records, but disables the encyclopedia item from being used in any new associations.

1. Click the **Encyclopedia** tab.
2. Select the encyclopedia you would like to edit from the left pane.
3. Search for the entry you want to delete using full or partial words. For wildcard searches, clear the fields.

   Note: You cannot use * for wildcard searches.

4. Select the entry or entries you want to make unavailable.

   You can select multiple entries by holding the CTRL key, and you can select a range of entries by holding the SHIFT key.
5. Click **Mark Unavailable**.
   The item lists **No** in the **Available** column.

The item is marked as unavailable in the encyclopedia. Click **Mark Available** to make the item or items available again.

Importing providers from a spreadsheet

You can import providers from an Excel spreadsheet (*.xls, *.xlsx, *.csv) into the Paceart System.

1. Click **Manage**.
   The **Import Providers from Excel File** dialog box is displayed.
2. Click **Load New File**.
   A Windows Explorer **Open** window is displayed.
3. Browse to the file containing the providers and click **Open**.
   The providers are displayed in the Detailed Results table.
4. If you need to reload the file, click **Reload File** and repeat steps 2 and 3.
5. The Import Summary displays which records will be imported. Click **Import Providers** to import the providers.
   The imported providers are added to the Providers Encyclopedia.

Field and button definitions for the Import Providers from Excel File dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Reload File	Allows you to reload an Excel file to be imported.
Load New File	Allows you to select a new Excel file to be imported.
Import Providers	Imports the providers you have loaded from an Excel file.

Import data format

The data file being imported uses the same format and column headings as the format exported from the encyclopedia. The import merges the file contents with the encyclopedia, allowing you to make bulk additions or updates.

The import functionality updates an existing provider if the **NPI** field matches. If there is no existing entry, the item from the import file is added.

Before you import, each item in the imported file will be displayed in the **Detailed Results** section with an indication of any errors and whether the item will be added or updated.

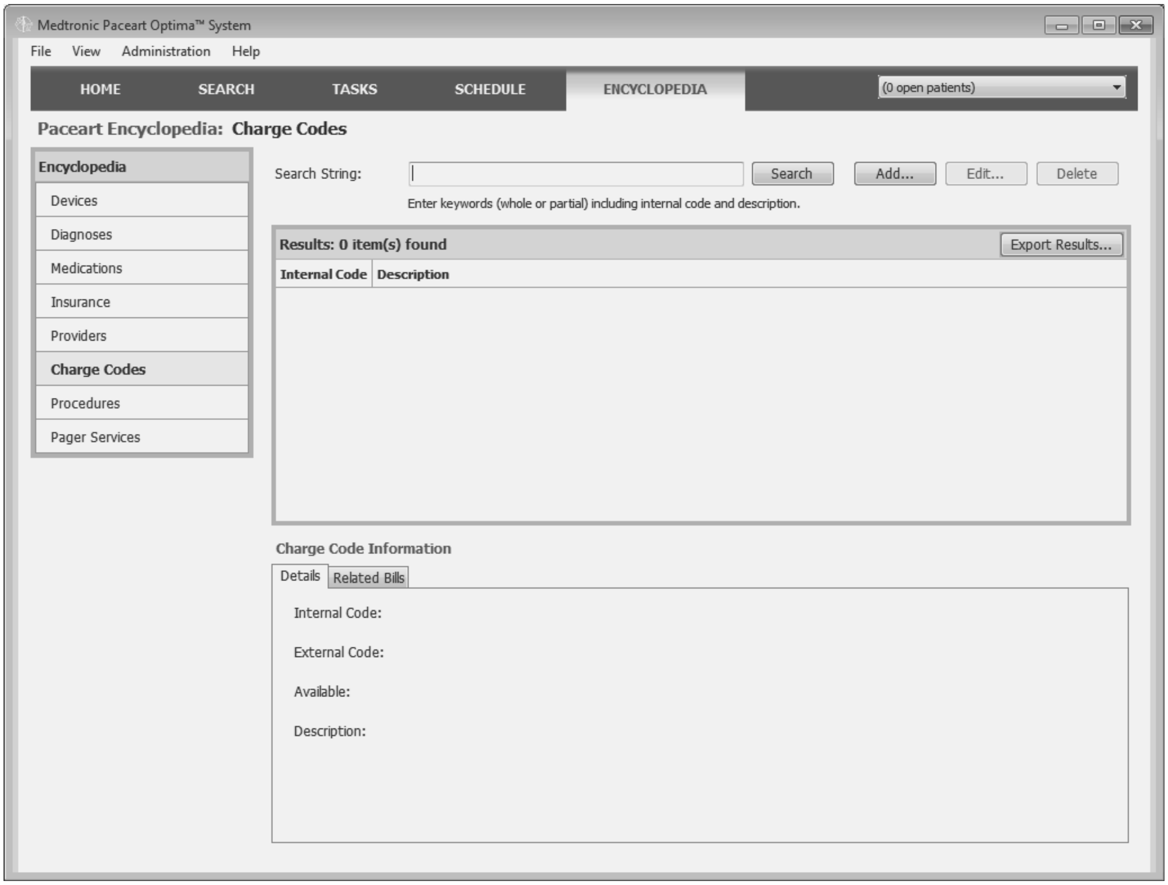
Unused columns can be deleted, and columns can appear in any order. But, the **Last Name** column is required.

Using the Charge Codes Encyclopedia

This encyclopedia is a repository of charge codes, which are used for billing patient encounters. You can search for a code, and add, edit, or delete a code in the encyclopedia. You can also export the search results to a spreadsheet.

Charge codes allow you to see which action or encounter was billed and how often. Multiple charge codes can have the same internal code and description, but must have a unique external code.

You can search for internal code and description, using either whole or partial words. To search for all entries leave the search string blank. You cannot use the * for wildcard searches.



Details tab

The **Details** tab provides more information on the charge code you selected, such as the internal code, external code, and description.

Related Bills tab

The **Related Bills** tab shows all bills associated with the selected charge code including the patient's name and encounter information.

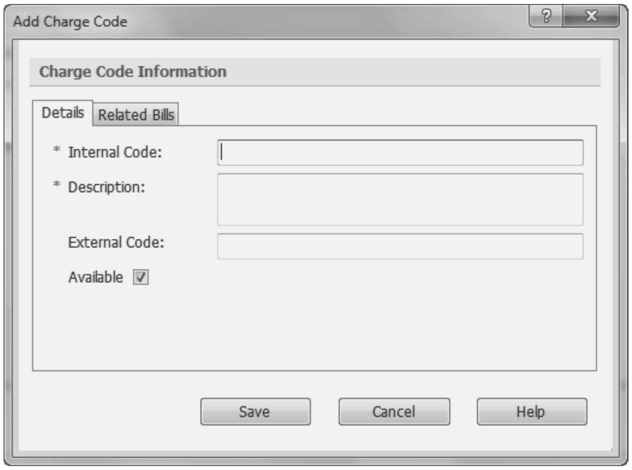
Adding or editing a charge code in the encyclopedia

You can add a charge code to the encyclopedia or edit an existing charge code.

Before you add a new charge code, it is a good idea to search for the code in the encyclopedia to avoid duplicate entries.

1. Click the **Encyclopedia** tab.
2. Select **Charge Code** from the left pane.
3. Determine which action to take.
   - To add a charge code, click **Add**.
   - To edit a charge code, select the code and click **Edit**.

   The **Add Charge Code** or **Edit Charge Code** dialog box is displayed.



4. On the **Details** tab, add or edit the information as necessary. **Internal code** and **Description** are required fields.
5. Click **Save**.

Field and button definitions for the Add or Edit Charge Code dialog boxes

This is a list of fields and buttons and their definitions.

Details tab

Dialog box fields and buttons	Field and button definitions
*Internal Code	The internal charge code. This is a required field.
*Description	The description of the procedure indicating the services provided. This is a required field.
External Code	The external charge code, if it is different from the internal charge code.
Available	Indicates if the charge code is available.

Related Bills tab

Dialog box fields and buttons	Field and button definitions
Select All	Highlights all the items in the list.
Change	Allows you to change an entry to a different entry in the same encyclopedia.

Changing references of a charge code to a different charge code

You cannot delete a charge code from the encyclopedia if there are bills associated with that charge code. Before you can delete a charge code, any bills with that charge code must have their charge code changed to a different charge code. You can change bills' charge codes individually, or you can change all associated bills at once.

1. Click the **Encyclopedia** tab.
2. Click **Charge Codes**.
3. Select the charge code you want to edit and click **Edit**.
   The **Edit Charge Code** window is displayed.
4. Click the **Related Bills** tab.
   The patients with that charge code are displayed in the **Results** section.
5. Determine which action to take.
   - Click **Select All** to select all the related bills and then click **Change**.
   - Select the desired bill and then click **Change** to change only the selected bill's charge code.

   The **Change Bills** dialog box is displayed.
6. In the **Change to** field enter the new charge code's name or click the **[...]** button to select the charge code from the list.
7. Click **Save**.
8. In the confirmation dialog box click **Yes** to change charge codes for the selected bills. You cannot undo this change.

Field and button definitions for the Change patients, Change bills, and Change providers dialog boxes

This is a list of fields and buttons and their definitions.

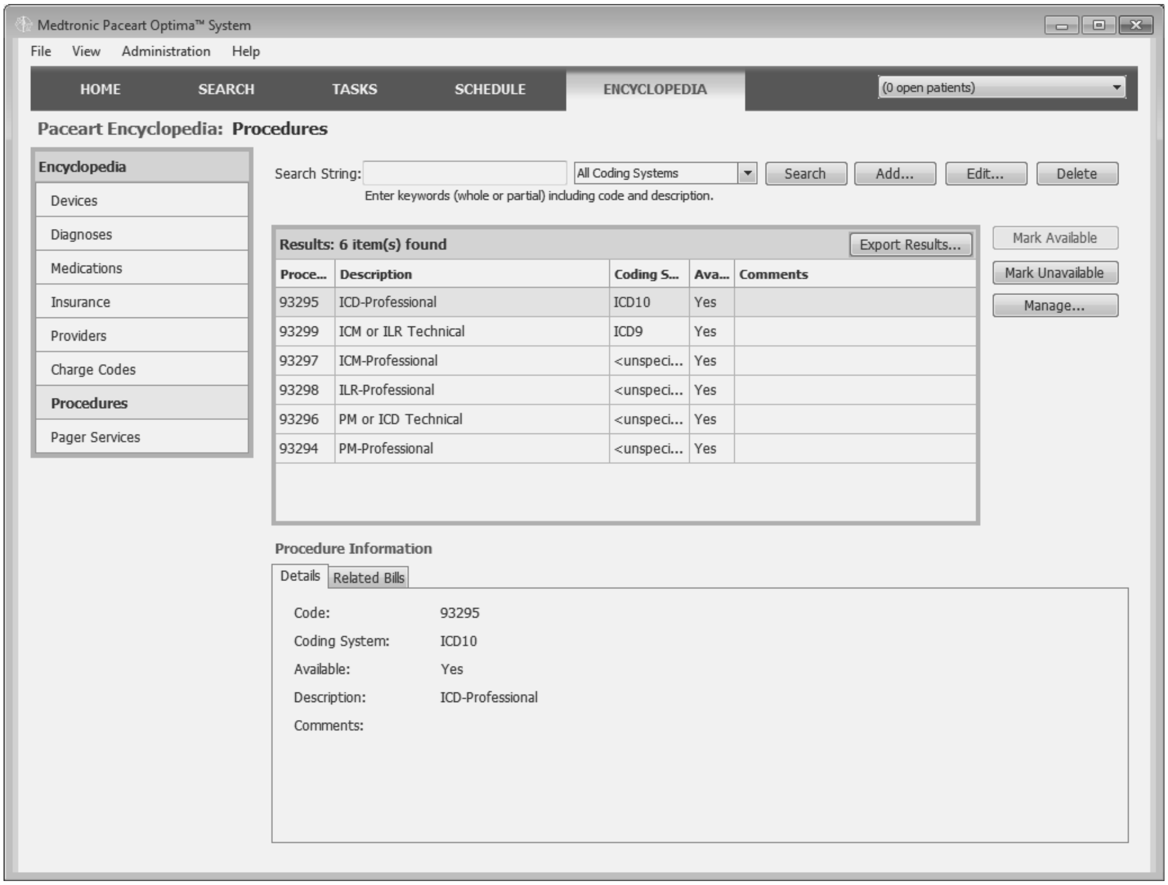
Dialog box fields and buttons	Field and button definitions
Change To:	Enter the name of the encyclopedia entry you want to change the related patients, bills or providers to. Or click the **[...]** button to search the encyclopedia.

Using the Procedures Encyclopedia

This encyclopedia is a repository of procedures, which are used for billing medical procedures. You can search for a procedure code and add, edit, delete a code or mark it available and unavailable in the encyclopedia. You can also export the search results to a spreadsheet.

The procedure code describes medical, surgical, and diagnostic services and is designed to communicate uniform information about medical services and procedures among physicians, coders, patients, accreditation organizations, and payers for administrative, financial, and analytical purposes. Procedure codes allow you to see which procedure was billed and how often.

You can search for code and description, using either whole or partial words. To search for all entries leave the search string blank. You cannot use the * for wildcard searches.



Details tab

The **Details** tab provides more information on the procedure codeyou selected, such as the code and description.

Related Bills tab

The **Related Bills** tab shows all bills associated with the selected procedure code including the patient's name and encounter information.

You can change a procedure code on one or more bills to another procedure code in the Paceart System. Use **Select All** to change all the selected bills. You can deselect any individual patient bills. The bills must have the same procedure code and they must change to the same procedure code.

Adding or editing a procedure code in the encyclopedia

You can add a procedure to the encyclopedia or edit an existing procedure.

Before you add a new procedure, it is a good idea to search for the procedure in the encyclopedia to avoid duplicate entries.

1. Click the **Encyclopedia** tab.
2. Select **Procedure** from the left pane.
3. Determine which action to take.
   - To add a procedure, click **Add**.
   - To edit a procedure, select the code and click **Edit**.

   The **Add Procedure** or **Edit Procedure** dialog box is displayed.

4. On the **Details** tab, add or edit the information as necessary. The **Code**, **Coding System**, and **Description** fields are required.
5. Click **Save**.

Field and button definitions for the Add or Edit Procedure dialog boxes

This is a list of fields and buttons and their definitions.

Details tab

Dialog box fields and buttons	Field and button definitions
*Code:	The procedure code. This is a required field.
*Coding System	The coding system used to classify the procedure code, for example ICD-10-CM. This is a required field.
*Description:	The description of the procedure indicating the services provided. This is a required field.
Available:	Indicates if the procedure is available.

Related Bills tab

Dialog box fields and buttons	Field and button definitions
Select All	Highlights all the items in the list.
Change	Allows you to change an entry to a different entry in the same encyclopedia.

Changing references of a procedure to a different procedure

You cannot delete a procedure from the encyclopedia if there are bills associated with that charge code. Before you can delete a procedure, any bills with that procedure must have their procedure changed to a different procedure. You can change bills' procedure individually, or you can change all associated bills at once.

1. Click the **Encyclopedia** tab.
2. Click **Procedure**.
3. Select the charge code you want to edit and click **Edit**.
   The **Edit Procedure** window is displayed.
4. Click the **Related Bills** tab.
   The patients with that procedure are displayed in the **Results** section.
5. Determine which action to take.
   - Click **Select All** to select all the related bills and then click **Change**.
   - Select the desired bill and then click **Change** to change only the selected bill's procedure.

   The **Change Bills** dialog box is displayed.
6. In the **Change to** field enter the new procedure's name or click the **[...]** button to select the procedure from the list.
7. Click **Save**.

8. In the confirmation dialog box click **Yes** to change procedure for the selected bills. You cannot undo this change.

Field and button definitions for the Change patients, Change bills, and Change providers dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Change To:	Enter the name of the encyclopedia entry you want to change the related patients, bills or providers to. Or click the **[...]** button to search the encyclopedia.

Making an entry unavailable for future association

If an encyclopedia entry is associated with historical records but is no longer needed (for example, there's an old device that is no longer being implanted at your clinic), the entry can be marked as unavailable. This retains the historical records, but disables the encyclopedia item from being used in any new associations.

1. Click the **Encyclopedia** tab.
2. Select the encyclopedia you would like to edit from the left pane.
3. Search for the entry you want to delete using full or partial words. For wildcard searches, clear the fields.

   Note: You cannot use * for wildcard searches.

4. Select the entry or entries you want to make unavailable.

   You can select multiple entries by holding the CTRL key, and you can select a range of entries by holding the SHIFT key.

5. Click **Mark Unavailable**.
   The item lists **No** in the **Available** column.

The item is marked as unavailable in the encyclopedia. Click **Mark Available** to make the item or items available again.

Importing procedures from a spreadsheet

You can import procedures from an Excel spreadsheet (*.xls, *.xlsx, *.csv) into the Paceart System.

1. Click **Manage**.
   The **Import Procedures from Excel File** dialog box is displayed.
2. Click **Load New File**.
   A Windows Explorer **Open** window is displayed.
3. Browse to the file containing the Procedures and click **Open**.
   The procedures are displayed in the Detailed Results table.
4. If you need to reload the file, click **Reload File** and repeat steps 2 and 3.
5. The Import Summary displays which records will be imported. Click **Import Procedures** to import the procedures.
   The imported procedures are added to the Procedures Encyclopedia.

Field and button definitions for the Import Procedures from Excel File dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Reload File	Allows you to reload an Excel file to be imported.
Load New File	Allows you to select a new Excel file to be imported.
Import Procedures	Imports the procedures you have loaded from an Excel file.

Import data format

The data file being imported uses the same format and column headings as the format exported from the encyclopedia. The import merges the file contents with the encyclopedia, allowing you to make bulk additions or updates.

The import functionality updates an existing entry if the code and coding system match. If there is no existing entry, the item from the import file is added.

Before you import, each item in the imported file will be displayed in the **Detailed Results** section with an indication of any errors and whether the item will be added or updated.

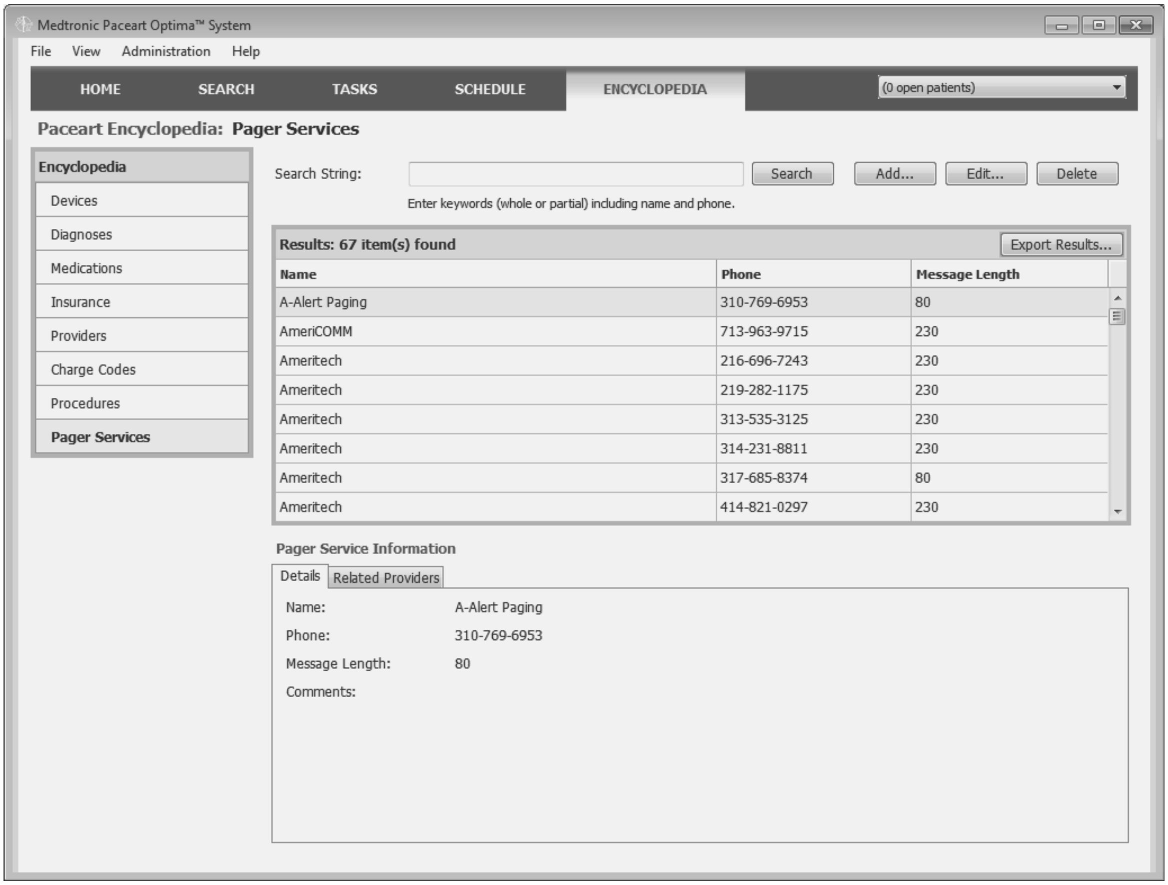
The following columns are required in the import data file:

- Procedure Code
- Description
- Coding System
- Available

Using the Pager Services Encyclopedia

This encyclopedia is a repository for pager services that have been entered into the Paceart System. You can search for a pager service, and add, edit, and delete pager services from the encyclopedia. You can also export the search results to a spreadsheet. Once a pager service is added, it can be associated with a provider.

You can search for pager service name or phone number by using either whole or partial words. To search for all entries leave the search string blank. You cannot use the * for wildcard searches.



Details tab

The **Details** tab provides more information on the pager service you selected, such as the phone number and message length.

Related Providers tab

The **Related Providers** tab shows all providers associated with the selected pager service.

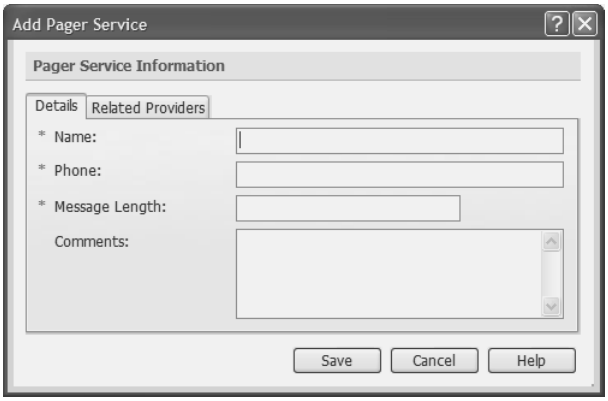
Adding or editing a pager service in the encyclopedia

You can add a pager service to the encyclopedia or edit an existing pager service.

Before you add a new pager service, it is a good idea to search for the pager service in the encyclopedia to avoid duplicate entries.

1. Click the **Encyclopedia** tab.
2. Select **Pager Services** from the left pane.
3. Determine which action to take.
   - To add a pager service, click **Add**.
   - To edit a pager service, select the pager service and click **Edit**.

   The **Add Pager Service** or **Edit Pager Service** dialog box is displayed.



4. On the **Details** tab, add or edit the information as necessary. If you are adding a pager service, **Name**, **Phone**, and **Message Length** are required fields.
5. Click **Save**.

Field and button definitions for the Add or Edit Pager Services dialog boxes

This is a list of fields and buttons and their definitions.

Details Tab

Dialog box fields and buttons	Field and button definitions
*Name:	The name of the paging service. Required field.
*Phone:	The phone number for the paging service. Required field.
*Message Length:	The maximum length of the pager message in minutes. Required field.
Comments:	Miscellaneous comments.

Related Providers tab

Dialog box fields and buttons	Field and button definitions
Provider Name	The name of the provider.
Provider Code:	The provider code.

Changing references of a pager service to a different pager service

You cannot delete a pager service from the encyclopedia if there are providers associated with that pager service. Before you can delete a pager service, any providers with that pager service must have their pager service changed to a different pager service. You can change provider's pager services individually, or you can change all associated providers at once.

1. Click the **Encyclopedia** tab.
2. Click **Pager Services**.

3. Select the pager service you want to edit and click **Edit**.
   The **Edit Pager Service** window is displayed.
4. Click the **Related Providers** tab.
   The patients with that pager service are displayed in the **Results** section.
5. Determine which action to take.

   - Click **Select All** to select all the related providers and then click **Change**.
   - Select the desired provider and then click **Change** to change only the selected provider's pager service.

   The **Change Providers** dialog box is displayed.
6. In the **Change to** field enter the new pager service's name or click the **[...]** button to select the pager service from the list.
7. Click **Save**.
8. In the confirmation dialog box click **Yes** to change pager services for the selected providers. You cannot undo this change.

Field and button definitions for the Change patients, Change bills, and Change providers dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Change To:	Enter the name of the encyclopedia entry you want to change the related patients, bills or providers to. Or click the **[...]** button to search the encyclopedia.

Chapter

6

Scheduling

You can use the Scheduling feature to manage patient appointments. There are a variety of tasks associated with scheduling an appointment. You can schedule an appointment or perform the associated tasks from several areas within the Paceart System.

Schedule tab

From the **Schedule** tab you can perform the following tasks.

- Add, edit, cancel, or delete an appointment.
- Filter on location, resource, and appointment type.
- View the schedule by day, work week, week, and month.
- Change the display interval for the hours shown on the schedule using the right-click menu.
- Navigate to specific dates using a graphical calendar.
- Perform a clinic batch download for scheduling integration with remote follow-up services.
- Open a patient's record associated with an appointment.
- Print a report.

Home tab

From the **Home** tab you can perform the following scheduling tasks:

- View all of today's appointments for the selected resource.
- Open an appointment
- Open a patient that has a scheduled appointment for the current day at the selected resource.

Patient Information tab > Schedule tab

From an open patient record, you can perform the following tasks:

- Show all of the patient's appointments or filter on appointments with a specific status (Canceled, Completed, Missed, Scheduled). You can select multiple statuses from the filter list.
- Add or edit an appointment.
- Delete an appointment.
- Change the display interval for the hours shown on the schedule using the right-click menu.
- Edit the patient's scheduling preferences and comments.
- Update the remote status of a selected appointment.
- Set remote status to ignore specific remote status errors for an appointment that is integrated with a remote follow-up service.

Search tab > Appointments tab

From the **Search** > **Appointments** tab you can perform the following tasks:

- Enter one or more types of search criteria and search for appointments that match that criteria.
- Export your search results to a spreadsheet.

- Open an appointment.
- Open a patient's record.
- Perform a clinic batch download for scheduling integration with remote follow-up services.
- Print a report

Encounters tab > Scheduling tab

From the **Encounters** > **Scheduling** tab you can perform the following tasks.

- Show all appointments or filter for appointments with a specific status (Canceled, Completed, Missed, Scheduled). You can select multiple statuses from the filter list.
- Add, edit, cancel or delete an appointment.
- Change the display interval for the hours shown on the schedule using the right-click menu.
- Set patient scheduling preferences and comments.
- Associate an encounter with an appointment.

Patient scheduling preferences

You can set the patient's appointment preferences for in-clinic, TTM, and remote appointments.

Patient preferences are used when scheduling appointments using the automatic scheduling feature and the Projected Schedule letter. Setting a patient's preferences makes it easier for you to schedule appointments since the preferences allow you to see how often an appointment can be scheduled and what day of the week and time of day is preferred by the patient. As the patient's preferences change you can edit them from within the patient's record. These settings will override any clinic level preferences for scheduling.

You can also configure scheduling preferences for your clinic, which will apply to all patients, in **Administration: Schedule**.

Setting a patient's scheduling preferences

You can set and edit the appointment frequency, the preferred week day, and the preferred time for a patient. The Paceart System stores this information in the patient's record.

1. From within a patient record click the **Patient Information** tab.
2. Click the **Schedule** tab.
3. In the **Preferences** section, click **Edit**.
4. Enter patient preferences and, if desired, comments.
5. Click **Save**.

Field definitions for Edit Preferences dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields	Field definitions
Interval number	The interval number. Click the up and down arrows or enter a number.
Interval label	The interval label (day(s), week(s), or month(s)) that applies to the interval number.

Dialog box fields	Field definitions
Week	Indicates if the patient has a week of the month preference for scheduling an appointment.
Day	Indicates if the patient has a day of the week preference for scheduling an appointment.
Time	Indicates if the patient has a time preference for scheduling an appointment.
Comments:	Miscellaneous comments.

Scheduling appointments

You can schedule appointments in multiple places in the Paceart System. The place from which you schedule them is primarily dependent on your job responsibilities and your clinic workflow.

When you schedule an appointment you must select a resource from the resource field list. Your clinic has already configured their preferences for the type of appointments supported by a resource and whether a resource is enabled for scheduling.

You can schedule appointments in the following places in the Paceart System.

- You can add an appointment from within a patient record from the **Patient Information** > **Schedule** tab.
- You can add an appointment from within a patient record from the **Encounters** > **Scheduling** tab.
- You can add an appointment from the **Schedule** tab

Adding an appointment from a patient's record

You can add an appointment from a patient's record.

1. Open the patient's record.
2. Click the **Patient Information** tab.
3. Click the **Schedule** tab.
4. Click **Add...** to add a new appointment.
5. Enter the information for the appointment.

   If needed, you can change the display interval for the hours shown on the Resource Schedule calendar using the right-click menu. You can divide the hours displayed on the calendar into 5, 6, 10, 15, 20, 30, or 60 minute intervals.
6. Click **Save**.

Adding or editing an appointment from the Schedule tab

You can add a new appointment for any patient from the **Schedule** tab.

1. Open the schedule tab.
   - Click the **Schedule** tab.
   - Select **View Schedule** from the main menu.

The scheduling calendar defaults to the current day's view for the default location and all active resources. If needed, you can change the display interval for the hours shown on the calendar using the right-click menu. You can divide the hours displayed on the calendar into 5, 6, 10, 15, 20, 30, or 60 minute intervals.

2. Select the appointment date by clicking the date on the monthly calendar on the left side of the tab.

   If you want to display several days in day view you can click and drag the cursor over the days that you want to display.

   The Paceart System displays the selected days.

3. Open the **Add Appointment** dialog box using one of the following techniques.

   - Double-click the time that you want to schedule the appointment.
   - Click **Add Appointment...**.

   The **Add Appointment** dialog box is displayed.

4. Enter the patient's name or click the **[...]** button and search for the patient.
5. Complete the information for the required fields and any of the optional fields.
6. Click **Save**.
   The Paceart System saves the appointment and displays it on the scheduling calendar with the patient's name, the encounter type, and the appointment status.

Selecting a patient

You can search for and select a patient.

1. Click the **[...]** button next to the **Patient** field.
   The **Select Patient** dialog box opens.
2. Type the search criteria in the **Search String** field.
3. Click **Search**.
   The items that match your search criteria are displayed in the **Results** list.
4. Select a patient from the **Results** list.
5. Click **Select**.
   The patient you selected is displayed in the field.

Field and button definitions for Select Patient dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Search String:	Text box for entering whole or partial keywords.
Search	Invokes the search.
Default:	The patient's ID number from a previous version of Paceart or from an external system such as an electronic medical record (EMR).
DOB:	The patient's date of birth.
City:	The city associated with the patient's street address.
Phone:	The telephone number.

Adding an appointment from an encounter

You can add an appointment from within an existing encounter.

1. Open the patient's record.
2. Click the **Encounters** tab.
3. Add an appointment to a new or existing encounter.

   - Add an appointment to a new encounter.

   a) Click **Add Encounter**.
   b) Select an encounter type and click **OK**.
   c) Click the **Scheduling** tab.
   d) Click **Add** in the **Appointments** section to display the **Add Appointment** dialog box.
   e) Create the appointment and click **Save**.
   f) Click **Save** to save the encounter.

   - Add an appointment to an existing encounter.

   a) Select an existing encounter on the left side of the **Encounters** tab.
   b) Click the **Scheduling** tab.
   c) Click **Add**.
   d) Enter the information.
   e) Click **Save**.

Editing an appointment

You can edit the information in an appointment from the **Edit Appointment** dialog box.

1. Access the appointment from one of these places:

   - **Home** tab.
   - **Schedule** tab.
   - **Encounters** tab from within an encounter in a patient record.

2. Select the appointment that you want to edit.
3. Click **Edit**.
4. Edit the appointment.
5. Click **Save**.

Field definitions for Add or Edit Appointment dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields	Field definitions
*Patient Name:	The patient's name. To select a patient from the list, click the **[...]** button. Required field.
*Type:	The type of appointment such as in-clinic, remote, TTM, implant, phone note, or miscellaneous. Required field.

Dialog box fields	Field definitions
*Location:	The location of care for the scheduled appointment. Required field.
*Resource:	The resource such as clinic staff or room that is assigned when creating an appointment. Required field.
Start Time:	The date and time for which the appointment is scheduled.
Duration:	The amount of time assigned to the appointment.
Visit ID:	Identifies all interactions with a patient related to a single encounter. Maximum length 75 characters.
Comments:	Miscellaneous comments.
In-Patient:	When selected, indicates the patient is hospitalized.
Cancel Appointment:	A check mark indicates that the appointment has been scheduled and then canceled.
Auto	Automatically assigns the date and time for the appointment based on schedule preferences.
Create Encounter	Creates an associated encounter for the appointment.
Save	Saves all changes.
Cancel	Cancels and closes the dialog.
Delete	Removes the item or items from the list.

Searching for an appointment

You can search for or filter appointments from several places within the Paceart System. Searching and filtering allows you to specify the appointments that you want the Paceart System to display.

You can search for an appointment from the **Search** > **Appointments** tab. You can filter appointments on the **Schedule** tab, **Patient Information** > **Schedule** tab, and the **Encounters** > **Scheduling** tab.

Schedule tab

The **Schedule** tab shows all of the appointments scheduled for a specific time period.

You can filter the scheduling data by location, resource, or appointment type. On this tab you can also add or edit an appointment, open a patient, print a report, and you can download appointments scheduled in CareLink. The monthly calendar on the left side of the window gives you a multi-month view beginning with the current month.

The Paceart System defaults to the current day view on the scheduling calendar. This view gives you the most detail. You can change the view to any of these other views:

- **Work Week**

  A work week is Monday through Friday. The Paceart System defaults to the current work week.
- **Week**

  A week is Monday through Sunday. The Paceart System defaults to the current week.
- **Month**

  The Paceart System defaults to the current month starting with the current week. The month view can cross from one month into the next month. If you select a date on the calendar, and then select the month view, the first date is the Monday that begins the week containing the selected date. For example, if you select Wednesday, August 24, 2011 the month view begins on Monday, August 22 and ends on Sunday, September 26, 2011.

You can also change the display interval for the hours shown on the calendar from the right-click menu. You can divide each hour into 5, 6, 10, 15, 20, 30, or 60 minute increments. Alternately, you can select the display interval from **Administration > User Preferences > Display Options**.

White areas are open hours. Gray areas are closed hours, blocked time and scheduled appointments.

Searching from the Schedule tab

From the **Schedule** tab you can filter the calendar by location of care, resource, and appointment (encounter) type. For example, you can display all of the remote appointments scheduled from a specific location of care.

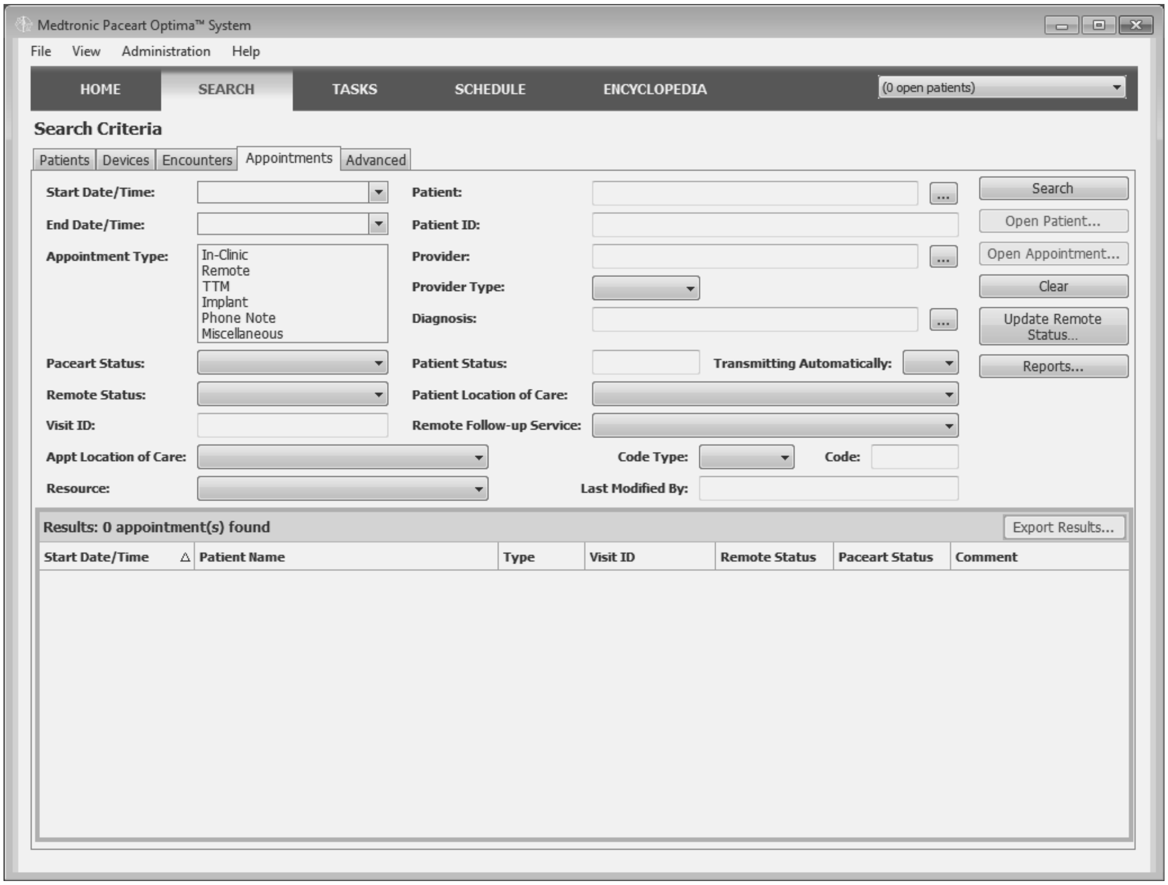
1. From the **Schedule** tab select one or more fields on which you want to filter the schedule data, such as location of care, resource, dates or date range, or appointment type.
2. Click **Search**.
   All of the appointments that meet your filtering criteria are displayed on the scheduling calendar regardless of which view you have active.

Appointments search tab

The **Appointments** tab contains options that allow you to search for a patient based on the patient's appointments and data associated with an appointment, such as a patient diagnosis or a patient provider.

From this tab you can export the search results to a spreadsheet, select and print a report, open a patient record, open an appointment, reschedule an appointment, and download the statuses of appointments scheduled in external systems.

To delete all of the search criteria click **Clear**.



Searching for an appointment

You can search the schedule. To be considered a match, the appointments must match all of the search criteria that you enter.

1. Click the **Search** tab.
2. Click the **Appointments** tab.
3. Enter your search criteria in one or more of the following fields. The more criteria you enter the more specific your search will be. If you want to see all of the appointments do not enter any search criteria.

Criteria	Description
Start Date/Time	Constrains the Appointment search results to appointments that have a start date / time that is equal to or after the specified criteria. By default, after the Start Date/Time is set, the End Date/Time is set to the same date with a time of 11:59 pm.
End Date/Time	Constrains the Appointment search results to appointment that have a start date / time that is equal to or before the specified criteria.
Appointment Type	Search for an appointment by the appointment type.
Paceart Status	Search for an appointment by its Paceart System status (Canceled, Completed, Missed, Scheduled).
Remote Status	Search for an appointment by its remote status (Error, Ignored, Processing, Pending).
Visit ID	Search for an appointment by the visit ID.

Criteria	Description
Appt Location of Care	Search for an appointment by its location of care.
Resource	Search for an appointment by its resource.
Patient	Search for an appointment by the patient's name. Click the **[...]** button to select an existing patient.
Patient ID	Search for an appointment by the patient's ID. This will constrain the appointment search result to appointments associated with patient that has matching patient id value. The search uses the configured default patient id type when searching.
Provider	Search for an appointment by the provider. Click the **[...]** button to select a provider from the encyclopedia.
Provider Type	Search for an appointment by provider type.
Diagnosis	Search for an appointment by the diagnosis. Click the **[...]** button to select a diagnosis from the encyclopedia.
Patient Status	Search for an appointment by the patient status.
Transmitting Automatically	Search for appointments involving patients configured to receive transmissions automatically using wireless telemetry.
Patient Location of Care	Search for an appointment by patient location of care.
Remote Follow-up Service	Search for an appointment by the remote follow-up service.
Code Type	Search for an appointment by the code type.
Code	Search for an appointment by the code.
Last Modified By	Search for an appointment that was last modified by this person.

4. Click **Search**.
5. Select an appointment in the **Results** section, and click **Open** or double-click the appointment to automatically open the patient record.

Canceling an appointment

You can cancel an appointment from the **Edit Appointment** dialog box. When you cancel an appointment it remains on the schedule. You can reinstate the canceled appointment as long as you have not deleted it.

There are multiple places from which you can open an appointment and then cancel it. The place from which you open it is determined by your role and the workflow within your clinic.

- You can open an appointment scheduled for today from the **Home** tab.
- You can open an appointment from the **Search** > **Appointments** tab.
- You can open an appointment from the **Schedule** tab.
- You can open an appointment from within a patient record from the **Patient Information** > **Schedule** tab.
- You can open an appointment from within a patient record from the **Encounters** > **Scheduling** tab.

The following procedure shows you how to delete an appointment once you have opened the **Edit Appointment** dialog box.

1. Select the appointment.
2. Select the **Cancel Appointment** check box.

3. Click **Save**.
   The Paceart System changes the status of the appointment to "Canceled".

Reinstating a canceled appointment

You can reinstate a cancelled appointment. Appointments can only be reinstated if they have not been deleted.

You can reinstate an appointment from the **Edit Appointment** dialog box.

1. Select the appointment and open the **Edit Appointment** dialog box.
2. Clear the **Cancel Appointment** check box.
3. Click **Save**.
   The appointment has been reinstated with all of the previous information. The status of the appointment has changed from "Canceled" to "Scheduled"or "Missed."

Deleting an appointment

You can delete an appointment. Deleted appointments cannot be reinstated.

There are multiple places from which you can open the appointment. Where you open it is determined by your role and the workflow within your clinic.

The following procedure shows you how to delete an appointment once you have selected it.

1. Click **Edit**.
   The **Edit Appointment** dialog box is displayed.
2. Click **Delete**.
3. Click **Yes** to confirm that you want to delete the appointment.

   You cannot reinstate a deleted appointment.
4. Click **Save**.

Associating an encounter with an appointment

You can associate an appointment with an encounter within a patient's record. Once an appointment is associated with an encounter, the appointment status will become complete.

Encounters can be automatically associated to an appointment of the same type, based on a configurable time window configured in the **Administration: Schedule** section.

1. Open the patient record.
2. Click the **Encounters** tab.
3. Select an encounter or create a new encounter.
4. Click the **Scheduling** tab.
5. Select the appointment to which you want to associate the encounter.
   - If you are selecting an existing appointment, select it from the **Add Encounter** dialog box.
   - If you are creating a new appointment, click **Add**, enter the information about the appointment in the **Add Appointment** dialog box, and then click **OK** to return to the **Add Encounter** dialog box and select the appointment.
6. Click **Associate/Disassociate**.
   You are given a choice to continue or to cancel the process.
7. Click **OK** to complete the association.
   The Paceart System automatically enters the information from the selected appointment into the **Associate Appointment** section.

Disassociating an encounter with an appointment

You can disassociate an encounter from an appointment. You must disassociate an appointment from an encounter before you can delete the appointment.

1. Open the patient record.
2. Click the **Encounters** tab.
3. Select the encounter that is associated with an appointment.
4. Click the **Scheduling** tab.
5. Click **Associate/Disassociate**.
   You are given a choice to continue or to cancel the process.
6. Confirm the disassociation.
   - Click **Yes** to disassociate the appointment from the encounter.
   - Click **No** to leave the association intact.

   When you confirm a disassociation, data regarding the encounter is removed from the **Associated Appointment** section.

Remote Appointment Status

You can download scheduling information from the Medtronic CareLink Network at anytime using the update remote appointment status download.

Paceart System-CareLink Scheduling Integration

The CareLink Scheduling Integration feature provides a way to automatically synchronize scheduling between the CareLink Network and the Paceart System. If you schedule an appointment in CareLink, it will be downloaded to the Paceart System; if you schedule an appointment in the Paceart System, it will be sent to CareLink.

The Paceart System regularly requests status information for appointments scheduled in CareLink. Schedules are either updated nightly or when a clinician makes a request from the Paceart System.

If an appointment is created in CareLink, CareLink retains ownership (the ability to edit or delete the appointment) until the appointment is sent to the Paceart System. Once the Paceart System is updated to reflect the CareLink Network appointment, the appointment is owned by the Paceart System.

If a remote appointment is created or modified in the Paceart System, the appointment is automatically created or updated in CareLink. Ownership of the appointment remains with the Paceart System.

The Paceart System receives appointment status information that reflects the last known status as reported by CareLink. The remote status is displayed in patient appointment information on the Paceart System. The Paceart System records the completion and failure status details of this information in its log. The Paceart System scheduling requests that violate CareLink Network scheduling rules are displayed as errors in the Paceart System **Remote Status** field.

