

# NATIONAL CANCER IMAGING ARCHIVE 3.1

*User's Guide*



NATIONAL<sup>®</sup>  
CANCER  
INSTITUTE

Center for Bioinformatics

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<b>LISTSERV facilities pertinent to NCIA</b>		
<b>LISTSERV</b>	<b>URL</b>	<b>Name</b>
NCIA Steering	<a href="https://list.nih.gov/archives/ncia_steering.html">https://list.nih.gov/archives/ncia_steering.html</a>	NCIA Steering Discussion Forum
NCIA Developers	<a href="https://list.nih.gov/archives/ncia_developers.html">https://list.nih.gov/archives/ncia_developers.html</a>	NCIA Developers Discussion Forum

# TABLE OF CONTENTS

<b>About This Guide .....</b>	<b>1</b>
Purpose .....	1
Audience .....	1
Topics Covered .....	1
Additional References .....	2
Text Conventions Used .....	2
 <b>Chapter 1</b>	
<b>Getting Started in NCIA .....</b>	<b>3</b>
Introduction to NCIA .....	3
Creating a New User Account .....	4
Logging into NCIA .....	5
Using the NCIA Home Page .....	6
Home Page Menu Bar .....	6
Home Page Left Sidebar .....	7
Other Home Page Panels .....	8
Using NCIA News Page .....	9
News Page Menu Bar .....	10
News Page Site Map .....	10
News Page Left SideBar .....	10
Using NCIA Online Help .....	11
Accessing NCIA from Another Application .....	12
Application Support .....	12
 <b>Chapter 2</b>	
<b>Searching the NCIA Archives .....</b>	<b>15</b>
Searching the NCIA Database .....	15
Performing a Simple Search .....	16
Searching Curation Data .....	18
Annotation Keyword Search Page .....	19
Performing an Advanced Search .....	21

Working with Saved Search Queries .....	25
Saving a Search Query .....	26
Managing Saved Queries .....	26
Editing Saved Queries .....	27
Viewing a Query History .....	28
Viewing Search Results .....	29
Search Results (by Subject) .....	30
Search Results (Studies for Subject) .....	31
Search Results (Images for Series) .....	32
Working with the Data Basket .....	34
Adding Items to Your Basket .....	34
Managing the Data Basket .....	34
Downloading the Data Basket .....	36
Obtaining DICOM Viewers .....	37
Initiating Searches from Other Applications .....	37
 <b>Chapter 3</b>	
<b>NCIA Administration .....</b>	<b>39</b>
Administration Functions Overview .....	39
Using the Quality Assurance (QA) Tool .....	39
Uploading and Parsing the Curation Spreadsheet .....	41
Verifying Submitted Files .....	41
 <b>Appendix A</b>	
<b>URL References .....</b>	<b>43</b>
FTP Client Software Products .....	43
DICOM .....	43
Cedara .....	43
NCIA .....	44
 <b>Appendix B</b>	
<b>NCIA Glossary .....</b>	<b>45</b>
<b>Index .....</b>	<b>47</b>

# ABOUT THIS GUIDE

This section introduces you to the *NCIA User's Guide*. It includes the following topics:

- [Purpose](#) on this page
- [Audience](#) on this page
- *Topics Covered* on page 1
- *Additional References* on page 2
- *Text Conventions Used* on page 2

## Purpose

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This guide provides an overview of National Cancer Imaging Archive (NCIA). It explains how to use NCIA to access local, and if available, remote imaging archives.

## Audience

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The *NCIA 3.1 User's Guide* is the documentation for the NCIA web-based application. The intended audience for this guide are researchers including pathologists and radiologists at cancer centers, academia, and industry that access NCIA through commonly available web browser software.

## Topics Covered

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The *NCIA User's Guide* discusses the following topics:

- [Chapter 1](#) provides an introduction to NCIA and describes how to access NCIA.
- [Chapter 2](#) describes how to search the local and any selected remote image databases.
- [Chapter 3](#) discusses administrative functions in NCIA.
- [Appendix A](#) provides a list of URL references referred to within the text.
- [Appendix B](#) includes a list of abbreviations and their meanings.
- [Index](#) references key words and terms.

## Additional References

To visualize images with the Cedera I-Response Workstation software, refer to Cedera documentation.

## Text Conventions Used

This section explains conventions used in this guide. The various typefaces represent interface components, keyboard shortcuts, toolbar buttons, dialog box options, and text that you type.

<i>Convention</i>	<i>Description</i>	<i>Example</i>
<b>Bold</b>	Highlights names of option buttons, check boxes, drop-down menus, menu commands, command buttons, or icons.	Click <b>Search</b> .
<u>URL</u>	Indicates a Web address.	<a href="http://domain.com">http://domain.com</a>
text in SMALL CAPS	Indicates a keyboard shortcut.	Press ENTER.
text in SMALL CAPS + text in SMALL CAPS	Indicates keys that are pressed simultaneously.	Press SHIFT + CTRL.
<i>Italics</i>	Highlights references to other documents, sections, figures, and tables.	See <i>Figure 4.5</i> .
<i><b>Italic boldface monospace type</b></i>	Represents text that you type.	In the <b>New Subset</b> text box, enter <i><b>Proprietary Proteins</b></i> .
<b>Note:</b>	Highlights information of particular importance	<b>Note:</b> This concept is used throughout the document.
{ }	Surrounds replaceable items.	Replace {last name, first name} with the Principal Investigator's name.



## CHAPTER

# 1

## GETTING STARTED IN NCIA

This chapter describes how to use NCIA.

Topics in this chapter include:

- *Introduction to NCIA* on this page
- *Creating a New User Account* on page 4
- *Logging into NCIA* on page 5
- *Using the NCIA Home Page* on page 6
- *Using NCIA News Page* on page 9
- *Using NCIA Online Help* on page 11
- *Application Support* on page 12

### Introduction to NCIA

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NCIA provides the cancer research and medical community, industry, and academia access to imaging archives that can be used for many purposes, including the potential to assist in the development and validation of analytical software tools supporting these functions:

- Lesion detection and classification software
- Accelerated diagnostic imaging decision
- Quantitative imaging assessment of drug response

The archive provides access to imaging resources that improve the use of imaging in today's cancer research and practice by increasing the efficiency and reproducibility of imaging cancer detection and diagnosis, leveraging imaging to provide an objective assessment of therapeutic response, and ultimately enabling the development of imaging resources that will lead to improved clinical decision support.

Clinical trials, physicians and other researchers submit images to NCIA using the MIRC (Medical Imaging Resource Center) software. Any potential user may then access NCIA to search for and download images and associated annotation files.

Images are stored in the medical image standard, Digital Imaging and Communications in Medicine (DICOM). A DICOM file stores the digital image along with a series of tags that contain metadata about the image such as patient ID, study ID, patient weight, anatomic site, and so forth. For more information about DICOM, see <http://medical.nema.org/>.

NCIA is accessible at <https://imaging.nci.nih.gov>. In the Welcome/Login page that opens, you can perform the following tasks:

- Learn the basics about NCIA by reading the welcome page introduction
- Open a window that provides links for downloading DICOM viewers
- Open Quick Links to websites relevant to the goals and tasks of NCIA. See *Home Page Left Sidebar* on page 7.
- Register for a new user account.
- Log into NCIA.

## Creating a New User Account

To register a new user in NCIA, from the NCIA welcome and login page, follow these steps:

1. Click the **Not Registered** hypertext link under the **Login** button.
2. In the registration form that opens (*Figure 1.1*), enter the required information. Items with an asterisk are required fields.

**USER REGISTRATION**

**NAME**

Title:  \*First Name:  Middle Initial:  \*Last Name:

**CONTACT INFORMATION**

\*Email:  Phone:  Fax:

Organization Name:  \*Address:

\*City:  \*State/Province:

\*Country:  \*Postal Code:

**LOGIN INFORMATION**

Please enter an e-mail address (to be used as a login ID) and a password. Your selections will be saved and future visits will require input of this information.

\*Email Address:  \*Password: (Minimum of 5 characters are required)

\*Retype Password:

**REGISTER** **CANCEL**

Figure 1.1 New user registration form

3. Review the Legal Rules of the Road page, then click the blue **Clicking Here** link to continue.
4. Click **Register** to execute the submission of the user information. Click **Cancel** to return to the login screen.

Once you have submitted your entry form, you are forwarded to the home page and you are granted immediate access.

## Logging into NCIA

When you click the <https://imaging.nci.nih.gov> to access NCIA and indicate your agreement on the Legal Rules of the Road, the welcome/login page displays.

**National Cancer Institute**  
**NCIA National Cancer Imaging Archive**

TOOLS HOME SEARCH IMAGES MANAGE DATA BASKET HELP

DICOM Image Viewers

QUICK LINKS  
NCIA NEWS  
NCIA USER'S GUIDE  
NCI HOME  
NCICB HOME

caBIG<sup>TM</sup>  
CANCER IMAGING PROGRAM  
Center for Bioinformatics  
RSNA  
NIBIB

an image repository tool

WELCOME TO NATIONAL CANCER IMAGING ARCHIVE

**New!** NCIA now offering web-based image visualization and markup of archived image data.  
[more information](#)

Welcome to the National Cancer Imaging Archive (NCIA). NCIA is a searchable repository of in vivo cancer images that provides the cancer research community, industry, and academia with access to image archives to be used in the development and validation of analytical software tools that support:

- ◆ Lesion detection and classification
- ◆ Accelerated diagnostic imaging decision
- ◆ Quantitative imaging assessment of drug response

NCIA provides access to imaging resources that will improve the use of imaging in today's cancer research and practice by:

- ◆ Increasing the efficiency and reproducibility of imaging cancer detection and diagnosis
- ◆ Leveraging imaging to provide an objective assessment of therapeutic response
- ◆ Ultimately enabling the development of imaging resources that will lead to improved clinical decision support.