Contact your Paceart System technical support specialists regarding support for appointment scheduling transfers on the Medtronic CareLink Network.

Downloading a remote appointment status update

You can update the status of remote appointments from an external system, such as the Medtronic CareLink Network.

Before you can download remote appointments from a external system you must have **Scheduling Integration** enabled in Paceart Administration and you must have the Mainspring Data Express software configured.

1. You can download a remote appointment status update from three locations.
   - Click the **Search** > **Appointments** tab.
   - Click the **Schedule** tab.
   - In an open patient record, click the **Patient Information** > **Schedule** tab.
2. Click the **Update Remote Status** button.
   The **Update Remote Appointment Status** dialog box is displayed.
3. Click **Request Data**.
   The **Request status** section displays the download progress.
4. Click **Close** to close the dialog box.
   The updated remote status is displayed in the **Remote Status** column in the **Results** section.

Field and button definitions for the Remote Encounter Download and Update Remote Appointment Status dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Request Data	Initiates a batch download from the remote follow-up service.
Close	Saves and closes the dialog box.

Chapter

7

Tasks tab

A task is associated with a configured workflow within the Paceart System. To complete a task in the Paceart System, a user or workgroup must complete the appropriate action(s). You can access the functions associated with workflow tasks from the **Tasks** tab. This is an optional feature in the Paceart System and is inactive by default.

The **Tasks** tab has a search section, a task search result section, a set of task action buttons, and a read-only task information section.

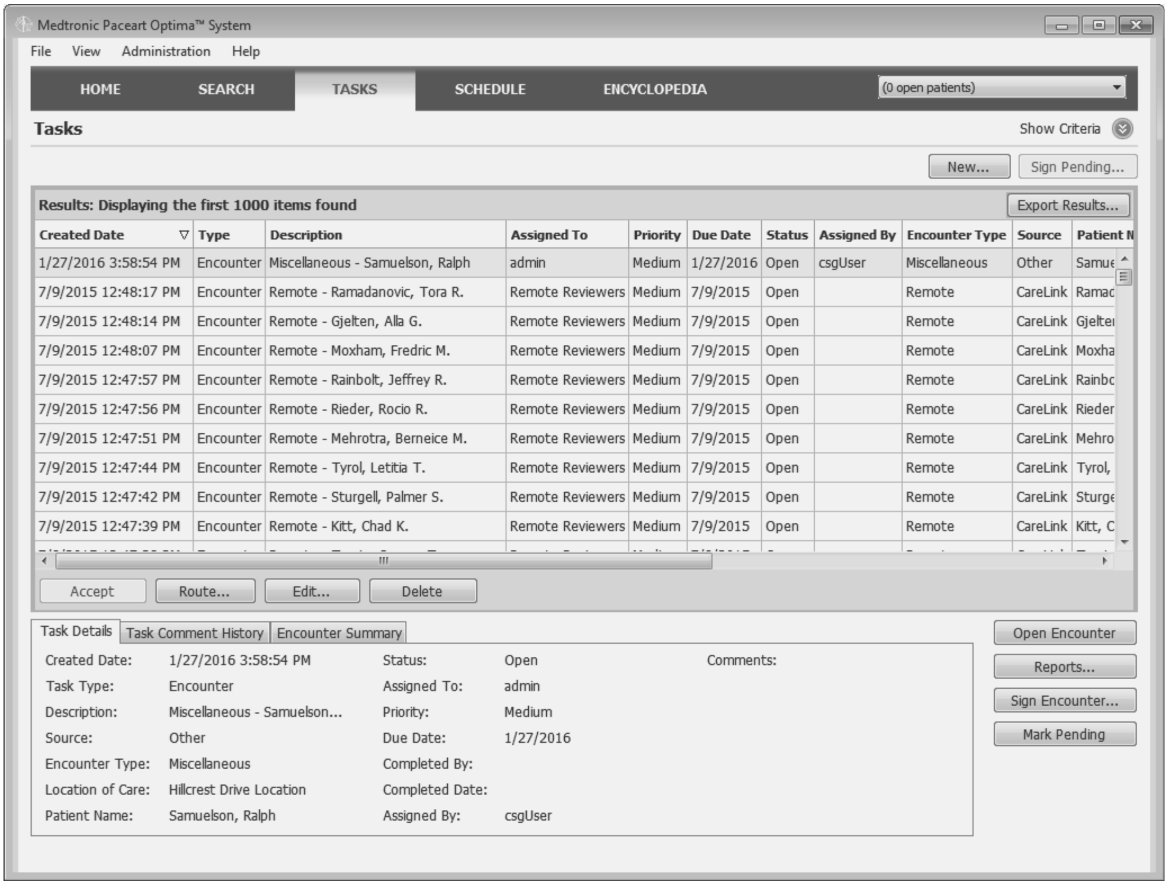
Based on your user permissions you will see tasks for all users or see only tasks assigned to you or any workgroup to which you have been assigned. The system administrator needs to configure your user permissions to match the actions required to complete the tasks assigned to you.

By default, only tasks assigned to you are displayed on this tab. To change the search criteria for the list of tasks, click **Show Criteria**. The default criteria are set to match the **My Tasks** button. Click **My Tasks** to search for tasks only assigned to you. Click **Hide Criteria** to have more room to display your search results.

Your search results are displayed in the **Results** section. This section is updated automatically. So, when tasks are assigned to you or are completed, the tasks will be automatically added or removed from the list. The default display order for search results is by highest to lowest priority, and then sorted within each priority in ascending order by task due date, and then sorted by the created date in descending order. You can export your search results by clicking **Export Results**.

Below the search results are the buttons associated with workflow tasks, such as locking or signing, completing, routing, and accepting tasks. You can also create, edit, and delete user tasks.

Additional information about a selected task is displayed at the bottom of the tab. If the selected task is an encounter task, you can open the encounter, view reports, lock or sign the encounter, and mark as pending for approval. You can also open the Activity Log for a selected system task.



Searching for tasks

The **Tasks** tab has search criteria that you can use to filter your tasks.

If the search criteria fields are hidden, click **Show Criteria** in the upper right corner of the tab. You can click **Hide Criteria** to view more of your tasks.

For example, you have been assigned a large number of tasks and you want to view only the open tasks that need to be completed soon and that have a high priority. You can search for these tasks by entering a due date into the **Due Date Range** field, selecting "High" in the **Priority** field, and selecting "Open" in the **Status** field.

Searching for tasks

You can search for specific tasks.

The **Task** tab has search criteria fields in the top section of the tab.

1. If you do not see the search criteria fields when you open the tab, click **Show Criteria** in the upper right corner of the tab.
2. Click **Clear** if you want to clear the search criteria and the search results.

   Click **My Tasks** to restore the default search criteria and search for tasks assigned to you.
3. Enter your search criteria in one or more of the following fields. You can select multiple items for each field. Some of the search criteria require special security permissions to use.

Criteria	Description
Status	Allows you to search for tasks with a specific status.
Task Type	Allows you to search for tasks by task type.
Source	Allows you to search for tasks by the originating source system. • Demographics - Searches for system tasks created from an inbound ADT message. • Scheduling - Searches for system tasks created from an inbound SIU message. • CardioVoice - Searches for system tasks or encounter tasks created from CardioVoice. • CareLink - Searches for system tasks or encounter tasks created from CareLink. • Latitude - Searches for system tasks or encounter tasks created from Latitude. • Merlin.NET - Searches for system tasks or encounter tasks created from Merlin.NET. • SessionSync - Searches for system tasks or encounter tasks created from SessionSync. • Biotronik - Searches for system tasks or encounter tasks created from Biotronik. • Unknown/Other - Searches for system tasks or encounter tasks created from an unknown source.
Encounter Type	Allows you to search for a type of encounter if you selected **Encounter** in the **Type** field.
Location of Care	Allows you to search for encounter tasks based on the encounter's location of care.
Patient	Allows you to search for tasks that are associated with a specific patient.
Assigned To	Allows you to search for tasks assigned to the user or workgroup you select.
Include Workgroups	Allows you to include or exclude workgroup tasks for the user you selected in the **Assigned To** field.
Priority	Allows you to search for tasks with a specific priority.
Due Date Range	Allows you to search for tasks due in a specific date range.
Created Date Range	Allows you to searches for tasks created in a specific date range.
Completed Date Range	Allows you to search for tasks completed in a specific date range.
Completed By	Allows you to search for tasks that were completed by a specific user.
Assigned By	Allows you to search for tasks that were assigned by a specific user.

4. Click **Search**.
   Your search results will be displayed in the **Results** section of the **Tasks** tab. The search results are initially sorted in descending order by task priority (high, medium, low), and then sorted within each task priority in descending order by task due date. You can reverse the sort order or sort on a different column by clicking on the column heading.

Selecting an assignee

You can search for an assignee by selecting **Assigned To**, **Assigned By**, or **Completed By**.

1. Click the **[...]** button next to the **Assigned To**, **Assigned By**, or the **Completed By** field.
   The **Select Assignee** dialog box opens.

2. If applicable, select the type from the **Assignee Type** drop-down box.
3. Type the search criteria in the **Search String** field.
4. Click **Search**.
   The items that match your search criteria are displayed in the **Results** list.
5. Select a assignee name from the **Results** list.
6. Click **Select**.
   The assignee you selected is displayed in the field.

Field and button definitions for the Select Assignee dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Assignee Type:	The type of user (workgroup or user) that is assigned to a task.
Search String:	Text box for entering whole or partial keywords.
Search	Invokes the search.
Name	Search results table of users and/or workgroups matching the search criteria.

Selecting a patient

You can search for and select a patient.

1. Click the **[...]** button next to the **Patient** field.
   The **Select Patient** dialog box opens.
2. Type the search criteria in the **Search String** field.
3. Click **Search**.
   The items that match your search criteria are displayed in the **Results** list.
4. Select a patient from the **Results** list.
5. Click **Select**.
   The patient you selected is displayed in the field.

Field and button definitions for Select Patient dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Search String:	Text box for entering whole or partial keywords.
Search	Invokes the search.
Default:	The patient's ID number from a previous version of Paceart or from an external system such as an electronic medical record (EMR).

Dialog box fields and buttons	Field and button definitions
DOB:	The patient's date of birth.
City:	The city associated with the patient's street address.
Phone:	The telephone number.

Working with tasks

When the Paceart System tracks a task it records the user or workgroup assigned to the task, the user assigned to complete the task, and how the assigned user completed the task.

The Paceart System has three types of workflow tasks:

- User tasks
- Encounter tasks
- System tasks

Workgroups

A workgroup is one or more active users that have grouped under a common name. You can use workgroups to group users who have similar responsibilities so that they can share tasks within the group.

Workgroups can be assigned user tasks, system tasks, or encounter tasks. All task types can be routed or assigned to a workgroup instead of an individual user. When a task is assigned to a workgroup, it appears on the task list of all the users in the workgroup. If you are a member of a workgroup and decide to work on a task, you can click **Accept** to remove the task from the workgroup and assign it to you. By assigning the task to yourself, you avoid the situation of others duplicating your work. If you later decide you cannot complete the task, click **Route** to assign it back to the workgroup.

The system administrator usually creates workgroups.

User tasks

A user task is a task that is initiated by currently logged in users who can assign the task to themself, to another user, or to a workgroup. User tasks are not associated with any activity within the Paceart System the way that encounter generated tasks and Paceart System generated tasks are.

You can complete, route, or add comments to a user initiated task. If a task is assigned to a workgroup of which you are a member, you can accept the task.

- Completing the task changes the status to "Closed".
- Routing a task automatically assigns the task to a user or workgroup that you select.
- Accepting a task means that you have accepted the responsibility to complete that task. If you accept a task and then find out that you cannot complete it, you can route it to another user or workgroup.

Completing a user task

After you have finished a user task assigned to you or to your workgroup, you can complete the task. When a task is complete the task status is changed to "Closed". This process allows you to track when a task is completed and by whom.

1. Click the **Tasks** tab.
2. Search for the user task that you want to complete. User tasks have "User" in the **Type** column.

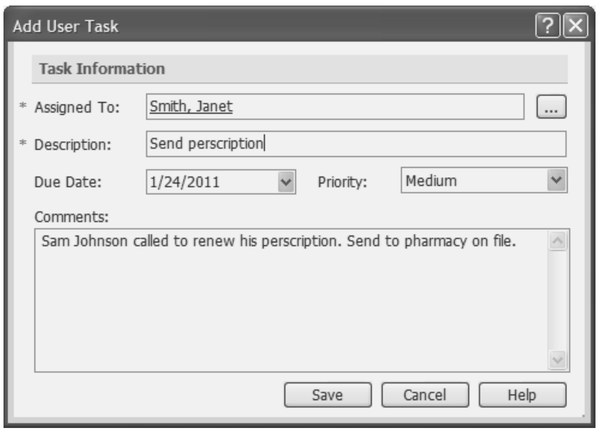
3. Select the user task from the search results.
4. Click **Complete Task**.

The task status is changed to "Closed".

Adding a user task

You can add new user tasks from either the **Tasks** tab or the **Home** tab. You can never add encounter or system tasks.

1. Open the **Add User Task** dialog box.
   - Click **New Task** on the **Tasks** tab.
   - Click **Add Task** on the **Home** tab.
2. In the **Assigned To** field enter the user or workgroup to whom you are assigning the task. You can click the **[...]** button to display a list of available users or workgroups.



3. In the **Description** field enter a description of the task.
4. Enter the date that the completion of the task is required. The date defaults to today's date.
5. Select the priority of the task. The priority defaults to "Medium".
6. If you have comments, enter them in the comments section.
7. Click **Save**.

Field and button definitions for the Adding or Editing a Task dialog box

The field definitions in the **Add User Task** and **Edit Task** dialog boxes.

Dialog box fields and buttons	Field and button definitions
*Assigned To:	The workgroup or user to whom the task is assigned. Required field.
*Description:	The description of the task. Required field.
Due Date:	The date the task is due.
Priority:	The priority level of the task.

Dialog box fields and buttons	Field and button definitions
Comments History:	A read-only list of comments previously added to the task.
Comments:	Miscellaneous comments.
Complete	Completes the selected task.

Selecting an assignee

You can search for an assignee by selecting **Assigned To**, **Assigned By**, or **Completed By**.

1. Click the **[...]** button next to the **Assigned To**, **Assigned By**, or the **Completed By** field.
   The **Select Assignee** dialog box opens.
2. If applicable, select the type from the **Assignee Type** drop-down box.
3. Type the search criteria in the **Search String** field.
4. Click **Search**.
   The items that match your search criteria are displayed in the **Results** list.
5. Select a assignee name from the **Results** list.
6. Click **Select**.
   The assignee you selected is displayed in the field.

Field and button definitions for the Select Assignee dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Assignee Type:	The type of user (workgroup or user) that is assigned to a task.
Search String:	Text box for entering whole or partial keywords.
Search	Invokes the search.
Name	Search results table of users and/or workgroups matching the search criteria.
Select	Routes the task to the selected assignee or workgroup.

Editing a user task

You can edit an existing user task.

1. Click **Edit**.
   The **Edit Task** dialog box is displayed.
2. Enter or modify existing information.
3. Click **Save** to save and close the dialog box or click **Complete** to complete the task. Before you complete a user task you may want to add comments about the task in the **Comments** field.

Encounter tasks

The Paceart System can be configured to generate an encounter task when a user creates or amends an encounter.

You can view the encounter tasks on the **Tasks** tab. When you open an encounter task from the **Tasks** tab, the actual encounter is opened.

Encounter tasks are automatically created by the Paceart System based on how your system is configured in **Administration: Task Management**.

When an encounter is created, the Paceart System generates an encounter task that is assigned to the user who created the encounter. That user can accept, route, delete, and edit the encounter task. Encounter tasks are completed by either locking or signing the encounter, depending on how the Paceart System is configured for your clinic.

- Locking an encounter ensures that no changes can be made to it. Locking is usually used if encounters are signed in an external system. The task status is changed to "Closed" after it has been locked.
- Signing an encounter locks the encounter and records the electronic signature of the user who completed the task. The task status is changed to "Closed" after it has been signed.

An encounter task can be routed to another Paceart System user or workgroup. The **Route** button on the **Task** tab routes the task. The newly assigned user or workgroup is then responsible for locking or signing the encounter. An encounter task can also be routed or edited from the associated encounter.

You can review and sign multiple encounter tasks at one time or review multiple encounter tasks, mark pending, and route them to another user for final signature. Clicking the **Mark Pending** button indicates that the creator of the encounter has reviewed that encounter. Clicking the **Sign Pending** button marks the task signed and closed. If any changes are made to an encounter after marking it as pending and before the encounter is locked or signed, the pending status will be cleared.

Encounter task comments are associated with the task, not with the encounter. After an encounter is completed, you cannot see the task's comments. You can view comments for closed encounter tasks by searching for tasks with a status of "Closed".

Signing an encounter

You can complete an encounter task by signing the encounter electronically, if your clinic is configured to do so. An encounter task is completed when the encounter is signed.

1. Search for the encounter task that you want to complete.
2. Select the encounter task in the **Results** section.
3. Click **Open Encounter**.
   The encounter is displayed.
4. Click **Sign**.
   The **Sign Encounter** dialog box is displayed.
5. Enter your user name and password.
6. Click **OK**.

The encounter task status is changed to "Closed" and the encounter is locked. If you need to make changes after an encounter is signed or locked, you must amend the encounter.

Batch signing encounters

Batch signing encounters allows you to review your tasks and approve them all at one time or you can review the encounter tasks and assign them to another user or workgroup for signature.

1. Click **Tasks**.
2. Click **My Tasks** to see a list of tasks assigned to you.

3. Review tasks that have **Open** in the **Status** column. You can sort the open tasks to the top by clicking the **Status** column.
   a) Select the task.
   b) Click the **Encounter Summary** tab and review the information.
      If you need more information on the encounter, click **Reports** and select a report.
4. After you have reviewed the encounter, click **Mark Pending**.
   The task status changes to **Pending Approval**.
5. If you would like to route the task to another user or workgroup for signature, click **Route**.
6. Repeat the above steps for each open task.
   The number of tasks ready to sign are displayed on the **Sign Pending...** button or the tasks will disappear from your list if you've routed them to another user.
7. To approve the pending tasks assigned to you, click **Sign Pending...**.
   The **Encounters Pending Approval** dialog box is displayed.
8. Scroll through the list to confirm all of the encounters are in the list. Then, enter your user name and password.
9. Click **OK**.
   The status of the tasks changes to **Closed**, and the tasks are removed from your task list.

Field and button definitions for the Encounters Pending Approval dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*User Name:	The user's user name. Required field.
*Password:	The user's password. Required field.

Locking an encounter

When you are finished with an encounter, you can lock it to prevent anyone from making changes to it.

1. Search for the encounter task associated with the encounter that you want to lock.
2. Select the encounter task in the search results section.
   If you want to view the encounter before locking it, click **Open Encounter** in the lower right corner.
3. Click **Lock Encounter**.
4. Click **OK** to confirm that you want to lock the encounter.

The encounter task status is changed to "Closed" and the encounter is locked. If you need to make changes after an encounter is signed or locked, you must amend the encounter.

System tasks

The Paceart System can be configured to automatically generate a system task when a work item is created in the Activity Log, such as an unmatched transmission. The Paceart System assigns the system task to the user or workgroup set up in **Administration**. System tasks are viewable on the **Tasks** tab.

System tasks allow you to track work items created in the Activity Log, without having to regularly search all entries in the Activity Log. Work items are only created for conditions that are resolvable, such as an unmatched transmission. The Paceart System can be configured to generate system tasks only for specific conditions of interest to your clinic in the **Administration: Task Management** section.

If the task is assigned to a workgroup, someone from that workgroup accepts responsibility for the task or routes it to another user or workgroup to complete. System tasks are tied to the Activity Log. When the Activity

Log retention time is reached, the Paceart System will automatically delete the associated system tasks. The default retention time is 14 days. You can configure the Activity Log retention time in **Administration: Connectivity Management.**

You can route, accept, and complete a system task.

- Routing a system task automatically assigns the task to a user or workgroup that you select.
- Accepting a system task means that you have accepted the responsibility to complete that task. If you accept a task and then find out that you cannot complete it, you can route it to another user or workgroup.
- Completing an Activity Log work item changes the system task status to "Closed".

Completing a system task

You can complete system tasks. Completing a task will change the task status to "Closed."

1. Click the **Tasks** tab.
2. Search for the system task that you want to complete. System tasks have "System" in the **Type** column.
3. Select the system task from the search results.
4. Click **Open Activity Log**.
   The activity log entry is displayed.
5. Resolve the issue. If for example, the issue is an unmatched patient click **Match**.
6. After the issue is resolved, then click **Mark Work Item Complete**.

The task status is changed to "Closed". In some cases an encounter task will be created.

Matching incoming encounter data to a patient record

When encounter data is imported into the Paceart System from SessionSync or a remote follow-up service such as CareLink, the Paceart System creates an encounter in the patient record. An encounter is created only if the incoming device data (model and serial number) matches the data in the patient record. If the device data doesn't match, a work item is created in the Activity Log for the unmatched data.

If the Paceart System does not find any matching patient devices, use the **Match Device Data** dialog to match the incoming encounter data to a patient. The **Match Device Data** dialog can be accessed from the **Administration: Activity Log** section or the **Tasks** tab.

1. Click the **Tasks** tab.
2. Use the search fields to search for the system task created for the unmatched data.

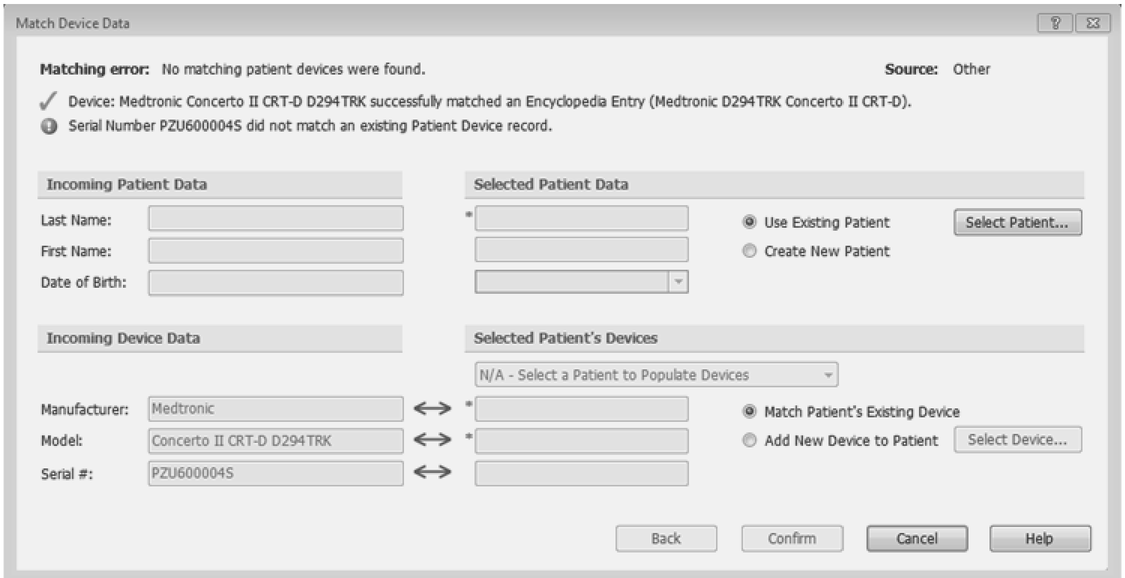
   To search for system tasks, select **System** in the **Task Type** field. You can also search by the task creation date as well as by source, such as SessionSync.

3. Select the task from the search results and click **Open Activity Log**.

   The **Activity Log Entry** dialog box displays information from the source system, including patient information (if available) and device information.

4. In the **Activity Log Entry** dialog box, click **Match**.

   The **Match Device Data** dialog box is displayed. This screen includes information about the type of error (for example, the Paceart System could not match the serial number to a patient). The information sent from the source system is read-only and displayed in the left column on the screen.



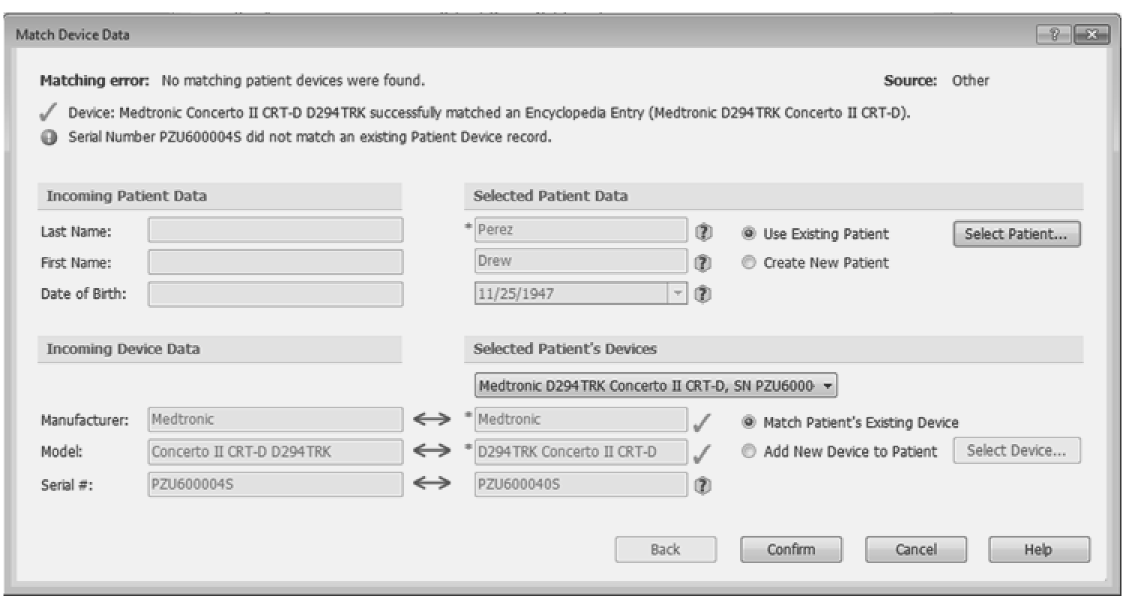
5. Select **Use Existing Patient** and then click **Select Patient** to search for the patient in the Paceart System that you want to associate with the incoming data. You can search for a patient by serial number, device model, or patient name.

   Note: If the patient record does not exist, select **Create New Patient** to create a patient record.

6. Select the patient device that you want to match from the drop-down menu in the **Selected Patient's Devices** section.

   When you select a device, the fields in this section are populated with the device details, and the values are compared with the incoming data.

   Note: To add a device to the patient record, select **Add New Device to Patient** and click **Select Device** to search for a device from the encyclopedia.

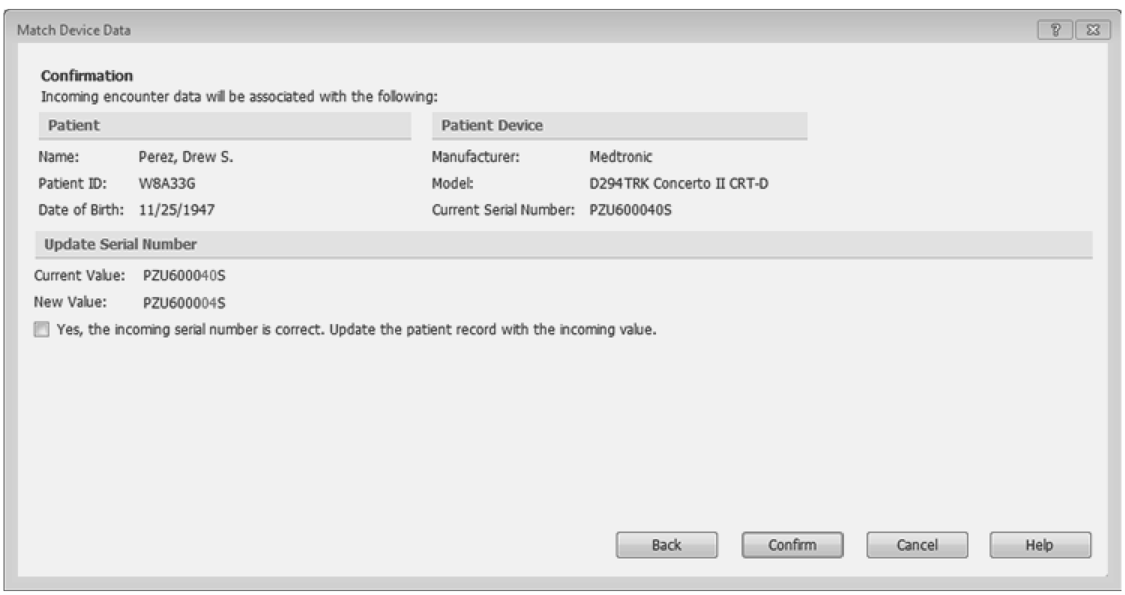


7. Compare the values in the **Incoming Device Data** section with the values in the **Selected Patient's Devices** section.

   The following icons are used to show the status of the match:

Icon	Definition
	Indicates that the value matches the incoming data.
	Indicates that the value does not match the incoming data but might be correct (for example, the incoming data value might not be provided). Check the value before continuing to the next screen.
	Indicates that the value does not match the incoming data and must be resolved before continuing (for example, the device did not match an encyclopedia entry).

8. After all values with a red exclamation point icon are resolved, click **Confirm** to show the results of the match.
9. Review the **Confirmation** screen to confirm the patient and device information that you selected to associate with the incoming encounter data.



Note:

- If there are any differences between the selected patient device serial number and the incoming data, the **Update Serial Number** section appears and shows the differences in red. To update the serial number in the patient record with the new value, select the check box stating that the incoming serial number is correct.
- The **Alias Creation** section appears if the incoming device model does not match an existing Paceart System encyclopedia device entry. For example, the word order in the model name might be different. The Paceart System highlights the differences in red. If the two models are the same, you can choose to create an alias to the Paceart System encyclopedia by checking the box stating the devices are the same. Creating an alias allows the Paceart System to match incoming data for this device in the future.

10. After verifying the patient and device information, click **Confirm** to associate the incoming encounter data to the patient and device you selected.

Routing a task

You can route a task to another user or workgroup.

1. Search for the task that you want to route.
2. Select the task in the search results list.
3. Click **Route**.
4. Select the assignee type from the drop-down list or enter a search term in the search field.
5. Click **Search**.
6. Select a name and click **Select**.

The task is routed to the user or workgroup. Whomever routed the task to the new user or workgroup is listed in the **Assigned by** field.

Field and button definitions for the Select Assignee dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Assignee Type:	The type of user (workgroup or user) that is assigned to a task.
Search String:	Text box for entering whole or partial keywords.
Search	Invokes the search.
Name	Search results table of users and/or workgroups matching the search criteria.

Accepting a task

You can accept a task that was assigned to your workgroup. Once you have selected the task it is removed from the workgroup's task list and is assigned to you.

1. Search for the task that you want to accept.
2. Select the task from the search results.
3. Click **Accept**.

The task is removed from the workgroup task list and is assigned specifically to you. Your user name is displayed in the **Assigned To** column.

If you cannot complete the task after accepting it you can edit the task and reassign it to the original workgroup where it can be picked up by someone else to complete, you can reassign it to another user or workgroup, or you can have a user with the **Workflow - View/Edit/Delete (any) User's Tasks** permission reassign it to another user or workgroup.

Deleting a task

You can delete a closed task that is assigned to you or to a workgroup of which you are a member.

1. Search for the task that you want to delete.

2. Select the task.
3. Click **Delete**.
4. Click **Yes** to confirm that you want to delete the selected task.

The task is deleted.

Adding task comments

Use the **Comments** field to include additional information about the task assigned to you or your workgroup.

1. Select the task from the search results.
2. Click **Edit**.
3. Enter text in the **Comments** field.
4. Click **Save**.
   The Paceart System displays the changes in the **Comments** field at the bottom of the **Tasks** tab.

Chapter 8

Paceart Optima System Administration

The **Administration** section of the Paceart Optima System allows users with administrative privileges the ability to configure system settings that are used throughout the application. The default administrative role provided with the Paceart Optima System is called **Clinic Management**. To view and edit settings in **Administration**, you must have administrative user permissions.

Paceart Optima System Administration is accessible from the menu bar and is divided into various subsections.

Activity Log

You can search and view the Activity Log, which provides a record of requests, the status of work items, when the requests were completed, and by whom they were completed.

Audit

You can search and view the audit log, which provides a record of changes, the date the change was made, and by whom. The system automatically updates the log as users change the system. You can also export the results from Audit Log searches.

Batch Delete

You can delete multiple unused patients from the Paceart System database using the Batch Delete function. Unused patients are patients who do not have devices, encounters, or appointments associated with them.

Billing

The Paceart System assists clinics in charging and billing management by providing clinicians with the ability to document, print, and export billing information related to patient encounters. You can add and edit billing payment types that can be recorded in patient encounters.

CardioVoice

The CardioVoice System enables patients and providers to communicate information about cardiac events through an automated voice response system. You can configure CardioVoice to automatically fax, page, or email a physician when a patient calls into the CardioVoice system.

Connectivity Management

You can configure how the Paceart System interacts with external systems.

Demographics

You can add new or edit existing locations of care, patient ID types, and patient code types using the options on the Demographics window. These changes automatically show up in the selection lists when you add demographic information to a patient record.

Encounter Export

You can configure how to export encounters from your Paceart System.

Home

You can customize what users see on the **Home** tab when using your Paceart System.

License Management

You can view licenses currently in use in the Paceart System or apply a license key to enable new components that you have purchased.

Logging

The Paceart Optima System logs client and server activity in separate log files. You can configure where the log files are stored and how the files are formatted.

Messaging Service

You can use the messaging service to send faxes, emails, and pages from the Application Server. The messaging service can send reports via fax and email in addition to working with the CardioVoice System.

Reports

This feature allows you to define default report settings and create report groups that contain two or more standard reports or letters to print from a specified type of encounter.

Schedule

You can configure how the Paceart System handles scheduling for each location of care. You can set default preferences for automatic scheduling, define the working hours, and define resources for a location of care.

Security

You can add, edit, and delete information associated with Paceart System users, External System users, Paceart System roles, External System roles, and system-level security policies.

System Health

You can view information about the Paceart System, including information about the client machines accessing the system as well as information about the application server and database, such as the application server name and port, application server time zone, database server name, and the date of the most recent database backup.

Task Management

You can set up workgroups to assist in clinic task management flow. A workgroup is a collection of one or more authorized users and can be assigned one or more workflow tasks or user tasks. A workgroup does not necessarily correspond to an authorized system role. Task management is an optional feature.

User Preferences

You can define user preferences, such as default report formats and ECG settings, for your user account. User preferences will be applied anywhere you log in.

Waveform

You can edit ECG data settings. The ECG recorder in the Paceart System gives you the ability to obtain, measure, modify, and view ECG data.

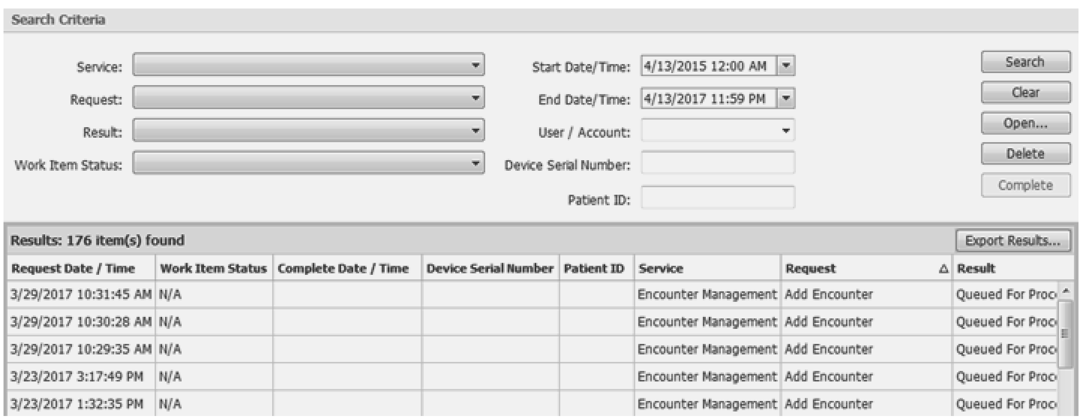
Using the Activity Log

The Activity Log provides a searchable record of requests, the status of work items, when the requests were completed, and by whom they were completed.

The Paceart System automatically records all activity relating to connectivity events in the Activity Log. The values are stored in the database and you can view or update items in the Activity Log. The system automatically updates the Activity Log as users update work items. The default retention for the Activity Log is 30 days. The size of the log must be monitored since it can become large. Activity Log items, including items that have a status of Pending, are removed from the Activity Log when they reach the maximum length of retention.

Using the **Search Criteria** section, you can filter the search results.

You can export your Activity Log search results to a spreadsheet by clicking **Export Results**.



Activity Log Services

You can search the Activity Log by the service that initiated the Activity Log requests. Each service uses different types of requests.

For a list of Activity Log request results and their definitions, see the "Activity Log Results" topic.

Authentication

The Authentication service logs communication attempts from external systems. The Paceart System checks the credentials from the external system and logs the result in the Activity Log.

Patient Management

The Patient Management service logs all patient information changes from the HL7 protocol. Any additions, deletions, and updates to patient records from HL7-based systems are logged under this service in the Activity Log.

Encounter Management

The Encounter Management service logs activity for encounters imported from Remote Data Interface (RDI) and Local Data Interface (LDI). Data transmitted from local and remote sources for adding and processing encounters is logged under this service in the Activity Log, including SessionSync and LATITUDE. If a system accesses the Paceart Domain Interface (PDI) without a valid Patient ID type, the Paceart System creates a work item in the Activity Log.

Appointment Management

The Appointment Management service logs all appointment information changes in the Paceart System. Any additions, deletions, and updates to appointments are logged under this service in the Activity Log. HL7 appointments are logged under this service in the Activity Log.

Outbound Appointment

The Outbound Appointment service logs how appointments are handled between the Paceart System and CareLink. The results of queuing, updating, and synchronizing appointments are logged under this service in the Activity Log.

Outbound XML Export

The Outbound XML Export service logs all XML export messages from the Paceart System to an external file system or the HL7 protocol in the Activity Log.

Outbound Encounter

The Outbound Encounter service logs encounter activity any time a CareLink download is initiated automatically or by a clinician. The results of the Paceart System pulling encounter information from CareLink are logged under this service in the Activity Log.

Searching for information in the Activity Log

You can enter search criteria to limit the Activity Log event results. To return all results, leave the search criteria text boxes blank.

1. Click **Administration** > **Activity Log**.
2. Enter search criteria in one or more of the following fields:
   - **Service:**

     Select a service from the drop-down list to limit your results to a particular service.
   - **Request:**

     Select a request from the drop-down list to limit your results to a particular request of a service. The requests available depend on the service you selected.
   - **Result:**

     Select a result from the drop-down list to limit your results to a particular result of a request. The results available depend on the service and request you selected.
   - **Work Item Status:**

     Select a work item status from the drop-down list to limit your results to a particular status. Activity Log items, including items that have a status of Pending, are removed from the Activity Log when they reach the maximum length of retention.
   - **Start Date/Time:**

     If you enter a date and time, Activity Log entries occurring on or after the date and time will be returned in the results.
   - **End Date/Time:**

     If you enter a date and time, Activity Log entries occurring on or before the date and time will be returned in the results.

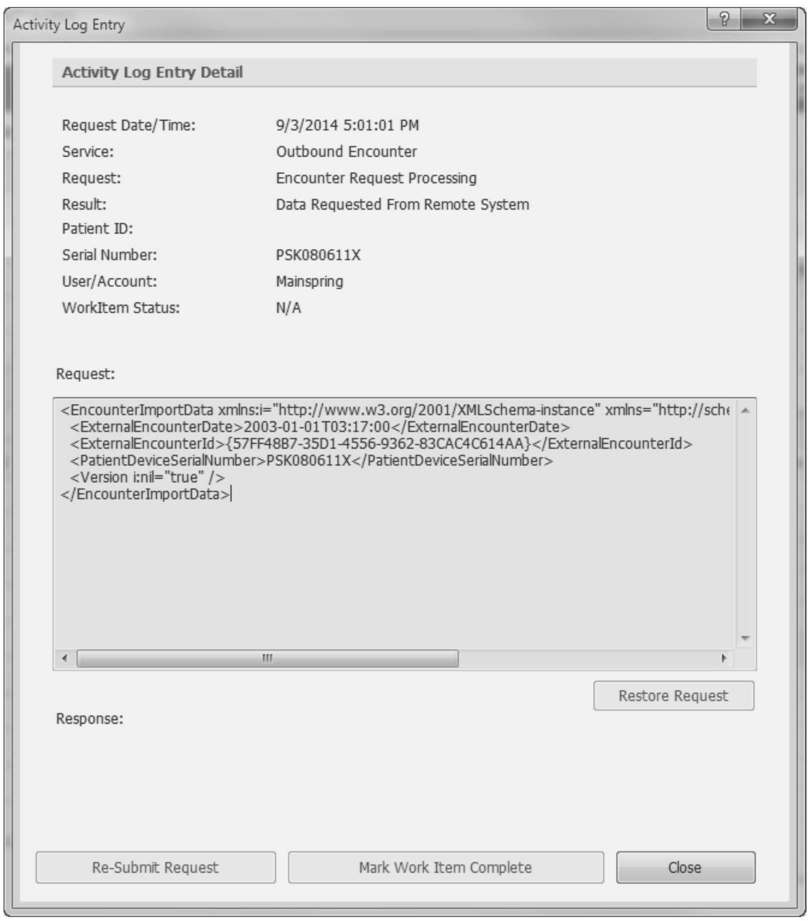
- **User / Account:**

  Select a user from the drop-down list to limit your results to a particular user.
- **Device Serial Number:**

  Enter a patient's device serial number.
- **Patient ID:**

  Enter a patient's ID number.

3. Click **Search** to search the activity log for entries matching your search criteria. Unused patients have no devices, no encounters, and no appointments.
4. You can accomplish the following tasks with the Activity Log search results:
   - To clear the search results, click **Clear**.
   - To open an Activity Log entry, select the entry from the search results and click **Open**. You can also double-click an entry in the search results to open it.



   - To delete an Activity Log entry, select the entry from the search results and click **Delete**.
   - To mark an activity as complete, select the entry from the search results and click **Complete**.
   - To export the search results to a spreadsheet, click **Export Results**.

Field and button definitions for the Activity Log Entry dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Request Date/Time:	Read-only field that indicates the time and date of the activity log request.
Service:	Read-only field that indicates the service of the activity log entry.
Request:	Read-only field that indicates the request of the activity log entry.
Result:	Read-only field that indicates the result of the activity log entry.
Transaction ID:	Read-only field that indicates transaction ID assigned to the activity log entry.
User/Account:	Read-only field that indicates the user for the activity log entry.
WorkItem Status:	Read-only field that indicates the work item status of the activity log entry.
Match	Matches the patient or encounter information when the system is unable to automatically match the encounter.
Request:	The XML message of the request.
Restore Request	Restores the request XML message and cancels any changes made since the last time the request was submitted.
Response:	Read-only field that provides additional information relating to the information that was returned from the request.
Re-Submit Request	Re-submits the activity log request with any changes made to the XML.
Mark Work Item Complete	Changes the work item status of this activity log entry to Complete.
Close	Saves and closes the dialog box.

Deleting Activity Log Entries

You can delete entries from the Activity Log.

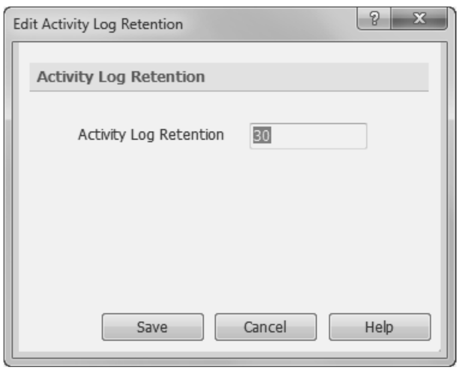
1. Click **Administration** > **Activity Log**.
2. Select a single or multiple activity log entries. To select multiple entries SHIFT+click or CTRL+click.
3. Click **Delete**.

The Activity Log entries are deleted.

Editing Activity Log Retention

You can edit how long the Paceart System retains data in the activity log. Activity Log items, including items that have a status of Pending, are removed from the Activity Log when they reach the maximum length of retention.

1. Click **Administration** > **Connectivity Management** > **Activity Log**.
2. Click **Edit**.
3. Enter the number of days to retain activity log data in **Activity Log Retention**.



4. Click **Save**.

Field and button definitions for the Edit Activity Log Retention dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Activity Log Retention	The number of days data will be retained in the Activity Log.