**USER LOGIN**

EMAIL

PASSWORD

**NEW USER REGISTRATION**

New users are asked to complete a one-time registration form. Please make note of your username and password for future visits. Registration will ensure that we can inform you about important changes and new data.

Figure 1.2 NCIA Welcome/Login page

If you have already registered with NCIA, perform the following steps to login from the User Login panel (Figure 1.2).

1. Enter the login information, your **EMAIL** and **PASSWORD**.
2. Click **Login**.

**Note:** If your EMAIL or PASSWORD is not correct, the following error message displays: **Invalid username/password. Please try again.**

If you do not have a login ID or password, click **Not Registered** to apply for a user account. For more information, see *Creating a New User Account* on page 4.

3. The NCIA home page is updated to include the NCIA application.

**Note:** If you launch a search of the NCIA database from another application, when you do so, you are brought to the NCIA login page. Use the same login instructions in steps 1 through 3 above.

## Using the NCIA Home Page

The NCIA welcome/home page that opens after login displays several panels and menu bars (*Figure 1.3*).

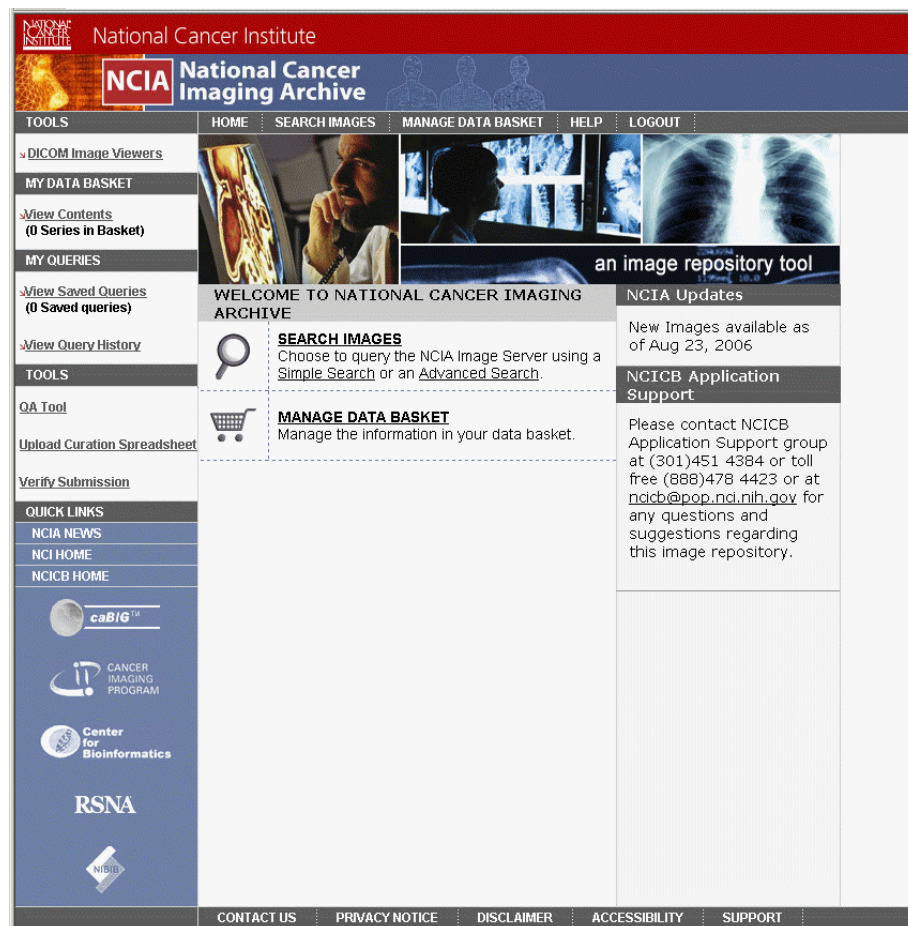


Figure 1.3 NCIA home page after login

### Home Page Menu Bar

The top menu bar on the welcome/home page consists of the options described in Table 1.1.

Option	Description	See for More Information
<b>Home</b>	Returns you to the NCIA Home page	N/A
<b>Search Images</b>	Displays the Simple Search page	<i>Performing a Simple Search</i> on page 16

Table 1.1 NCIA home page menu bar options

<b>Option</b>	<b>Description</b>	<b>See for More Information</b>
<b>Manage Data Basket</b>	Displays the My Data Basket page; This is the same option as choosing <b>My Data Basket &gt; View Contents</b> from the side menu bar.	<i>Managing the Data Basket</i> on page 34
<b>Help</b>	Displays a separate online Help window	<i>Using NCIA Online Help</i> on page 11
<b>Logout</b>	Logs you out of NCIA and returns you to the NCIA home page	N/A

Table 1.1 NCIA home page menu bar options

## Home Page Left Sidebar

The left sidebar of the Welcome page down through **My Queries** consists of the options described in Table 1.2.

<b>Option</b>	<b>Description</b>	<b>See for More Information</b>
<b>Tools &gt; DICOM Image Viewers</b>	Displays the DICOM Viewer Links window	<i>Obtaining DICOM Viewers</i> on page 37
<b>My Data Basket &gt; View Contents</b>	Displays the My Data Basket page	<i>Managing the Data Basket</i> on page 34
<b>My Queries &gt;View Saved Queries</b>	Displays the Saved Queries page	<i>Managing Saved Queries</i> on page 26
<b>My Queries &gt;View Query History</b>	Displays the Query History page	<i>Viewing a Query History</i> on page 28
<b>Tools &gt; QA Tool</b>	Allows a curator to evaluate a submission and assign a QA status	<i>Using the Quality Assurance (QA) Tool</i> on page 39
<b>Tools &gt; Upload Curation Spreadsheet</b>	Provides the means to upload and parse an annotation spreadsheet	<i>Uploading and Parsing the Curation Spreadsheet</i> on page 41
<b>Tools &gt; Verify Submission</b>	Verifies an image submission and its status through a report	<i>Verifying Submitted Files</i> on page 41

Table 1.2 NCIA home page left sidebar options

## Quick Links

The **Quick Links** menu options on the lower left sidebar displayed in most NCIA viewers provide sources for NCIA- and NCI-related bioinformatics information on the Internet. The options are described in Table 1.3.

<b>Option</b>	<b>Description</b>	<b>See for More Information</b>
<b>Quick Links &gt; NCIA News</b>	Displays the NCIA News page in a separate window.	<i>Using NCIA News Page</i> on page 9

Table 1.3 Left sidebar Quick Links

<b>Option</b>	<b>Description</b>	<b>See for More Information</b>
<b>Quick Links &gt; NCI Home</b>	Displays the NCI home page in a separate window.	N/A
<b>Quick Links &gt; NCICB Home</b>	Displays the NCICB home page in a separate window.	N/A

Table 1.3 Left sidebar Quick Links

## Other Home Page Panels

The various panels of the welcome/home page display an additional variety of options described in Table 1.4.

<b>Option</b>	<b>Description</b>	<b>See for More Information</b>
<b>Center Panel</b>		
<b>Search Images</b>	Displays the Simple Search screen	<i>Performing a Simple Search</i> on page 16
<b>Simple Search</b>	Displays the Simple Search screen	<i>Performing a Simple Search</i> on page 16
<b>Advanced Search</b>	Displays the Advanced Search screen	<i>Performing an Advanced Search</i> on page 21
<b>Manage Data Basket</b>	Displays the My Data Basket page	<i>Managing the Data Basket</i> on page 34
<b>Right-hand panel</b>		
<b>NCIA Updates</b>	Displays the last date and time visible images were made available. This date reflects the last update of any images and does not consider whether you have access to them.	N/A
<b>NCICB Application Support</b>	Displays phone numbers to contact NCICB Application Support. See	<i>Application Support</i> on page 12.
<b>Bottom menu bar</b>		
<b>Contact Us</b>	Displays an email addressed to <a href="mailto:ncicb@pop.nci.nih.gov">ncicb@pop.nci.nih.gov</a> so you can email questions to NCICB application support	N/A
<b>Privacy Notice</b>	Displays the Health and Human Services (HHS) Privacy Policy Notice.	N/A
<b>Disclaimer</b>	Displays the NCIA Legal Rules of the Road disclaimer.	N/A

Table 1.4 NCIA home page welcome panel options



<i>Option</i>	<i>Description</i>	<i>See for More Information</i>
<b>Accessibility</b>	Displays the NCI Web Accessibility Feedback Form to be used by users with disabilities who have comments about the accessibility of NCI's web pages.	N/A
<b>Support</b>	Displays the Welcome to the NCICB Application Support Site web site.	N/A

Table 1.4 NCIA home page welcome panel options

## Using NCIA News Page

To open the NCIA News page, click on the corresponding link under *Quick Links* on the lower left sidebar of any NCIA page.