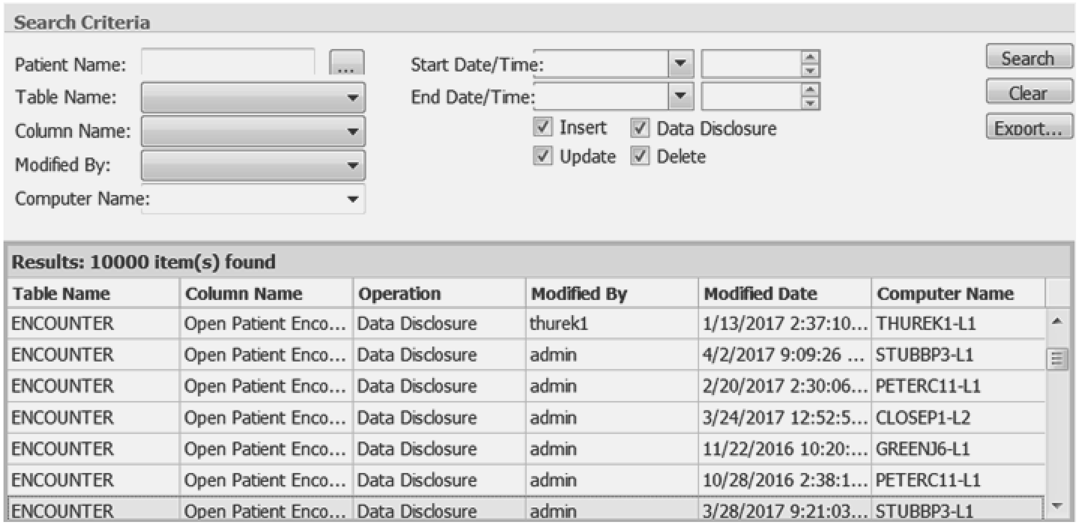
Using the Audit Log

You can search and view the Audit Log, which provides a record of changes, the date the change was made, and by whom.

You can narrow the list of changes in the Audit Log based on patient, user, date and time, and other criteria. You can also narrow the list by the type of operation such as an insertion or deletion.

The Paceart System automatically tracks database and end-user activity and updates the Audit Log. The system automatically updates the Audit Log as users update a record. The size of the log must be monitored since it can become large. Permission to view the Audit Log is granted through your user role.

You can export detailed information for each of the entries in your results table to an Excel spreadsheet by clicking **Export**.



Searching for information in the Audit Log

You can enter search criteria to limit the Audit Log event results that are returned to you. Since the Audit Log can be very large, enter as much search criteria as possible to reduce the number of results.

1. Click **Administration** > **Audit**.
2. Enter search criteria in one or more of the following fields.
   - **Patient Name:**

     Select a patient name to show Audit Log entries for one patient.
   - **Table Name:**

     Select a table name from the drop-down list to limit your results to a particular database table.
   - **Column Name:**

     Select a column name based on the table you selected from the drop-down list to limit your results to a particular database column.
   - **Modified By:**

     Select a login name from the drop-down list to limit your results to modifications made by a particular user.
   - **Computer Name:**

     Select a computer name from the drop-down list to limit your results to modifications made from a particular computer.
   - **Start Date/Time:**

     If you enter a date and time, Audit Log entries occurring on or after this timestamp are returned in the results.
   - **End Date/Time:**

     If you enter a date and time, Audit Log entries occurring on or before this timestamp are returned in the results.
   - **Insert**

Check this box to include insert database events. Insert events are created when a new entry is added to the database.

- **Update**

  Check this box to include update database events. Update events are created when an existing database entry is modified.

- **Data Disclosure**

  Check this box to include events that disclosed patient data to any external system.

- **Delete**

  Check this box to include delete database events. Delete events are created when an entry is deleted from the database.

3. Click **Search** to search the Audit Log for entries matching your search criteria.
4. Select an entry in the search results to view the details of the Audit Log entry in the **Details** section.
5. You can accomplish the following tasks with the Audit Log search results:
   - To clear the search results, click **Clear**.
   - To export the search results to a spreadsheet, click **Export**.

Batch Deleting Patients

You can delete multiple unused patients from the Paceart System database. Unused patients are patients who do not have devices, encounters, or appointments associated with them.

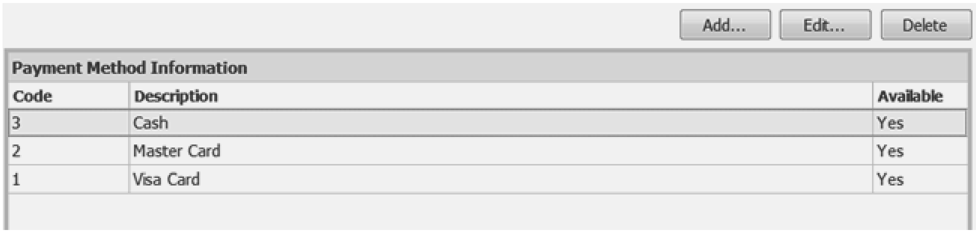
1. Click **Administration** > **Batch Delete**.
2. Click **Search** to find all unused patients in the Paceart System.
   All unused patients are displayed in the **Results** section.
3. Select the unused patients you want to delete in the search results or click **Select All** to select all unused patients.
4. Click **Delete**.
5. Click **Yes** to confirm the deletion of the selected patients from the Paceart System database.

Configuring Billing Payment Methods

The Paceart System assists clinics in charging and billing management by providing clinicians with the ability to document, print, and export billing information related to patient encounters. You can add and edit billing payment types that can be recorded in patient encounters.

Setting up payment methods is a clinic administration function. Use the Encyclopedia to add and edit billing codes, such as charge codes and CPT codes.

The **Payment Method Information** window allows you to add and edit payment method codes and descriptions, for example VISA.



Adding or editing a payment method

You can add or edit payment methods to the Paceart System for patient encounters using the **Administration: Billing** window.

1. Click **Administration** > **Billing**.
2. Determine which action to take.
   - To add a payment method, click **Add**.
   - To edit a payment method, click **Edit**.

3. Enter the payment method code in the **Code** field. This field is required.
4. Enter a description of the payment method in the **Description** field. This field is required.
5. If the payment method is available for billing, select the **Available** checkbox.
6. Click **Save**.

The entry is displayed in the **Payment Method Information** section.

Field and button definitions for the Add or Edit Payment Method dialog boxes

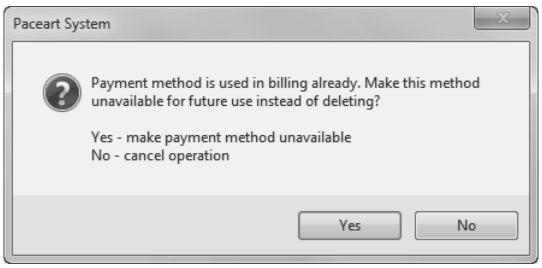
This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Code:	The payment method code. Required field.
*Description:	The name of the payment method, for example, VISA. Required field.
Available	Indicates if the payment method is available to apply to bills.

Deleting a payment method

You can delete payment methods from the Paceart System for patient encounters using the **Administration: Billing** window.

1. Click **Administration** > **Billing**.
2. Select the payment method you want to delete.
3. Click **Delete**.
4. Determine which action to take.
   - If the payment method is not already used in billing, click **Yes** on the confirmation message dialog box.
   - If the payment method is already used in billing, click **Yes** to make it unavailable for future billing.



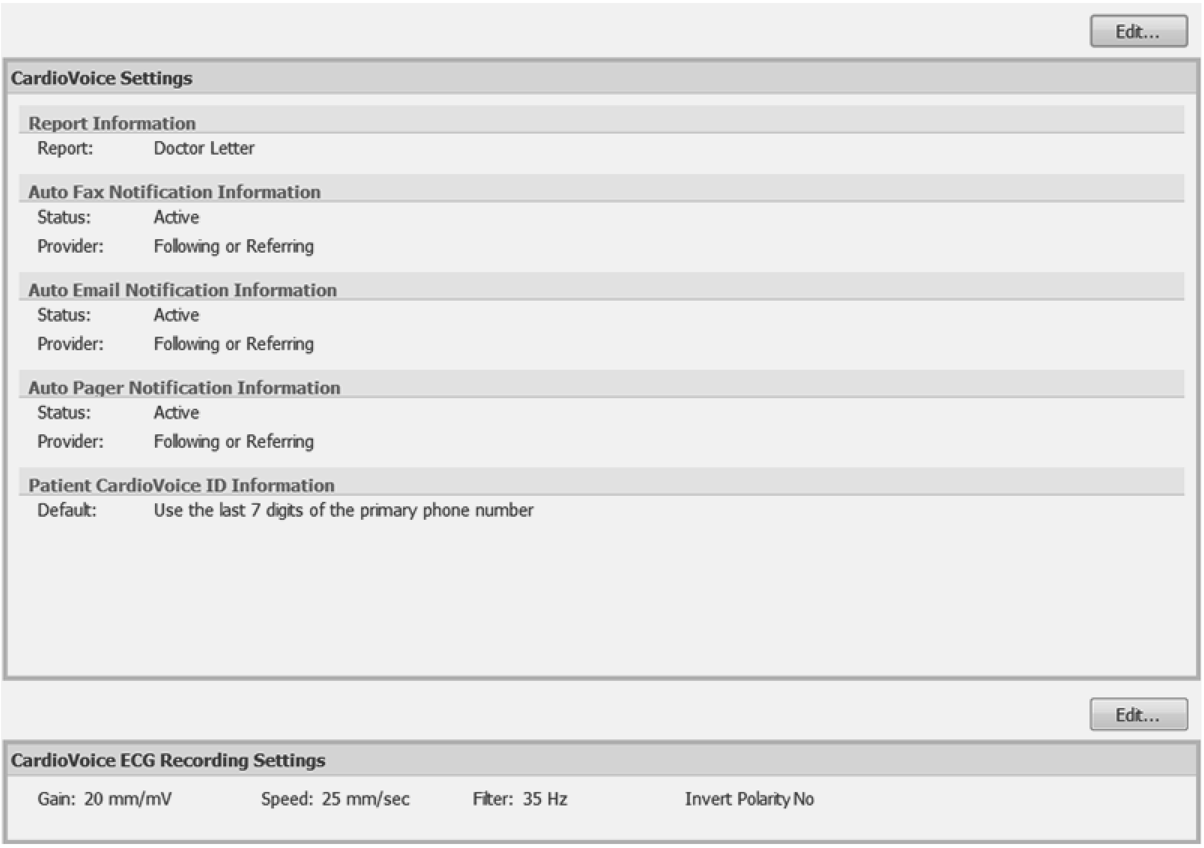
If the payment method is not already used in billing, the entry is removed from the **Payment Method Information** section. If the payment method is already used in billing, it is no longer available to assign to billing.

Configuring CardioVoice Settings

The CardioVoice TTM Assistant system allows patients and doctors to communicate information about cardiac events through an automated voice response system.

The CardioVoice TTM Assistant can be configured to automatically fax, page, or e-mail a physician when a patient calls into the CardioVoice system. These external notifications alert physicians that new data is waiting in their Paceart System, and in the case of faxing and emailing, send the data directly to the physician.

You can configure ECG recording settings for ECGs recorded using CardioVoice.

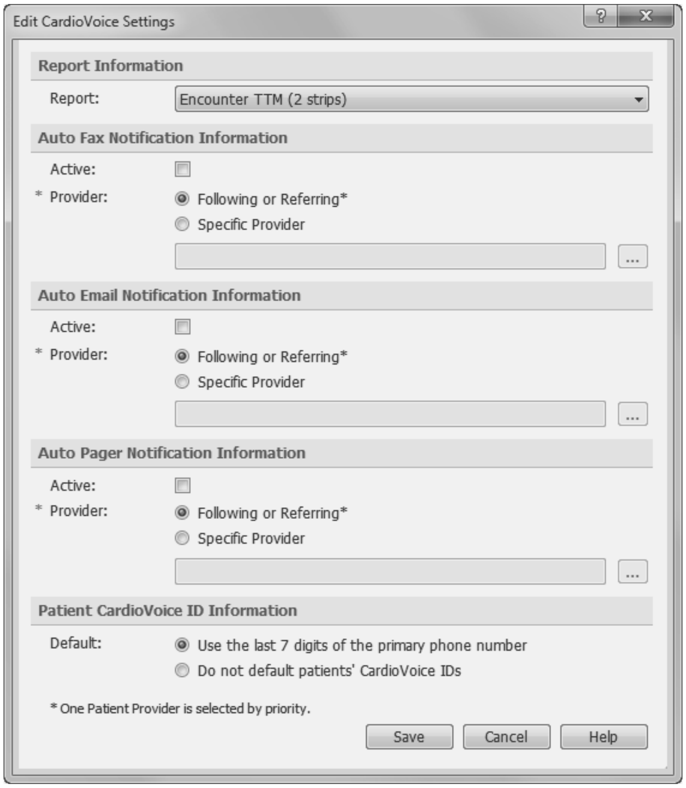


Editing CardioVoice Settings

The Paceart System can be configured to automatically fax, email, or page a physician when a patient calls into CardioVoice.

Before you can use the CardioVoice auto fax, auto email, or auto pager notifications you must have the messaging service installed on the application server and configured in **Administration: Messaging Service**.

1. Click **Administration** > **CardioVoice**.
2. Click **Edit**.



3. In the **Report Information** section, select which report is sent when a physician is sent a report through CardioVoice.
4. Select how you want CardioVoice to notify the provider. Select the **Active** check box for fax, email, and pager notification.
5. For each of the notification methods, choose which provider you would like to send the notification to.
   - Select **Following or Referring** to use the following or referring provider listed in the patient record. If a patient has more than one following or referring provider, the Paceart System selects one provider in the following order if they are specified for the patient:
     - Following
     - Referring 1
     - Referring 2
     - Referring 3
   - Select **Specific Provider** to choose a provider from the Encyclopedia.
6. In the **CardioVoice ID Information** section, choose the default CardioVoice ID information.
   - Select **Use the last 7 digits of the primary phone number** to assign a CardioVoice ID to a patient automatically.
   - Select **Do not default patients' CardioVoice IDs**.
7. Click **Save**.

The updated CardioVoice information is displayed in the **Administration: CardioVoice** window.

Field and button definitions for the Edit CardioVoice Settings dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Report	Allows you to specify which report will be sent when a physician requests a report through CardioVoice.
Auto Fax Notification Information Active	When checked indicates that the auto fax notification is active.
Following or Referring	When selected indicates that the following or referring provider listed in the patient record will be notified.
Specific Provider	When selected indicates that the provider in the field below will be notified.
Specific Provider field	Click the [...] button to specify a provider.
Auto Email Notification Information Active	When checked indicates that the auto email notification is active.
Auto Pager Notification Information Active	When checked indicates that the auto pager notification is active.
Use the last 7 digits of the primary phone number radio button	When selected the Patient's CardioVoice ID will be assigned automatically and be the last seven digits of the patient's primary phone number.
Do not default patients' CardioVoice IDs	When selected CardioVoice IDs are not automatically assigned.

Field and button definitions for the Edit CardioVoice ECG Settings dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Gain	The selected Gain setting in mm/mV. Gain is used to increase or decrease the amplitude of an ECG signal.
Filter	The selected Filter setting in Hz. Filtering is used to eliminate "noise" on the ECG display.
Speed	The selected Speed setting in mm/sec. The strip speed indicates the horizontal scale of the ECG strip.
Invert Polarity:	Indicates if the polarity should be inverted.

Configuring Connectivity

You can configure how the Paceart System interacts with information from external systems using the **Administration: Connectivity Management** window.

Patient Matching Configuration tab

When you import patient information into the Paceart System from an external system, patient matching is based on the Patient ID. If you want an additional level of patient matching, you can specify which patient demographics must match in addition to the Patient ID in the **Verify Patient Match Configuration** section. A patient must match at least one of the selected demographics for a successful patient match.

If the system cannot match patient information using the Patient ID, you can choose to match patients based on demographic information. You can specify which demographics in the **Demographics Only Match Configuration** section. A patient must match all of the selected demographics for a successful patient match.

Scheduling Integration tab

You can set CareLink scheduling integration as active or inactive. You can also view and delete appointment requests. In order to activate CareLink scheduling to integrate with the Paceart System scheduling, additional setup is required. For more information, refer to the *Mainspring Data Express Connectivity Guide*.

Remote Encounter Acquisition tab

You can set CareLink remote encounter acquisition as active or inactive, or set up remote encounters for nightly acquisitions. You can also view and delete encounter import requests. In order for CareLink to integrate with the Paceart System to acquire remote encounters, additional setup is required. For more information, refer to the *Mainspring Data Express Connectivity Guide*.

Encounter Import tab

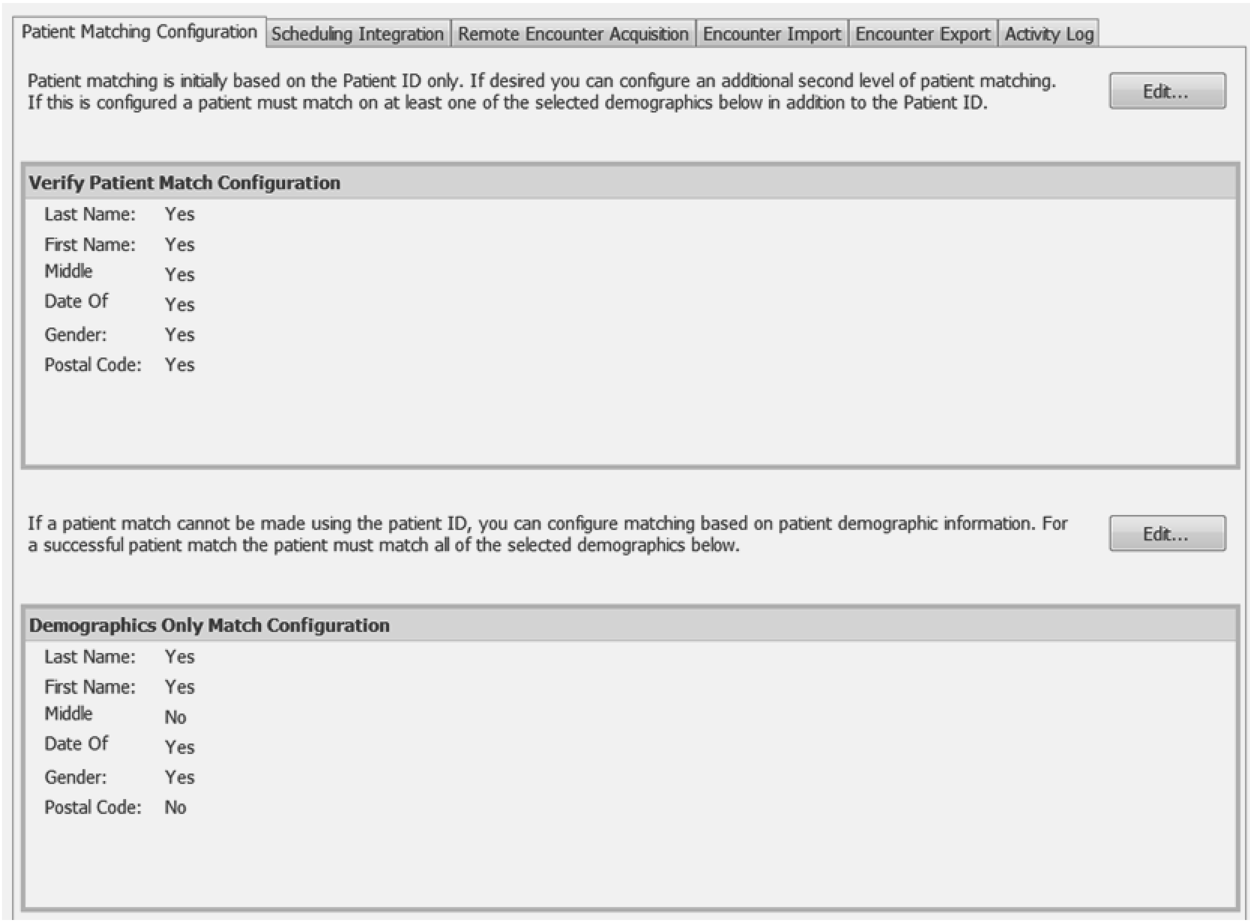
You can view inbound encounter import requests, view the status of the Encounter Import Queue processor and restart it if necessary, and save encounter import request data to a file.

Encounter Export tab

You can configure how to export encounters with optional PDF reports and attachments, set encounter export as active or inactive, and view or delete XML export requests. In order to export HL7 encounters with the Paceart System, additional setup is required. For more information, refer to the *Mainspring Data Express Connectivity Guide*.

Activity Log tab

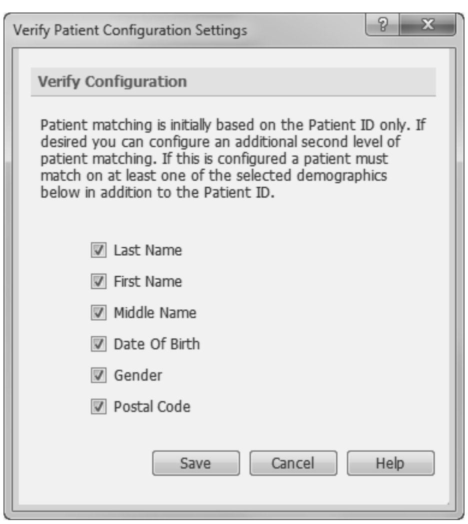
You can edit how long records are retained in the Activity Log.



Editing Verify Patient Match Configuration Settings

You can select patient demographics for additional patient matching criteria in addition to the Patient ID. A patient must match at least one of the selected demographics for a successful patient match.

1. Click **Administration** > **Connectivity Management** > **Patient Matching Configuration**.
2. In the **Verify Patient Match Configuration** section, click **Edit**.



3. Select the demographics you want for patient matching in addition to the Patient ID.

4. Click **Save**.

Field and button definitions for the Verify Patient Configuration Settings dialog box

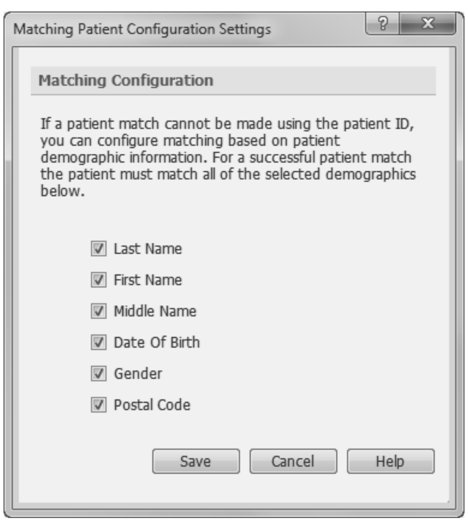
This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Last Name:	The patient's last name.
First Name:	The patient's first given name (e.g. primary forename or primary personal name).
Middle Name:	The patient's middle name.
Date of Birth:	The patient's date of birth.
Gender:	The patient's gender. The value must be one of the following values: Male, Female, Other.
Zip/Postal Code:	The zip or postal code associated with the patient's street address.

Editing Demographics Only Match Configuration Settings

You can select patient demographics for patient matching criteria if a patient match cannot be made using the patient ID. A patient must match all of the selected demographics for a successful patient match.

1. Click **Administration** > **Connectivity Management** > **Patient Matching Configuration**.



2. In the **Demographics Only Match Configuration** section, click **Edit**.
3. Select the demographics you want for patient matching.
4. Click **Save**.

Field and button definitions for the Matching Patient Configuration Settings dialog box

This is a list of fields and buttons and their definitions.

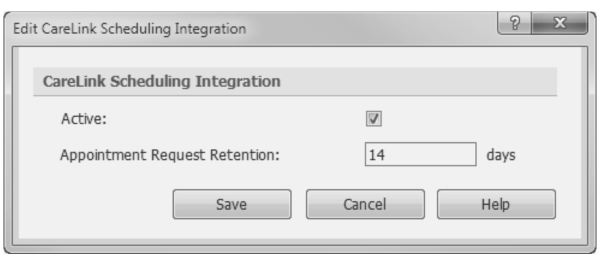
Dialog box fields and buttons	Field and button definitions
Last Name:	The patient's last name.
First Name:	The patient's first given name (e.g. primary forename or primary personal name).
Middle Name:	The patient's middle name.
Date of Birth:	The patient's date of birth.
Gender:	The patient's gender. The value must be one of the following values: Male, Female, Other.
Zip/Postal Code:	The zip or postal code associated with the patient's street address.

Activating CareLink Scheduling Integration

You can activate CareLink scheduling to integrate with the Paceart System scheduling.

In order to activate CareLink scheduling to integrate with the Paceart System scheduling, additional setup is required. For more information, refer to the *Mainspring Data Express Connectivity Guide*.

1. Click **Administration** > **Connectivity Management** > **Scheduling Integration**.
2. Click **Edit**.



3. Select the **Active** checkbox to activate CareLink scheduling integration.
4. Enter the number of days to retain appointment request data in the **Appointment Request Retention** box.

   The Paceart System retains appointment request data for the retention period you select here. When this retention period expires, appointment requests with a status of Completed or Error are deleted.
5. Click **Save**.

Field and button definitions for the CareLink Scheduling Integration dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Active	Indicates if CareLink Scheduling Integration is active.

Dialog box fields and buttons	Field and button definitions
Appointment Request Retention	The length of time to retain appointment request data. When this retention period expires, the Paceart System deletes appointment requests with a status of Completed or Error.

Deleting Appointment Requests

The Paceart System automatically deletes appointment requests with a status of Completed or Error that are older than the retention period. You can also delete appointment requests from the Paceart System scheduling integration with external systems manually, if needed.

When deleting Appointment Request records, ensure that the request status has a value of **Completed**. If the request status has a value of **Processing**, an external system may still be working with the request. If the request status continues to display **Processing** for an extended time, there may be an error and the request cannot be processed. Contact Paceart System support to assist in the investigation of the logs and troubleshooting Connectivity services.

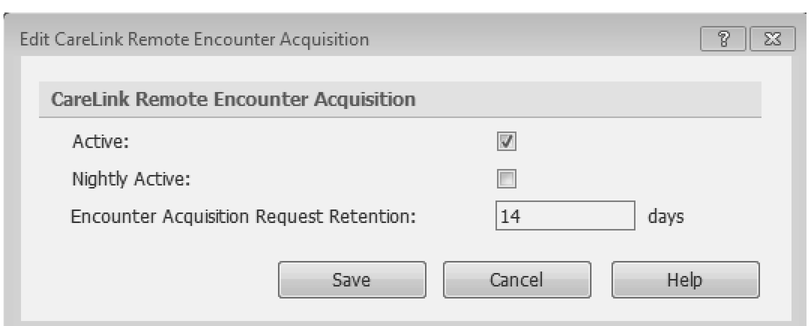
1. Click **Administration** > **Connectivity Management** > **Scheduling Integration**.
2. To get the latest list of appointment requests, click **Refresh**.
3. Select the appointment requests that you want to delete in the **Appointment Requests** section. You can select multiple requests by holding the CTRL key and you can select a range of requests by holding the SHIFT key.
4. Click **Delete**.
5. Click **Yes** to confirm the deletion.

Activating CareLink Remote Encounter Acquisition

You can activate CareLink to integrate with the Paceart System to acquire remote encounters, choose when the encounters are acquired, and specify the length of time to retain remote encounter acquisition request data.

For CareLink to integrate with the Paceart System to acquire remote encounters, additional setup is required. For more information, refer to the *Mainspring Data Express Connectivity Guide*.

1. Click **Administration** > **Connectivity Management** > **Remote Encounter Acquisition**.
2. Click **Edit**.



3. Select the **Active** check box to activate CareLink remote encounter acquisition.
4. Select the **Nightly Active** check box if you want to run the remote encounter acquisition nightly.
5. Enter the number of days to retain remote encounter acquisition request data in the **Encounter Acquisition Request Retention** box.

The Paceart System retains encounter import request data for the retention period you select here. When this retention period expires, import requests with a status of Completed or Error are deleted.

6. Click **Save**.

Field and button definitions for the CareLink Remote Encounter Acquisition dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Active	Indicates if CareLink Remote Encounter Acquisition is active.
Nightly Active	Indicates if CareLink Remote Encounter Acquisition is performing nightly acquisitions.
Encounter Acquisition Request Retention	The length of time to retain remote encounter acquisition request data. When this retention period expires, the Paceart System deletes encounter acquisition requests with a status of Completed or Error.

Deleting Remote Encounter Acquisition Requests

The Paceart System automatically deletes encounter acquisition requests with a status of Completed or Error that are older than the retention period. You can also delete encounter acquisition requests from the Paceart System remote encounter acquisitions manually, if needed.

When deleting Encounter Acquisition Request records, ensure that the request status has a value of **Completed**. If the request status has a value of **Processing**, an external system may still be working with the request. If the request status continues to display **Processing** for an extended time, there may be an error and the request cannot be processed. Contact Paceart System support to assist in the investigation of the logs and troubleshooting Connectivity services.

1. Click **Administration** > **Connectivity Management** > **Remote Encounter Acquisition**.
2. To get the latest list of encounter import requests, click **Refresh**.
3. Select the import requests that you want to delete in the **Remote Encounter Acquisition Requests** section. You can select multiple requests by holding the CTRL key and you can select a range of requests by holding the SHIFT key.
4. Click **Delete**.
5. Click **Yes** to confirm the deletion.

Viewing the Encounter Import Queue

You can view inbound encounter import requests, refresh the list or restart the queue processor, and save encounter request data to a file. For more information about a specific encounter, refer to the Activity Log.

1. Click **Administration** > **Connectivity Management** > **Encounter Import**.

   The tab displays the list of inbound encounter requests in the Encounter Import Queue along with the queue processing status: processing, waiting, or stopped.

2. Determine what action to take.

   - If the queue processor is stopped, click **Restart** to start it.

- To get the latest list of encounter import requests, click **Refresh**.

Saving encounter import request data to a file

You can save encounter import request data to a local or networked drive.

1. Click **Administration** > **Connectivity Management** > **Encounter Import**.
2. Select the encounter from the list under **Inbound Encounters**.
3. Click **Save To Disk**.
   The Save As dialog box opens.
4. Navigate to the folder in which you want to store the file, then click **Save**.

Editing Encounter Request Retention

You can edit how long the Paceart System retains encounter requests in the activity log. Activity Log items, including items that have a status of Pending, are removed from the Activity Log when they reach the maximum length of retention.

1. Click **Administration** > **Connectivity Management** > **Encounter Import**.
2. Click **Edit**.
3. Enter the number of days to retain activity log data in **Encounter Request Retention**.
4. Click **Save**.

Field and button definitions for the Edit Encounter Request Retention dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Encounter Request Retention	The number of days encounter requests will be retained in the Encounter Request Queue.

Editing Encounter Export Request Retention

You can edit how long the Paceart System retains encounter requests in the activity log. Activity Log items, including items that have a status of Pending, are removed from the Activity Log when they reach the maximum length of retention.

1. Click **Administration** > **Connectivity Management** > **Encounter Export**.
2. Click **Edit**.
3. Enter the number of days to retain export request data in the **Edit Encounter Request Retention** box.

   The Paceart System retains HL7 export request data for the retention period you select here. When this retention period expires, export requests with a status of Completed or Error are deleted.
4. Click **Save**.

Field and button definitions for the Edit Encounter Export Request Retention dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Encounter Request Retention	The number of days encounter requests will be retained in the Encounter Request Queue.

Deleting XML Export Requests

The Paceart System automatically deletes export requests with a status of Completed or Error that are older than the retention period. You can also manually delete encounter XML export requests from the Paceart System as needed.

When deleting Export Request records, ensure that the request status has a value of **Completed**. If the request status has a value of **Processing**, an external system may still be working with the request. If the request status continues to display **Processing** for an extended time, there may be an error and the request cannot be processed. Contact Paceart System support to assist in the investigation of the logs and troubleshooting Connectivity services.

1. Click **Administration** > **Connectivity Management** > **Encounter Export**.
2. To get the latest list of XML export requests, click **Refresh**.
3. Select the export requests you want to delete in the **Export Requests** section. You can select multiple requests by holding the CTRL key and you can select a range of requests by holding the SHIFT key.
4. Click **Delete**.
5. Click **Yes** to confirm the deletion.

Configuring Demographics

You can add new or edit existing locations of care, patient ID types, and patient code types using the Demographics window. These changes automatically show up in the selection lists when you add demographic information to a patient record.

Location of Care Tab

Locations of care are usually hospitals and clinics that are associated with a patient or provider. Clinic scheduling is based on the location of care.

Location of care allows multiple clinical locations to share the Paceart System database while isolating certain types of information. All patients are assigned a location of care and clinic scheduling is based on location.

Having a primary arrhythmia or device-related clinic location of care assigned to each patient allows you to search for patients, generate reports, and export data based on patients in a particular clinic location. The locations of care can be organized in a hierarchy with up to three levels with the highest level of the organization on top. Each location is associated to the level directly above it.

Location of care can also be used to describe the location for an appointment or the location for an encounter. You can also use this window to:

- Set the default country for a location of care
- View details about the location such as the address and contact person on the **Details** tab.
- See a list of patients who receive medical care at this location on the **Related Patients** tab.

Patient ID Type Tab

The patient ID type allows you to define multiple categories for tracking different patient IDs used by a clinic. The ID type and value combination uniquely identifies a single patient in the Paceart System. Patient ID values must be unique or blank for each Patient ID Type.

With the addition of patient ID types, patient IDs are a combination of a patient ID type and a patient ID value. This feature allows a clinic to have multiple unique IDs for a single patient. The Paceart System validates that patient ID values are unique for each patient ID type. The primary ID type is used whenever a single patient ID is displayed, such as the **Patient Information** tab and on reports.

You can have a maximum of twenty ID types. The ID type at the top of the list is automatically designated as the primary type. You can have only one primary ID type, but you can change the primary type at any time by moving a different ID type to the top of the list.

Each ID type must have a unique name. Two ID types are automatically added when the Paceart System is installed, Default and Paceart.

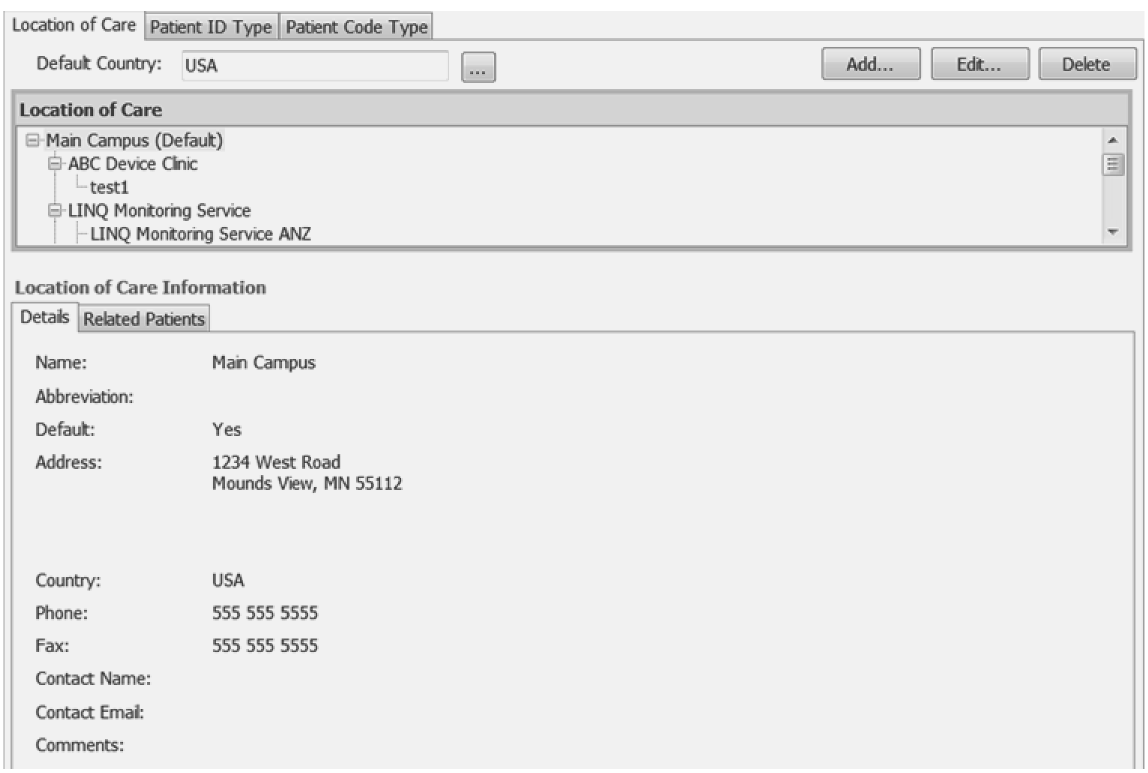
The **Default** patient ID type is initially designated as the primary patient ID type, and it corresponds to the current patient ID in the Paceart System. Both the ID name and primary designation can be changed.

The **Paceart** patient ID type contains a number that is either automatically assigned by the system when the patient is added to the database or is imported from the **Patient #** field from previous versions of the Paceart System. This ID type cannot be renamed or deleted.

Patient Code Type Tab

Code types are used for various purposes within a clinic. For example, you can enter a code into a patient's record to associate that patient with a particular clinic or specific clinical trial. Within a clinic, a code type can be assigned an alphanumeric code identifier of up to 6 characters.

The Paceart System has four code types initially designated as Code 1, Code 2, Code 3, and Code 4. You can change the code description from this tab.



Setting the default country for a location of care

You can set the default country for adding new locations of care in the Paceart System.

1. Click **Administration** > **Demographics** > **Location of Care**.
2. Click the **[...]** button next to the **Default Country** field.

   The **Default Country** window is displayed.
3. In the **Default Country** list, click the default country of your choice.
4. Click **Select**.

The selected country is the default country for all new locations of care.

Field and button definitions for the Default Country dialog box

This is a list of fields and buttons and their definitions.

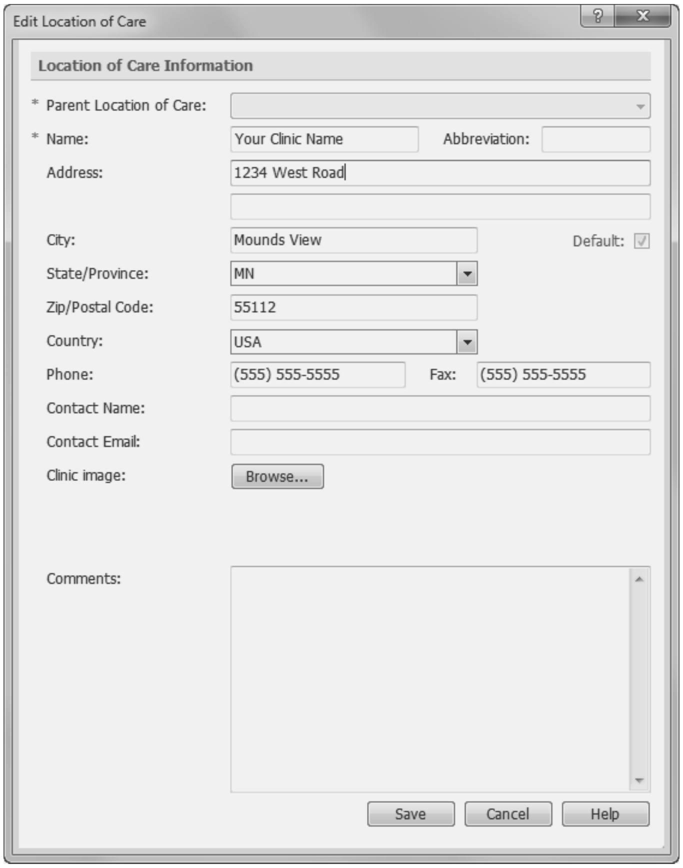
Dialog box fields and buttons	Field and button definitions
Default Country:	The default country for the location of care.

Adding or editing a Location of Care

You can add or edit a location of care in the Paceart System. Locations of care enable multiple clinical locations to share the Paceart System database while isolating certain types of information.

Each patient is assigned a location of care which is the basis of their clinic scheduling. A location of care can also be used as search criteria. To create a hierarchy, add the highest-level location first.

1. Click **Administration** > **Demographics** > **Location of Care**.
2. Determine which action to take.
   - To add a location of care, click **Add**.
   - To edit a location of care, click **Edit**.



3. Select a **Parent Location of Care** from the drop-down list. The default parent location supplied by Medtronic is called **Default Location**.
4. Enter a name for the location of care.
5. Enter other relevant information for the location of care such as address, phone number, fax number, contact name, and contact email address.
6. Determine which action to take.
   - To add a clinic image, click **Browse** next to the **Clinic image** field and navigate to the image. The image cannot be more than 750 pixels wide or 240 pixels high. The Paceart System allows the following image formats: .bmp, .jpg, .gif, and .png. Reports can be configured to use this image in the report heading.
   - To remove an existing clinic image, click **Remove** next to the image.
7. Click **Save**.

You must restart the Paceart System before you can use the new location of care.

When a new location of care is created, the open hours for the location of care are created automatically. Open hours can be set from the **Administration: Schedule** section.

Field and button definitions for the Add or Edit Location of Care dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Parent Location of Care:	Defines the parent clinic for the new location of care. The parent location of care describes the highest level of clinic within your organization, for example main office versus satellite clinics. Required field.

Dialog box fields and buttons	Field and button definitions
*Name:	The name for the location of care. Required field.
Abbreviation:	The abbreviation for the location of care.
Address:	The first line of the location of care address.
Address:	The second line of the location of care address.
Default: (checkbox)	Indicates the default clinic when adding a new patient.
City:	The city for the location of care.
State/Province:	The state or province for the location of care.
Zip/Postal Code:	The zip or postal code for the location of care.
Country:	The country for the location of care.
Phone:	The phone number for the location of care.
Contact Name:	The name of the contact person for the location care.
Contact Email:	The contact person's email address for the location of care.
Clinic image:	The clinic image for this location of care. The image should be no more than 750 pixels wide and 240 pixels high.
Browse...	Opens a browse dialog and allows you to select a clinic image for this location of care.
Remove	Removes the clinic image for this location of care.
Comments:	Miscellaneous comments.

Viewing a list of patients related to a Location of Care

You can view all the patients receiving care at a specific medical care location (such as a hospital or clinic) in the Paceart System database.

You can also view patients related to a location of care on the **Search** tab in the Paceart System.

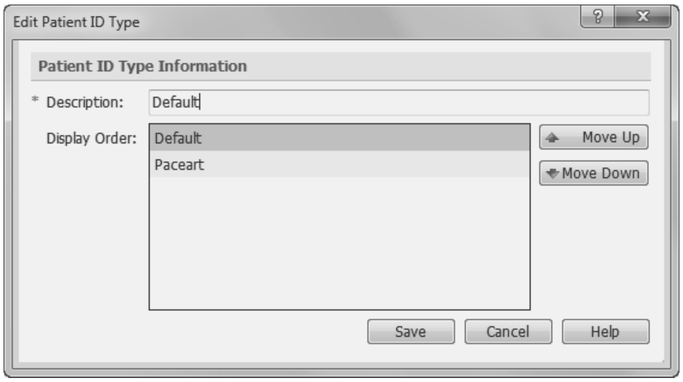
1. Click **Administration** > **Demographics** > **Location of Care**.
2. Select a location in the **Location of Care** section.
3. Click the **Related Patients** tab in the **Location of Care Information** section.

The patients associated to that location of care are displayed in the **Results** list.

Adding or Editing a Patient ID Type

You can set up information about patient ID and code types. The combination of a patient ID and type uniquely identifies a patient in the Paceart System.

1. Click **Administration** > **Demographics** > **Patient ID Type**.
2. Determine which action to take.
   - To add a patient ID type, click **Add**.
   - To edit a patient ID type, click **Edit**.



3. Enter the name of the patient ID type in the **Description** field.
4. If necessary, click the arrows to change the display order of patient ID types. The first patient ID type listed in the **Display Order** field is the primary patient ID type. The primary patient ID will be the ID that is shown on select reports and shown on the Patient Information tab.
5. Click **Save**.

Field and button definitions for the Add or Edit Patient ID Type dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Description:	The name for the patient ID type. Required field.
Display Order	The order that the patient ID types are displayed in the list. You can change the order using the up and down arrow buttons. The first patient ID type listed is the primary patient ID type.
Move Up	Moves the selected item up in the list box.
Move Down	Moves the selected item down in the list box.

Deleting a Patient ID Type

You can delete patient ID types from the Paceart System. The combination of a patient ID and type uniquely identifies a patient in the Paceart System.

You cannot delete the **Paceart** ID type.

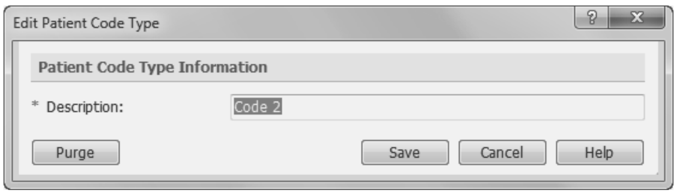
1. Click **Administration** > **Demographics** > **Patient ID Type**.

2. Select the patient ID type you want to delete in the **Patient ID Type Information** section.
3. Click **Delete**.
4. Click **Yes** to confirm the deletion.

Editing a Patient Code Type

You can set up information about patient ID and code types.

1. Click **Administration** > **Demographics** > **Patient Code Type**.
2. Select the code type you want to edit in the **Patient Code Type Information** section and click **Edit**.



3. Edit the **Description** field and click **Save**.

The code description is changed in all Paceart System patient records.

Field and button definitions for the Edit Patient Code Type dialog box

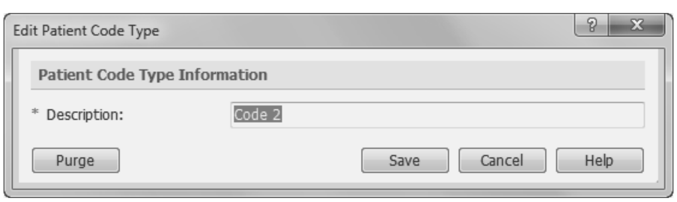
This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Description:	The name for the patient code. Required field.
Purge	Removes the patient code from all related patients in the Paceart System database.

Deleting a Patient Code Type

You can remove patient code types from all related patients in the Paceart System database.