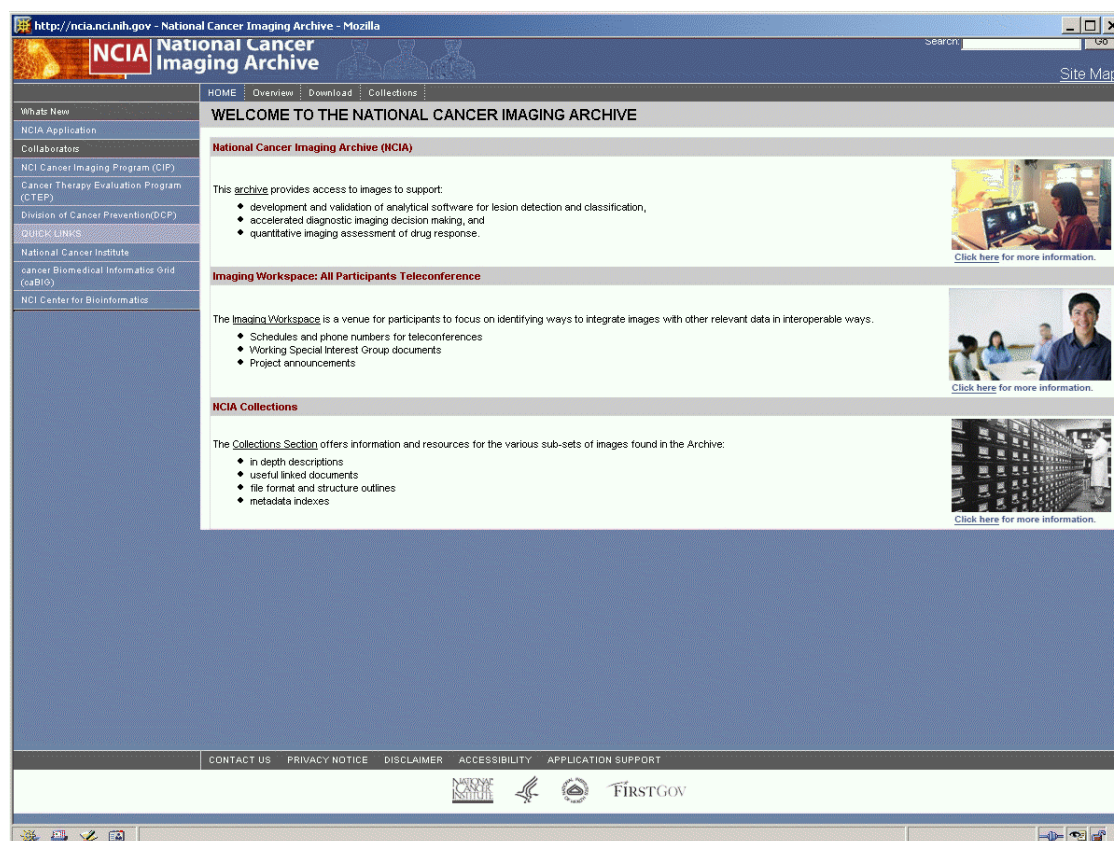


Figure 1.4 NCIA news page

The NCIA News page (*Figure 1.4*) consists of a center panel that displays current NCIA-related information as well as sidebar and menu bar options that navigate to websites and NCIA pages relevant to your tasks.

## News Page Menu Bar

The News page top menu bar (*Figure 1.4*) consists of the options described in Table 1.5.

<i>Option</i>	<i>Description</i>
<b>Home</b>	Returns you to the NCIA News home page
<b>Overview</b>	Provides an overview of NCIA and its goals
<b>Download</b>	Displays NCIA software available for download
<b>Collections</b>	Describes existing and future collections.

Table 1.5 News page top menu bar descriptions

## News Page Site Map

Click the **Site Map** link in the upper right hand corner of the News page to display a list of site map information provided in the center panel (see *Figure 1.5*).

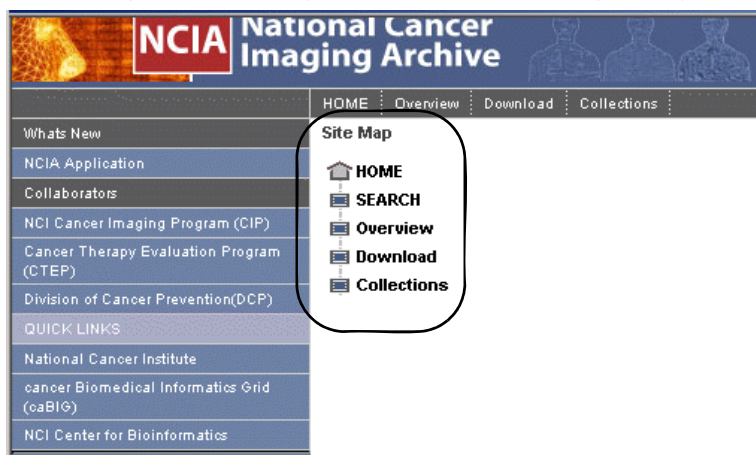


Figure 1.5 News page Site Map

If you click the **Download** menu option or the link in the Site Map, each takes you to a Download page that has a link to the NCICB Download Center, where you can download the latest release of NCIA and its related files. For more information, refer to <https://imaging.nci.nih.gov>.

## News Page Left SideBar

The left side bar of the News page down through **Collaborators** consists of the options described in Table 1.6. For more information about the Quick Links options, see *Quick Links* on page 7.

<i>Option</i>	<i>Description</i>
<b>NCIA Application</b>	Contains a link to the NCIA application
<b>Collaborators &gt; NCI Cancer Imaging Program (CIP)</b>	Displays the CIP website in a separate browser window

Table 1.6 News page left sidebar descriptions



<i>Option</i>	<i>Description</i>
<b>Collaborators &gt; Cancer Therapy Evaluation Program (CTEP)</b>	Displays the CTEP website in a separate browser window
<b>Collaborators &gt; Division of Cancer Prevention (DCP)</b>	Displays the DCP website in a separate browser window

Table 1.6 News page left sidebar descriptions (Continued)

## Using NCIA Online Help

The online help has been written to help you master the NCIA software.


To access online help in NCIA, use any of the following methods:

- Click the **Help** menu option on the top menu bar to open the complete online help project or a Guided Tour.

**Note:** You can access online help without being logged into NCIA.

- Click the **Help** icon or button at the top of each page to open a context sensitive topic.
- Click a **Guided Tour** link then click one of the **here** links to start an online tutorial on how to register for NCIA or the basic steps to use NCIA.

Once you are in online help, an array of options helps you locate topics of interest.

- Context-sensitive help displays online help topics that correspond to the “form” or page from which help was opened. Click the TOC button (  ) at the top left of the title bar to open the full online help directory.
- Follow hypertext links or the **Related Topics** buttons in the help topics to open other closely related topics.

**Note:**

Only the person who submitted the model. Permissions for people--the submitter. For more information...

**Related Topics**

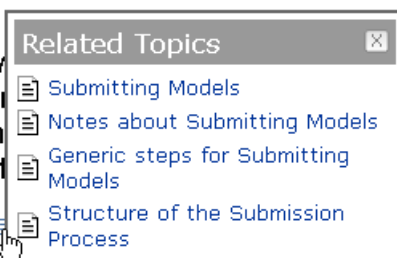


Figure 1.6 Related Topics button and associated list

- Locate topics using the table of contents that displays in the left pane of the online help project or the Index tab that displays at the top of the Table of Contents pane.
- Perform word searches of Help by entering query text in the search text box.

**Note:** A monitor resolution of greater than 800x600 is highly recommended for these guided tours. If you have problems viewing the online tutorials, you may need to install the Flash Plug-in for your browser. Go to the Macromedia website to download this free

plug-in ([http://www.macromedia.com/shockwave/download/download.cgi?P1\\_Prod\\_Version=ShockwaveFlash](http://www.macromedia.com/shockwave/download/download.cgi?P1_Prod_Version=ShockwaveFlash)).

## Accessing NCIA from Another Application

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Searches in NCIA can be launched from other applications configured with this feature. For specific information about launching NCIA from another application, refer to the online help or user documentation from that application.

When NCIA is launched by a search defined and initiated from another application, the system runs the query, then opens to the NCIA login page where you must login to see the search results. This search feature is designed to search the image repository to find images specified by the link in the other application, then to display images as identified there. Once you are logged into NCIA, if the search is successful, NCIA displays a viewer showing one or more search result image(s) you defined in the other application.

### *Example:*

This feature is found in the caIntegrator application, I-SPY. The application I-SPY can launch a search for images identified as “before” and “after” (such as before and after treatment). If the search is successful, the before and after shots specified in the search criteria would display in NCIA. For I-SPY, see the download page on the NCICB website: <http://ncicb.nci.nih.gov/download/>.

From this Search Results page that opens in NCIA, you can perform the following actions:

- Click **Add to Basket** to add the image to the Data Basket.
- Click **View Series** to display the Images for Series page. This page displays all of the image thumbnails for the series containing the image(s) displayed above the link.
- Click **Open Full Size JPEG** to display the image in full size mode (in a separate browser window).