1. Click **Administration** > **Demographics** > **Patient Code Type**.
2. Select the patient code type you want to delete in the **Patient Code Type Information** section.
3. Click **Edit**.



4. On the **Edit Patient Code Type** window, click **Purge**.
5. Click **Yes** to confirm the deletion.

The code description is removed from the Paceart System database and all related patients that used the code.

Field and button definitions for the Edit Patient Code Type dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Description:	The name for the patient code. Required field.
Purge	Removes the patient code from all related patients in the Paceart System database.

Configuring Encounter Export Settings

Paceart Encounter Export is an optional add-on component to the Paceart System. It allows you to export data files from your Paceart System.

You can use exported data files in your integration projects to connect your Paceart System with other computer systems, including Hospital Information Systems (HIS) and Electronic Medical Record (EMR) systems.

In addition, you can configure how Paceart exports encounter information and optionally choose whether to include a Paceart System PDF report and attachments with the encounters.

XML Export tab

XML Export is an optional add-on component to the Paceart System. You can set XML Export as active or inactive, as well as configure other settings related to XML Export.

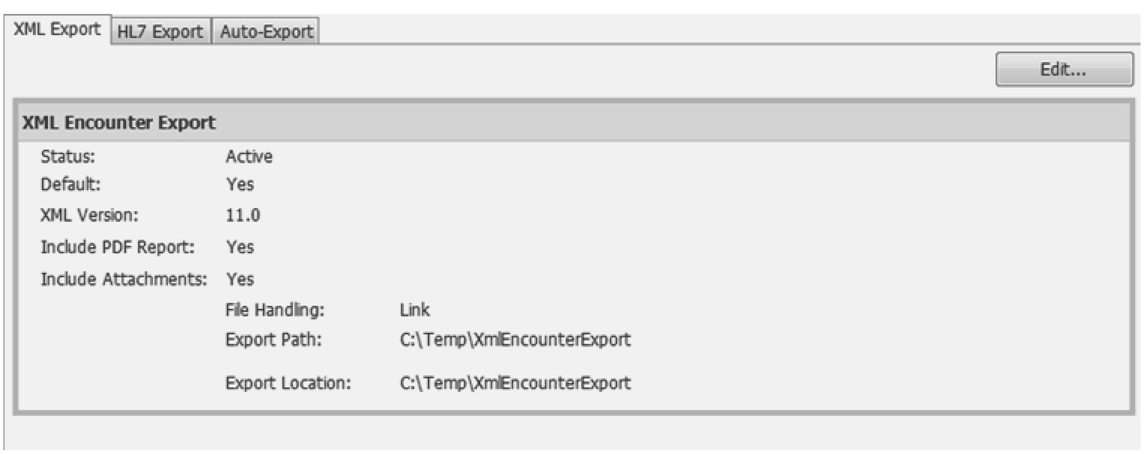
XML Export exports all data related to an encounter in an XML document. The XML conforms to the Paceart XML Schema Definition (XSD).

HL7 Export tab

HL7 Export is an optional add-on component to the Paceart System. You can set HL7 Export as active or inactive, as well as configure other settings related to HL7 Export. To activate HL7 Export, additional setup is required. For more information, see the *Mainspring Data Express Connectivity Guide.*

Auto-Export tab

You can set HL7 Export to happen automatically when an encounter is locked or signed.



Editing XML Encounter Export

You can configure how to export XML encounters and choose whether to include PDF reports and attachments with the encounters.

XML Export must be enabled by your license key to configure XML encounter export.

1. Click **Administration** > **Encounter Export** > **XML Export**.
2. Click **Edit**.
3. To enable XML Encounter Export, select the **Enabled** check box.
4. To set XML encounter export as the default method for exporting encounters, select the **Default** check box.
5. Choose which version of the Paceart XML schema to use for exporting the encounters from the **XML Version** drop-down list. The highest number indicates the latest XML version.
6. Enter the export path for exported encounters in the **Path** box. The export path is the physical file system path on the server.
7. To include a PDF report with exported encounters, select **Yes** next to **Include PDF Report**. The reports included for each type of encounter and device are controlled by the selections on the **Default Encounter Report** tab in **Administration** > **Reports**.
8. To include attachments with exported encounters, select **Yes** next to **Include Attachments**.
9. If you chose to include PDF reports or attachments with exported encounters, choose how you want to handle the files from the **File Handling** options.
   - To embed reports and attachments with the encounters, select **Embed**.
   - To link to reports and attachments, select **Link**.
10. If you chose to link reports and attachments with exported encounters, enter the export location in the **Location** box. The location is the URL that is placed in the XML file for linked Paceart System reports and attachments.
11. Click **Save**.

Field and button definitions for the Edit Encounter Export - XML dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Enabled:	When checked indicates that XML Encounter Export is enabled.
Default:	When checked indicates that this is the default method for exporting encounters.
XML Version:	Allows you to choose which version of the Paceart XML schema to use for exporting encounters in XML format.
Include PDF Report:	Select whether to include a PDF report with the encounter export. The report that is included for each encounter and device type is controlled by the Default Encounter Report settings.
Include Attachments:	Select whether to include attachments with the encounter export.

Dialog box fields and buttons	Field and button definitions
File Handling:	Select whether to embed or link to attachments for the encounter export.
Path:	The file path for PDF reports and attachments to the encounter export. The export path is the physical file system path on the server.
Location:	If you choose to link reports and attachments with exported encounters, enter the location of PDF reports and attachments to the encounter export. The location is the URL that is placed in the export file for attachments and linked Paceart System reports.

Editing HL7 Encounter Export

You can configure how to export HL7 encounters and choose whether to include PDF reports and attachments with the encounters.

HL7 Integration must be enabled by your license key to configure HL7 encounter export.

To export HL7 encounters with the Paceart System, additional setup is required. For more information, refer to the *Mainspring Data Express Connectivity Guide*.

1. Click **Administration** > **Encounter Export** > **HL7 Export**.
2. Click **Edit**.

3. To enable HL7 Encounter Export, select the **Enabled** check box.
4. To set HL7 encounter export as the default method for exporting encounters, select the **Default** check box.

5. To include a PDF report with exported encounters, select **Yes** next to **Include PDF Report**. The reports included for each type of encounter and device are controlled by the selections on the **Default Encounter Report** tab in **Administration** > **Reports**.
6. To include attachments with exported encounters, select **Yes** next to **Include Attachments**.
7. If you chose to include PDF reports or attachments with exported encounters, choose how you want to handle the files from the **File Handling** options.
   - To embed PDF reports or attachments with the encounters, select **Embed**.
   - To link to PDF reports or attachments, select **Link**.
8. If you chose to link PDF reports or attachments with exported encounters, enter the export path in the **Path** box. The export path is the physical file system or network path on the server.
9. If you chose to link PDF reports or attachments with exported encounters, enter the export location in the **Location** box. The location is the URL or network path that is placed in the XML file and HL7 message for attachments and linked Paceart System reports.
10. Click **Save**.

Field and button definitions for the Edit Encounter Export - HL7 dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Enabled:	When checked indicates that HL7 Encounter Export is enabled.
Default:	When checked indicates that this is the default method for exporting encounters.
Include PDF Report:	Select whether to include a PDF report with the encounter export. The report that is included for each encounter and device type is controlled by the Default Encounter Report settings.
Include Attachments:	Select whether to include attachments with the encounter export.
File Handling:	Select whether to embed or link to PDF reports or attachments for the encounter export.
Path:	The file path for PDF reports or attachments for the encounter export. The export path is the physical file system path on the server.
Location:	The location of PDF reports or attachments for the encounter export. The location is the URL that is placed in the XML file and HL7 message for attachments and linked Paceart System reports.

Editing Encounter Auto-Export

You can configure whether to automatically export encounter data when encounter tasks are completed.

1. Click **Administration** > **Encounter Export** > **Auto-Export**.
2. Click **Edit**.
3. In the **Edit Encounter Auto-Export** dialog box, select **Automatic HL7 Export** if you want to have encounter data exported automatically when encounters are completed.
4. Click **Save**.

Field and button definitions for the Edit Encounter Auto-Export dialog box

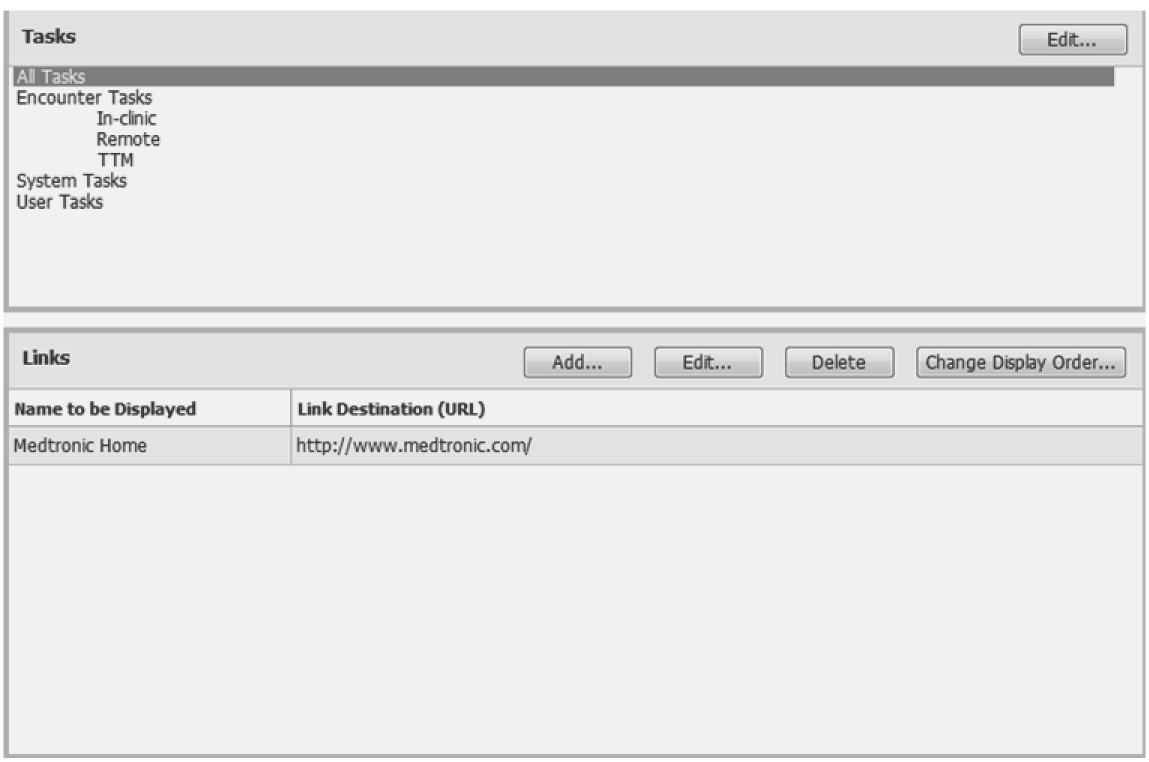
This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Automatic HL7 Export	When selected indicates encounters are exported automatically when tasks are completed.

Configuring the Paceart System Home Tab

You can customize what users see on the **Home** tab when using your Paceart System.

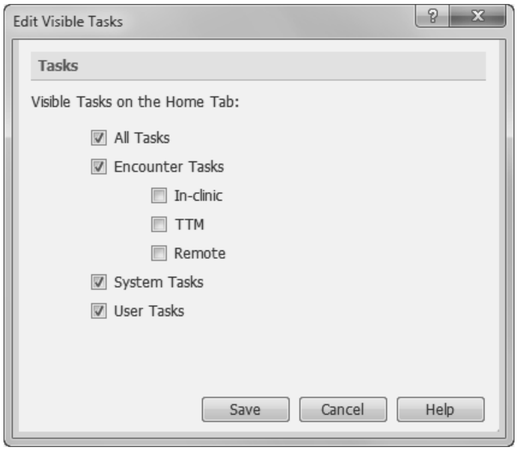
Use the **Administration: Home** window to choose the links and the type of tasks that are displayed for your clinic on the **Home** tab.



Editing Visible Tasks

You can select which type of tasks are displayed for your clinic on the **Home** tab of the Paceart System.

1. Click **Administration** > **Home**.
2. In the **Tasks** section, click **Edit**.



3. In the **Edit Visible Tasks** dialog box, select the types of tasks you want to see on the **Home tab**.
4. Click **Save**.
   The count of each type of task you selected for your clinic are displayed on the **Home** tab.

Field and button definitions for the Edit Visible Tasks dialog box

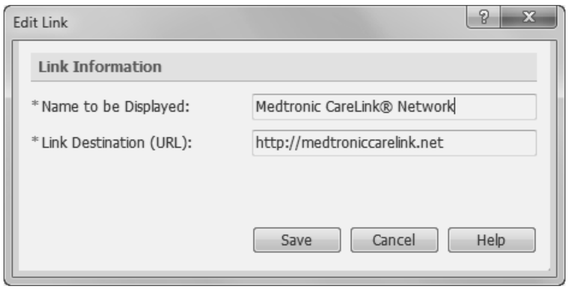
This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
All Tasks	When checked indicates that the count of all Encounter, System, and User tasks are visible on the Home tab.
Encounter Tasks	When checked indicates that the count of Encounter tasks are visible on the Home tab.
In-clinic	When checked indicates that the count of In-clinic tasks are visible on the Home tab.
TTM	When checked indicates that the count of TTM tasks are visible on the Home tab.
Remote	When checked indicates that the count of Remote tasks are visible on the Home tab.
System Tasks	When checked indicates that the count of System tasks are visible on the Home tab.
User Tasks	When checked indicates that the count of User tasks are visible on the Home tab.

Adding or Editing Links on the Home Tab

You can update the links that are displayed for your clinic on the **Home** tab in the Paceart System.

1. Click **Administration** > **Home**.
2. Determine which action to take.
   - To add a link, click **Add**.
   - To edit an existing link, select the link in the **Links** section and click **Edit**.



3. Enter the name for the link in the **Name to be Displayed** field.
4. Enter the link's URL in the **Link Destination (URL)** field.
5. Click **Save**.
   The link is displayed in the **Links** section.

Field and button definitions for the Add or Edit Link dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Name to be Displayed:	The name of the link as you want it to appear on the Home tab. For example, Medtronic CareLink Network. Required field.
*Link Destination (URL):	The URL or web address of the link. For example, http://medtroniccarelink.net. Required field.

Deleting Links from the Home Tab

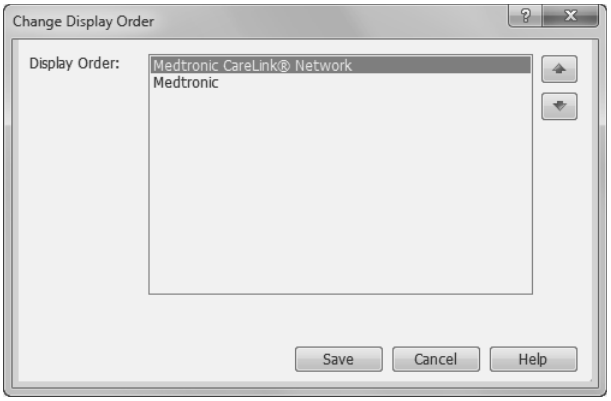
You can remove links that are displayed for your clinic on the **Home** tab in the Paceart System.

1. Click **Administration** > **Home**.
2. Select the link you want to delete in the **Links** section.
3. Click **Delete**.
4. Click **Yes** to confirm the deletion.
   The link is removed from the **Links** section and from your **Home** tab.

Changing the Order of Links on the Home Tab

You can arrange how links are displayed on the **Home** tab in the Paceart System.

1. Click **Administration** > **Home**.
2. In the **Links** section, click **Change Display Order**.



3. On the **Change Display Order** dialog box, click the arrows to arrange the links.
4. Click **Save**.
   The link order is displayed in the **Links** section and on your **Home** tab.

Field and button definitions for the Change Display Order dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Move Up	Moves the selected item up in the list box.
Move Down	Moves the selected item down in the list box.

Managing the Paceart System Licenses

You can view license usage and enter new license keys to activate certain Paceart System components.

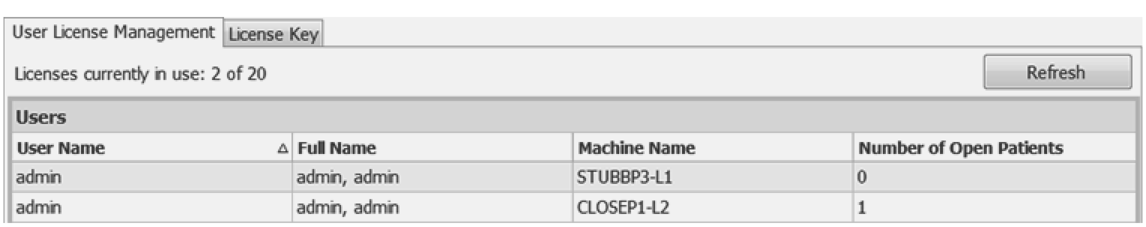
User License Management tab

You can view details about the number of licenses currently in use by users logged on to the system.

License Key tab

If you purchase additional Paceart Optima System components, you must enter a new license key to enable the new functionality.

You can view details about your current license key including the date the key was applied, the number of concurrent users, and which license options are enabled.



Viewing user license usage

You can view the number of licenses currently in use, the users who are logged on to the Paceart System and the number of patient records they have open, and the computers that are connected to the system.

If all available licenses are currently being used, the Paceart System displays an error message when the next user attempts to log on. License usage information is also written to the log file on the application server when the number of available licenses is exceeded.

1. Click **Administration** > **License Management** > **User License Management**.
2. To get the latest list of licenses in use, click **Refresh**.

Applying a license key

You can apply a license key in the Paceart System to enable new components that you have purchased.

1. Click **Administration** > **License Management** > **License Key**.
2. Enter the license key provided to you by Medtronic in the **License Key** field.
3. Enter the customer name provided to you by Medtronic in the **Customer Instance Name** field.
4. Click **Apply**.
   If the license key is valid, the details of your license key will display in the **Details** section. If the license key is not valid, you will receive an error message.
5. Confirm that the license information in the **Details** section is correct.

Viewing license expiration notifications

When there are 60 days or fewer remaining on the current Paceart Optima service contract, the Paceart System login screen displays the number of days left before the contract expires.

This initial 60 day countdown is displayed in black text. When the black countdown reaches 0, a second countdown begins in red text. The red countdown also begins at 60 and shows how many days are left in Medtronic's grace period. This grace period provides time for contract renewal and payment processing.

When the red countdown reaches 0 and the grace period expires, the effects on the Paceart System vary by software license type.

- Capital licenses apply to customers who have fully purchased Paceart Optima in a perpetual agreement. When the grace period has expired, there is no impact to application usability or performance for Capital customers. Paceart Optima will continue to function as normal, but users will not be able to contact Paceart Technical Services for support until the annual service contract has been renewed.
- Annual licenses apply to customers who subscribe to Paceart Optima as a service. When the grace period has expired, Paceart Optima will become read only with a single concurrent user license. Additionally, users will not be able to contact Paceart Technical Services for support until the annual service contract has been renewed.

Configuring Server and Client Logging

The Paceart Optima System logs client and server activity in separate log files. You can configure where the log files are stored and how the files are formatted.

The **Administration: Logging** window allows you to set up how client and server activity is logged in the Paceart System. The Paceart System logs the following server and client events:

- Exceptions not handled by the system
- Data updates without user intervention

- Starting the Paceart System application
- Exiting the Paceart System application
- Security events such as login attempts and password changes

You can set the location of the files, the maximum number of files to preserve, and the maximum size of the files. You can also format where and how each activity is logged.

Location of log file

You can specify where to store each type of log file on your computer.

Log line layout

You can enter the following parameters to format the log line layout:

- **%date**: The time and date of the logged event according to the operating system on which the system is running and the date pattern entered for that type of logging.
- **%level**: The level of the logged event. This parameter tells you if the Paceart System successfully completed the event or if there was an error.
- **%logger**: The Paceart System service attempting to complete the task.
- **%message**: The message returned from the Paceart System service.
- **%newline**: Enters a carriage return at the end of the log line so each logged event is on a different line.
- **%timestamp**: The number of milliseconds elapsed since the start of the application until the creation of the logging event.
- **%type**: The type name of the caller issuing the logging request.

For example, the default log line layout for client logging is %date [%-5level][%logger] %message %newline. Successfully exiting the Paceart System application would yield the following log file entry: 2011-01-12 04:10:09,766 [INFO][Paceart.Program]Application_ApplicationExit. INFO is the level of the event, Paceart.Program is the service used, and Application_ApplicationExit is the message returned from the service.

Format modifiers

You can add optional format modifiers to the log line layout with certain characters. One optional format modifier is the left justification flag, which is the minus (-) character followed by the optional minimum field width modifier. This modifier is a decimal constant that represents the minimum number of characters to output. If the data item requires fewer characters, it is padded on either the left or the right until the minimum width is reached. The default is to pad on the left (right justify) but you can specify right padding with the left justification flag. If the data item is larger than the minimum field width, the field is expanded to accommodate the data. The value is never truncated.

This behavior can be changed using the maximum field width modifier, which is designated by a period followed by a decimal constant. If the data item is longer than the maximum field, then the extra characters are removed from the beginning of the data item. For example, if the maximum field width is eight and the data item is ten characters long, then the first two characters of the data item are dropped.

The following table describes format modifier examples for the log line layout.

Format modifier	Left justify?	Minimum width	Maximum width	Comment
%20logger	No	20	None	If the logger name is less than 20 characters long, left pad with spaces.
%-20logger	Yes	20	None	Right pad with spaces if the logger name is less than 20 characters long.
%.30logger	N/A	None	30	If the logger name is longer than 30 characters, truncate from the beginning.
%20.30logger	No	20	30	Left pad with spaces if the logger name is shorter than 20 characters. However, if logger name is longer than 30 characters, then truncate from the beginning.
%-20.30logger	Yes	20	30	Right pad with spaces if the logger name is shorter than 20 characters. However, if logger name is longer than 30 characters, then truncate from the beginning.

Date pattern

The default value for the date pattern for log files is yyyy-MM-dd hh:mm:ss,fff. For example, if a logged event occurs on December 15, 2010 at 4:45 PM, the default date pattern would show 2010-12-15 04:45:12,345 in the log file. If you want the log files to display dates and times in a different way, you can enter a different date pattern. For example, dd MMM yyyy HH:mm:ss,fff.

If no date pattern is specified, the Paceart System uses the regional settings of operating system on which the system is running.

Maximum number of files to preserve

Once the maximum log file size is reached, the system creates another log file. The Paceart System preserves the most recent number of log files specified in this field.

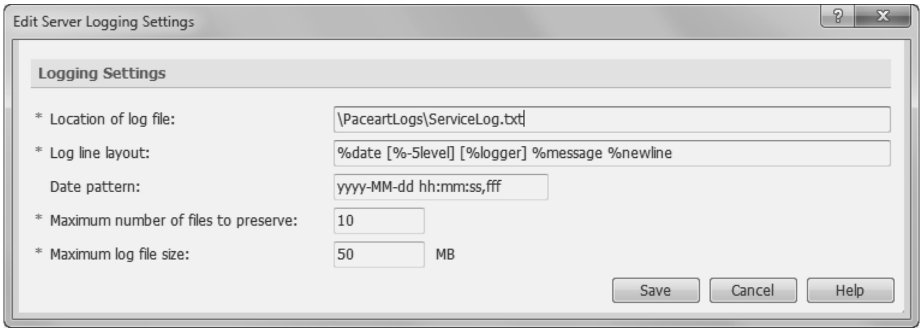
Maximum log file size

You can specify the size of log files in megabytes. Once the maximum file size is reached, the Paceart System creates another log file.

Editing Server and Client Logging

You can edit the Paceart System client and server log file settings.

1. Click **Administration** > **Logging**.
2. Determine which action to take.
   - To edit server logging, click **Edit** in the **Server Logging** section.
   - To edit client logging, click **Edit** in the **Client Logging** section.



3. Edit the logging settings as necessary.
4. Click **Save**.

The logging settings are displayed in the **Server Logging** or **Client Logging** section.

Field and button definitions for the Edit Server or Client Logging Settings dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Location of log file:	The location of where the log file is stored. Required field.
*Log line layout:	The layout of each entry in the log file. Required field.
Date pattern:	The date pattern of each entry in the log file.
*Maximum number of files to preserve:	The maximum number of log files to preserve. Required field.
*Maximum log file size:	The maximum log file size in megabytes. Required field.

Configuring the Messaging Service

You can use the messaging service to send faxes, emails, and pages from the Application Server. The messaging service can send reports via fax and email in addition to working with the CardioVoice System.

The messaging service requires additional setup and configuration. For more information, refer to the *Paceart Optima System Software Installation and Configuration Instructions*.

Fax Settings tab

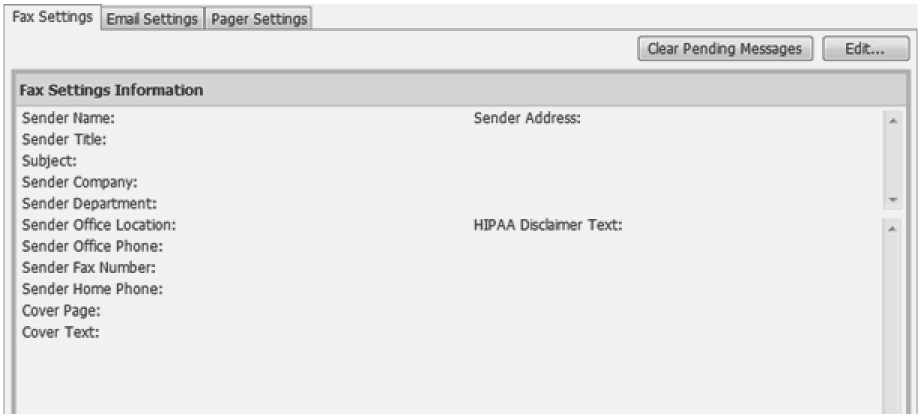
This tab allows you to set default settings for faxes sent by the messaging service.

Email Settings tab

This tab allows you to set default settings for emails sent by the messaging service.

Pager Settings tab

This tab allows you to set default settings for pager messages sent by the messaging service.



Editing fax settings

You can edit the default settings of fax messages sent by the messaging service.

1. Click **Administration** > **Messaging Service** > **Fax Settings**.
2. Click **Edit**.
3. Edit the fax message settings as necessary.
4. Click **Save**.
   The fax settings are displayed in the **Fax Settings Information** section.

Field and button definitions for the Edit Fax Settings dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Sender Name:	The fax sender's name.
Sender Address:	The fax sender's address.
Sender Title:	The fax sender's title. For example, Dr.
Subject:	The subject of the fax.
Sender Company:	The fax sender's company.
Sender Department:	The fax sender's department.
Sender Office Location:	The fax sender's office location.
HIPAA Disclaimer Text:	The Health Insurance Portability and Accountability Act (HIPAA) disclaimer text that appears on all faxes.
Sender Office Phone:	The fax sender's office phone number.

Dialog box fields and buttons	Field and button definitions
Sender Fax Number:	The fax sender's fax number.
Sender Home Phone:	The fax sender's home phone number.
Cover Page:	The cover page file you want to use for faxing.
Cover Text:	The cover page text.

Editing email settings

You can edit the default settings of email messages sent by the messaging service.

1. Click **Administration** > **Messaging Service** > **Email Settings**.
2. Click **Edit**.
3. Edit the email settings as necessary.
4. Click **Save**.

The email settings are displayed in the **Email Settings Information** section.

Field and button definitions for the Edit Email Settings dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Sender Email Address:	The email sender's address.
Email Default Body:	The default email body text.
Server Host Name:	The email server host name.
Server Port Number:	The email server port number.
Use Unsecure Connection	Allows the messaging service to make an unsecure connection to the mail server without a certificate.
TLS Certificate:	The Transport Layer Security (TLS) certificate. Also referred to as an SSL (Secure Sockets Layer) certificate.
Email User Login:	The email user login you will use to send emails.
Email User Password:	The email user password you will use to send emails.
Email User Domain:	The email user domain you will use to send emails.

Editing pager settings

You can edit the default settings of pager messages sent by the messaging service.

1. Click **Administration** > **Messaging Service** > **Pager Settings**.
2. Click **Edit**.
3. Edit the pager message settings as necessary.
4. Click **Save**.

The pager settings are displayed in the **Pager Settings Information** section.

Field and button definitions for the Edit Pager Settings dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Modem Port Number:	The modem's port number.
Modem Initialization String:	The modem's initialization string.
Modem Baud Rate:	The modem's baud rate.
Numeric Delay in Seconds:	The numeric paging delay in seconds.
Maximum Number of Retries:	The maximum number of paging retries.

Clearing pending messages

You can clear any pending messages from the messaging service.

1. Click **Administration** > **Messaging Service**.
2. Determine which action to take.
   - To clear pending fax messages, click the **Fax Settings** tab.
   - To clear pending email messages, click the **Email Settings** tab.
   - To clear pending pager messages, click the **Pager Settings** tab.
3. Click **Clear Pending Messages**.

All pending messages of that type have been cleared from the messaging service.

Configuring Reports

The **Administration: Reports** window allows you to specify encounter report default settings and group reports by the encounter type and device type. You can define report groups that contain one or more standard reports or letters.

Default Encounter Report tab

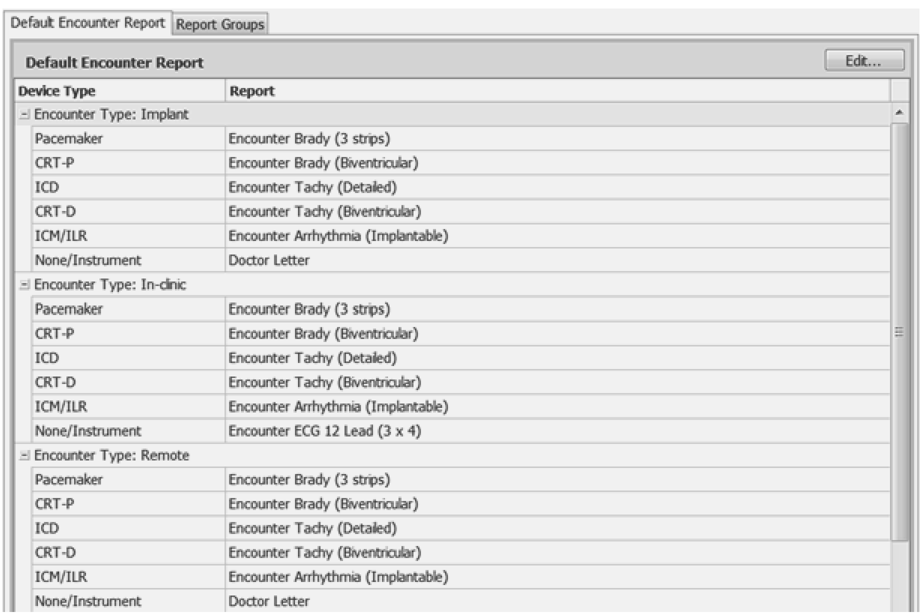
You can set up a specific report (or report group) to be the default selection when printing or exporting reports for a specific encounter type and device type. If a report group is set up for an encounter type, you can select that report group to print or export the reports in that group for a device type. The encounter report default settings you select here are automatically applied to the **Print** dialog box to speed report generation; you can select a different report if needed before printing. These report default settings are also used if you include PDF reports when you export HL7 or XML encounter data.

Report Groups tab

Report groups are useful for generating multiple encounter reports under certain circumstances. For example, you can group together the Doctor Letter, Patient Summary, and Billing reports so you can send them to a provider whenever a patient has an in-clinic encounter. You can select the report group from a **Print** dialog box when available.

The recipient provider of a report in a report group is selected by type. The provider type is mapped to the equivalent provider for the patient when a report is printed. This is the same as selecting a provider in the **Address To Provider** section in the **Print** dialog box. However, provider types selected for reports in the report group are processed on a report-by-report basis for each report. Selecting a provider type for each report allows you to define a report group where individual reports are addressed to different providers. If the report group is selected for email or fax, only reports in the report group that are configured for a given provider will be emailed or faxed to that provider.

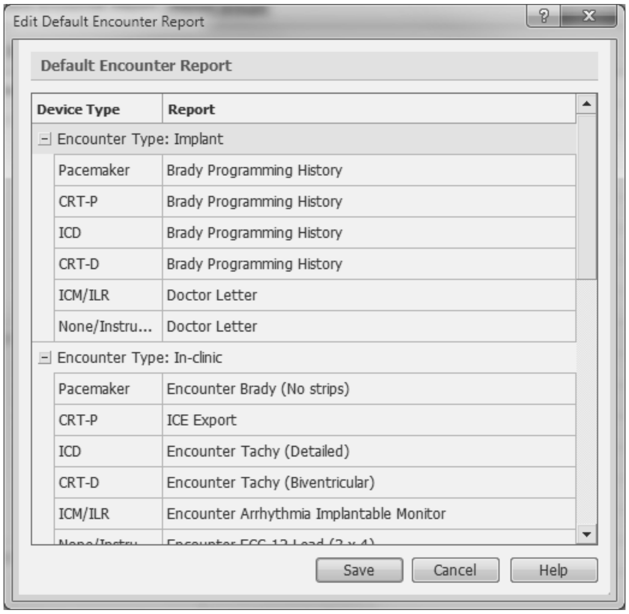
Report groups can be used in most of the same ways that single reports are used, such as printing, faxing, exporting, and emailing.



Editing Default Encounter Report Settings

You can set up default report selections for a specific encounter type and device type. The Paceart System uses these default encounter report settings when you print a report or include PDF reports in exported HL7 or XML encounter data.

1. Click **Administration** > **Reports** > **Default Encounter Report**.
2. Click **Edit**.
   The Edit Default Encounter Report dialog box opens.



3. From the **Report** list, select the report or report group to use as the default selection for the corresponding device type and encounter type.

   If any report groups are set up for the encounter type, they appear at the top of the **Report** list. You can expand or collapse the section for each encounter type as needed.

4. Click **Save**.

Field and button definitions for the Edit Default Encounter Report dialog box

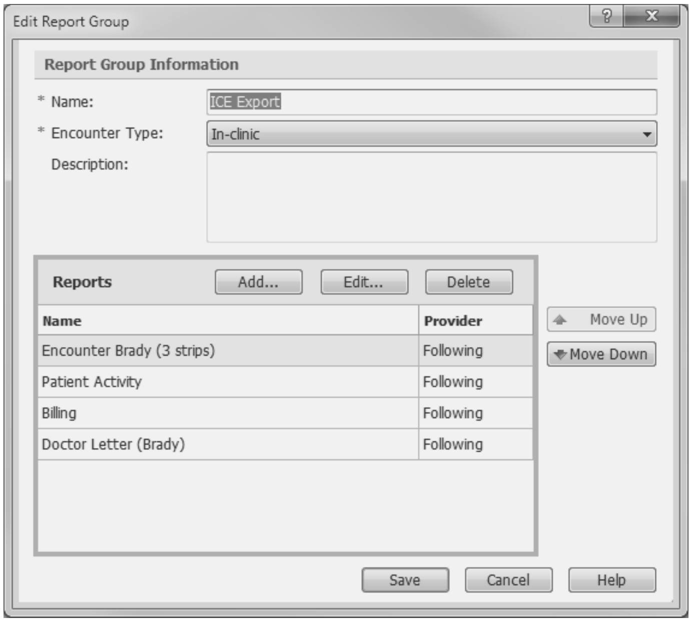
This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Encounter Type	The encounter type, for example, in-clinic or remote.
Device Type	The type of device involved in the specified encounter.
*Report	Select the report or report group to use as the default for the specified device type and encounter type.

Adding or Editing a report group

You can add or edit report groups for generating multiple encounter reports under certain circumstances.

1. Click **Administration** > **Reports** > **Report Groups**.
2. Determine which action to take.
   - To add a report group, click **Add**.
   - To edit an existing report group, select the report group in the **Report Groups** section and click **Edit**.



3. In the **Name** field, enter a name for the report group.
4. In the **Encounter Type** list, click the type of encounter for the report group.
5. In the **Description** field, enter a description for the report group.
6. Determine which action to take.
   - To add reports to the report group, click **Add**. In the **Add Report** dialog box, select the report and click **Save**.
   - To edit a report in the report group, select the report in the **Reports** section and click **Edit**. In the **Edit Report** dialog box, select the report and click **Save**.
   - To delete a report from the report group, select the report in the **Reports** section and click **Delete**.
   - To change the order in which reports in the group are printed or exported, use the **Move Up** and **Move Down** buttons. Click **Move Up** to move the selected report to a higher position in the list, click **Move Down** to move the selected report towards the bottom of the list.
7. Click **Save**.

The report group is displayed in the **Report Groups** list.

Field and button definitions for the Add or Edit Report Group dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Name:	The name of the report group.
*Encounter Type	The encounter type, for example, in-clinic or remote.
Description:	The description of the report group.
Add	Adds a report to the report group.
Edit	Allows you to edit existing information.

Dialog box fields and buttons	Field and button definitions
Delete	Removes the item from the list.
Move Up	Moves the selected item up in the list box.
Move Down	Moves the selected item down in the list box.

Field and button definitions for the Add or Edit Report dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Report:	Select a report for the report group. Required field.
*Provider:	Select a provider type to be used as the recipient provider for the report. Required field.
Save	Saves all changes.
Save and add another	Saves the report information that is displayed and redisplays the window with unpopulated fields so you can add another report.
Cancel	Cancels and closes the dialog.

Deleting a report group

You can delete existing Paceart System report groups.

1. Click **Administration** > **Report Groups**.
2. Select the report group you want to delete.
3. Click **Delete**.
4. Click **Yes** to confirm the deletion.

The report group is removed from the **Report Groups** section.

Configuring the Schedule

You can configure how the Paceart System handles scheduling for each location of care including default appointment settings, hours appointments can be scheduled, and available resources.

Schedule Configuration tab

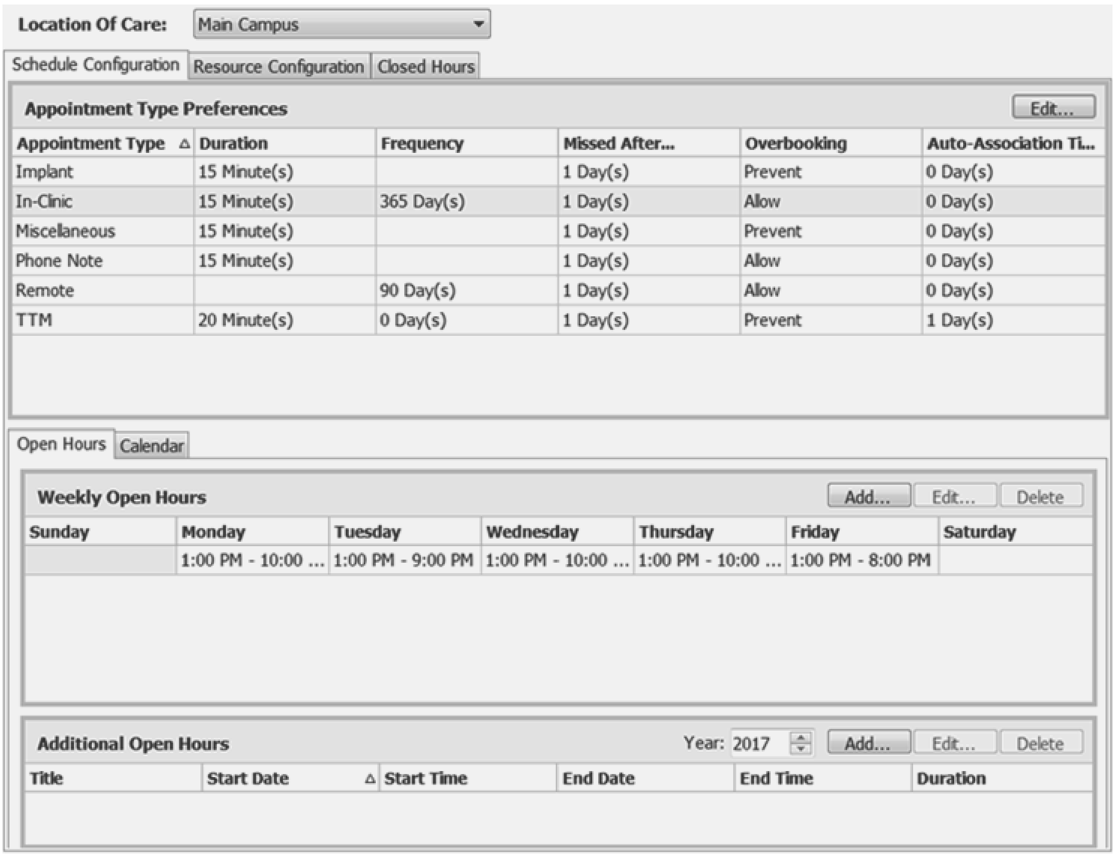
This tab allows you to set default preferences for each type of appointment, update the open hours, and view the calendar for a location of care.

Resource Configuration tab

This tab allows you to manage and enable resources available to a location of care.

Closed Hours tab

This tab allows you to specify when a location of care is closed.



Schedule configuration for a location of care

The **Schedule Configuration** tab on the **Administration: Schedule** window in the Paceart System allows you to configure how appointment types and open hours are handled on the schedule for a location of care.

You can define the preferences for a location of care for each type of appointment including the duration and frequency, when an appointment is considered missed, and whether to allow overbooking for that type of appointment on the schedule.

You can also choose open hours for a location of care. When the schedule for a location of care is displayed on the **Schedule** tab, white areas represent the open hours you designated on the **Schedule Configuration** tab.

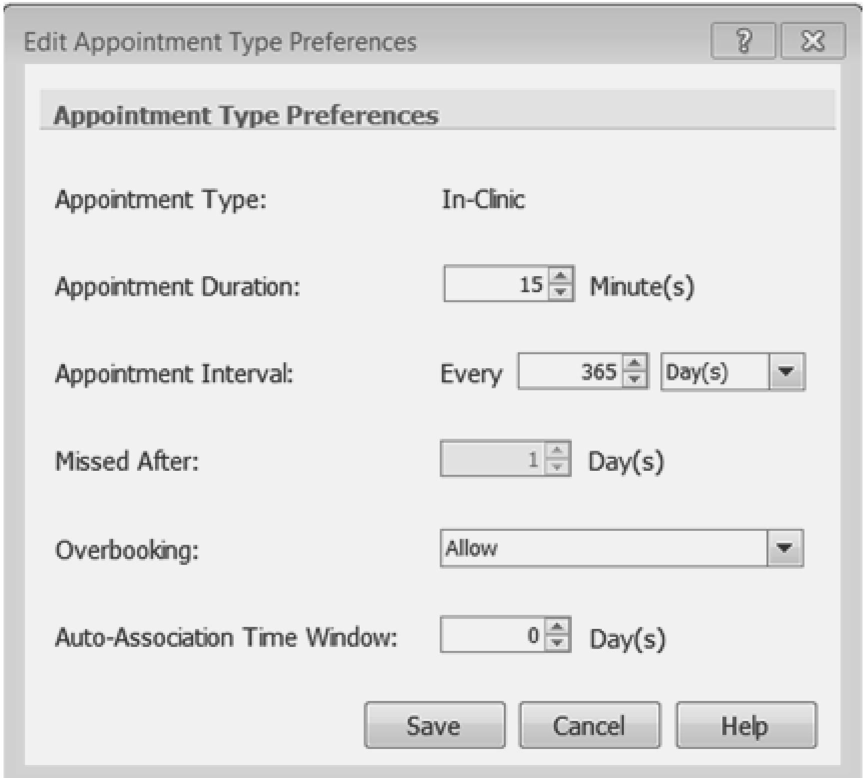
Editing the location of care schedule defaults

Scheduling defaults can be configured for each location of care.

Scheduling defaults allow you to configure the appointment duration, appointment interval, the time period after which an appointment will be missed, and overbooking preferences by appointment type. Appointment duration and frequency entered in a patient record overrides the location of care default settings.

1. Click **Administration** > **Schedule**.

2. In the **Location of Care** list, click a location of care.
3. Click the **Schedule Configuration** tab.
4. In the **Appointment Type Preferences** section, select an appointment type and click **Edit**.



5. Edit the appointment settings.
6. Click **Save**.

Field and button definitions for the Edit Appointment Type Preferences dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Appointment Type	The type of appointment such as in-clinic, remote, or TTM.
Appointment Duration	Default duration of the selected type of appointment for this location of care measured in minutes.
Appointment Interval	Interval (in days, weeks, or months) that the appointment type can be scheduled at the selected location of care.
Missed After	Number of days that must pass before the appointment type is considered missed by the location of care. Measured in days.

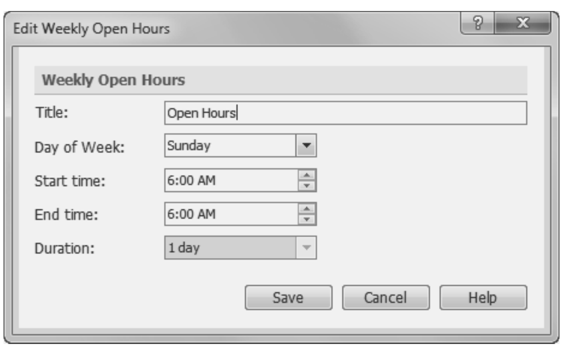
Dialog box fields and buttons	Field and button definitions
Overbooking	Selects whether overbooking of the appointment type is allowed or prevented for the selected location of care. Overbooking is always allowed for remote appointments.
Auto-Association Time Window	The window of time that the system will automatically associate an appointment with a created encounter. For example, when set to 0 days, an encounter that is created on the same day as a scheduled appointment of the same type will automatically be associated with the appointment.

Adding or editing weekly open hours for a location of care

You can set the weekly open hours for a location of care. These hours will be the default open hours for each week in the calendar unless there are additional open or closed hours added to the schedule.

If the Paceart System receives a scheduling message from an external source for a time during hours that are not set to open for a location of care, the appointment is not scheduled.

1. Click **Administration** > **Schedule**.
2. In the **Location of Care** list, click a location of care.
3. Click the **Schedule Configuration** tab.
4. Click the **Open Hours** tab.
5. Determine which action to take.
    - To add weekly open hours, click **Add** in the **Weekly Open Hours** section.
    - To edit existing weekly open hours, select the hours in the **Weekly Open Hours** section and click **Edit**.



6. Enter the days and times the location of care is open.
7. Click **Save**.

The weekly open hours entry is displayed in the **Weekly Open Hours** section.

Field and button definitions for the Add or Edit Weekly Open Hours dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Title:	Descriptive name for the schedule open or closed hours.

Dialog box fields and buttons	Field and button definitions
Day of Week:	Day on which the start and end times apply. Required field.
Start Time (time):	The time when the open or closed hours begin.
End Time (time):	The time when the open or closed hours end.
Duration:	The system automatically calculates duration when the start time and end time are specified. If you change the start or end times, the system automatically adjusts the duration.

Deleting weekly open hours for a location of care

You can delete weekly open hours for a location of care. These hours will be removed as the default open hours for each week in the calendar.

1. Click **Administration** > **Schedule**.
2. In the **Location of Care** list, click a location of care.
3. Click the **Schedule Configuration** tab.
4. Click the **Open Hours** tab.
5. Select an entry in the **Weekly Open Hours** section.
6. Click **Delete**.
7. Click **Yes** to confirm the deletion.

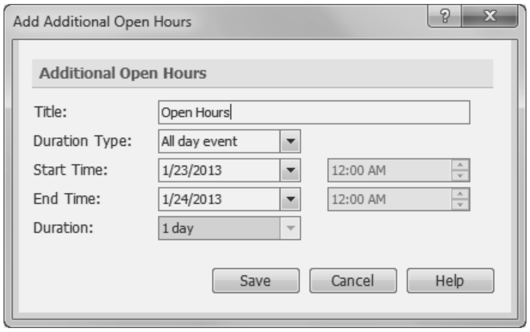
The weekly open hours entry is deleted from the **Weekly Open Hours** section.

Adding or editing exception hours for a location of care

You can set the exception hours for a location of care.

Exception hours are hours the location of care is open in addition to the usual weekly open hours. For example, your clinic might be open Monday through Friday and only every third Saturday of the month. The Monday through Friday schedule would be entered in the weekly open hours while the Saturday schedule would be entered as exception hours.

1. Click **Administration** > **Schedule**.
2. In the **Location of Care** list, click a location of care.
3. Click the **Schedule Configuration** tab.
4. Click the **Open Hours** tab.
5. In the **Year** field, enter or select the year you want to add or edit open hours for.
6. Determine which action to take.
   - To add exception hours, click **Add** in the **Additional Open Hours** section.
   - To edit existing exception hours, select the hours in the **Additional Open Hours** section and click **Edit**.



7. Enter the days and times the location of care is open.
8. Click **Save**.

The new exception hour entry is displayed in the **Additional Open Hours** section.

Field and button definitions for the Add or Edit Additional Open Hours dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Title:	Descriptive name for the schedule open or closed hours.
Duration Type:	"All day event" allows you to select dates, but not times. "During the day" allows you to select dates and times.
Start Time (date):	The date when the open or closed hours begin.
Start Time (time):	The time when the open or closed hours begin.
End Time (date):	The date when the open or closed hours end.
End Time (time):	The time when the open or closed hours end.
Duration:	The system automatically calculates duration when the start time and end time are specified. If you change the start or end times, the system automatically adjusts the duration.

Deleting exception hours for a location of care

You can delete existing exception hours for a location of care.

Exception hours are hours the location of care is open in addition to the usual weekly open hours. For example, your clinic might be open Monday through Friday and only every third Saturday of the month. The Monday through Friday schedule would be entered in the weekly open hours while the Saturday schedule would be entered as exception hours.

1. Click **Administration** > **Schedule**.
2. In the **Location of Care** list, click a location of care.
3. Click the **Schedule Configuration** tab.

4. Click the **Open Hours** tab.
5. In the **Additional Open Hours** section, select the exception hours you want to delete for the specified year.
6. Click **Delete**.
7. Click **Yes** to confirm the deletion.

The exception hour entry is deleted from the **Additional Open Hours** section.

Viewing the calendar for a location of care

You can view the calendar for a location of care to see its open and closed hours.

1. Click **Administration** > **Schedule**.
2. In the **Location of Care** list, click a location of care.
3. Click the **Schedule Configuration** tab.
4. Click the **Calendar** tab.
   The calendar for the location or care is displayed. The calendar reflects the open and closed hours for the location of care.
5. To hide the monthly calendar and get a larger view of the weekly calendar, click the **Hide Calendar** icon.

Configuring resources for a location of care

The **Resource Configuration** tab on the **Administration: Schedule** window in the Paceart System allows you to configure how resources are used on the schedule for a location of care.

A resource is anything that constrains the schedule at a location of care. For example resources could be nurses, programmers, or follow-up rooms. It is recommended to use only one type of resource for each location of care.

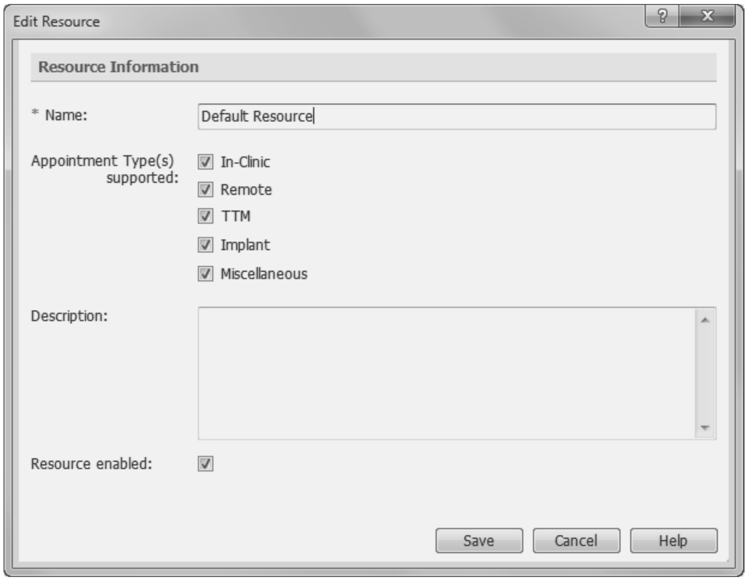
You can set the types of appointments supported by a resource and whether a resource is enabled for scheduling. You can also view the calendar for a resource on the **Resource Configuration** tab.

Adding or editing a resource for a location of care

You can add or edit a resource for a location of care.

1. Click **Administration** > **Schedule**.
2. In the **Location of Care** list, click a location of care.
3. Click the **Resource Configuration** tab.
4. Determine which action to take.

   - To add a resource, click **Add** in the **Resources** section.
   - To edit an existing resource, select the resource in the **Resources** section and click **Edit**.



5. Enter a name for the resource. The name of the resource must be unique across all locations of care.
6. Select the appointment types the resource supports.
7. Enter any additional information in the **Description** field.
8. If the resource is available for scheduling, select the **Resource enabled** box.
9. Click **Save**.

The resource is listed in the **Resources** section, along with the supported appointment types, status, and description for the resource.

You must log out of the Paceart System and log back in before you can search using new resources.

Field and button definitions for the Add or Edit Resource dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Name:	Name of resource. The name must be unique for each location of care. Required field.
Appointment Type(s) supported check boxes	When checked, an appointment type that the selected resource supports.
Description:	Description of resource.
Resource enabled:	When checked, the resource is enabled.

Deleting a resource from a location of care

You can delete a resource from a location of care.

1. Click **Administration** > **Schedule**.
2. In the **Location of Care** list, click a location of care.
3. Click the **Resource Configuration** tab.
4. In the **Resources** section, select the resource you want to delete.

5. Click **Delete**.
6. Click **Yes** to confirm the deletion.

The resource is deleted from the **Resources** section.

Viewing the resource calendar

You can view the calendar for a resource to see its availability.

1. Click **Administration** > **Schedule**.
2. In the **Location of Care** list, click a location of care.
3. Click the **Resource Configuration** tab.
4. In the **Resources** section, select a resource.

The calendar for the resource is displayed in the **Resource Calendar** section. The calendar reflects both the availability of the resource and the location of care schedule.

Hiding the calendar

You can collapse the monthly calendar to allow for a larger view of the weekly calendar.

1. Click **Administration** > **Schedule**.
2. In the **Location of Care** list, click a location of care.
3. Click the **Resource Configuration** tab.
4. In the **Resource Calendar** section, click the **Hide Calendar** icon.

The monthly calendar is collapsed to give you a larger view of the weekly calendar.

Configuring the closed hours for a location of care

The **Closed Hours** tab on the **Administration: Schedule** window in the Paceart System allows you to configure the closed hours for a location of care.

Additional closed hours are hours the location of care is closed or a resource is unavailable in addition to the usual weekly closed hours. For example, your clinic might be closed at 5:00 PM Monday through Friday but it is closed early for a holiday. The Monday through Friday schedule would be entered in the weekly closed hours while the holiday schedule would be entered as additional closed hours.

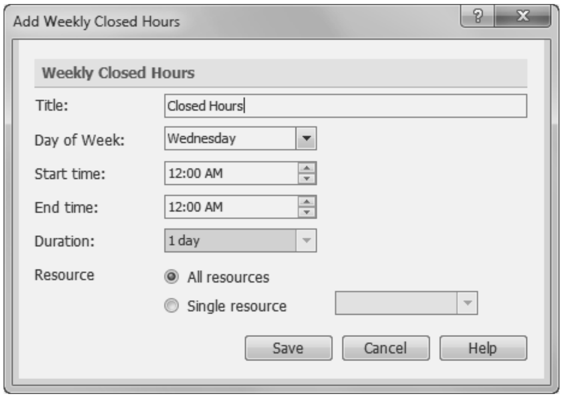
Adding or editing weekly closed hours

You can set the weekly closed hours for a location of care or resource. These hours will be the default closed hours for each week in the calendar unless there are additional open or closed hours added to the schedule.

If you have weekly open hours that overlap with weekly closed hours, the overlapping hours are considered closed for the location of care.

1. Click **Administration** > **Schedule**.
2. In the **Location of Care** list, click a location of care.
3. Click the **Closed Hours** tab.
4. Determine which action to take.

   - To add weekly closed hours, click **Add** in the **Weekly Closed Hours** section.
   - To edit existing weekly closed hours, select the hours in the **Weekly Closed Hours** section and click **Edit**.



5. Enter a title, day of the week, and times for the closed hours. If you want to have closed hours for an entire day, enter **12:00 AM** for the **Start time** and **End time**.
6. If the closed hours are applicable for all resources, select the **All resources** option. If the closed hours are only applicable for one resource, select the **Single resource** option. Then select the resource from the drop-down box.
7. Click **Save**.

The closed weekly hours entry is displayed in the **Weekly Closed Hours** section.

Field and button definitions for the Add or Edit Weekly Closed Hours dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Title:	Descriptive name for the schedule open or closed hours.
Day of Week:	Day on which the start and end times apply. Required field.
Start Time (time):	The time when the open or closed hours begin.
End Time (time):	The time when the open or closed hours end.
Duration:	The system automatically calculates duration when the start time and end time are specified. If you change the start or end times, the system automatically adjusts the duration.
All resources	Applies the closed hours to all available resources.
Single resource	Applies the closed hours to the single resource selected from the drop-down list.

Deleting weekly closed hours

You can delete weekly open hours for a location of care. These hours will be removed as the default closed hours for each week in the calendar.

1. Click **Administration** > **Schedule**.

2. In the **Location of Care** list, click a location of care.
3. Click the **Closed Hours** tab.
4. In the **Weekly Closed Hours** section, select the entry you want to delete.
5. Click **Delete**.
6. Click **Yes** to confirm the deletion.

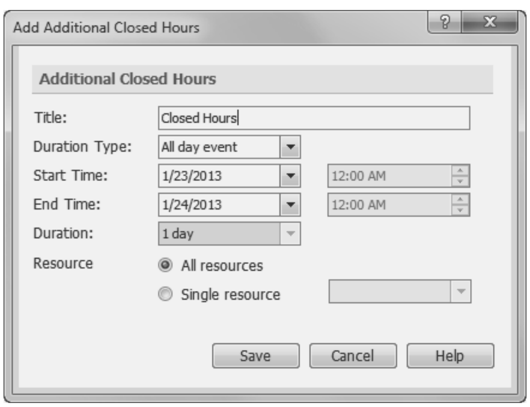
The entry is deleted from the **Weekly Closed Hours** section.

Adding or editing additional closed hours

You can set additional closed hours for your clinic or resources.

Additional closed hours are hours the location of care is closed in addition to the usual weekly closed hours. For example, your clinic might be closed at 5:00 PM Monday through Friday but it will be closed early for a holiday. The Monday through Friday schedule would be entered in the weekly closed hours while the holiday schedule would be entered as additional closed hours.

1. Click **Administration** > **Schedule**.
2. In the **Location of Care** list, click a location of care.
3. Click the **Closed Hours** tab.
4. In the **Year** field, enter or select the year you want to add or edit closed hours for.
5. Determine which action to take.
   - To add additional closed hours, click **Add** in the **Additional Closed Hours** section.
   - To edit existing additional closed hours, select the hours in the **Additional Closed Hours** section and click **Edit**.



6. Enter a title, duration type, and times for the closed hours.
7. If the closed hours are applicable for all resources, select the **All resources** option. If the closed hours are only applicable for one resource, select the **Single resource** option. Then select the resource from the drop-down box.
8. Click **Save**.

The entry is displayed in the **Additional Closed Hours** section.

Field and button definitions for the Add or Edit Additional Closed Hours dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Title:	Descriptive name for the schedule open or closed hours.

Dialog box fields and buttons	Field and button definitions
Duration Type:	"All day event" allows you to select dates, but not times. "During the day" allows you to select dates and times.
Start Time (date):	The date when the open or closed hours begin.
Start Time (time):	The time when the open or closed hours begin.
End Time (date):	The date when the open or closed hours end.
End Time (time):	The time when the open or closed hours end.
Duration:	The system automatically calculates duration when the start time and end time are specified. If you change the start or end times, the system automatically adjusts the duration.
All resources	Applies the closed hours to all available resources.
Single resource	Applies the closed hours to the single resource selected from the drop-down list.

Deleting additional closed hours

You can delete additional closed hours from a location of care or resource.

Additional closed hours are hours the location of care is closed in addition to the usual weekly closed hours. For example, your clinic might be closed at 5:00 PM Monday through Friday but it will be closed early for a holiday. The Monday through Friday schedule would be entered in the weekly closed hours while the holiday schedule would be entered as additional closed hours.

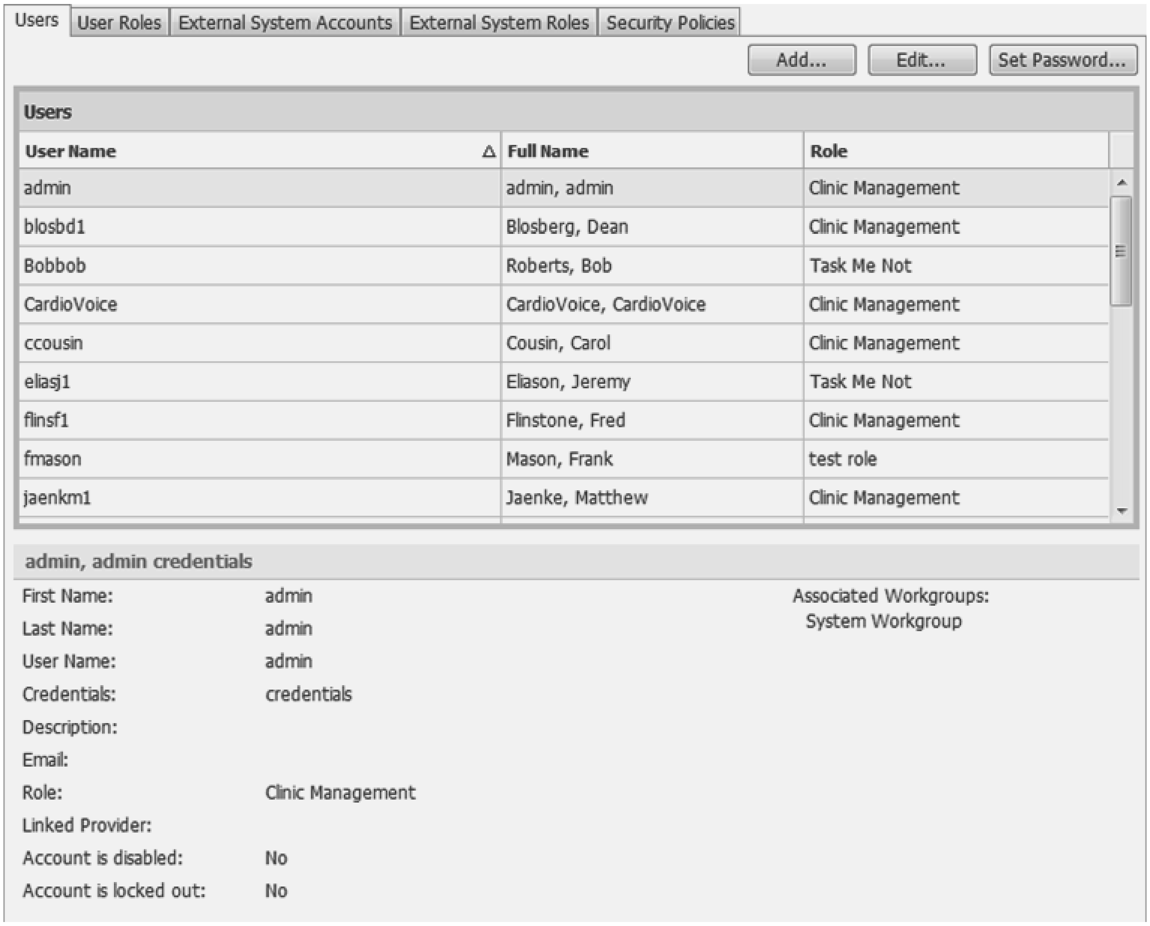
1. Click **Administration** > **Schedule**.
2. In the **Location of Care** list, click a location of care.
3. Click the **Closed Hours** tab.
4. In the **Additional Closed Hours** section, select the closed hours you want to delete for the specified year.
5. Click **Delete**.
6. Click **Yes** to confirm the deletion.

The entry is deleted from the **Additional Closed Hours** section.

Configuring Security Options

The tabs on the **Administration: Security** window allow you to add, edit, and disable information associated with the Paceart System and External System users, the Paceart System and External System roles, and system-level security policies.

The user and role options define who has access to the system and whether they can display, add, edit or delete certain types of information. The security policies govern passwords and other system level settings.



Users tab

Add, edit, disable, and view Paceart System user accounts as well as set passwords.

User Roles tab

Define system roles and the security permissions associated with a role such as viewing and adding and editing.

External System Accounts tab

Add, edit, and view external system accounts. External system accounts enable Mainspring integration with external systems, such as remote follow-up services. These accounts do not expire.

External System Roles tab

Define external system roles and security permissions, such as viewing and adding and editing for external systems accounts.

Security Policies tab

Displays the name, value, and description of Paceart System security policies, such as login attempts and password length. To edit the value of a selected security policy, click **Edit**.

Users and User Roles

You can create users and define user roles for Paceart System users. After a role is defined, it can be assigned to a user.

When an internal user account record is set up, the user's system access is enabled and a role and an initial password are assigned.

Roles are also associated with tasks and workgroups to help manage workflow.

If necessary, you can reset a user's password or disable a user's account.

Users tab

Use the **Users** tab to add a username, password, and role to create a user record for Paceart System users.

This tab displays a list of users and information about each user, such as the workgroups associated with a user.

To set a password for a selected user, click **Set Password**.

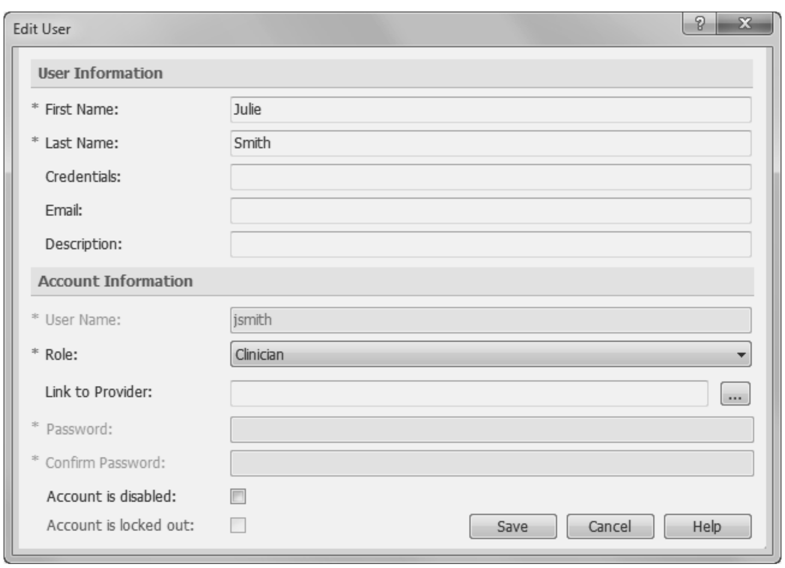
User Roles tab

A name, description, and the associated system permissions define a role. After a role is defined, users can be assigned to the role. A user can be assigned to only one role.

Adding or editing a Paceart System user account

You can set up a user account to provide a person access to the Paceart System. Account information includes user name, role, and password.

1. Click **Administration** > **Security** > **Users**.
2. Determine which action to take.
   - To add a user account, click **Add**.
   - To edit an existing user account, select the user in the **Users** section and click **Edit**.



3. Enter user and account information for the user as necessary. If you are editing an existing user, the user name and password information are not editable. The user name appears on printed reports and logs. The set password function can be used to reset the password for an existing user.
4. Click **Save**.

The user is saved and displayed in the **Users** section.

Field and button definitions for the Add or Edit User dialog boxes

This is a list of fields and buttons and their definitions.

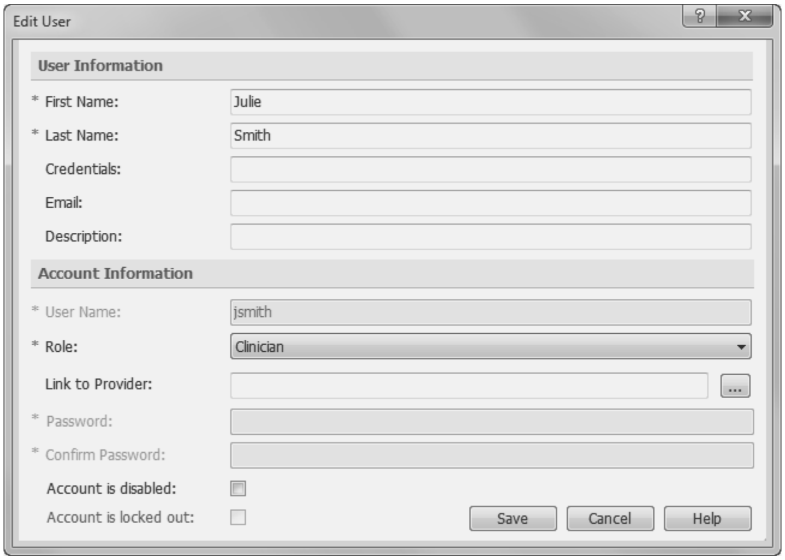
Dialog box fields and buttons	Field and button definitions
*First Name:	The user's first given name (primary forename or primary personal name). Required field.
*Last Name:	The user's surname (family name). Required field.
Credentials:	The user's clinical certification credentials. For example, MD, PA, NP, and others.
Email:	The user's email address.
Description:	Additional information that can help identify a user's account.
*User Name:	The user's user name. Required field.
*Role:	The user's role from the drop-down list. Required field.
Link to Provider:	Links a user to a provider from the Encyclopedia. This can be used to identify when a Paceart System user is also one of the providers listed in the encyclopedia.
*Password:	The user's password. Required field.
*Confirm Password:	Re-entry of the user's password. This makes sure that the password was typed as intended. Required field.
Account is disabled:	Indicates if the user account is deactivated. To activate the user account, clear the check box. The user will not be able to access the system until activated.
Account is locked out: (Edit mode only)	The Paceart System automatically check marks this box when a user exceeds the number of allowed login attempts. Only an administrator can clear this check box.

Enabling or disabling a user account

You can enable or disable a user account to provide or prevent a person access to the Paceart System.

1. Click **Administration** > **Security**.
2. Determine which action to take.
   - To enable or disable a Paceart System user role, click the **Users** tab.
   - To enable or disable an external system role, click the **External System Accounts** tab.

3. In the **Users** or **External System Accounts** section, select the user that you want to enable or disable.
4. Click **Edit**.



5. Determine which action to take.
   - To enable the user account, clear the **Account is disabled:** check box.
   - To disable the user account, select the **Account is disabled:** check box.
6. Click **Save**.

Field and button definitions for the Add or Edit User dialog boxes

This is a list of fields and buttons and their definitions.

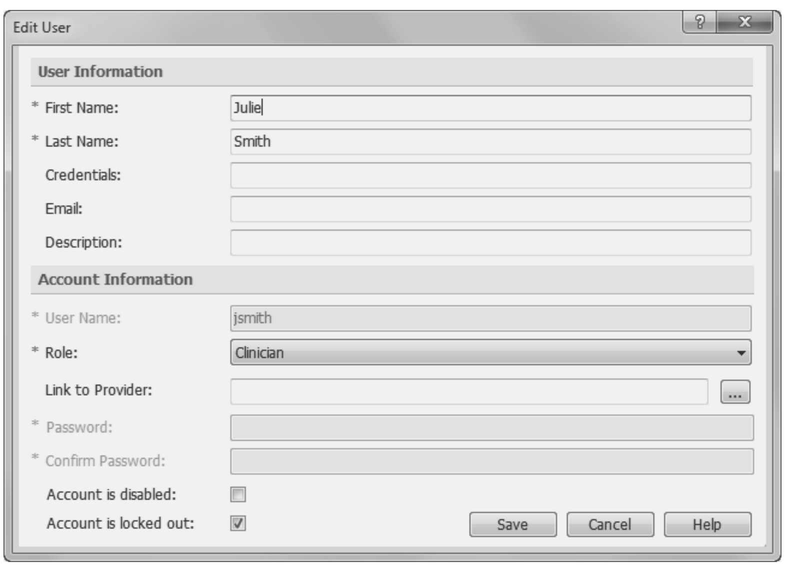
Dialog box fields and buttons	Field and button definitions
*First Name:	The user's first given name (primary forename or primary personal name). Required field.
*Last Name:	The user's surname (family name). Required field.
Credentials:	The user's clinical certification credentials. For example, MD, PA, NP, and others.
Email:	The user's email address.
Description:	Additional information that can help identify a user's account.
*User Name:	The user's user name. Required field.
*Role:	The user's role from the drop-down list. Required field.
Link to Provider:	Links a user to a provider from the Encyclopedia. This can be used to identify when a Paceart System user is also one of the providers listed in the encyclopedia.

Dialog box fields and buttons	Field and button definitions
*Password:	The user's password. Required field.
*Confirm Password:	Re-entry of the user's password. This makes sure that the password was typed as intended. Required field.
Account is disabled:	Indicates if the user account is deactivated. To activate the user account, clear the check box. The user will not be able to access the system until activated.
Account is locked out: (Edit mode only)	The Paceart System automatically check marks this box when a user exceeds the number of allowed login attempts. Only an administrator can clear this check box.

Removing a lockout from a user account

If a user surpasses the maximum failed password attempts, a lockout prevents the user from accessing the Paceart System. Once a lockout is removed, the user can access the system again.

1. Click **Administration** > **Security** > **Users**.
2. In the **Users** section, select the user that is locked out of the Paceart System.
3. Click **Edit**.



4. Clear the **Account is locked out** check box.
5. Click **Save**.

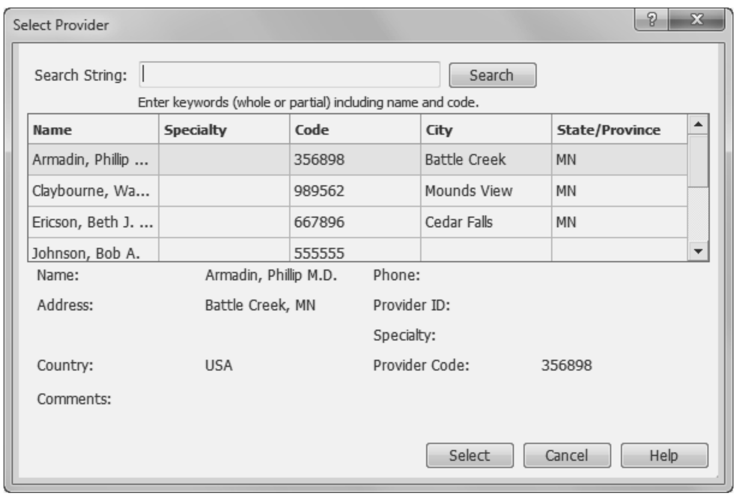
The account is available to use.

Linking users to providers

You can link a user to a provider from the Encyclopedia when adding or editing a Paceart System user account. Linking to a Provider can be used to identify when a Paceart System user is also one of the providers listed in the **Encyclopedia** tab.

A user without the **View All Patients' Encounters** permission is only able to view patients with a provider that corresponds to the user's **Link to Provider** field.

1. Click **Administration** > **Security**.
2. Determine which action to take.
   - To link a Paceart System user to a provider, click the **Users** tab.
   - To link an external system role to a provider, click the **External System Accounts** tab.
3. Click **Add** or **Edit**.
4. From the **Add User** or **Edit User** window, click the **[...]** in the Account Information window to specify a provider.



   The **Select Provider** window is displayed.
5. Select a provider and click **Select**.
6. Click **Save**.

The provider is linked to the user.

Field and button definitions for the Select Provider dialog box

This is a list of fields and buttons and their definitions.

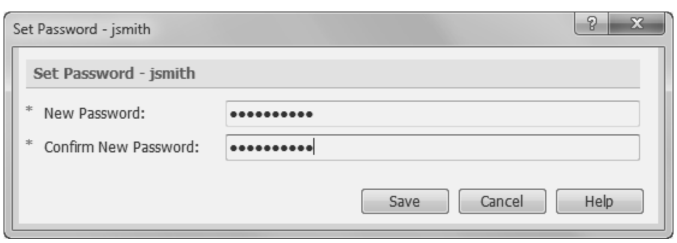
Dialog box fields and buttons	Field and button definitions
Search String:	Text box for entering whole or partial keywords.
Search	Invokes the search.
Name:	Full name of the provider.
Address:	The provider's street address.

Dialog box fields and buttons	Field and button definitions
Country:	The country of the provider's street address.
Comments:	Miscellaneous comments.
Phone	The provider's phone number.
Provider ID:	The provider's ID number.
Specialty:	The provider's medical specialty, for example, cardiology.
Provider Code:	The provider code.

Setting a user password

You can set passwords for both Paceart System users and external system accounts. A user's password is initially set up when the user account is added, but it can be re-set. Passwords for external system accounts don't expire.

1. Click **Administration** > **Security**.
2. Determine which action to take.
   - To set a Paceart System user password, click the **Users** tab.
   - To set an external system account password, click the **External System Accounts** tab.
3. In the **Users** or **External System Accounts** section, select the user whose password you want to set.
4. Click **Set Password**.



5. Enter the new password in the **New Password** field. This is a required field.
6. Re-enter the new password in the **Confirm New Password** field. This is a required field.
7. Click **Save**.

The new password is saved.

Field and button definitions for the Set Password dialog box

This is a list of fields and buttons and their definitions.

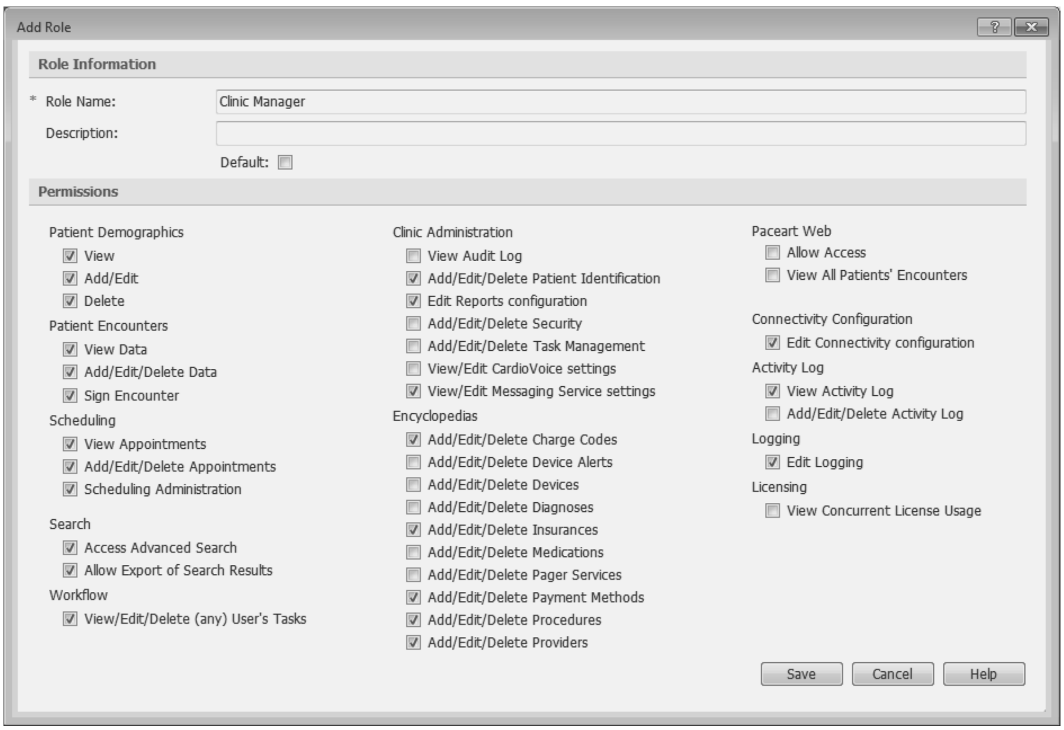
Dialog box fields and buttons	Field and button definitions
*New Password	The new password. Required field.

Dialog box fields and buttons	Field and button definitions
*Confirm New Password	Re-entry of the new password. This makes sure that the new password was typed as intended. Required field.

Adding or editing a role

You can add or edit a role in the Paceart System. A role is a set of system level permissions that can be assigned to users of the Paceart System.

1. Click **Administration** > **Security** > **User Roles**.
2. Determine which action to take.
   - To add a role, click **Add**.
   - To edit an existing role, select the role in the **User Roles** section and click **Edit**.



3. Enter the role information and identify the permissions for the role as necessary. If you select a permission that requires other permissions, the Paceart System automatically selects the required permissions when you select the first permission.
4. Click **Save**.

The role is saved and displayed in the **User Roles** section.

Field and button definitions for the Add or Edit Role dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Role Name:	The name of the new role. Required field.

Dialog box fields and buttons	Field and button definitions
Description:	The description for the role.
Default:	Indicates if this is the default role.
View	Indicates if users in this role can view patient demographic information. Users with this permission can also perform encounter searches and view encounter history.
Add/Edit	Indicates if users in this role can add and edit patient demographic information.
Delete	Indicates if users in this role can delete patients.
View Data	Indicates if users in this role can view patient encounter information.
Add/Edit/Delete Data	Indicates if users in this role can add and delete patient encounters or edit existing encounter information.
Sign Encounter/Lock Encounter	Indicates if users in this role can sign or lock patient encounters.
View Appointments	Indicates if users in this role can view the appointments schedule.
Add/Edit/Delete Appointments	Indicates if users in this role can add, edit, and delete appointments on the schedule.
Scheduling Administration	Indicates if users in this role can view and modify scheduling preferences and resources.
Access Advanced Search	Indicates if users in this role can use the Advanced Search feature.
Allow Export of Search Results	Indicates if users in this role can export search results to Excel.
View/Edit/Delete (any) User's Tasks	Indicates if users in this role can view, edit, and delete any user tasks in the workflow management feature. If users do not have this permission, they can only view and modify tasks and workgroups assigned to them. If users have permission to view encounters, they can also view an encounter task associated with an encounter.
View Audit Log	Indicates if users in this role can view the audit log.

Dialog box fields and buttons	Field and button definitions
Add/Edit/Delete Patient Identification	Indicates if users in this role can add, edit, and delete all information for locations of care, patient ID types, and patient codes.
Add/Edit/Delete Report Groups	Indicates if users in this role can configure default report settings and add, edit, or delete report groups.
Add/Edit/Delete Security	Indicates if users in this role can add, edit, and delete security information including users, roles, and security policies.
Add/Edit/Delete Task Management	Indicates if users in this role can add, edit, and delete task management information, including workgroups.
View/Edit CardioVoice settings	Indicates if users in this role can view and edit CardioVoice settings.
View/Edit Messaging Service settings	Indicates if users in this role can view and edit Messaging Service settings.
Add/Edit/Delete Charge Codes	Indicates if users in this role can add, edit, and delete Charge Codes encyclopedia entries.
Add/Edit/Delete Device Alerts	Indicates if users in this role can add, edit, and delete Device Alerts.
Add/Edit/Delete Devices	Indicates if users in this role can add, edit, and delete Devices encyclopedia entries.
Add/Edit/Delete Diagnoses	Indicates if users in this role can add, edit, and delete Diagnoses encyclopedia entries.
Add/Edit/Delete Insurances	Indicates if users in this role can add, edit, and delete Insurance encyclopedia entries.
Add/Edit/Delete Medications	Indicates if users in this role can add, edit, and delete Medications encyclopedia entries.
Add/Edit/Delete Pager Services	Indicates if users in this role can add, edit, and delete Pager Services encyclopedia entries.
Add/Edit/Delete Payment Methods	Indicates if users in this role can add, edit, and delete Payment Methods encyclopedia entries.
Add/Edit/Delete Procedures	Indicates if users in this role can add, edit, and delete Procedures encyclopedia entries.

Dialog box fields and buttons	Field and button definitions
Add/Edit/Delete Providers	Indicates if users in this role can add, edit, and delete Providers encyclopedia entries.
Allow Access	Indicates if users in this role can log in to the Paceart Web application.
View All Patients' Encounters	Indicates if users in this role can view all patient encounters. If a user does not have this permission, the user can only view encounters of patients related to a provider that corresponds to the user's **Link to Provider** setting.
Edit Connectivity configuration	Indicates if users in this role can edit the configuration for patient matching.
View Activity Log	Indicates if users in this role can view the activity log.
Add/Edit/Delete Activity Log	Indicates if users in this role can add, edit, and delete Activity Log entries.
Edit Logging	Indicates if users in this role can edit settings for client and server logging files.
View Concurrent License Usage	Indicates if users in this role can view current Paceart System license usage.

Role Permissions

A user role can access specific data when granted each security permission in the Paceart System.

If you select a permission that requires other permissions, the Paceart System automatically selects the required permissions when you select the first permission.

Patient Demographics

View: Allows the user to view all patient demographic information. This permission also allows the user to perform encounter searches and view encounter history, although they cannot open an encounter without also having the **View Data** permission.

Add/Edit: Allows the user to add new patients to the system and modify all patient demographic information. A user with this permission must also have the **View** permission.

Delete: Allows the user to delete a patient from the system. A user with this permission must also have the **View** permission.

Patient Encounters

View Data: Allows the user to view all patient encounter information. A user with this permission must also have the **View** permission.

Add/Edit/Delete Data: Allows the user to add new encounters, modify existing patient encounter information, and delete existing encounters from the system. A user with this permission must also have the **View**, **Add/Edit**, and **View Data** permissions.

Lock Encounter: Allows the user to sign or lock encounters depending on how you have set up encounter task completion. It also allows you to modify all patient encounter information. A user with this permission must also have the **View**, **Add/Edit**, **View Data**, and **Add/Edit/Delete Data** permissions.

Scheduling

View Appointments: Allows the user to view all appointment information. A user with this permission must also have the **View** permission.

Add/Edit/Delete Appointments: Allows the user to add new appointments, modify all appointment information, and delete existing appointments from the system. A user with this permission must also have the **View**, **Add/Edit**, and **View Appointments** permissions.

Scheduling Administration: Allows the user to view and modify scheduling preferences and resources. A user with this permission must also have the **Add/Edit/Delete Patient Identification** permission.

Search

Access Advanced Search: Allows the user to access the Advanced Search feature in the Paceart System. A user with this permission must also have the **View** and **View Data** permissions.

Allow Export of Search Results: Indicates if users in this role can export search results to Excel.

Workflow

View/Edit/Delete (any) User's Tasks: Allows the user to view and modify tasks and workgroups for all users. If the user does not have this permission, they can only view and modify tasks and workgroups assigned to them. A user with this permission must also have the **View** permission.

Clinic Administration

View Audit Log: Allows the user to view and search the Audit Log. A user with this permission must also have the **View**, **View Data**, and **View Appointments** permissions.

Add/Edit/Delete Patient Information: Allows the user to add, edit, and delete all information for locations of care, patient ID types, and patient codes.

Add/Edit/Delete Report Groups: Allows the user to add, edit, and delete all report options and report groups.

Add/Edit/Delete Security: Allows the user to add, edit, and delete all security and licensing information. This permission also allows the user to view the Audit Log.

Add/Edit/Delete Task Management: Allows the user to add, edit, and delete tasks and workgroups.

View/Edit CardioVoice settings: Allows the user to view and modify CardioVoice settings.

View/Edit Messaging Service settings: Allows the user to view and modify Messaging service settings.

Encyclopedias

Add/Edit/Delete Charge Codes: Allows the user to add, edit, and delete all Charge Codes encyclopedia entries.

Add/Edit/Delete Device Alerts: Allows the user to add, edit, and delete all Device Alerts.

Add/Edit/Delete Devices: Allows the user to add, edit, and delete all Devices encyclopedia entries.

Add/Edit/Delete Diagnoses: Allows the user to add, edit, and delete all Diagnoses encyclopedia entries.

Add/Edit/Delete Insurances: Allows the user to add, edit, and delete all Insurance encyclopedia entries.

Add/Edit/Delete Medications: Allows the user to add, edit, and delete all Medications encyclopedia entries.

Add/Edit/Delete Pager Services: Allows the user to add, edit, and delete all Pager Services encyclopedia entries.

Add/Edit/Delete Payment Methods: Allows the user to add, edit, and delete all Payment Methods encyclopedia entries.

Add/Edit/Delete Procedures: Allows the user to add, edit, and delete all Procedures encyclopedia entries.

Add/Edit/Delete Providers: Allows the user to add, edit, and delete all Providers encyclopedia entries.

Paceart Web

Allow Access: Allows the user to log in to the Paceart Web application. A user with this permission must also have the **View** and **View Data** permissions

View All Patients' Encounters: Allows the user to view all patient encounters in Paceart Web. If a user does not have this permission but has the **Allow Access** permission, the user can only view encounters of patients related to a provider that corresponds to the user's **Link to Provider** setting. A user with this permission must also have the **View**, **View Data**, and **Allow Access** permissions.

Connectivity Configuration

Edit Connectivity Configuration: Allows the user to edit the configuration for patient matching.

Activity Log

View Activity Log: Allows the user to view and search the Activity Log.

Add/Edit/Delete Activity Log: Allows the user to add, edit, and delete Activity Log entries. A user with this permission must also have the **View Activity Log** permission.

Logging

Edit Logging: Allows the user to edit settings for client and server logging files.

Licensing

View Concurrent License Usage: Allows the user to view the licenses in use by users currently logged on to the Paceart System, the number of patient records those users have open, and the names of the computers that are connected to the system.

Deleting a role

You can delete existing roles for both Paceart System users and external system accounts. A role is a set of permissions that can be assigned to users of the Paceart System. You cannot delete a role if any users are assigned to it.

1. Click **Administration** > **Security**.
2. Determine which action to take.
   - To delete a Paceart System user role, click the **User Roles** tab.
   - To delete an external system role, click the **External System Roles** tab.
3. In the **User Roles** or **External System Roles** section, select the role that you want to delete.
4. Click **Delete**.
5. Click **Yes** to confirm the deletion.

The role is removed from the **User Roles** or **External System Roles** section.

External System Accounts

You can create account records and define roles used by external systems. External system accounts enable Mainspring integration with external systems, such as remote follow-up services. After a role is defined, it can be assigned to an external system account.

When an external user account record is set up, system access is enabled, and a role and an initial password are assigned. If necessary, you can reset a password or disable an external system account.

The roles associated with an external system account determine the level of access for the account. For example, an account used for scheduling appointments would need role permissions for View Appointments and Add/Edit/Delete Appointments.

External System Accounts tab

Use the **External System Accounts** tab to add a user name, password, and role to create an external system account.

To set a password for a selected external account, click **Set Password**. Passwords for external system accounts don't expire.