## Application Support

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For any general information about the application, application support or to report a bug, contact NCICB Application Support.

Email: <a href="mailto:ncicb@pop.nci.nih.gov">ncicb@pop.nci.nih.gov</a>	When submitting support requests via email, please include: <ul style="list-style-type: none"><li>• Your contact information, including your telephone number.</li><li>• The name of the application/tool you are using</li><li>• The URL if it is a Web-based application</li><li>• A description of the problem and steps to recreate it.</li><li>• The text of any error messages you have received</li></ul>
Application Support URL	<a href="http://ncicb.nci.nih.gov/NCICB/support">http://ncicb.nci.nih.gov/NCICB/support</a>

<b>Telephone:</b> 301-451-4384 or toll free: 888-478-4423	Telephone support is available Monday to Friday, 8 am – 8 pm Eastern Time, excluding government holidays.
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## CHAPTER 2

# SEARCHING THE NCIA ARCHIVES

This chapter describes how to use NCIA.

Topics in this chapter include:

- *Searching the NCIA Database* on this page
- *Working with Saved Search Queries* on page 25
- *Viewing Search Results* on page 29
- *Working with the Data Basket* on page 34
- *Obtaining DICOM Viewers* on page 37
- *Obtaining DICOM Viewers* on page 37
- *Initiating Searches from Other Applications* on page 37

## Searching the NCIA Database

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The NCIA *in vivo* image repository is designed as an archive which you can use to perform the following tasks:

- Search for images in simple or advanced search mode
- Combine search criteria defined in those searches with keyword searches of curated annotation data
- Save the search queries to be used repeatedly
- Review query histories
- As subjects, studies, series or images are located, save them to your data basket for download

**Note:** When you download a series that have annotation files (indicated by **Yes** in the **Contains Annotations** column), they are automatically downloaded as well.

The NCIA submissions are organized in the following hierarchy, which is important to remember in creating your search query and reviewing search results:

<b>Clinical trial &gt; Patient (Subject) &gt; Study &gt; Series &gt; Images</b>
---

NCIA provides three search modes:

- Simple Search
- Advanced Search
- Annotation Keyword Search

Some search pages contain toggle buttons to allow you to switch back and forth between the Simple Search and Advanced Search pages.

Each search page contains selection boxes, drop-down lists and text fields. Selected objects are used as search criteria.

1. **Selection Boxes.**

- To move an item from the **Available** box to the Selected panel, highlight it in the Available box and click **Select**.
- Click **Select All** to select all available items and move them to the Selected panel in one keystroke.
- To remove an item from the Selected panel, highlight the item(s) and click **Remove** or click **Remove All** to remove all items.

2. **Drop-down Lists.** Click on a drop-down list arrow and select the appropriate choice.

3. **Text fields.** Enter the information requested.

## Performing a Simple Search

A simple search consists of basic criteria; they can be expanded for an advanced search. All simple searches are made at the series level from the Simple Search page


Perform the following steps to complete a Simple Search.

1. Initiate the search by following one of these options:
  - Click **Search Images** from the top menu bar.
  - Click the **Search Images** link in the Welcome panel or on the menu bar
  - Click the **Simple Search** link in the Welcome panel.
  - From the Advanced Search page, click the **Simple Search** button in the upper right hand corner. The Simple Search page displays with the basic criteria that may have already been selected.

Any of these options open the Simple Search page (*Figure 2.1*).

### Simple Search

\*All searches are conducted at the series level  
\*Default equals "All"