External System Roles tab

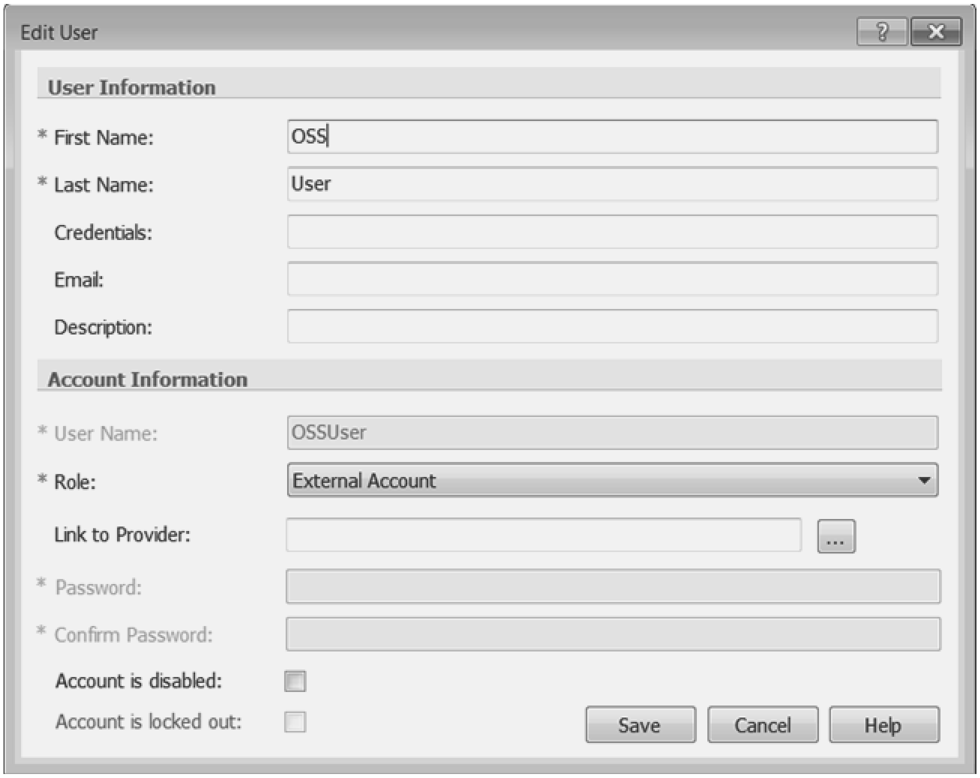
Use the **External System Roles** tab to define roles for accounts used by external systems.

You can create a new, external role based on the information for a selected existing role by clicking **Save As**.

Adding or editing a Paceart System External System Accounts user

You can add or edit an External System Account. Creating separate External System Accounts allows access from external systems, such as the Medtronic CareLink Network, with different permissions than a typical Paceart System user would have.

1. Click **Administration** > **Security** > **External System Accounts**.
2. Determine which action to take.
   - To add an external system account, click **Add**.
   - To edit an existing external system account, select the user in the **External System Accounts** section and click **Edit**.



3. Enter user and account information for the user as necessary. If you are editing an existing user, the user name and password information are not editable. The user name appears on printed reports and logs. The set password function can be used to reset the password for an existing user.
4. Click **Save**.

The user is saved and displayed in alphabetical order in the **External System Accounts** section.

Field and button definitions for the Add or Edit User dialog boxes

This is a list of fields and buttons and their definitions.

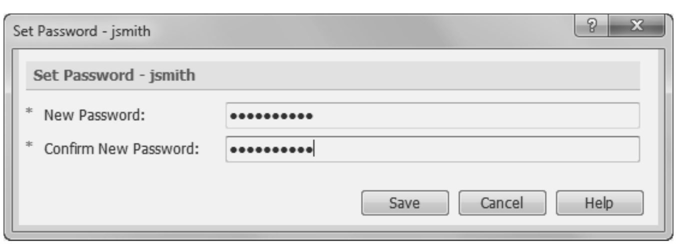
Dialog box fields and buttons	Field and button definitions
*First Name:	The user's first given name (primary forename or primary personal name). Required field.
*Last Name:	The user's surname (family name). Required field.
Credentials:	The user's clinical certification credentials. For example, MD, PA, NP, and others.
Email:	The user's email address.
Description:	Additional information that can help identify a user's account.
*User Name:	The user's user name. Required field.
*Role:	The user's role from the drop-down list. Required field.

Dialog box fields and buttons	Field and button definitions
Link to Provider:	Links a user to a provider from the Encyclopedia. This can be used to identify when a Paceart System user is also one of the providers listed in the encyclopedia.
*Password:	The user's password. Required field.
*Confirm Password:	Re-entry of the user's password. This makes sure that the password was typed as intended. Required field.
Account is disabled:	Indicates if the user account is deactivated. To activate the user account, clear the check box. The user will not be able to access the system until activated.
Account is locked out: (Edit mode only)	The Paceart System automatically check marks this box when a user exceeds the number of allowed login attempts. Only an administrator can clear this check box.

Setting a user password

You can set passwords for both Paceart System users and external system accounts. A user's password is initially set up when the user account is added, but it can be re-set. Passwords for external system accounts don't expire.

1. Click **Administration** > **Security**.
2. Determine which action to take.
   - To set a Paceart System user password, click the **Users** tab.
   - To set an external system account password, click the **External System Accounts** tab.
3. In the **Users** or **External System Accounts** section, select the user whose password you want to set.
4. Click **Set Password**.



5. Enter the new password in the **New Password** field. This is a required field.
6. Re-enter the new password in the **Confirm New Password** field. This is a required field.
7. Click **Save**.

The new password is saved.

Field and button definitions for the Set Password dialog box

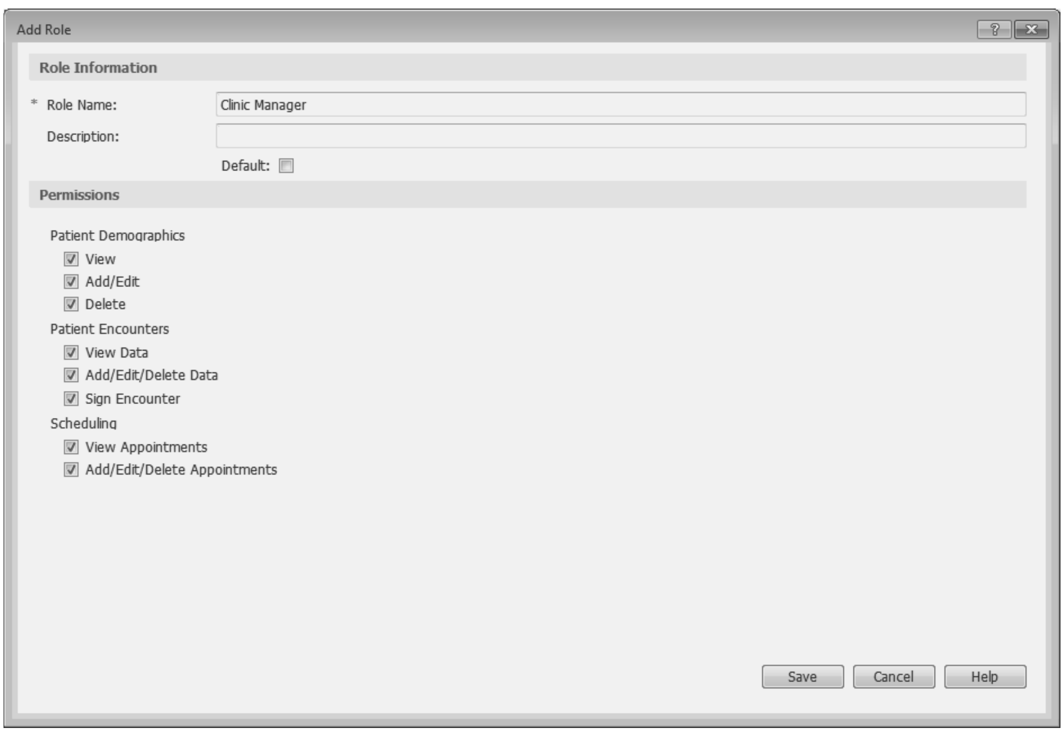
This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*New Password	The new password. Required field.
*Confirm New Password	Re-entry of the new password. This makes sure that the new password was typed as intended. Required field.

Adding or editing a Paceart System External System role

You can add or edit an External System role. An External System role is a set of permissions that can be assigned to an external system account.

1. Click **Administration** > **Security** > **External System Roles**.
2. Determine which action to take.
   - To add an external role, click **Add**.
   - To edit an existing external role, select the role in the **External System Roles** section and click **Edit**.



3. Enter the role information and identify the permissions for the role as necessary.
4. Click **Save**.

The role is saved and displayed in alphabetical order in the **External System Roles** section.

Field and button definitions for the Add or Edit Role dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Role Name:	The name of the new role. Required field.
Description:	The description for the role.
Default:	Indicates if this is the default role.
View	Indicates if users in this role can view patient demographic information. Users with this permission can also perform encounter searches and view encounter history.
Add/Edit	Indicates if users in this role can add and edit patient demographic information.
Delete	Indicates if users in this role can delete patients.
View Data	Indicates if users in this role can view patient encounter information.
Add/Edit/Delete Data	Indicates if users in this role can add and delete patient encounters or edit existing encounter information.
Sign Encounter/Lock Encounter	Indicates if users in this role can sign or lock patient encounters.
View Appointments	Indicates if users in this role can view the appointments schedule.
Add/Edit/Delete Appointments	Indicates if users in this role can add, edit, and delete appointments on the schedule.

Deleting a role

You can delete existing roles for both Paceart System users and external system accounts. A role is a set of permissions that can be assigned to users of the Paceart System. You cannot delete a role if any users are assigned to it.

1. Click **Administration** > **Security**.
2. Determine which action to take.
   - To delete a Paceart System user role, click the **User Roles** tab.
   - To delete an external system role, click the **External System Roles** tab.
3. In the **User Roles** or **External System Roles** section, select the role that you want to delete.
4. Click **Delete**.
5. Click **Yes** to confirm the deletion.

The role is removed from the **User Roles** or **External System Roles** section.

Security Policies

You can view and edit the value of Paceart System security policies such as login attempts and password length.

The Paceart System supports different authentication providers, including Windows, Active Directory, and Paceart System custom authentication. The password security policies are only available with Paceart System custom authentication. Otherwise Windows controls those settings. If you are using Windows or Active Directory for authentication, only the Session Timeout policy is available.

Security policies govern passwords and other system parameters. For example, you can change the policy value of session timeout from 10 to 20 minutes.

The **Security Policies** section displays the name, value, and description of Paceart System security policies. To edit the value of a selected security policy, click **Edit**.

Maximum Failed Password Attempts

The maximum failed password attempts before the system locks out a user must be between 3 and 12 attempts.

Minimum Password Length

The minimum password length must be between 8 and 50 characters.

Maximum Password Age

The maximum number of days a user can use the same password before the Paceart System forces a password change must be between 1 and 180 days.

Session Timeout

The session timeout must be between 0 and 60 minutes. Enter 0 to remove session timeout. If a user's session times out, only that user can log back into the session to ensure that no unsaved data is lost. To log in as a different user without saving the current user's session, click **Exit** at the login screen and start a new Paceart System session.

Editing security policies

You can view and edit the value of Paceart System security policies such as login attempts and password length.

1. Click **Administration** > **Security** > **Security Policies**.
2. In the **Security Policies** section, select the policy you want to change and click **Edit**.

3. Enter the new value in the **Value** field. The Paceart System allows the following values for each security policy:

   - Enter a value between 3 and 12 for the maximum failed password attempts policy.

- Enter a value between 8 and 50 for the minimum password length policy.
- Enter a value between 1 and 180 for the maximum password age policy.
- Enter a value between 0 and 60 for the session timeout policy. Enter 0 to remove session timeout.

4. Click **Save**.

The new value for the policy is displayed in the **Security Policies** section.

Field and button definitions for the Policy Management dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Name:	The name of the security policy.
Value:	The value of the security policy. This is always a number.
Description:	The description of the security policy.

Viewing system information

The **Administration: System Health** window provides some general information about the Paceart System to help you identify and troubleshoot potential configuration issues.

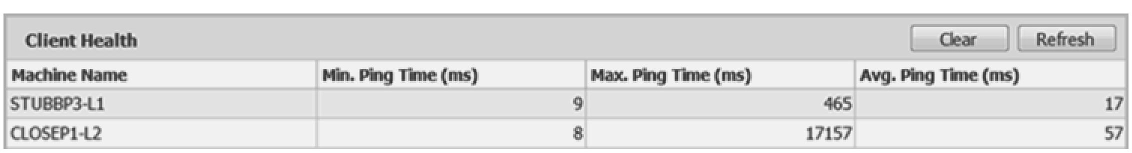
The **System Health** window displays information about the client machines accessing the system as well as information about the application server and database.

Client Health

The **Client Health** section lists the client machines currently connected to the system and displays the minimum, maximum, and average ping times between each connected client and the application server.

To clear the values for a client machine, select the client from the list and click **Clear**. To select multiple clients, hold the CTRL or SHIFT key and select the clients you want to clear.

Click **Refresh** to update the times for every client in the list.



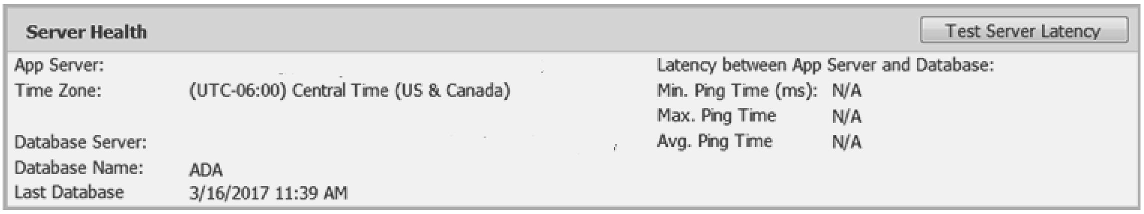
Client Health Clear Refresh

Machine Name	Min. Ping Time (ms)	Max. Ping Time (ms)	Avg. Ping Time (ms)
STUBBP3-L1	9	465	17
CLOSEP1-L2	8	17157	57

Server Health

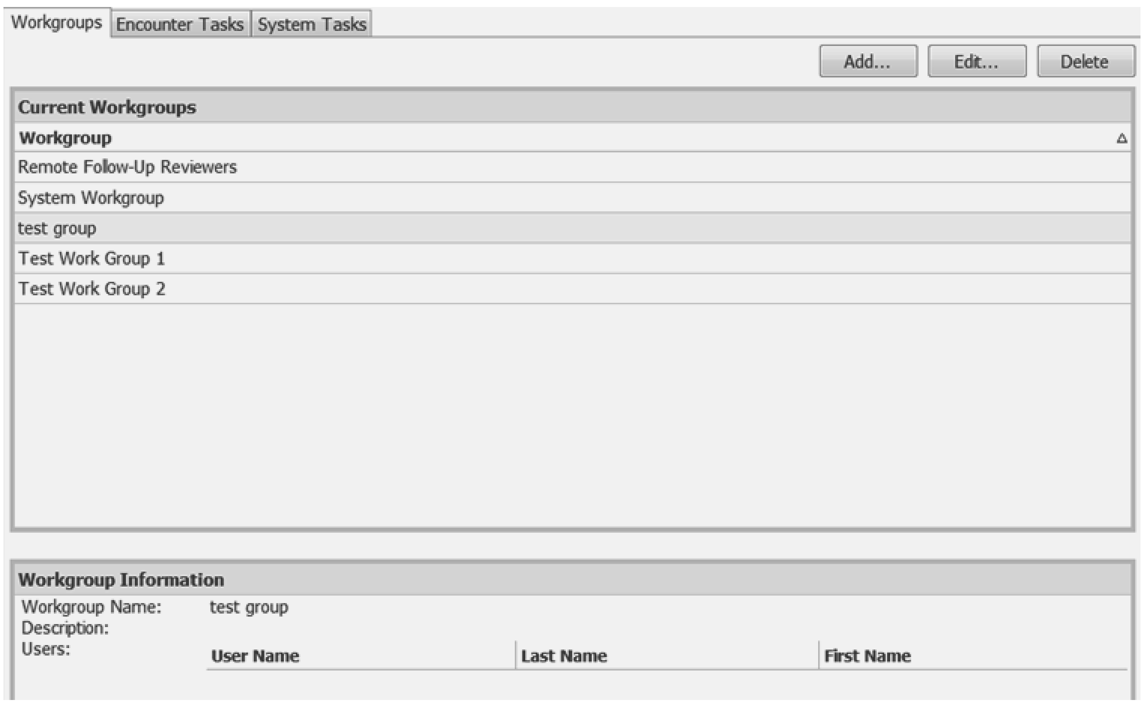
The **Server Health** section displays information about the application server and database, including the application server name and port, application server time zone, database server name, and the date and time of the most recent database backup.

To troubleshoot issues between the application server and database server, click **Test Server Latency**, which launches a series of small database actions and calculates the maximum, minimum, and average time for completion. The application server ping times will be updated and displayed on the screen.



Configuring Task Management

When the Paceart System tracks a task, it records the user or workgroup assigned to the task, the user assigned to complete the task, and how the assigned user completed the task. You can configure the task management workgroups and how the tasks are assigned. Task management is an optional feature in the Paceart System.



Workgroups Tab

A workgroup is one or more active users that you have grouped and saved under a common name. The **Administration: Task Management** window allows you to add, edit, and delete workgroups to assist in task management workflow.

Encounter Tasks Tab

You can turn encounter tasks on or off, assign them to a specific user or workgroup to complete based on the task type, and give the tasks a priority. You can also set how encounter tasks are completed.

System Tasks Tab

You can enable system tasks, assign them to a workgroup, and give the tasks a priority.

Configuring Workgroups

A workgroup is one or more active users that you have grouped under a common name. You can use workgroups to assign tasks to a group of users who have similar responsibilities so that they can share tasks within the group.

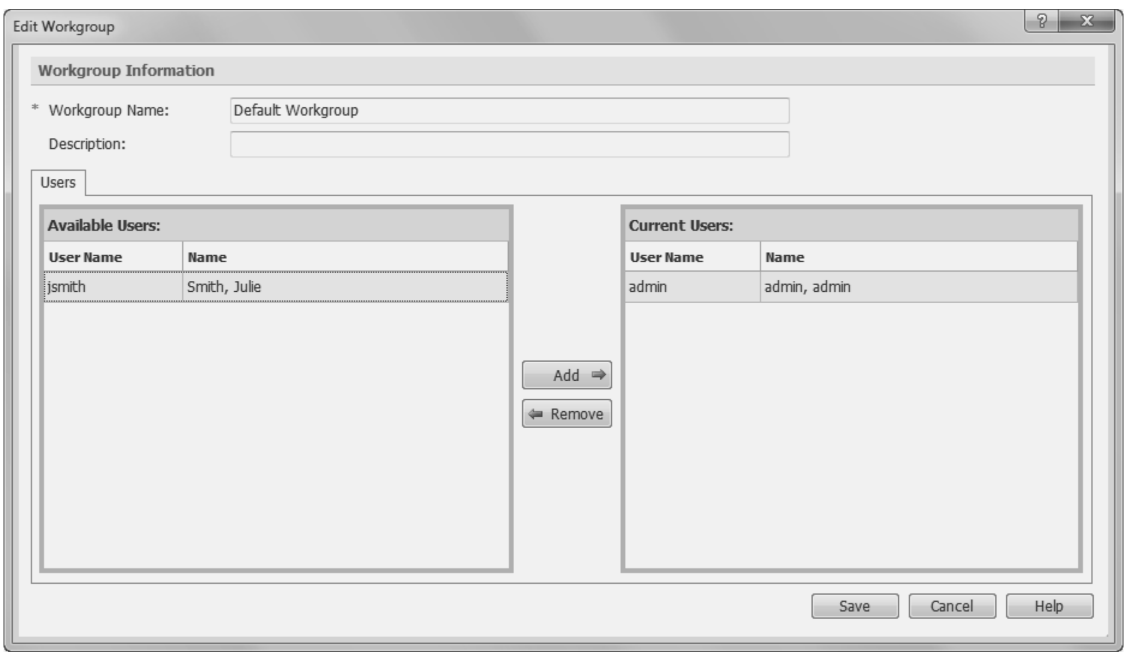
The system administrator creates workgroups from active system users. A task that is assigned to a workgroup will appear in the task list for each user in the workgroup. If a user in the workgroup decides to work on a task, that user can accept the task, which will assign it to the user and remove the task from the task list of other users. Workgroups can be assigned user tasks, system tasks, and/or external system created encounters, depending on your configuration.

A workgroup cannot be deleted if there is an active task associated with it.

Adding or editing a workgroup

You can help manage clinic workflow by creating workgroups and assigning tasks to the workgroup. Users can be assigned to multiple workgroups. Task management is an optional feature and may be inaccessible in your clinic.

1. Click **Administration** > **Task Management** > **Workgroups**.
2. Determine which action to take.
    - To add a workgroup, click **Add**.
    - To edit an existing workgroup, select the workgroup in the **Current Workgroups** section and click **Edit**.



3. Enter the workgroup information as necessary.
4. Determine which action to take.
    - To add users to the workgroup, select the users from the **Available Users** section and click **Add**. Hold SHIFT or CTRL to select multiple users.
    - To remove users from the workgroup, select the users from the **Current Users** section and click **Remove**. Hold SHIFT or CTRL to select multiple users. If there are active tasks assigned to a workgroup, you cannot remove all users from it.
5. Click **Save**.

The workgroup name and list of users is displayed on the **Workgroups** tab.

Field and button definitions for the Add or Edit Workgroup dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
*Workgroup Name:	The name of the workgroup. This field is required.
Description:	The description of the workgroup.
Add	Adds information.
Remove	Removes the selected field from the column list.

Deleting a workgroup

You can delete information about workgroups in the Paceart System database. If any open tasks are assigned to a workgroup or if a certain task type is associated with a workgroup, you cannot delete it.

1. Click **Administration** > **Task Management** > **Workgroups**.
2. Select the workgroup that you want to delete. If open tasks are assigned to the workgroup or if a certain task type on the **Encounter Tasks** or **System Tasks** tab in **Administration: Task Management** is associated with the workgroup, you cannot delete it.
3. Click **Delete**.
   The confirmation message is displayed.
4. Click **Yes** to confirm the deletion.

The workgroup is removed from the **Workgroups** tab.

Configuring Encounter Tasks

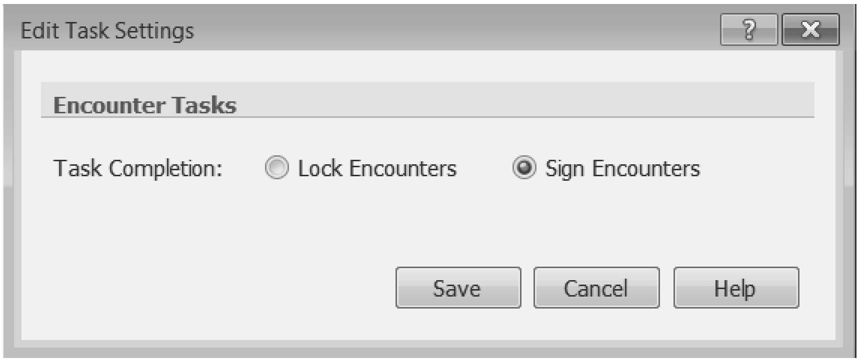
The Paceart System has different types of workflow tasks. The **Encounter Tasks** tab on the **Administration: Task Management** window allows you to configure how encounter tasks are assigned and completed.

An encounter task is generated when an encounter is created. When a user creates an encounter, the encounter tasks are automatically assigned to that user. For encounters created by external systems, encounter tasks for those encounters must be assigned to a user or workgroup. You can turn encounter tasks on or off. You can also configure how your clinic wants to complete encounter tasks. An encounter task can be completed by locking the encounter or by recording an electronic signature.

Editing Encounter Task Completion

An encounter task originates within the Paceart System when an encounter is created. You can edit how encounter tasks are considered complete.

1. Click **Administration** > **Task Management** > **Encounter Tasks**.
2. In the **Encounter Task Completion** section, click **Edit**.



3. Select how encounter tasks are completed. Changing the **Task Completion** option changes the **Lock** and **Sign** buttons in encounters and the name of the corresponding user role permission.
4. Click **Save**.

The settings are displayed in the **Encounter Task Completion** section.

Field and button definitions for the Edit Task Settings dialog box

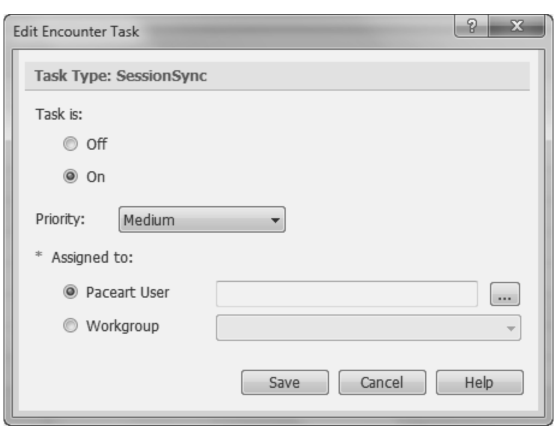
This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Lock Encounters	When selected indicates tasks are completed by locking encounters.
Sign Encounters	When selected indicates tasks are completed by electronically signing encounters.

Editing Encounter Tasks

You can turn encounter tasks on or off, assign them to a specific user or workgroup to complete based on the task type, and give the tasks a priority. Encounter tasks for a user-created encounter are always assigned to the user who created the encounter.

1. Click **Administration** > **Task Management** > **Encounter Tasks**.
2. Select the task type you would like to configure in the **Encounter Tasks** section and click **Edit**.



3. For the selected encounter type, turn task creation on or off.
4. Select a priority for the task. The default is **Medium**.

5. User-created tasks are automatically assigned to the user who created the encounter. External System-created tasks can be assigned to a Paceart User or a Workgroup.
   - If you select **Paceart User**, click the **[...]** button to choose the Paceart System user.
   - If you select **Workgroup**, choose the workgroup from the drop-down list.
6. Click **Save**.

The updated task information is displayed in the **Encounter Tasks** section.

Field and button definitions for the Edit System or Encounter Task dialog boxes

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Off	When selected indicates that the task is disabled.
On	When selected indicates that the task is enabled.
Priority	Assigns a priority to the task.
Paceart User	When selected indicates that a specific Paceart System user receives all tasks of this type. Click the [...] button to choose the Paceart System user.
Workgroup	When selected indicates that a workgroup receives all tasks of this type. Choose the workgroup from the drop-down list.

Configuring System Tasks

The Paceart System has different types of workflow tasks. The **System Tasks** tab on the **Administration: Task Management** window allows you to configure how system tasks are assigned and completed.

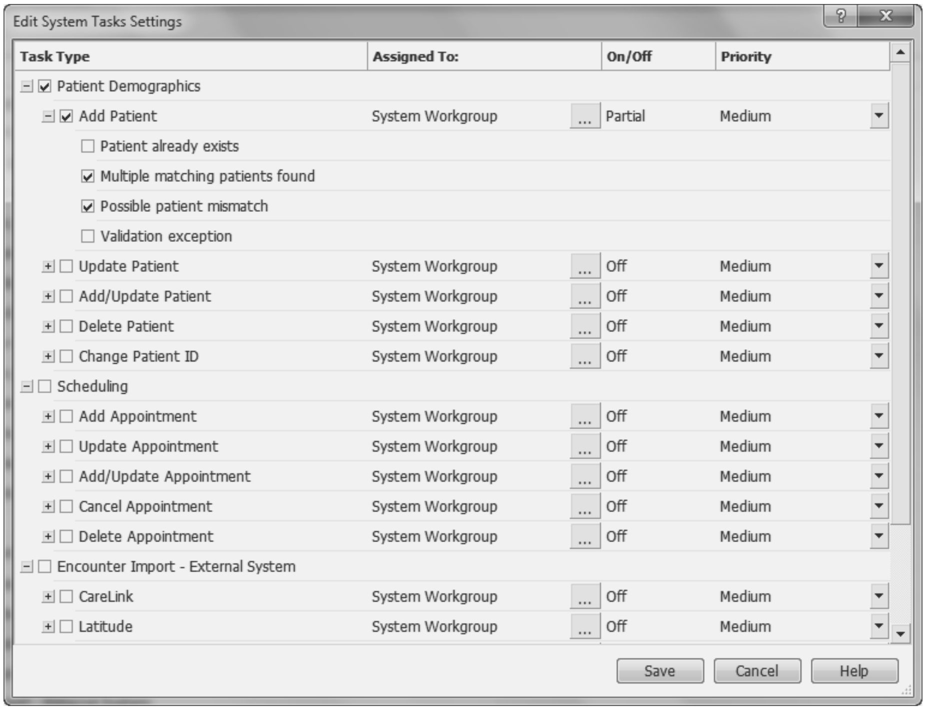
System tasks can help provide visibility to data matching and external systems integration issues. For example, you can configure a system task to be created when there is a pending work item in the **Activity Log**, such as an unmatched transmission. You can turn system tasks on or off, assign them to a specific user or workgroup when a system task is created, and assign them a task priority.

System tasks are broken up into different task category types including **Patient Demographics**, **Scheduling**, and **Encounter Import - External System** tasks. You can enable system tasks for an entire category or only enable tasks for specific situations. For example, you would like a task created when there are multiple matching patients found when a new patient is added. Under **Patient Demographics**, you would select the check box next to **Multiple matching patients found**.

Editing System Tasks

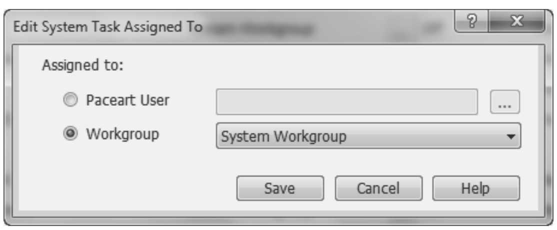
You can turn system tasks on or off, assign them to a specific user or workgroup to complete based on the task type, and give the tasks a priority.

1. Click **Administration** > **Task Management** > **System Tasks**.
2. Click **Edit**.



The **Edit System Tasks Settings** dialog box is displayed.

3. Select the check boxes next to the task types you want to enable tasking for. Selecting a subset of task types will change the **On/Off** column to "Partial".
4. To change who the task is assigned to, click the **[...]** button for the task group.



The **Edit System Task Assigned To** dialog box is displayed.

5. System tasks can be assigned to a Paceart User or a Workgroup.
   - If you select **Paceart User**, click the **[...]** button to choose the Paceart System user.
   - If you select **Workgroup**, choose the workgroup from the drop-down list.
6. Click **Save**.
7. Select a priority for the task. The default is **Medium**.
8. Click **Save**.

The updated task information is displayed in the **System Tasks** section.

Field and button definitions for the Edit System Tasks Settings dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Off	When selected indicates that the task is disabled.
On	When selected indicates that the task is enabled.

Dialog box fields and buttons	Field and button definitions
Priority	Assigns a priority to the task.

Field and button definitions for the Edit System Task Assigned To dialog box

This is a list of fields and buttons and their definitions.

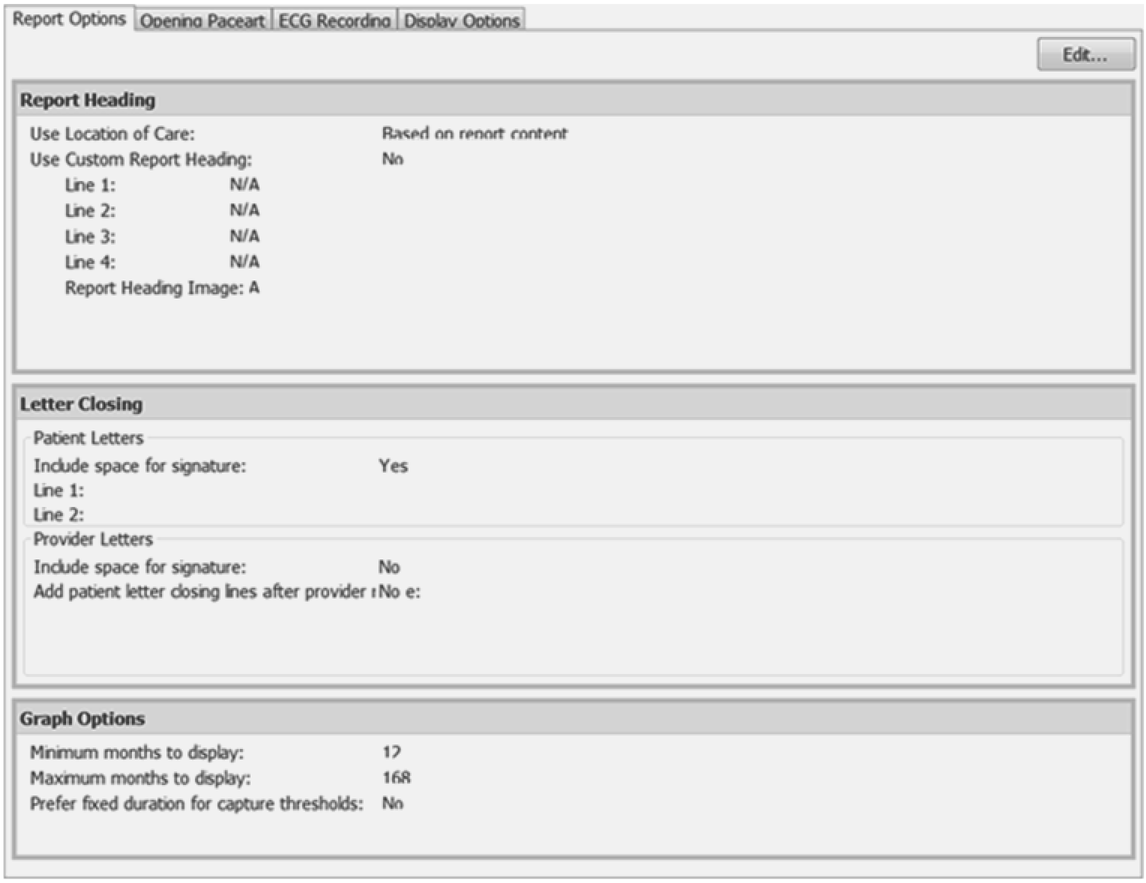
Dialog box fields and buttons	Field and button definitions
Paceart User	When selected indicates that a specific Paceart System user receives all tasks of this type. Click the [...] button to choose the Paceart System user.
Workgroup	When selected indicates that a workgroup receives all tasks of this type. Choose the workgroup from the drop-down list.

Configuring User Preferences

The Paceart System allows you to change settings to fit how you use the system. Use the **Administration:User Preferences** window to change settings for your user account. The changes to your account will be applied anywhere you log in.

The Paceart System allows you to configure the following options per user.

- **Report Options** - This tab allows you to configure report headings, letter closings, and graphing options.
- **Opening Paceart** - This tab allows you to configure which screen you would like to see when the Paceart System opens.
- **ECG Recording** - This tab allows you to configure your ECG recording settings.
- **Display Options** - This tab allows you to configure the display interval for the schedule calendar.



Report Options tab

You can choose report headings, customize the closing for letter reports, and change the appearance of report graphs.

All report configuration settings are specific to the Paceart System user currently logged in. When you log in for the first time, you have the system default settings regardless of the settings selected by other users.

You have three options for report headings.

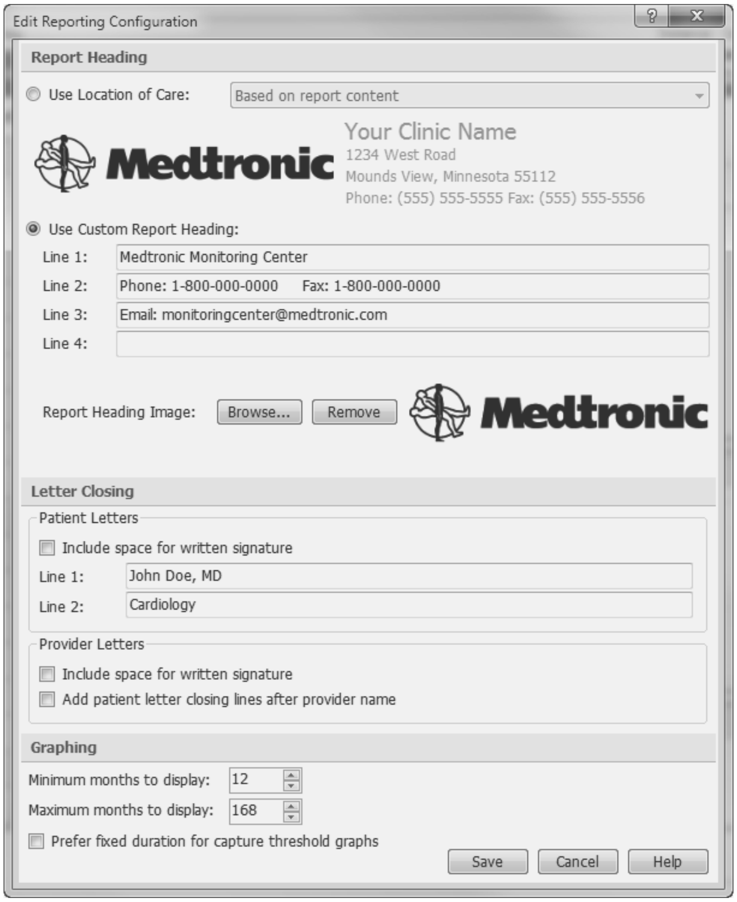
- Use a location of care based on report content for report headings.
- Always use the default location of care for report headings.
- Define a custom report heading.

If you choose to use a location of care based on report content, the system selects the location of care based on the report or letter. For example, patient reports use the patient location of care, appointment letters use the appointment location of care, and encounter reports use the encounter location of care.

Editing Report Configuration

You can customize the heading, closing, and graph options for Paceart System reports.

1. Click **Administration** > **User Preferences** > **Report Options**.
2. Click **Edit**.



3. In the **Report Heading** section, choose whether to use the location of care for your report heading or a custom report heading.
4. If you chose to use a custom report heading, you can enter heading text and you can select a report heading image. Click **Browse** to navigate to an image file or click **Remove** to remove the existing report heading image. Images cannot be more than 750 pixels wide or 240 pixels high. The Paceart System allows the following image formats: .bmp, .jpg, .gif, and .png.
5. In the **Letter Closing** section, you can select closing line options for patient and provider letters.
   - Under **Patient Letters**, select the check box to include a space for the provider's signature on letters before the two closing lines that you specify in the **Line 1** and **Line 2** boxes. Clear the check box to print the two lines directly after the letter's closing.
   - Under **Provider Letters**, select the check box to include a space for a signature on provider letters. You can also choose to include the closing information in the **Line 1** and **Line 2** boxes above on provider letters.
6. In the **Graphing** section, choose the minimum and maximum number of months to display report graphs and select whether you prefer to fix the duration on capture threshold graphs.
7. Click **Save**.

Your report configuration settings are displayed on the **Report Options** tab.

Field and button definitions for the Edit Reporting Configuration dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Use Location of Care:	When selected indicates to use the location of care for the report heading. Choose to use the location of care based on the report content or to use the default location of care for all report headings from the drop-down.
Use Custom Report Heading:	When selected indicates to use a custom report heading.
Line 1:	The first line for the report header.
Line 2:	The second line for the report header.
Line 3:	The third line for the report header.
Line 4:	The fourth line for the report header.
Browse	Opens a browse dialog and allows you to select a file to use as the report head image. The image must be no larger than 750 pixels wide or 240 pixels high.
Remove	Removes the current custom report heading image.
Include space for written signature	When selected, includes a space for a written signature after the letter's closing. When cleared, the letter does not include this space. If the two Patient Letter closing lines are also blank when this check box is cleared, the letter also omits any "Sincerely" closing wording and signature line, if present.
Line 1:	The first closing line for the letters.
Line 2:	The second closing line for the letters.
Include space for written signature	When selected, includes a space for a written signature after the letter's closing. When cleared, the letter does not include this space. If the two Patient Letter closing lines are also blank when this check box is cleared, the letter also omits any "Sincerely" closing wording and signature line, if present.
Add patient letter closing lines after provider name	When selected, provider letters include the two closing lines from the Patient Letters section above after the provider name. When cleared, the Doctor Letters and

Dialog box fields and buttons	Field and button definitions
	Miscellaneous Letters to Provider do not include these lines.
Minimum months to display:	The minimum number of months to display on graphs.
Maximum months to display:	The maximum number of months to display on graphs.
Prefer fixed duration for capture threshold graphs	In order to graph the largest number of capture threshold measurements, reports normally fix either the duration or amplitude. If the count of measurements is the same, by default the system fixes amplitude and graphs duration. When selected, this option fixes the duration and graphs amplitude.

Opening Paceart tab

You can configure the Paceart System to open on the **Home** page or the **Search** page.

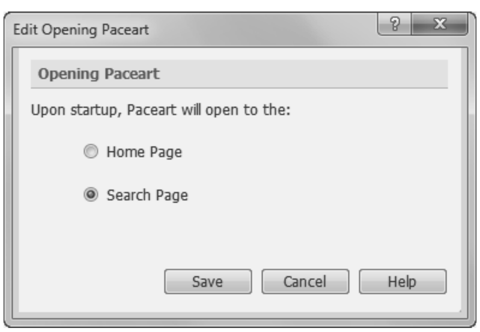
Opening the Paceart System on the **Home** page is useful if you prefer to view today's appointments and tasks. Opening the Paceart System to the **Search** page is useful if you need to search for patients, devices, encounters or appointments.

Click **Edit** to change your opening page.

Choosing the Tab the Paceart System Opens to

You can choose whether the **Home** tab or **Search** tab is displayed upon opening the Paceart System.

1. Click **Administration** > **User Preferences** > **Opening Paceart**.
2. Click **Edit**.



3. Select whether to open to the **Home page** tab or **Search Page** upon startup.
4. Click **Save**.

The next time you open the Paceart System, the tab you selected is displayed.

Field and button definitions for the Edit Opening Paceart dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Home Page	When selected, the Paceart System opens to the Home page.

Dialog box fields and buttons	Field and button definitions
Search Page	When selected, the Paceart System opens to the Search page.

ECG Recording Tab

You can configure your ECG recording settings under User Preferences and the settings will apply to whichever client you are logged into.

Transtelephonic

The Transtelephonic section allows you to configure your ECG recording settings for TTM follow-ups.

Clinic

The Clinic section allows you to configure you ECG recording settings for in-clinic follow-ups.

Field and button definitions for the Edit transtelephonic and clinic ECG settings dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
1 Lead:	The display format used for 1 lead.
2 Leads:	The display format used for 2 leads.
3 Leads:	The display format used for 3 leads.
6 Leads:	The display format used for 6 leads.
12 Leads:	The display format used for 12 leads.
Gain	The selected Gain setting in mm/mV. Gain is used to increase or decrease the amplitude of an ECG signal.
Speed	The selected Speed setting in mm/sec. The strip speed indicates the horizontal scale of the ECG strip.
Filter	The selected Filter setting in Hz. Filtering is used to eliminate "noise" on the ECG display.
Invert Polarity	When selected, inverts the polarity on an ECG strip.
Motion Filter	When selected, applies the motion filter to an ECG strip. The motion filter blocks low frequency noise.

Display Options tab

You can configure the display interval used on the schedule calendar throughout the Paceart System.

You can divide the hours shown on the calendar into intervals of 5, 6, 10, 15, 20, 30, or 60 minutes. The display interval you select affects the calendars on the **Schedule** tab and the **Add or Edit Appointment** dialog box.

You can also select the display interval for the calendar from the right-click menu available on the **Schedule** tab and the **Add or Edit Appointment** dialog box.

Selecting the Calendar Display Interval

You can specify the display interval to use for the Paceart System calendar.

1. Click **Administration** > **User Preferences** > **Display Options**.
2. Click **Edit**.
   The **Edit Calendar Display Interval** dialog box opens.
3. Select the display interval to use from the **Calendar Display Interval** list. You can divide each hour displayed on the calendar into 5, 6, 10, 15, 20 ,30, or 60 minute intervals.
4. Click **Save**.

Fields and button definitions for the Edit Calendar Display Interval dialog box

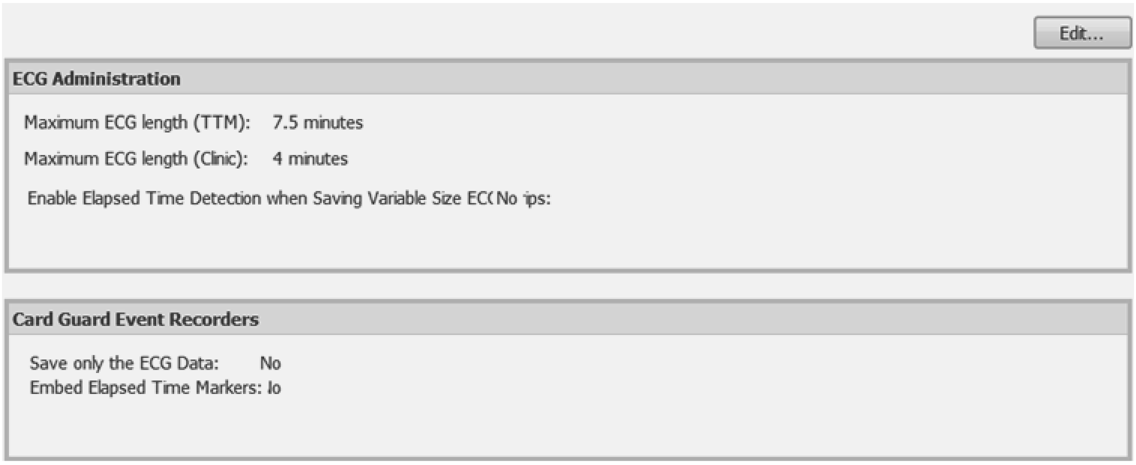
This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button descriptions
Calendar Display Interval	The interval to use for the schedule calendar in the Paceart System. You can divide the hours displayed on the calendar into 5, 6, 10, 15, 20, 30, or 60 minute intervals.

Configuring Waveform Settings

You can use the **Administration: Waveform** window to edit ECG data settings.

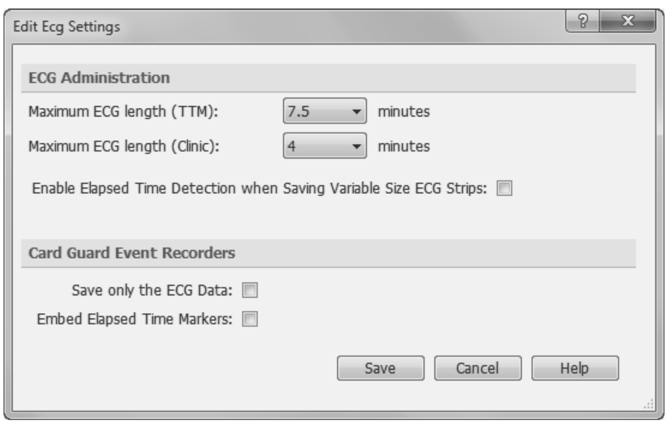
The Paceart System ECG recorder gives you the ability to obtain, measure, modify, and view ECG data. You can set the maximum ECG length for TTM and Clinic encounters, enable elapsed time detection when saving variable size ECG strips, and modify settings for Card Guard event recorders on the **Administration: Waveform** window.



Editing waveform settings

You can edit waveform ECG settings in the Paceart System.

1. Click **Administration** > **Waveform**.
2. Click **Edit**.



3. Update the ECG settings as necessary.
4. Click **Save**.

The edited ECG settings are displayed in the **ECG Administration** and **Card Guard Event Recorders** sections.

Field and button definitions for the Edit ECG Settings dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Maximum ECG length (TTM):	The maximum length of a recorded ECG using TTM hardware.
Maximum ECG length (Clinic):	The maximum length of a recorded ECG using Clinic hardware.
Enable Elapsed Time Detection when Saving Variable Size ECG Strips:	When selected, enables elapsed time detection when saving variable size ECG strips. You will only be

Dialog box fields and buttons	Field and button definitions
	prompted to use the elapsed time value if the USB module is connected.
Save only the ECG Data:	When selected, only the ECG data is saved and event recorder FSK data is discarded.
Embed Elapsed Time Markers:	When selected, the elapsed time markers are embedded.

Chapter 9

Reports list

In many instances, the names of reports, letters, postcards, and labels in this version of the Paceart System have been changed from what they were in previous versions of the Paceart System. There are also some new reports in this version.

Paceart Optima System Name	Previous Paceart System Name
Appointment Search Results report	Same name
Billing report	Same name
Brady Programming History report	Same name
Comprehensive Encounter Summary report	Comprehensive Event Summary report
Device Search Results report	N/A
Doctor Letter	Simplified doctor letter
Doctor Letter (Brady)	Doctor letter
Doctor Letter (Tachy)	Doctor letter
Encounter Arrhythmia (150 x 20 mm) report	Standard, 150 X 20 mm arrhythmia report
Encounter Arrhythmia (150 x 40 mm) report	Modern, 150 X 40 mm and Standard, 150 X 40 mm arrhythmia reports
Encounter Arrhythmia (175 x 10 mm) report	Modern, Full Disclosure arrhythmia report
Encounter Arrhythmia Event Recorder report	Instromedix MultiLead report
Encounter Arrhythmia (Implantable) report	Encounter Arrhythmia Implantable Monitor report
Encounter Brady (2 Strips) report	Threshold Report (2 Strips) and Pacemaker eval. report (2 Strips)
Encounter Brady (3 Strips) report	Threshold Report (3 Strips) and Pacemaker eval. report (3 Strips)
Encounter Brady (Biventricular) report	Threshold Report (Bi-Ventricular) and Pacemaker eval. report (Bi-Ventricular)
Encounter Brady (No strips) report	N/A
Encounter ECG 12 Lead (3 x 4) report	12 Lead ECGs (3 x 4) report
Encounter ECG 12 Lead (6 x 2) report	12 Lead ECGs (6 x 2) report
Encounter ECG 6 Lead report	6 Lead ECGs report
Encounter Episode Details report	N/A
Encounter Episode List	N/A

Paceart Optima System Name	Previous Paceart System Name
Encounter Miscellaneous Chart report	Chart format report
Encounter Miscellaneous Letter to Patient	Letter format (address to patient)
Encounter Miscellaneous Letter to Provider	Letter format (address to physician)
Encounter Phone Note report	N/A
Encounter Search Results report	Test Search Results report
Encounter Tachy (Biventricular)	Generic ICD report (biventricular)
Encounter Tachy (Detailed) report	Generic ICD report and Generic ICD report (biventricular)
Encounter Tachy (Simplified, 2 strips) report	Generic ICD report (simplified)
Encounter Tachy (Simplified, no strips) report	N/A
Encounter TTM (2 Strips) report	Standard and Modern, 2 front page strips TTM reports
Encounter TTM (3 Strips) report	Standard and Modern, 3 front page strips TTM reports
Missed Appointment Letter	Missed event letter(s)
Missed Appointment List report	Missed Events report
Missed Appointment Postcard	Missed event postcard(s)
Patient Activity report	Activity report and Arrhythmia TTM end of enrollment report
Patient Device History report	Device History report
Patient Labels	Patient address labels
Patient Listing (Device Information) report	Same name
Patient Listing (Landscape) report	Same name
Patient Listing (Last and Next Encounter Dates) report	Patient Listing (Last and Next Event Dates) report
Patient Listing (Last Encounter Date) report	Patient List (Last Event Date) report
Patient Listing (Portrait) report	Same name
Patient Medication Summary report	Prescription summary report
Patient Schedule Letter	Projected schedule letter
Patient Search Results report	N/A
Patient Summary report	Patient summary (Arrhythmia) report
Patient Summary (Encounter) report	Patient summary (Pacemaker) and Patient summary (ICD) reports
Patients Tested report	Same name
Provider Labels	Physician address labels
Reminder Letter	Same name
Reminder Postcard	Same name
Remote Monitoring Prescription Letter	HCFA letter

Paceart Optima System Name	Previous Paceart System Name
Schedule (Device Information) report	Same name
Schedule report	Same name

Appointment Search Results report

The Appointment Search Results report is based on your appointment search results and lists appointment information such as patient name, appointment date and time, and encounter type.

Billing report

The Billing report includes patient, billing, and insurance information.

This report is used in replacement of a "super bill" or charge ticket for resources and services provided. The Billing report is available only when a clinic is using the billing functionality in the Paceart System.

Brady Programming History report

The Brady Programming History report includes patient information, active device and lead information, and the programming history for the implanted device.

This report is used to provide a comprehensive view of Brady changes over a specified period of time. It provides a quick view of Brady program settings for troubleshooting.

Comprehensive Encounter Summary report

The Comprehensive Encounter Summary report includes the provider's address, patient information, and encounters listed in chronological order, including the encounter date, type, and comments.

This report is used for patient transfers or when a patient requests to take information with them to another clinic or physician. It can also be used for seasonal patients that want to bring their history to a following physician.

Device Search Results report

The Device Search Results report is a print version of the device search results screen and all applied search criteria. This is a multiple-page report.

Doctor Letter

The Doctor Letter provides a summary of an encounter for a patient, and is addressed to the provider selected in the print dialog.

This report is sent to referring and general physicians for all patients. It displays the location of care for the encounter.

This report was called Simplified doctor letter in previous versions of the Paceart System.

Doctor Letter (Brady)

The Doctor Letter (Brady) includes information on Brady programming, detections, and therapies.

This report is sent to referring and general physicians for patients with Brady devices. It displays the location of care for the encounter.

This report was called Doctor letter in previous versions of the Paceart System.

Doctor Letter (Tachy)

The Doctor Letter (Tachy) includes information about Tachy programming, detections, and therapies.

This report is sent to referring and general physicians for patients with Tachy devices. It displays the location of care for the encounter.

This report was called Doctor letter in previous versions of the Paceart System.

Encounter Arrhythmia (150 x 20 mm) report

The Encounter Arrhythmia (150 x 20 mm) report includes patient information, the provider's address, device information, and ECG measurements. It includes information about the current encounter, such as arrhythmia details and comments. It also includes arrhythmia symptoms and findings from previous encounters. Three 6-second ECG strips (150 x 20 mm) appear on the first page. Additional strips (150 x 20 mm) appear on subsequent pages.

This report is based on the Standard, 150 X 20 mm arrhythmia report in previous versions of the Paceart System.

Encounter Arrhythmia (150 x 40 mm) report

The Encounter Arrhythmia (150 x 40 mm) report includes patient information, the provider's address, device information, and ECG measurements. It includes information about the current encounter, such as arrhythmia details and comments. It also includes arrhythmia symptoms and findings from previous encounters. Three 6-second ECG strips (150 x 40 mm) appear on the first page. Additional strips (150 x 40 mm) appear on subsequent pages.

This report is based on the Modern, 150 X 40 mm and Standard, 150 X 40 mm arrhythmia reports in previous versions of the Paceart System.

Encounter Arrhythmia (175 x 10 mm) report

The Encounter Arrhythmia (175 x 10 mm) report includes patient information, the provider's address, device information, and ECG measurements. It includes information about the current encounter, such as arrhythmia details and comments. It also includes arrhythmia symptoms and findings from previous encounters. Three 6-second ECG strips (175 x 10 mm) appear on the first page. Additional strips (175 x 10 mm) appear on subsequent pages.

This report is based on the Modern, Full Disclosure arrhythmia report in previous versions of the Paceart System.

Encounter Arrhythmia Event Recorder report

The Encounter Arrhythmia Event Recorder report includes patient information, the provider's address, detailed information from the event recorder, and ECG measurements. It includes information about the current encounter, such as arrhythmia details and comments. It also includes arrhythmia symptoms and findings from previous encounters. Three 6-second ECG strips (150 x 20 mm) appear on the first page. Additional strips (150 x 20 mm) appear on subsequent pages.

This report is valuable only if FSK is supported by the event recorder.

This report was called Instromedix MultiLead report in previous versions of the Paceart System.

Encounter Arrhythmia (Implantable) report

The Encounter Arrhythmia (Implantable) report includes patient information, arrhythmia episode counts and summaries, and representative sample waveforms (if available) for episodes occurring since the most recent in-clinic or remote encounter.

Arrhythmia Summary (Implantable, Lifetime) report

This report includes much the same information as the Arrhythmia Summary (Implantable) report. However, instead of displaying episode information recorded since the patent's last summary encounter, the Arrhythmia Summary (Implantable, Lifetime) report displays information for all episodes recorded over the life of the device.

Encounter Brady (2 Strips) report

The Encounter Brady (2 Strips) report includes patient information, active device and lead information, latest programming settings, future appointment information, and comments. Graphical trending of the magnet rate, battery voltage, lead impedances, and thresholds are also included. Two 6-second ECG strips are displayed on the front page. All additional ECG strips (if printed) appear on the following pages.

This report was called Threshold Report (2 Strips) and Pacemaker eval. report (2 Strips) in previous versions of the Paceart System.

Encounter Brady (3 Strips) report

The Encounter Brady (3 Strips) report includes patient information, active device and lead information, latest programming settings, future appointment information, and comments. Graphical trending of the magnet rate, battery voltage, lead impedances, and thresholds are also included. Three 6-second ECG strips are displayed on the front page. All additional ECG strips (if printed) appear on the following pages.

This report was called Threshold Report (3 Strips) and Pacemaker eval. report (3 Strips) in previous versions of the Paceart System.

Encounter Brady (Biventricular) report

The Encounter Brady (Biventricular) report includes patient information, active device and lead information, latest programming settings, future appointment information, and comments. Graphical trending of the magnet rate, battery voltage, lead impedances, and thresholds are also included.

This report is for patients with devices with a third lead.

This report was called Threshold Report (Bi-Ventricular) and Pacemaker eval. report (Bi-Ventricular) in previous versions of the Paceart System.

Encounter Brady (No strips) report

The Encounter Brady (No strips) report includes patient information, active device and lead information, latest programming settings, future appointment information, and comments. Graphical trending of the magnet rate, battery voltage, lead impedances, and thresholds are also included. All ECG strips, if printed, appear on the following pages.

Encounter ECG 12 Lead (3 x 4) report

The Encounter ECG 12 Lead (3x4) report includes 12 strips displayed in three rows and four columns. Each strip displays approximately 2.5 seconds of one lead's ECG. If the report runs for multiple pages, each page of the report is formatted the same.

This report was called 12 Lead ECGs (3 x 4) report in previous versions of the Paceart System.

Encounter ECG 12 Lead (6 x 2) report

The Encounter ECG 12 Lead (6 x 2) report includes 12 strips displayed in six rows and two columns. Each strip displays approximately 5 seconds of one lead's ECG. If the report runs for multiple pages, each page of the report is formatted the same.

This report was called 12 Lead ECGs (6 x 2) report in previous versions of the Paceart System.

Encounter ECG 6 Lead report

The Encounter ECG 6 Lead report includes 6 strips displayed in six rows and one column. Each strip displays approximately 6 seconds of one lead's ECG. If the report runs for multiple pages, each page of the report is formatted the same.

This report was called 6 Lead ECGs report in previous versions of the Paceart System.

Encounter Episode Details report

The Encounter Episode Details report lists details for all episodes and EGMs for episodes that are checked for printing. The report also includes encounter information with patient and device information as well as episode counts.

Encounter Episode List

The Encounter Episode List is a simplified version of the Encounter Episode Details report. It lists episodes for encounters without the details of the episodes.

Encounter Miscellaneous Chart report

The Encounter Miscellaneous Chart report is based on a miscellaneous encounter record that prints in chart format.

This report is used for call logs, TTM, and Optivol information when there is no encounter type available in the Paceart System. The report gives space for miscellaneous information any time extra encounter information is needed.

This report was called Chart format report in previous versions of the Paceart System.

Encounter Miscellaneous Letter to Patient

The Encounter Miscellaneous Letter to Patient is based on a miscellaneous encounter record and is addressed to the patient. You can generate it from encounter search results or a selected miscellaneous encounter.

This letter is used for non-compliant patients, transmission received successfully letters, medication changes, and any other type of letter to the patient that is not already in the Paceart System.

This letter was called Letter format (address to patient) in previous versions of the Paceart System.

Encounter Miscellaneous Letter to Provider

The Encounter Miscellaneous Letter to Provider is based on a miscellaneous encounter record and is addressed to the provider. You can generate it from encounter search results or a selected miscellaneous encounter.

This letter is used for notification of non-compliance, discontinuing services for a patient, and any other type of letter to the provider that is not already in the Paceart System.

This letter was called Letter format (address to physician) in previous versions of the Paceart System.

Encounter Phone Note report

The Encounter Phone Note report displays patient information and information about the phone call, including the reason for the call, using an encounter report format.

Encounter Search Results report

The Encounter Search Results report displays the results of an encounter search. It includes encounter date and time, patient name, encounter status, encounter type, export status, and visit ID.

This report was called Test Search Results report in previous versions of the Paceart System.

Encounter Tachy (Biventricular) report

The Encounter Tachy (Biventricular) report includes patient information, active device and lead information, current programming, data/telemetry, future appointment information, graphical trending of battery voltage, charge time, HV lead impedance, atrial and ventricular lead impedance, and comments. It also includes trending for both ventricular leads.

This report was called Generic ICD report (biventricular) in previous versions of the Paceart System.

Encounter Tachy (Detailed) report

The Encounter Tachy (Detailed) report includes patient information, active device and lead information, current programming, data/telemetry, future appointment information, graphical trending of battery voltage, charge time, HV lead impedance, atrial and ventricular lead impedance, and comments. If the device is biventricular, it includes trending for both ventricular leads. Two 6-second strips appear on the first page. Additional strips, if printed, appear on the following page(s).

This report was called Generic ICD report and Generic ICD report (biventricular) in previous versions of the Paceart System.

Encounter Tachy (Simplified, 2 strips) report

The Encounter Tachy (Simplified, 2 strips) report is a one-page version of the Encounter Tachy (Detailed) report. The report includes patient information, active device and lead information, current programming, data/telemetry, future appointment information, graphical trending of battery voltage, charge time, HV lead impedance, atrial and ventricular lead impedance and comments. Two 6-second strips appear on this page.

This report was called Generic ICD report (simplified) in previous versions of the Paceart System.

Encounter Tachy (Simplified, no strips) report

The Encounter Tachy (Simplified, no strips) report is a simplified version of the Encounter Tachy (Detailed) report. The report includes patient information, active device and lead information, current programming, data/telemetry, future appointment information, graphical trending of battery voltage, charge time, HV lead impedance, atrial and ventricular lead impedance and comments. No summary strips appear on the first page of this report. All strips, if printed, appear on the following pages.

Encounter TTM (2 Strips) report

The Encounter TTM (2 Strips) report includes patient information, the provider's address, device and lead information, and Brady measurements and programming information. It includes information about the current encounter, including comments. It also includes measurements and a graph of magnet rate from previous TTM encounters. Two 6-second ECG strips (150 x 40 mm) appear on the first page. Additional strips (150 x 20 mm) appear on subsequent pages. The report also shows the next scheduled clinic and TTM appointments.

This report is based on the Standard and Modern, 2 front page strips TTM reports in previous versions of the Paceart System.

Encounter TTM (3 Strips) report

The Encounter TTM (3 Strips) report includes patient information, the provider's address, device and lead information, and Brady measurements and programming information. It includes information about the current encounter, including comments. It also includes measurements and a graph of magnet rate from previous TTM encounters. Up to three 6-second ECG strips (150 x 20 mm) appear on the first page. Additional strips (150 x 20 mm) appear on subsequent pages. The report also shows the next scheduled clinic and TTM appointments.

This report is based on the Standard and Modern, 3 front page strips TTM reports in previous versions of the Paceart System.

Missed Appointment Letter

The Missed Appointment Letter is addressed to the patient to inform the patient that they have missed an appointment. The letter asks the patient to call the clinic to reschedule the appointment. This report is available only if there is a missed appointment for the patient.

This letter was called Missed event letter(s) in previous versions of the Paceart System.

Missed Appointment List report

The Missed Appointment List report includes the patient ID, patient name, patient phone number, appointment time, appointment type, and appointment comments.

This report was called Missed Events report in previous versions of the Paceart System.

Missed Appointment Postcard

The Missed Appointment Postcard is addressed to the patient to inform the patient that they have missed an appointment. The patient is asked to call the clinic to reschedule the appointment. This report is available only if there is a missed appointment for the patient.

This was called Missed event postcard(s) in previous versions of the Paceart System.

Patient Activity report

The Patient Activity report lists the history of patients' arrhythmia symptoms and findings for a specific device. You can generate it from device search results or a selected in-clinic or TTM encounter. This is a multiple-page report.

This report was called Activity report and Arrhythmia TTM end of enrollment report in previous versions of the Paceart System.

Patient Device History report

The Patient Device History report lists active and inactive devices associated with a patient.

The report includes device information such as manufacturer and model; as well as alert, implant, and device status information.

This report can be provided to patients who will be followed by another physician temporarily, seasonally, or permanently. It can also be provided to a physician who will be performing a change-out, upgrade, or other procedure on the patient.

This report was called Device History report in previous versions of the Paceart System.

Patient Labels

The Patient Labels are addressed to the patient. Labels are designed for Avery 5160 address labels.

These were called Patient address labels in previous versions of the Paceart System.

Patient Listing (Device Information) report

The Patient Listing (Device Information) report includes the patient name, device type, device location, device manufacturer and model, serial number, alert, and implant date for all patients matching the selected search criteria.

Patient Listing (Landscape) report

The Patient Listing (Landscape) report includes the patient name, patient ID, street address, city, state, zip code, phone number, date of birth, device, implant date, referring provider, and diagnosis information for all patients matching the selected search criteria.

Patient Listing (Last and Next Encounter Dates) report

The Patient Listing (Last and Next Encounter Dates) report lists all patients with patient's last and next encounter date. This is a multiple-page report.

The next encounter date on the report shows the time and appointment type. By default, all encounter types and patient statuses are selected, but you can select one or more encounter types or patient statuses. You can also sort the report based on patient's name, encounter date, or appointment date.

Patients without encounters are not included on the report.

If you sort the report by last appointment date, it lists patients who have not been seen in the longest amount of time first. If you sort the report by next appointment date, it lists patients without appointments first.

This report was called Patient Listing (Last and Next Event Dates) report in previous versions of the Paceart System.

Patient Listing (Last Encounter Date) report

The Patient Listing (Last Encounter Date) report lists all patients who have not had an encounter in a given period of time. By default, the report shows all encounters up to the current date but you can you can limit the list to a date in the past by selecting the number of weeks to skip. For example, if today is Wednesday October 21, and the limit is one week, the limit date would be the previous Wednesday, October 14.

The report includes the patient name, patient ID, date of birth, phone number, last encounter date, and type of last encounter.

The report does not filter by patient status. It will show all patients of all statuses. If you want to view only active patients, you must use the Patient Listing (Last and Next Encounter Dates) report and sort by last encounter date.

This report was called Patient List (Last Event Date) report in previous versions of the Paceart System.

Patient Listing (Portrait) report

The Patient Listing (Portrait) report includes the patient name, patient ID, date of birth, phone number, primary diagnosis, and the referring provider information for all patients matching the selected search criteria.

Patient Medication Summary report

The Patient Medication Summary report lists all active and inactive medications associated with a patient. This is a multiple-page report.

This report can be provided to the patient during in-clinic follow-up exams to ensure that all medications are being tracked appropriately.

This report was called Prescription summary report in previous versions of the Paceart System.

Patient Schedule Letter

The Patient Schedule Letter is addressed to the patient and lists future appointment dates and times.

This letter is used by clinics who create their schedule for the entire year or wish to provide their patients with a general schedule for the year. To use the Patient Schedule Letter, frequency information for the patient must be entered and the clinician should specify the date ranges for the letter. The clinic may select an option to automatically create the appointments listed on the Patient Schedule Letter.

You should verify the dates of automatically scheduled appointments because the Paceart System does not take the dates of different appointment types into consideration. For example, you could have scheduled a Remote appointment and an In-clinic appointment right next to each other.

This report was called Projected schedule letter in previous versions of the Paceart System.

Patient Search Results report

The Patient Search Results report lists all the patients that match your search results.

Patient Summary report

The Patient Summary report includes patient and device information, medications, and insurance information.

Clinicians will use this report as either a "cover sheet" for a patient in their chart or to provide it to a patient to take with them if they will be seen by another position seasonally or permanently.

This report was called Patient summary (Arrhythmia) report in previous versions of the Paceart System.

Patient Summary (Encounter) report

The Patient Summary (Encounter) report includes patient information, device information, and encounter information such as currently programmed values.

Clinicians will use this report as either a "cover sheet" for a patient in their chart or to provide it to a patient to take with them if they will be seen by another position seasonally or permanently.

This report was called Patient summary (Pacemaker) and Patient summary (ICD) reports in previous versions of the Paceart System.

Patients Tested report

The Patients Tested report contains the patient name, patient ID, programmed mode, diagnosis 1, referring provider, encounter date and time, and encounter type.

The Patients Tested report is most commonly used as a billing audit to verify that a clinic is charging for appointments that may have been outside of the original schedule. This report is available even if the clinic does not use the billing functionality.

Provider Labels

The Provider Labels are addressed to the physician. Labels are designed for Avery 5160 address labels.

This report was called Physician address labels in previous versions of the Paceart System.

Reminder Letter

The Reminder Letter is addressed to the patient to remind the patient of an upcoming appointment. This report is available only if there is an appointment scheduled for the patient.

Reminder Postcard

The Reminder Postcard is addressed to the patient to remind the patient of an upcoming appointment. This report is available only if there is an appointment scheduled for the patient.

Remote Monitoring Prescription Letter

The Remote Monitoring Prescription Letter consists of two pages. The first page explains the need for a prescription for patients who are followed transtelephonically by the request of a physician, and the second page explains the prescription.

This report was called the HCFA letter in previous versions of the Paceart System.

Schedule (Device Information) report

The Schedule (Device Information) report includes the appointment time, appointment type, patient ID, patient name, device type, device implant date, device programming mode, and patient phone number.

Schedule report

The Schedule report includes the appointment time, appointment type, patient ID, patient name, patient phone number, and appointment comments. If the report runs for multiple pages, each page of the report is formatted the same.

Chapter 10

CardioVoice TTM Assistant

The CardioVoice TTM Assistant system enables patients and doctors to communication information about cardiac events through an automated voice response system.

The Patient's Role

Patients call into CardioVoice from their home and are directed through a series of automated prompts. The patient can perform the following actions during a CardioVoice call:

- Transmit an ECG.
- Record a message for their doctor.
- Listen to a message from their doctor.

CardioVoice allows patients to communicate with their doctors about cardiac events while not at the clinic.

The Doctor's Role

Doctors can access CardioVoice from a Paceart System station in the clinic or by dialing into CardioVoice remotely. When a patient records a new ECG, notification of the event will be sent to the doctor by fax, email, or page. The doctor can perform the following actions within CardioVoice:

- Record messages for patients.
- Listen to messages from patients.
- View ECGs recorded by patients.

The doctor can receive and analyze patient cardiac events without the patient being present at the clinic.

The System Administrator's Role

The system administrator is responsible for the following tasks in CardioVoice:

- Installation
- Configuration
- Information updates

CardioVoice Configuration

You must configure CardioVoice in two places, in the CardioVoice application and in the Paceart System client.

CardioVoice configuration

CardioVoice is a separate application that can be installed on the application server. CardioVoice is a windows service that runs in the background.

In the CardioVoice application you can configure your phone line connections, start and stop the CardioVoice service, view the call log, play messages, configure CardioVoice options, and reconnect.

CardioVoice configuration in the Paceart System

You can configure CardioVoice options in the Paceart System client under **Administration: CardioVoice**. You can configure which report contains the recorded CardioVoice information, which provider you want to be notified when there is a new CardioVoice message and how that provider is notified, you can also configure patient CardioVoice IDs.

CardioVoice Application

CardioVoice is an optional component of the Paceart Optima System. It is a separate piece of software that contains configuration options.

In the CardioVoice application you can configure your phone line connections, start and stop the CardioVoice service, view the call log, play messages, configure CardioVoice options, and reconnect.

Opening CardioVoice

To view and access configuration options you must open CardioVoice.

1. Click **Start**.
2. Click **Programs** > **Medtronic**.
3. Click **Paceart CardioVoice**.

The CardioVoice application is displayed.

CardioVoice Configuration Options

The **CardioVoice Configuration Options** contains three subtabs that allow you to configure CardioVoice for your clinic.

Prompts tab

The **Prompts** tab allows you to customize the prompts the user hears when they dial into CardioVoice.

Options tab

The **Options** tab allows you to configure default reports, faxing options, and miscellaneous phone options.

Call Script tab

The **Call Script** tab allows you to customize the options the user can select when they dial into CardioVoice.

Opening the CardioVoice Configuration Options Window

1. Click **Start**.
2. Click **Programs** > **Medtronic**.
3. Click **Paceart CardioVoice**.
4. In **CardioVoice**, click **Open**.

The **CardioVoice Configuration Options** window is displayed.

Prompts Tab

The **Prompts** tab allows you to select which prompts the caller will hear and in which language.

Figure 6: CardioVoice Prompts tab

Language section

You may choose from two pre-recorded languages, either English or Spanish.

Note: If you would like to add a new language you must record all voice prompts for that new language.

Type section

There are two types of messages. The first is the Message Voice Prompt. These are the prompts where a caller is asked to give a response.

The second type of message is the System Voice Prompt. These are letters, numbers, and words CardioVoice uses to repeat back the information the caller has entered on the keypad.

Name section

This field displays a listing of all the call prompts for CardioVoice. Click **Locate** to display where the prompt is located in the call script. Click **Play** to play the audio file of the prompt.

Description section

This field displays a description of a selected call prompt. Click the desired prompt in the **Name** field to see a description of the prompt.

Contents section

This field displays the contents of each voice prompt. Click the desired prompt in the **Name** field to see the contents of that prompt.

Field and button definitions for the Prompts tab

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Language	The language of the prompts.
Add	Click to add a new language. If you would like to add a new language you must record all voice prompts for that new language.
Edit	Click to edit an existing language.
Delete	Click to delete an existing language.
Import	Click to import a GCIII language file.
Type	The type of voice prompt to use. Selecting an option displays all of the voice prompts of that kind in the Name section.
Path	Allows you to browse to the location of the voice prompt file. The voice prompt file must have the .vap file type.
Description	Displays a description of the prompt selected in the Name section.
Contents	Displays the text of the prompt selected in the Name section.
Default	When selected indicates that the default content is being used.
Name	Displays a listing of all the call prompts for CardioVoice.
Locate	Gives the location of the selected prompt in the call script.
Play	Plays the audio file of the selected prompt.
Close	Saves and closes the dialog box.

Adding a CardioVoice Language

You can add additional CardioVoice Languages to the **Languages** section of the **Prompts** tab. The default languages supplied with CardioVoice are English and Spanish. If you add additional languages you must record the voice prompts for the new languages.

1. Open the Paceart System CardioVoice client. Click **Start** > **Medtronic** > **Paceart CardioVoice**.
2. On the main CardioVoice window, click **Options**.
   The **CardioVoice Configuration Options** dialog box is displayed.
3. Click the **Prompts** tab.
4. Click **Add**.
   The **Edit CardioVoice Language** dialog box is displayed.
5. Enter the name of the new language in the **Name** field.
6. Select the geographic location that correlates to the new language from the **Location** drop-down box.
7. In the **Alphabet Symbols** section you can add, remove, or import language specific characters or symbols.
   - To add new character or symbols click **Add**.
   - To remove a character or symbol click **Remove**.
   - To import a character or symbol click **Import**.
8. In the **Alphabet Symbols** section you can move the position of the characters or symbols in the list.
   - To move a character or symbol up in the list click **Up**.
   - To move a character or symbol down in the list click **Down**.
   - To remove a character or symbol from the list click **Clear**.
9. Click **OK**.
   The new language is displayed in the **Language** section of the **Prompts** tab.

Editing a CardioVoice Language

You can edit existing languages displayed in the **Languages** section of the **Prompts** tab.

1. On the main CardioVoice window, click **Options**.
   The **CardioVoice Configuration Options** dialog box is displayed.
2. Click the **Prompts** tab.
3. Select the desired language and click **Edit**.
   The **Edit CardioVoice Language** dialog box is displayed.
4. Make the desired changes to the selected language.
5. Click **OK** to save the changes.

Field and button definitions for the CardioVoice Language settings dialog box

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Name	The name of the language.
Location	The geographic location the language applies to.
Alphabet Symbols	Letters and symbols for the selected language.
Add	Click to add letters or symbols to the list.

Dialog box fields and buttons	Field and button definitions
Remove	Click to remove the selected letters or symbols from the list.
Import	Click to import a letter or symbol into the list.
Up	Click to move the selected letter or symbol up in the list.
Down	Click to move the selected letter or symbol down in the list.
Clear	Click to clear the selected letter or symbol from the field.

Deleting a CardioVoice Language

You can delete existing languages displayed in the **Languages** section of the **Prompts** tab.

1. On the main CardioVoice window, click **Options**.
   The **CardioVoice Configuration Options** dialog box is displayed.
2. Click the **Prompts** tab.
3. Select the desired language and click **Delete**.
   A confirmation dialog box is displayed.
4. In the confirmation dialog box click **Delete All** to delete the language and voice prompts or click **Delete Language Only** to delete the language from the list but leave the voice prompt files.

The deleted language is deleted in the **Language** section of the **Prompts** tab.

Navigating to voice prompt files

1. On the main CardioVoice window, click **Options**.
   The **CardioVoice Configuration Options** dialog box is displayed.
2. In the **Type** section, select the type of voice prompts you want to navigate to.
3. Click **Path**.
   The **Browse For Folder** dialog box is displayed.
4. Navigate to the location of your recorded voice prompt files.
5. Click **OK**.
6. In the confirmation dialog box click **Yes**.

New prompts will be displayed in the **Name**, **Description**, and **Contents** section of the **Prompts** tab.

Playing Prompts

You can listen to audio files for voice prompts in the PaceMessage (Cardiovoice) player.

1. In CardioVoice, click **Options**.
   The **CardioVoice Configuration Options** dialog box is displayed.
2. Select the prompt you want to listen to from the list in the **Name** section.
3. Click **Play**.
   The **PaceMessage (CardioVoice)** dialog box is displayed.

4. Click the **Play** button to play the voice prompt.
5. Click **Close**.

Field and button definitions for the PaceMessage (CardioVoice) player

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Sound Card	When selected the voice prompt plays through the sound card in the computer.
Phone Line	When selected the voice prompt plays through the phone line.
Rewind	Rewinds the selected voice prompt.
Fast Forward	Fast Forwards the selected voice prompt.
Play	Plays the selected voice prompt.
Pause	Pauses the selected voice prompt.
Stop	Stops the selected voice prompt.
Record	Starts recording a new voice prompt. If you record a new voice prompt, the old prompt will be erased.
Close	Saves and closes the dialog box.

Options Tab

This tab contains miscellaneous CardioVoice configuration settings.

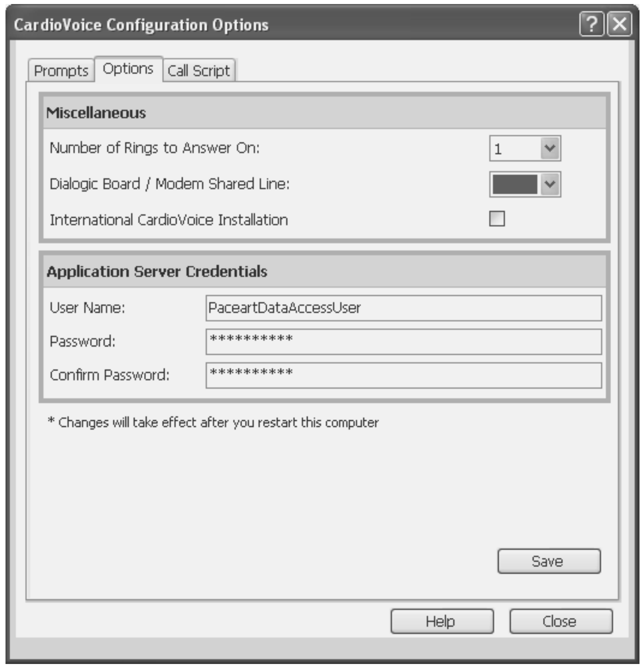


Figure 7: CardioVoice Options tab

Miscellaneous

The **Miscellaneous** section contains three options:

- **Number of Rings to Answer On** - This option specifies the number of rings that will occur before the CardioVoice program picks up the incoming call. This option can be set to a number between 0 and 10. If 0 or 1 ring is specified, CardioVoice will pick up on the first ring.
- **Dialogic Board/Modem Shared Line** - Use this option to specify which phone line, if any, is shared with your modem. You may choose to share either line 1 or line 2.
- **International CardioVoice Installation** - Select this check box when you are using CardioVoice outside of the United States.

Application Server Credentials

You must enter the username and password for the Application Server.

Field and button definitions for the Options tab

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Number of Rings to Answer On	Specifies the number of rings that will occur before CardioVoice picks up the incoming call. This option can be set to a number between 0 and 10. If 0 or 1 ring is specified, CardioVoice will pick up on the first ring.
Dialogic Board/Modem Shared Line	Specifies which phone line, if any, is shared with your modem. You may choose to share either line 1 or line 2.

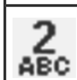
Dialog box fields and buttons	Field and button definitions
International CardioVoice Installation	Select if you are using CardioVoice outside of the United States.
User Name	The Application Server User Name
Password	The password for the Application Server User Name you entered.
Confirm Password	Confirm the password for the Application Server User Name you entered.
Save	Saves all changes.
Close	Saves and closes the dialog box.

Call Script Tab

When a patient or physician calls into CardioVoice, they are directed by a series of call prompts. The user responds to these prompts by selecting numbers on the phone's keypad, for example the user is asked to select a language by pressing one for English or two for Spanish.

The call prompts are organized into a call script. You can customize the call script to fit the needs of your system by activating or deactivating the prompts. The following icons are used in the call script.

You can enable and disable call prompts by double-clicking on them.

Icon	Description
	The call script step is configurable and is enabled. To disable an enabled step, double-click the icon or click **Disable**.
	The call script step is configurable and is disabled. To enable a disabled step, double-click the icon.
	The number the CardioVoice caller pushes to select the associated option.
	Indicates a spoken call prompt menu that requires CardioVoice caller input.

Field and button definitions for the Call Script tab

This is a list of fields and buttons and their definitions.

Dialog box fields and buttons	Field and button definitions
Locate	Click to view more information on the selected voice prompt in the Prompt tab.

Dialog box fields and buttons	Field and button definitions
Enable/Disable	Click to use or not use the selected prompt in the call script.
Close	Saves and closes the dialog box.

Configuring CardioVoice Options in the Paceart System

You can configure additional CardioVoice options in the Paceart Optima System, such as CardioVoice IDs and automatic notifications.

In the Paceart System, you can configuration the following CardioVoice options.

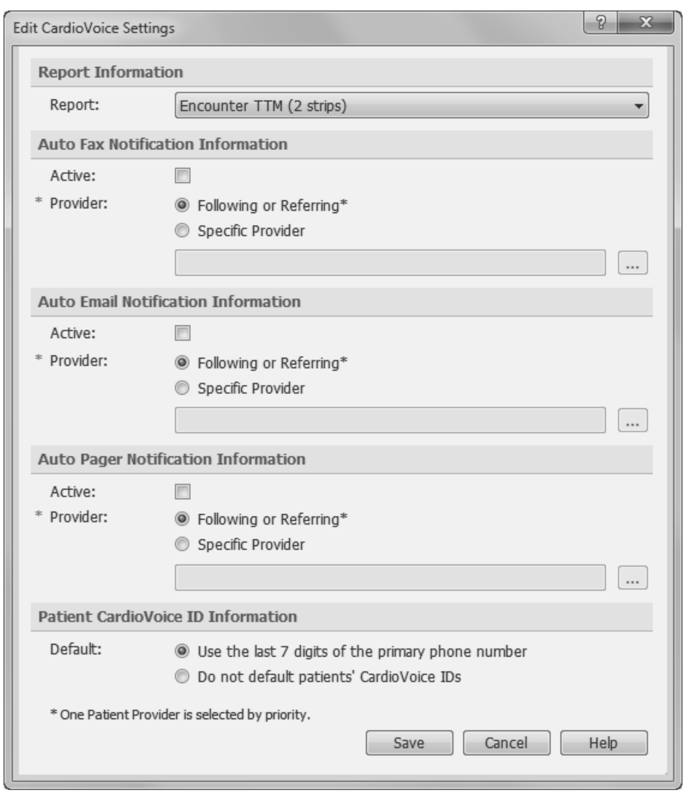
- You can configure a provider's CardioVoice ID.
- You can configure a patient's CardioVoice ID and record the patient's spoken name.
- You can configure the Paceart System to automatically fax, page, or email a physician when a patient calls into CardioVoice.

Editing CardioVoice Settings

The Paceart System can be configured to automatically fax, email, or page a physician when a patient calls into CardioVoice.

Before you can use the CardioVoice auto fax, auto email, or auto pager notifications you must have the messaging service installed on the application server and configured in **Administration: Messaging Service**.

1. Click **Administration** > **CardioVoice**.
2. Click **Edit**.



3. In the **Report Information** section, select which report is sent when a physician is sent a report through CardioVoice.
4. Select how you want CardioVoice to notify the provider. Select the **Active** check box for fax, email, and pager notification.
5. For each of the notification methods, choose which provider you would like to send the notification to.
   - Select **Following or Referring** to use the following or referring provider listed in the patient record. If a patient has more than one following or referring provider, the Paceart System selects one provider in the following order if they are specified for the patient:
     - Following
     - Referring 1
     - Referring 2
     - Referring 3
   - Select **Specific Provider** to choose a provider from the Encyclopedia.
6. In the **CardioVoice ID Information** section, choose the default CardioVoice ID information.
   - Select **Use the last 7 digits of the primary phone number** to assign a CardioVoice ID to a patient automatically.
   - Select **Do not default patients' CardioVoice IDs**.
7. Click **Save**.

The updated CardioVoice information is displayed in the **Administration: CardioVoice** window.

Provider CardioVoice IDs

CardioVoice uses provider CardioVoice IDs to recognize a provider calling into CardioVoice.

Provider CardioVoice IDs must be unique and 20 digits or less.

Adding or Editing a Provider's CardioVoice ID

You can add or edit a provider's CardioVoice ID in the Paceart System.

1. In the Paceart Optima System, click the **Encyclopedia** tab.
2. In the left column, click **Providers**.
3. Select the provider and click **Edit**.
4. In the Edit Provider dialog box, enter the provider's ID in the **CardioVoice ID** field.
5. Click **Save**.

The provider's CardioVoice ID is displayed in the **Details** tab.

Patient CardioVoice IDs

CardioVoice uses patient CardioVoice IDs to associate patient tests with a particular Paceart System patient.

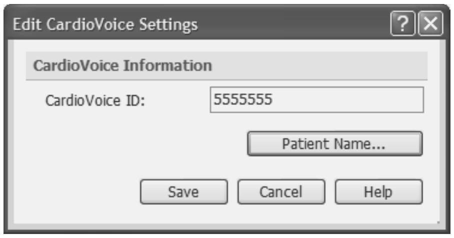
If patients do not have their CardioVoice ID numbers, they will still be able to record ECGs, but a new CardioVoice patient will be created with each transmission. The CardioVoice operator will have to manually reassign the test from "New CardioVoice Patient" to the correct patient.

You may configure the system to automatically assign a CardioVoice ID number based on the last seven digits of a patient's phone number. Or you can enter a patient's CardioVoice ID number manually.

Editing a patient's CardioVoice information

You can edit a patient's CardioVoice settings from the **Miscellaneous** tab in the patient record.

1. In the patient record, click the **Patient Information** tab.
2. Click the **Miscellaneous** tab.
3. In the **CardioVoice Information** section, click **Edit**.
   The **Edit CardioVoice Settings** dialog box is displayed.

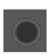


4. Enter the patient's CardioVoice information and click **Save**.

The patient's CardioVoice settings are displayed in the **CardioVoice Information** section of the **Miscellaneous** tab.

Recording and playing a patient's spoken name

You can record a patient's spoken name from the **Miscellaneous** tab in the patient record. The spoken name audio file is played during CardioVoice calls.

Button	Name
	Record
	Stop
	Play

1. In the patient record, click the **Patient Information** tab.
2. Click the **Miscellaneous** tab.
3. In the **CardioVoice Information** section, click **Edit**.
   The **Edit CardioVoice Settings** dialog box is displayed.
4. Click **Patient Name**.
   The **Patient Spoken Name** dialog box is displayed.
5. To record the patient's name, click the record button.
6. To stop recording, click the stop button.
7. To play back the patient's name, click the play button.
8. When you have finished recording the patient's name click **Close** to close the **Patient Spoken Name** dialog box.
9. In the **Edit CardioVoice Settings** dialog box, click **Save**.

In the **CardioVoice Information** section the **Patient Name** field status changes to "Recorded".

Chapter

11

Paceart System Web Access

Paceart System Web Access lets you view Paceart System reports through a web interface.

Paceart System Web Access is an optional add-on package for use with the Paceart System. Adding Paceart System Web Access to your Paceart System will allow you access to Paceart System reports through an easy-to-use web interface. For information on installing Paceart System Web Access refer to the *Paceart Optima System Software Installation and Configuration Instructions*.

To view a patient's report using Paceart System Web Access, log in to the website using your assigned Paceart System user name and password. From there, you can view the list of encounters for your patients. Details of each of the encounters can be viewed by displaying the reports available in the Paceart System. The following reports are available:

- Encounter Brady (2 strips)
- Encounter Brady (3 strips)
- Encounter Brady (Biventricular)
- Encounter Brady (No strips)
- Brady Programming History
- Encounter Tachy (Detailed)
- Encounter Tachy (Biventricular)
- Encounter Tachy (Simplified, 2 strips)
- Encounter Tachy (Simplified, no strips)
- Encounter TTM (2 strips)
- Encounter TTM (3 strips)
- Encounter Episode List
- Encounter Episode Details
- Doctor Letter
- Doctor Letter (Brady)
- Doctor Letter (Tachy)
- Encounter Arrhythmia Event Recorder
- Encounter Arrhythmia (150 x 20 mm)
- Encounter Arrhythmia (150 x 40 mm)
- Encounter Arrhythmia (175 x 10 mm)
- Encounter Arrhythmia (Implantable)
- Arrhythmia Summary (Implantable, Lifetime)
- Encounter ECG 6 Lead
- Encounter ECG 12 Lead (3 x 4)
- Encounter ECG 12 Lead (6 x 2)
- Encounter Miscellaneous Chart
- Encounter Miscellaneous Letter to Patient
- Encounter Miscellaneous Letter to Provider
- Encounter Phone Note
- Patient Activity

- Billing

You can search for a particular report using Paceart System Web Access. The search criteria include patient's name, provider's name, type of encounter, and date range of the encounter.

Reports are displayed on the screen in PDF format. These reports can be viewed from within your web browser.

Paceart System Web Access can be configured to work on either an intranet or on the Internet. Depending on your access requirements, you can restrict Paceart System Web Access availability to your internal intranet, or you can access your Paceart System reports from any Internet connection in the world.

Paceart System Web Access security

Note: The information contained in this section is not a substitute for advice from a professional Internet security consulting firm. If you require a secure website, seek professional security consulting help.

Monitoring services and limiting access to patient data

Access to patient data is set in the Administration area of the Paceart System. User roles can be assigned either Allow Access or View All Patients' Encounters permissions. If neither are selected for a role, users with that role will not be able to log in to Paceart Web Access.

Paceart System Web Access uses the same security principle as the main Paceart System client application. All users that have access to a particular Paceart System Database have the ability to view patient reports on that database. Restricting access to patient data is set in the **Paceart Web** permissions section of the Paceart System in **Administration** > **Security** > **User Roles** > **Add/Edit** . By default, a user has **Allow Access** permission, which provides access only to patients with a provider that corresponds to the user's **Link to Provider** field. The **View All Patients' Encounters** permission allows access to any patient.

Account administration

Before using Paceart System Web Access, users need to log in with a user name and password created in the Paceart System.

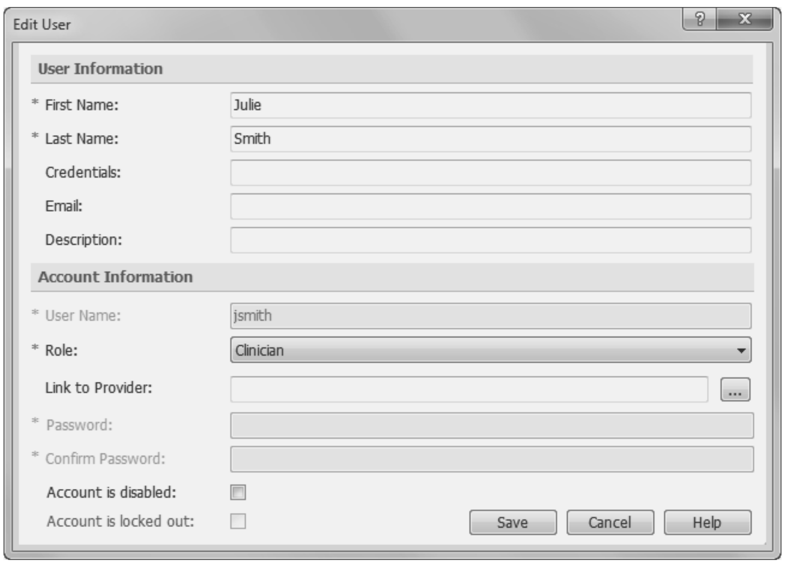
Figure 8: Paceart System Web Access login screen

Users of Paceart System Web Access can log in using their assigned Paceart System user name and password. Each user must be listed in **Administration** > **Security** > **Users** and must have an associated user role that allows access to Paceart System Web Access. If a user is associated with a role that does not have the **View All Patients' Encounters** permission, the user will also need the **Link to Provider** field to be associated with an appropriate provider. The administration of the users, passwords, and user roles is all done through the Paceart System client.

Adding or editing a Paceart System user account

You can set up a user account to provide a person access to the Paceart System. Account information includes user name, role, and password.

1. Click **Administration** > **Security** > **Users**.
2. Determine which action to take.
   - To add a user account, click **Add**.
   - To edit an existing user account, select the user in the **Users** section and click **Edit**.



3. Enter user and account information for the user as necessary. If you are editing an existing user, the user name and password information are not editable. The user name appears on printed reports and logs. The set password function can be used to reset the password for an existing user.
4. Click **Save**.

The user is saved and displayed in the **Users** section.

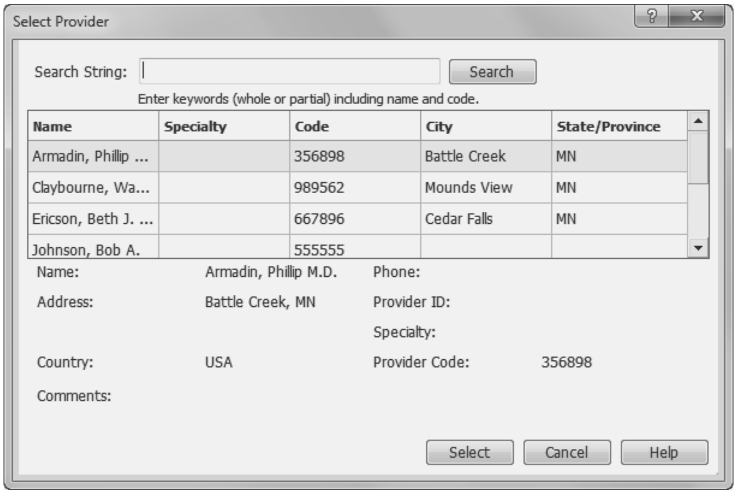
Linking users to providers

You can link a user to a provider from the Encyclopedia when adding or editing a Paceart System user account. Linking to a Provider can be used to identify when a Paceart System user is also one of the providers listed in the **Encyclopedia** tab.

A user without the **View All Patients' Encounters** permission is only able to view patients with a provider that corresponds to the user's **Link to Provider** field.

1. Click **Administration** > **Security**.
2. Determine which action to take.
   - To link a Paceart System user to a provider, click the **Users** tab.
   - To link an external system role to a provider, click the **External System Accounts** tab.
3. Click **Add** or **Edit**.

4. From the **Add User** or **Edit User** window, click the **[...]** in the Account Information window to specify a provider.



The **Select Provider** window is displayed.

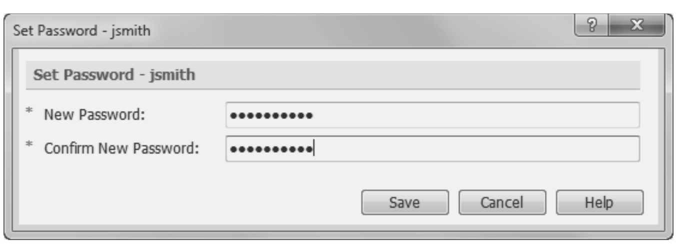
5. Select a provider and click **Select**.
6. Click **Save**.

The provider is linked to the user.

Setting a user password

You can set passwords for both Paceart System users and external system accounts. A user's password is initially set up when the user account is added, but it can be re-set. Passwords for external system accounts don't expire.

1. Click **Administration** > **Security**.
2. Determine which action to take.
   - To set a Paceart System user password, click the **Users** tab.
   - To set an external system account password, click the **External System Accounts** tab.
3. In the **Users** or **External System Accounts** section, select the user whose password you want to set.
4. Click **Set Password**.



5. Enter the new password in the **New Password** field. This is a required field.
6. Re-enter the new password in the **Confirm New Password** field. This is a required field.
7. Click **Save**.

The new password is saved.

Logging in to Paceart System Web Access

You can log in to Paceart System Web Access with your User Name and Password.

This is a secure site. Enter the User Name and Password given to you by your clinic. If you are having trouble logging in, contact your clinic administrator

Searching patient encounters

You can search for an encounter from the **Patient Encounters** tab. The encounter must match all of the search criteria that you enter to be considered a match.

1. Enter your search criteria in one or more of the following fields. The more criteria you enter the more specific your search will be. If you want to see all of the encounters do not enter any search criteria.

Criteria	Description
Date Range	Search for an encounter by a date range.
Encounter Type	Search for an encounter by its encounter type.
Patient Name	Search for an encounter by a patient's name.
Provider Name	Search for an encounter by a provider's name.

2. Click **Search**.
The system searches for the most recent version of an encounter. The initial search results are sorted in descending order based on encounter date. You can change the sort criteria and order by clicking on any of the column headings.
3. Select an encounter from the search results table.
You can select a report to generate from the drop-down list.

Chapter 12

Paceart Optima System Security and Privacy

Your Paceart Optima System data security, integrity, confidentiality, and availability are important. The Health Insurance Portability and Accountability Act (HIPAA) and other laws have brought these topics to the forefront. The Paceart Optima System allows you to deploy security and privacy features. These features can assist you in securing your Paceart Optima System and ensuring the privacy of the data that is contained in your Paceart Optima System.

Paceart Optima System Security Configuration Overview

The Paceart Optima System addresses security concerns at several levels. In order to address these concerns, the Paceart Optima System requires specific configuration.

The Paceart System uses a variety of measures to address security vulnerability concerns:

User authentication

User authentication occurs via entry of a username and password when the Paceart System application is launched. The Paceart Optima System enforces a level of password complexity through either Paceart Internal Authentication configuration in **Administration: Security** or utilities provided by Microsoft Active Directory Services, depending on how the system is configured.

External system accounts and roles

The Paceart Optima System allows you to create user account records and define user roles for external users that use systems outside of the Paceart Optima System.

Data filtering

The Paceart Optima System uses data filtering to protect against data corruption via SQL injection attacks.

SSL encryption

The Paceart System desktop application communicates with the Paceart System Application Server over a network using Secure Sockets Layer (SSL) encryption. Web Services hosted on the Paceart System Application Server communicate with the Paceart System database over a network using SSL encryption. The database connection string used by these Web Services is also encrypted to protect database access credentials. Only authenticated Paceart System users can call Web Services on the Application Server. The Paceart System requires you to install SSL certificates to ensure privacy and integrity while data is transmitted over a network.

Database security

The Paceart Optima System encrypts and validates user credentials for each service on the Paceart System Application Server before granting access to the database.

ClickOnce

The Paceart Optima System uses a digital signing certificate to deliver the Paceart Optima System application to users via the Microsoft ClickOnce technology.

Local security policies

During installation of the Paceart Optima System, the installation program automatically modifies security policies in your Windows Security local groups.

Audit control

The Paceart Optima System logs all data modification activities by users to ensure the integrity of your data. You can view changes in the **Administration: Audit** window of the Paceart Optima System application.

Password Complexity Enforcement

Most users tend to choose passwords that are easy to remember. However, passwords that are easy to remember are also easy to hack. The Paceart Optima System uses password complexity enforcement in order to protect its integrity.

The Paceart Optima System uses password complexity enforcement only for systems configured to use Paceart Internal Authentication for user authentication. If a system is configured to use Active Directory for user authentication, the system uses the utilities provided by Microsoft to ensure password complexity.

When users change their passwords or administrative users set passwords, the passwords must be the length configured in **Administration:Security** . The passwords also must contain at least three of the following four types of characters:

- At least one lower case letter
- At least one upper case letter
- At least one number
- At least one special character

Refer to the "Setting a user password" topic in this manual for more information on setting user passwords.

Resetting the administration password

If you need to reset the administration password in the Paceart Optima System, you can do so with a batch file provided by Paceart Technical Support.

1. Request the password recovery batch file from Paceart Technical Support.
2. Run the batch file provided by Paceart Technical Support.
   Your administration password is reset to "password1".
3. Log in to the Paceart Optima System and change the administration password.
4. Delete the batch file provided by Paceart Technical Support.

Integration with Microsoft Active Directory Services

The Paceart Optima System can be configured to authenticate users using Microsoft Active Directory Services.

Microsoft Active Directory Services (Active Directory) is a user authentication, authorization, and metadata storage system that is tightly integrated with the Microsoft platform. It allows for centralized storage and programmable retrieval of user data using the Microsoft .NET development tools. You can configure the Paceart Optima System to authenticate users via Active Directory, although authentication services are still provided to the Paceart Optima System via the SQL server database. You can also revert the Paceart Optima System authentication system back to storing all credential information in the Paceart System any time.

Changing from custom to Active Directory authentication

You can configure the Paceart System to authenticate users via Microsoft Active Directory Services instead of using custom authentication.

1. If needed, create user accounts within Active Directory. Refer to the Microsoft Active Directory online Help for information on creating user accounts.
2. Log in to the Paceart System using the default administration username and password.
3. Create a user in the Paceart System with a username that exists in Active Directory.
4. Add the user to the administration role in the Paceart System.
5. Open the Paceart System Application Server installer in Maintenance Mode.
6. On the **Program Maintenance** window, click **Modify** and click **Next**.

7. Click **Next**.
8. Click **Next**.
9. Click **Next**.
10. Click **Next**.
11. On the **Authentication Mode** window, click **Windows Authentication** and enter the user name and password for an Active Directory user that has read rights. We highly recommend that you use credentials that have read-only rights.

12. Click **Next**.
13. Click **Install**.

14. Follow the same steps for the MSI Client and ClickOnce Server installers to switch to Active Directory authentication.
15. Click **Start** > **Run**.
16. Enter **iisreset** and click **OK**.
    Internet Information Services (IIS) is restarted.
17. Log in to the Paceart System using the Active Directory user you created.
18. Add Active Directory users to the Paceart System and assign roles to them as needed.

Changing from Active Directory to custom authentication

You can revert the Paceart System authentication system from Active Directory authentication back to custom authentication.

1. Open the Paceart System Application Server installer in Maintenance Mode.
2. On the **Program Maintenance** window, click **Modify** and click **Next**.

3. Click **Next**.
4. Click **Next**.
5. Click **Next**.
6. Click **Next**.
7. On the **Authentication Mode** window, click **Paceart Internal Authentication**.

8. Click **Next**.
9. Click **Install**.

10. Follow the same steps for the MSI Client and ClickOnce Server installers to switch to custom authentication.
11. Click **Start** > **Run**.
12. Enter **iisreset** and click **OK**.
    Internet Information Services (IIS) is restarted.
13. Log in to the Paceart System using the default administration username and password.
14. Reset the passwords for all current users and notify them of their new temporary password.
    Users are forced to change their password the next time they login to the Paceart System.

External system accounts and roles

The Paceart Optima System allows you to create user account records and define user roles for external users.

External users that use other systems such as CareLink may need to perform tasks in the Paceart System. You can define accounts and roles for these external users.

When an external user account record is set up, you can enable the user's system access and assign a role and initial password. If necessary, you can reset a password for a user or disable a user account.

Refer to the "External System Accounts" topic in the *Paceart Optima System Software User Manual* for more information about maintaining external system accounts and roles.

Data filtering in the Paceart Optima System

The Paceart Optima System uses data filtering to protect against data corruption via SQL injection attacks.

When users access data from a database, they usually only need a subset of the data. A data filter allows you to deliver only the data that a user needs. The Paceart Optima System uses data filters to decrease the vulnerability of your database to SQL injection attacks. Attacks can occur when a database query uses user-provided data without first validating the input.

When using Paceart Internal Authentication, the Paceart Optima System also stores all user access credentials in an encrypted format within the database.

SSL Certificates

The Paceart Optima System uses Secure Sockets Layer (SSL) certificates to ensure privacy and integrity while data is transmitted over a network.

The Paceart System provides several options for the source of SSL certificates:

- Certificates supplied by Medtronic
- Self-Signed certificates
- Third-party certificates

In order for a computer to trust a certificate, the computer granting the trust must have a way to determine if a given certificate is valid. The computer validates a certificate by looking at the Certificate Authority (CA) specified by a certificate. For a computer to validate the CA, the root certificate of the CA must be installed on the computer. While the source of SSL certificates varies, the process for installing and validating them is generally the same:

1. Create a Certificate Signing Request (CSR) for the Paceart System Application Server using the Internet Information Services (IIS) Certificate Wizard.
2. A CA signs the CSR to create a valid SSL certificate.
3. Install the SSL certificate on the Paceart System Application Server using IIS.
4. Install the CA root certificate as a trusted root certification authority on the Paceart System Application Server and each machine that accesses the Paceart System.
5. Configure the Paceart Optima System application to location the Paceart System Application Server via an "https://" URL. These settings are stored in the `web.config` file located in the folder where you installed

the Paceart System Application Server. The default location of the file is `C:\Inetpub\wwwroot\Paceart.Services.Hosting\`.

Refer to the "Installing a Root Certificate" and "Installing a Server Certificate" topics in the *Paceart Optima System Software Installation and Configuration Instructions* for additional information.

Database security for Application Server services

The Paceart Optima System encrypts and validates user credentials for each service on the Paceart System Application Server before granting access to the database.

The Paceart System Application Server exposes a collection of Web services for use by the Paceart System application. When a service is called, the Paceart Optima System passes the credentials of the user currently logged in to the Application Server. The Application Server validates the credentials for authentication and authorization before granting access to the requested service.

Once the service has been granted access, it uses encrypted credentials specified in the Application Server Web configuration file to access the database. The same credentials are always used for database access regardless of the user logged in to the application. The user credentials are also sent to the database with the encrypted credentials but they are only used for auditing purposes.

You enter and encrypt the database credentials during the Application Server installation. Make sure that the username and password entered in Paceart System Database Manager are the same as what you entered during the Application Server installation.

Refer to the "Creating a new user" and "Installing the Paceart Optima Application Server" topics in the *Paceart Optima System Software Installation and Configuration Instructions* for more information.

ClickOnce digital signing certificate

The Paceart Optima System uses a digital signing certificate to deliver the Paceart Optima System application to users via the Microsoft ClickOnce technology.

Microsoft ClickOnce is a delivery mechanism that installs the latest version of the Paceart Optima System client from the Application Server onto a workstation. If the browser used with ClickOnce finds a root certificate that is not trusted, users receive a warning message that brings security and the validity of the application into question. In order to avoid this uncertainty, the Paceart System uses a digital signing certificate from a trusted certificate publisher.

Local security policies

During installation of the Paceart Optima System, the installation program automatically modifies security policies in your Windows Security local groups.

Windows Server defines a set of Security identifiers (SIDs), which are special identities that identify a user or group. You can use SIDs to assign permissions in certain situations. The Paceart System installation program makes the following changes to SIDs:

- Members of the **Everyone** group are granted write access to the two installation directories of the Paceart System. The first directory is `C:\Program Files\Common Files\Paceart Shared`. The second directory is `C:\Program Files\Medtronic\Paceart Optima System`. However, this second directory may differ depending on the installation directory you chose in the installation program.
- Members of the **Users** group are granted permission to start and stop the device driver for the Paceart System 12-Lead ECG/TTM Parallel Port Module.
- Members of the **Everyone** group are granted write access to keys in the following Windows registry path: `HKEY_LOCAL_MACHINE\Software\Paceart`.

Audit control

The Paceart System tracks actions in the Audit Log, which provides a record of changes, the date the change was made, and by whom.

The Paceart System can track the following actions:

- Opening patient records, which includes viewing patient demographic information, device information, medication/prescription information, and implant information
- Opening patient encounters
- Generating reports for printing, faxing, emailing, or exporting
- Adding, modifying, or deleting information in the Paceart System database

You can view the tracked information in the Audit Log. When changes are made to information in the Paceart System database, the Audit Log captures the database table and column that were changed, the name and computer of the user, and the date and time the change was made.

Refer to the "Using the Audit Log" and "Searching for information in the Audit Log" topics in the *Paceart Optima System Software User Manual* for more information on the Audit Log.

HL7 Integration

Mainspring Data Express supports standard HL7 protocol for inbound patient administration messages (ADT), inbound scheduling messages (SIU), and inbound observation reporting messages (ORU). It also supports outbound observation reporting messages (ORU).

HL7 is not a security protocol. It is your clinic's responsibility to ensure that the HL7 functionality is used on a secure network that is based on the data security policies of your clinic.

BCP data export

The Paceart System allows you to reduce the amount of patient information included from your Paceart System database when performing a Bulk Copy (BCP) data export in the Paceart System Database Manager.

If you choose not to include patient information when performing a BCP data export, the following information will be blank in the exported data:

- Patient IDs
- Patient First Name, Middle Initial, and Last Name
- Patient Name and Social Security Number on Primary Insurance
- Patient Name and Social Security Number on Secondary Insurance
- Patient Date of Birth
- Patient Sex
- Medicare Number
- Medicaid Number
- Patient Address, City, State, Zip Code, and Country
- Patient Phone Number 1 and Phone Number 2
- Recorded Sound File of Patient Name
- Recorded Sound File of Physician Message
- Patient E-Mail Address
- Patient's Device Serial Number

Data authentication

The Paceart Optima System has implemented a feature for data authentication.

Every time ECG strip data is stored in the database, a cyclic redundancy code (CRC) is calculated and stored with the data. When the ECG strip data is retrieved from the database, the CRC is calculated again and compared to the stored CRC. If the new CRC matches the stored CRC, the ECG data passes authentication and is displayed. If the two CRCs do not match, an error message is displayed informing the user that the ECG strip data did not pass authentication and is likely corrupt.

The CRC ensures that data has not changed from the time it was stored in the database until the time it is displayed. It is a method used to check for errors in transmission between a sender and a receiver. The CRC can identify errors that occurred either in saving the ECG strip data to the Paceart System database or in retrieving ECG strip data from the Paceart System database.

HIPAA Overview

This information describing the security features of the Medtronic Paceart Optima System is provided to help our customers comply with *Health Insurance Reform: Security Standards' (Health Insurance Portability and Accountability Act (HIPAA) Security Rule)*, found at 45 C.F.R. Parts 160, 162, and 164. This information applies to the Paceart Optima System and later software versions. The Paceart System displays the software version on the user login screen.

Medtronic Paceart engaged an independent security expert to help proactively assess the Paceart System we currently market with respect to the standards and implementation specifications of the Security Rule. The following information describes the security features and potential risks we have identified as a result of our assessment. In addition, it identifies possible administrative, physical and technical safeguards to help you, as a Covered Entity, establish processes and procedures for the use of Medtronic Paceart products that are reasonable and appropriate for your institution.

Understanding the Paceart System capabilities, using the Paceart System security features, and implementing recommended procedures can assist you in safeguarding electronic patient data as you use the Paceart System in the management of heart rhythm patients. This information is not intended as an exhaustive list of recommendations. Your organization's particular needs and security requirements may call for additional actions and controls.

Product use and technical features

The Paceart Optima System is a computer software application that organizes relevant patient, cardiac device, and programmer information to help clinics manage follow-up care of implantable cardiac device patients. The principle objective of the Paceart System is to provide heart data rhythm management solutions.

The Paceart Optima System is installed on Intel-compatible hardware, running Microsoft Windows operating systems. The System uses Microsoft SQL Server for database hosting.

Patient Data

Data Recording

The Paceart Optima System creates an electronic patient record, which may contain patient identifying data, including ECG and other monitored parameters and therapy events such as defibrillation and pacing. Patient data stored by the Paceart Optima System can include for each patient: name, address, city and state, postal code, telephone numbers, fax numbers, Social Security number, medical record number, health plan beneficiary numbers, account numbers, certificates and license numbers, device numbers, date of admission and date of service.

Data Storage

The number of patient records managed by the Paceart Optima System is dependent upon the storage capacity of the computer server hosting the patient identifying data. Data is stored in a Microsoft SQL Server database.

Data Retrieval

Clinicians access patient identifying data via the Paceart Optima System's Windows-based user interface. The Paceart System allows the system administrator for the clinic to create and manage unique user identifications and passwords for each clinician accessing the system. User profiles controlling access to data can be created and assigned to individual user identifications and passwords.

Data Transmission

For patient care or data archiving purposes, data may be transferred from the Paceart Optima System to another data management tool employed by the clinic. Information is transferred via the Paceart Export Module, which creates an XML-based or HL7-based message transmitted by the network infrastructure of the clinic.

Potential security exposures

The following table represents examples of potential information security exposures associated with the Paceart Optima System. Other information security exposures may exist, depending on how this product is used within your organization.

Security exposures	Hostile or intentional activities	Non-hostile or unintentional activities
External	Theft of a Paceart Optima System-equipped computer from the building results in patient identifying data being destroyed or disclosed. Physical access to the Paceart Optima System-equipped computer permits the copying of patient identifying data to portable media for removal and later disclosure. The copying of patient identifying data to portable media for removal and later disclosure.	Patient identifying data is disclosed to service provider when Paceart System-equipped hardware is repaired or serviced and software support is provided. Patient identifying data is left on Paceart Optima System-equipped computers when equipment is retired, and a salvage company discovers patient data.
Internal	Employee copies patient identifying data to a portable media for removal and later disclosure. Employee intentionally deletes or modifies patient identifying data.	Employee spills liquids or causes other accidental damage to the Paceart System-equipped computer, thereby preventing or delaying access to patient identifying data required for delivery of patient care. Employee accidentally deletes patient identifying data from Paceart System database.

Paceart Optima System security features

These security features and recommended procedures for proper use of the Paceart Optima System are intended to facilitate your HIPAA security compliance efforts.

Administrative safeguards

HIPAA standard	Security issue and feature	Recommended action
Information access management (To implement policies and procedures authorizing access to electronic patient data.)	The Paceart System security features are based upon the customer's selection of security model. There are two options. The first option uses the Microsoft SQL Server security model. The second option uses the Microsoft Windows security model. Both models provide for controlling access to the Paceart System application and patient identifying data. Both models allow for audit logging capabilities. Use of the Microsoft Windows security model allows for the use of Microsoft Windows security groups and logging.	To help prevent improper disclosure or loss of patient identifying data, installation of the full version of Microsoft SQL Server with use of the Microsoft Windows security model is recommended. This model permits the use of Windows event logging to track user activities. This model also permits the use of Windows groups for role-based administration of user access. Clinics should enable Windows event logs for both successful and failed events and implement policies and procedures for backup and protection of audit logs. For information on workstation security, refer to the "Introduction to the Paceart System" and "Security and Privacy" chapters in the *Paceart Optima System Software User Manual*. Also refer to the "Paceart Database Manager" chapter in the *Paceart Optima System Software Installation and Configuration Manual*.
Contingency plan (To respond to an occurrence that damages systems containing electronic patient data.)	The Paceart System is not responsible for backing up a clinic database. The clinic is responsible for verifying that the backup is occurring and that the backup file is not corrupt. If a clinic has a backup and is on a valid service contract, Paceart Technical Support will assist in restoring the backup and reconfiguring the Paceart System.	Clinics should establish polices, standards, and procedures for the backup and recovery of patient identifying data. Clinics should establish policies, standards, and procedures for the protection of portable media that contain patient identifying data.
Protection from malicious software (To implement technology designed to protect patient identifying data from attack from software viruses.)	The Paceart System relies on the security controls implemented for the hosting platform on which it is installed. Customers are responsible for providing a secure platform on which the Paceart System can operate.	Clinics should install anti-virus software on the computer used to process and manage patient identifying data used by the Paceart System application. The procedure should call for the timely updating of virus definitions. Security updates to the operating system are recommended upon consultation with Paceart Technical Services.

Physical safeguards

HIPAA standard	Security issue and feature	Recommended
Workstation Security (To implement policies and standards to secure access and the integrity of Paceart System-managed patient identifying data at the local workstation level.)	The Paceart System allows for the storage of electronic patient data on either a local workstation or a network-enabled server. In either case, the Paceart System utilizes Microsoft SQL Server to host the data. The Paceart System workstation client connects via ADO.NET to the Microsoft SQL Server database, whether that database resides directly on the local workstation, on the clinic's network, on a Virtual Private Network (VPN), or on a remote network. Customers are responsible for ensuring that access to Paceart System-managed patient identifying data is secure.	Implement policies and standards for physical security for those workstations used to interface with the Paceart System database, either on a local workstation or server environment. Implement necessary network security measures to ensure data transmitted via the ADO interface between the Paceart System workstation client and the Microsoft SQL Server database are secure. Implement workstation user authentication policies that manage the access of patient identifying data by user role. Use of a password protected screen saver is recommended. For information on workstation security, refer to the "Introduction to the Paceart System" and "Security and Privacy" chapters in *Paceart Optima System Software User Manual*. Also refer to the "Paceart Database Manager" chapter in the *Paceart Optima System Software Installation and Configuration Manual*.

Technical safeguards

HIPAA standard	Security issue and feature	Recommended action
Access Controls (To manage access and use of patient identifying data stored in the Paceart System database.)	Microsoft SQL Server is used to provide database support for the Paceart System application. The Paceart System application can provide for the use of unique user accounts and passwords with either the Microsoft Windows security model or the Microsoft SQL Server security model. The Microsoft Windows security model provides additional benefits in the form of coordination with Microsoft Windows security groups, Microsoft Windows password policies, and Microsoft Windows event logging.	Clinics should administer user access procedures consistent with the customer's policies, procedures, and standards for administration of applications and Systems that maintain patient identifying data. Clinicians and other users should be assigned unique user accounts and appropriate user access permissions for accessing the Paceart System application. For information on establishing access controls, refer to the "Introduction to the Paceart System", "Security and Privacy",

HIPAA standard	Security issue and feature	Recommended action
		Paceart Web Access", and "CardioVoice" chapters in *Paceart Optima System Software User Manual*. Also refer to the "Paceart Database Manager" chapter in the *Paceart Optima System Software Installation and Configuration Manual*.
Integrity (To implement policies and procedures designed to protect the integrity of Paceart System-managed patient identifying data.)	The accuracy and completeness of the Paceart System's data depend in part on the policies and standards implemented on the host operating System. Risk to the Paceart System stability can be introduced from weak local security policies on the host platform. Security patches to the OS should be applied after consultation with Medtronic Paceart Technical Services.	Implement policies and standards to secure and protect the host operating System on which the Paceart Optima System client application is to be operated. Implement policies and standards to secure and protect the host operating System on which the Paceart System database is to be hosted. These policies and standards should be appropriate for a System that maintains patient identifying data. Use the Microsoft Windows security model. Use an external Uninterruptible Power Supply (UPS) with workstations or servers used to connect to or host a Paceart System database.

Important notes

This document provides a description of certain security features of the Paceart System. In addition, it provides recommended actions and suggested controls that may help you mitigate or otherwise address the information security risks that are associated with the product's use.

However, these security features, recommended actions, and suggested controls may not ensure that all security incidents can be avoided, such as those related to the inadvertent or the unauthorized disclosure, deletion, or modification of a patient's health information.

In addition, this document is not intended to provide, and should not be relied upon as, a comprehensive description or an exhaustive list of recommended actions and controls. As a result, depending upon the particular security requirements and needs of your organization, additional actions and controls may need to be implemented by your organization.

Appendix A

Activity Log Results

This is a list of Activity Log request results and their definitions. The list also shows if a work item is created for each result and what action is needed to resolve work items.

Authentication service

Request	Result	Result definition	Work Item?	Work Item Action
Check Credentials	Authentication Failure	The user could not be authenticated.	No	None
Check Credentials	Authorization Failure	The user is not authorized to complete the request.	No	None
Check Credentials	Valid Credentials	The credentials were successfully checked.	No	None
Check Credentials	Invalid Credentials	The credentials were invalid.	No	None

Patient Management service

Request	Result	Result definition	Work Item?	Work Item Action
Add Patient	Authentication Failure	The user could not be authenticated.	No	None
Add Patient	Authorization Failure	The user is not authorized to complete the request.	No	None
Add Patient	Invalid Data	The request had invalid data.	Yes	Edit and resubmit request
Add Patient	Paceart System Failure	The Paceart System failed and could not complete the request.	No	None
Add Patient	Patient Added	The patient was successfully added.	No	None
Add Patient	Patient Matching Error	The request did not meet the patient matching criteria.	Yes	Edit and resubmit request
Update Patient	Authentication Failure	The user could not be authenticated.	No	None

Request	Result	Result definition	Work Item?	Work Item Action
Update Patient	Authorization Failure	The user is not authorized to complete the request.	No	None
Update Patient	Invalid Data	The request had invalid data.	Yes	Edit and resubmit request
Update Patient	Paceart System Failure	The Paceart System failed and could not complete the request.	No	None
Update Patient	Patient Updated	The patient was successfully updated.	No	None
Update Patient	Patient Matching Error	The request did not meet the patient matching criteria.	Yes	Edit and resubmit request
Delete Patient	Authentication Failure	The user could not be authenticated.	No	None
Delete Patient	Authorization Failure	The user is not authorized to complete the request.	No	None
Delete Patient	Invalid Data	The request had invalid data.	Yes	Edit and resubmit request
Delete Patient	Patient Not Found	The patient was not found in the database.	Yes	Edit and resubmit request
Delete Patient	Paceart System Failure	The Paceart System failed and could not complete the request.	No	None
Delete Patient	Patient Deleted	The patient was successfully deleted.	No	None
Delete Patient	Patient Matching Error	The request did not meet the patient matching criteria.	Yes	Edit and resubmit request
Delete Patient	Delete Patient Not Allowed	Deleting the patient was not allowed.	Yes	Edit and resubmit request
Add/Update Patient	Authentication Failure	The user could not be authenticated.	No	None
Add/Update Patient	Authorization Failure	The user is not authorized to complete the request.	No	None
Add/Update Patient	Invalid Data	The request had invalid data.	Yes	Edit and resubmit request
Add/Update Patient	Paceart System Failure	The Paceart System failed and could not complete the request.	No	None
Add/Update Patient	Patient Added	The patient was successfully added.	No	None

Request	Result	Result definition	Work Item?	Work Item Action
Add/Update Patient	Patient Updated	The patient was successfully updated.	No	None
Add/Update Patient	Patient Matching Error	The request did not meet the patient matching criteria.	Yes	Edit and resubmit request
Change Patient ID	Authentication Failure	The user could not be authenticated.	No	None
Change Patient ID	Authorization Failure	The user is not authorized to complete the request.	No	None
Change Patient ID	Invalid Data	The request had invalid data.	Yes	Edit and resubmit request
Change Patient ID	Paceart System Failure	The Paceart System failed and could not complete the request.	No	None
Change Patient ID	Patient ID Changed	The Patient ID was successfully changed.	No	None
Change Patient ID	Patient Matching Error	The request did not meet the patient matching criteria.	Yes	Edit and resubmit request
Add Patient Insurance	Authentication Failure	The user could not be authenticated.	No	None
Add Patient Insurance	Authorization Failure	The user is not authorized to complete the request.	No	None
Add Patient Insurance	Invalid Data	The request had invalid data.	Yes	Edit and resubmit request
Add Patient Insurance	Paceart System Failure	The Paceart System failed and could not complete the request.	No	None
Add Patient Insurance	Patient Matching Error	The request did not meet the patient matching criteria.	Yes	Edit and resubmit request
Add Patient Insurance	Insurance Matching Error	The request did not meet the insurance matching criteria.	Yes	Edit and resubmit request
Add Patient Insurance	Patient Insurance Added	The patient insurance was successfully added.	No	None
Add Patient Insurance	Patient Insurance Matching Error	The request did not meet the patient insurance matching criteria.	Yes	Edit and resubmit request

Encounter Management service

Request	Result	Result definition	Work Item?	Work Item Action
Add Encounter	Authentication Failure	The user could not be authenticated.	No	None
Add Encounter	Authorization Failure	The user is not authorized to complete the request.	No	None
Add Encounter	Queued For Processing	The encounter was successfully queued for processing.	No	None
Add Encounter	Invalid Request	The request was invalid.	No	None
Encounter Processing	Encounter Processing Error	There was an error processing the encounter.	Yes	Edit and resubmit request
Encounter Processing	Encounter Added	The encounter was successfully added.	No	None
Encounter Processing	Invalid Request	The request was invalid.	No	None
Encounter Processing	Patient Record In Use	The patient record was already in use.	Yes	Add the encounter to the existing patient device and resubmit the encounter request.
Encounter Processing	Multiple Matching Patient Devices	The encounter had multiple matching devices for the patient.	Yes	Add the encounter to the existing patient device. Allow updates to the serial number or model aliasing to avoid future work items.
Encounter Processing	Patient Device Not Found	The patient's device was not found in the encounter.	Yes	Add the encounter to the existing patient device. Allow updates to the serial number or model aliasing to avoid future work items.
Encounter Processing	License Restriction Error	The license did not allow the user to complete the request.	No	None

Appointment Management service

Request	Result	Result definition	Work Item?	Work Item Action
Add Appointment	Appointment Added	The appointment was successfully added.	No	None
Add Appointment	Authentication Failure	The user could not be authenticated.	No	None
Add Appointment	Authorization Failure	The user is not authorized to complete the request.	No	None
Add Appointment	Add Appointment Not Allowed	The user is not allowed to add the appointment.	Yes	Edit and resubmit request
Add Appointment	Invalid Data	The request had invalid data.	Yes	Edit and resubmit request
Add Appointment	Invalid Request	The request was invalid.	No	None
Add Appointment	Patient Matching Error	The request did not meet the patient matching criteria.	Yes	Edit and resubmit request
Add Appointment	Appointment Matching Error	The request did not meet the appointment matching criteria.	Yes	Edit and resubmit request
Add Appointment	License Restriction Error	The license did not allow the user to complete the request.	No	None
Update Appointment	Appointment Updated	The appointment was successfully updated.	No	None
Update Appointment	Authentication Failure	The user could not be authenticated.	No	None
Update Appointment	Authorization Failure	The user is not authorized to complete the request.	No	None
Update Appointment	Update Appointment Not Allowed	The user is not allowed to update the appointment.	Yes	Edit and resubmit request
Update Appointment	Invalid Data	The request had invalid data.	Yes	Edit and resubmit request
Update Appointment	Invalid Request	The request was invalid.	No	None
Update Appointment	Patient Matching Error	The request did not meet the patient matching criteria.	Yes	Edit and resubmit request
Update Appointment	Appointment Matching Error	The request did not meet the appointment matching criteria.	Yes	Edit and resubmit request

Request	Result	Result definition	Work Item?	Work Item Action
Update Appointment	License Restriction Error	The license did not allow the user to complete the request.	No	None
Add/Update Appointment	Appointment Added	The appointment was successfully added.	No	None
Add/Update Appointment	Appointment Updated	The appointment was successfully updated.	No	None
Add/Update Appointment	Authentication Failure	The user could not be authenticated.	No	None
Add/Update Appointment	Authorization Failure	The user is not authorized to complete the request.	No	None
Add/Update Appointment	Add Appointment Not Allowed	The user is not allowed to add the appointment.	Yes	Edit and resubmit request
Add/Update Appointment	Update Appointment Not Allowed	The user is not allowed to update the appointment.	Yes	Edit and resubmit request
Add/Update Appointment	Invalid Data	The request had invalid data.	Yes	Edit and resubmit request
Add/Update Appointment	Invalid Request	The request was invalid.	No	None
Add/Update Appointment	Patient Matching Error	The request did not meet the patient matching criteria.	Yes	Edit and resubmit request
Add/Update Appointment	Appointment Matching Error	The request did not meet the appointment matching criteria.	Yes	Edit and resubmit request
Add/Update Appointment	License Restriction Error	The license did not allow the user to complete the request.	No	None
Cancel Appointment	Appointment Cancelled	The appointment was successfully cancelled.	No	None
Cancel Appointment	Authentication Failure	The user could not be authenticated.	No	None
Cancel Appointment	Authorization Failure	The user is not authorized to complete the request.	No	None
Cancel Appointment	Cancel Appointment Not Allowed	The user is not allowed to cancel the appointment.	Yes	Edit and resubmit request
Cancel Appointment	Invalid Data	The request had invalid data.	Yes	Edit and resubmit request
Cancel Appointment	Invalid Request	The request was invalid.	No	None

Request	Result	Result definition	Work Item?	Work Item Action
Cancel Appointment	Patient Matching Error	The request did not meet the patient matching criteria.	Yes	Edit and resubmit request
Cancel Appointment	Appointment Matching Error	The request did not meet the appointment matching criteria.	Yes	Edit and resubmit request
Delete Appointment	Appointment Deleted	The appointment was successfully deleted.	No	None
Delete Appointment	Authentication Failure	The user could not be authenticated.	No	None
Delete Appointment	Authorization Failure	The user is not authorized to complete the request.	No	None
Delete Appointment	Delete Appointment Not Allowed	The user is not allowed to delete the appointment.	Yes	Edit and resubmit request
Delete Appointment	Invalid Data	The request had invalid data.	Yes	Edit and resubmit request
Delete Appointment	Invalid Request	The request was invalid.	No	None
Delete Appointment	Patient Matching Error	The request did not meet the patient matching criteria.	Yes	Edit and resubmit request
Delete Appointment	Appointment Matching Error	The request did not meet the appointment matching criteria.	Yes	Edit and resubmit request

Outbound Appointment service

Request	Result	Result definition	Work Item?	Work Item Action
Queue Appointment	Queued For Processing	The appointment was queued for processing.	No	None
Get Appointment Request	Authentication Failure	The user could not be authenticated.	No	None
Get Appointment Request	Authorization Failure	The user is not authorized to complete the request.	No	None
Get Appointment Request	Request Available	The appointment request was available.	No	None
Get Appointment Request	Invalid Request	The request was invalid.	No	None
Update Appointment Request	Appointment Cancelled	The appointment was cancelled.	No	None

Request	Result	Result definition	Work Item?	Work Item Action
Update Appointment Request	No Appointment Found	No appointment was found.	No	None
Update Appointment Request	Appointment Created and Updated	The appointment was successfully created and updated.	No	None
Update Appointment Request	No Appointment Found When Creating Appointment	There was no appointment found when creating the appointment.	No	None
Update Appointment Request	Appointment Deleted and Updated	The appointment was successfully deleted and updated.	No	None
Update Appointment Request	Delete Attempted - Appointment Still Exists	The appointment was attempted to be deleted but still exists.	No	None
Update Appointment Request	Appointment Updated	The appointment was successfully updated.	No	None
Update Appointment Request	No Appointment Found When Updating Appointment	There was no appointment found when updating the appointment.	No	None
Update Appointment Request	Authentication Failure	The user could not be authenticated.	No	None
Update Appointment Request	Authorization Failure	The user is not authorized to complete the request.	No	None
Update Appointment Request	Clinic Appointment Synchronization Complete	The clinic appointment synchronization was successful.	No	None
Update Appointment Request	Clinic Appointment Synchronization Started	The clinic appointment synchronization was started.	No	None
Update Appointment Request	Patient Appointment Synchronization Complete	The patient appointment synchronization was successful.	No	None
Update Appointment Request	Patient Appointment Synchronization Started	The patient appointment synchronization was started.	No	None
Update Appointment Request	Invalid Request	The request was invalid.	No	None

Request	Result	Result definition	Work Item?	Work Item Action
Synchronize Appointments - Paceart to Remote	Building Paceart Patient Appointment List	The Paceart System is building the patient appointment list.	No	None
Synchronize Appointments - Paceart to Remote	Patient Matching Error	The request did not meet the patient matching criteria.	No	None
Synchronize Appointments - Paceart to Remote	Sending Appointment Created Request	The request for creating the appointment was sent to CareLink.	No	None
Synchronize Appointments - Paceart to Remote	Sending Appointment Updated Request	The request for updating the appointment was sent to CareLink.	No	None
Synchronize Appointments - Paceart to Remote	Paceart Appointment Found By External ID	The appointment was found by the external ID.	No	None
Synchronize Appointments - Paceart to Remote	Appointment Found By Start Date	The appointment was found by the start date.	No	None
Synchronize Appointments - Remote to Paceart	Creating Paceart Appointment	CareLink is creating the Paceart System appointment.	No	None
Synchronize Appointments - Remote to Paceart	Sending Appointment Deleted Request	The request for deleting the appointment was sent to the Paceart System.	No	None
Synchronize Appointments - Remote to Paceart	Paceart Appointment Found By External ID	The appointment was found by the external ID.	No	None
Synchronize Appointments - Remote to Paceart	License Restriction Error	The license did not allow the user to complete the request.	No	None

Outbound XML Export service

Request	Result	Result definition	Work Item?	Work Item Action
Queue XML Export	Queued For Processing	The export request was successfully queued for processing.	No	None

Request	Result	Result definition	Work Item?	Work Item Action
Get XML Export Request	Authentication Failure	The user could not be authenticated.	No	None
Get XML Export Request	Authorization Failure	The user is not authorized to complete the request.	No	None
Get XML Export Request	Request Available	The export request was available.	No	None
Get XML Export Request	Invalid Request	The request was invalid.	No	None
Get XML Export Request	Invalid XML	The requested XML version could not be generated.	No	None
Update XML Export Request	Authentication Failure	The user could not be authenticated.	No	None
Update XML Export Request	Authorization Failure	The user is not authorized to complete the request.	No	None
Update XML Export Request	Invalid Request	The request was invalid.	No	None
Update XML Export Request	Request Updated	The export request was successfully updated.	No	None

Outbound Encounter

Request	Result	Result definition	Work Item?	Work Item Action
Get Encounter Request	Authentication Failure	The user could not be authenticated.	No	None
Get Encounter Request	Authorization Failure	The user is not authorized to complete the request.	No	None
Get Encounter Request	Request Available	The encounter request was available.	No	None
Get Encounter Request	Invalid Request	The request was invalid.	No	None
Update Encounter Request	Authentication Failure	The user could not be authenticated.	No	None
Update Encounter Request	Authorization Failure	The user is not authorized to complete the request.	No	None
Update Encounter Request	Clinic Encounter Download Complete	The clinic encounter has been successfully downloaded.	No	None
Update Encounter Request	Clinic Encounter Download Started	The clinic encounter download has started.	No	None

Request	Result	Result definition	Work Item?	Work Item Action
Update Encounter Request	Patient Encounter Download Complete	The patient encounter has been successfully downloaded.	No	None
Update Encounter Request	Patient Encounter Download Started	The patient encounter download has started.	No	None
Update Encounter Request	Invalid Request	The request was invalid.	No	None
Update Encounter Request	Request Updated	The encounter request was successfully updated.	No	None
Encounter Request Processing	Encounter Already Exists In Paceart	The requested encounter already exists in the Paceart System.	No	None
Encounter Request Processing	Data Requested From Remote System	The encounter data was successfully requested from the remote system.	No	None

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