 **ADVANCED SEARCH**

SEARCH CRITERIA	
Image Modality(ies)	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Available</p> <div style="border: 1px solid #ccc; padding: 5px; min-height: 100px;">CT DX</div> </div> <div style="width: 45%;"> <p>Selected</p> <div style="border: 1px solid #ccc; padding: 5px; min-height: 100px;"></div> </div> </div> <div style="margin-top: 5px; text-align: center;"> <span style="margin: 0 5px;">SELECT &gt;</span> <span style="margin: 0 5px;">SELECT ALL &gt;&gt;</span> <span style="margin: 0 5px;">&lt;&lt; REMOVE ALL</span> <span style="margin: 0 5px;">&lt; REMOVE</span> </div>
Contrast	<div style="border: 1px solid #ccc; padding: 5px;">             Either Enhanced or Unenhanced           </div>
Anatomical Site	<div style="border: 1px solid #ccc; padding: 5px;"> <div style="border-bottom: 1px solid #ccc; height: 20px; width: 100%;"></div> </div>
Image Slice Thickness	<div style="border: 1px solid #ccc; padding: 5px;"> <input type="checkbox"/> I would like to filter by "Image Slice Thickness"           </div> <div style="margin-top: 5px;"> <div style="display: flex; align-items: center;"> <div style="border: 1px solid #ccc; padding: 2px 5px;">&gt;</div> <div style="border: 1px solid #ccc; padding: 2px 10px;">0 mm</div> <div style="margin: 0 5px;">AND</div> <div style="border: 1px solid #ccc; padding: 2px 10px;">≤</div> <div style="border: 1px solid #ccc; padding: 2px 10px;">5 mm</div> </div> </div>
Collection(s) <a href="#">Collection Descriptions</a>	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Available</p> <div style="border: 1px solid #ccc; padding: 5px; min-height: 100px;">RIDER TEST</div> </div> <div style="width: 45%;"> <p>Selected</p> <div style="border: 1px solid #ccc; padding: 5px; min-height: 100px;"></div> </div> </div> <div style="margin-top: 5px; text-align: center;"> <span style="margin: 0 5px;">SELECT &gt;</span> <span style="margin: 0 5px;">SELECT ALL &gt;&gt;</span> <span style="margin: 0 5px;">&lt;&lt; REMOVE ALL</span> <span style="margin: 0 5px;">&lt; REMOVE</span> </div>
Series with Annotations Only	<div style="border: 1px solid #ccc; padding: 5px;"> <input type="checkbox"/> Only include series that have annotations           </div>




 **SUBMIT**
 **BACK TO SEARCH RESULTS**
 **RESET**

Figure 2.1 Simple Search Criteria

2. Choose the search criteria described in Table 2.1.

Simple Search Criteria	Description
<b>Image Modality(ies)</b>	Select from the available image classifications. If none are selected, then the search returns data for all modalities.  Regarding the red text options: <ul style="list-style-type: none"> <li>• Select <b>All</b> to return only cases where all selections apply.</li> <li>• Select <b>Any</b> to return cases to which one or more of the selections apply</li> </ul>
<b>Contrast</b>	Select from the drop-down list: <ul style="list-style-type: none"> <li>• <b>Enhanced</b></li> <li>• <b>Un-enhanced</b></li> <li>• <b>Either Enhanced or un-enhanced</b></li> </ul>
<b>Anatomical Site</b>	Select from the available anatomical sites. If none are selected, then the search returns data for all anatomical sites.

Table 2.1 Simple Search criteria

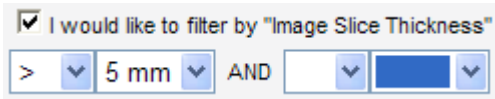
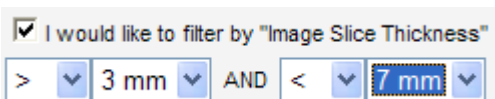
<b>Simple Search Criteria</b>	<b>Description</b>
<b>Image Slice Thickness</b>	<p>Select <b>Image Slice Thickness</b> to allow you to select a thickness range or number. Use the first set of drop-down boxes only to select one thickness by using (=), greater than (&gt;) or greater than or equal to (&gt;=) to a selected thickness. For example, for a thickness greater than 5mm, select the following:</p>  <p>Use both sets of drop-down boxes to select a range of numbers. For example, for a range between 3mm and 7 mm, select the following:</p>  <p>If you do not select this, then the search returns data for all image slice thicknesses.</p>
<b>Collection(s)</b>	<p>Collections are NCI-defined groupings of image data sets. Select from the available collections. Select from the available collections. If none are selected, then the search returns data for all collections.</p> <p>Click <b>Collection Descriptions</b> for more information about the collections.</p>
<b>Annotations</b>	<p>Select <b>Only include series that have annotations</b> to search for annotations. If you do not select this, then the search returns series that have annotations and do not have annotations.</p>

Table 2.1 Simple Search criteria (Continued)

3. Click the appropriate button to initiate, enhance or reset the search.
  - a. Click **Submit** to start the search. The Search Criteria and Search Results (by Subject) pages display (see *Viewing Search Results* on page 29).
  - b. Click **Add Keyword Criteria** to search curation data with selected keywords. This option takes you to the Annotation Keyword Search page. See the following section.
  - c. Click **Reset** to reset the search criteria to their default values.

After a search is submitted, search criteria are summarized in a Criteria Selected table. Search results display below the table. For more information about search results, see *Viewing Search Results* on page 29.

## Searching Curation Data

NCIA allows you to submit either image files (DICOM) or annotation files. Annotation files are typically either markup XML (files describing lines drawn on an image) or reports of some kind (for example, pdfs of radiologist reports). The image data is parsed into the database and is searchable on the Simple or Advanced Search pages. Data in the annotation fields is not searchable: you can only search to see whether or



not series containing images also have associated annotation files. (This is the **Series with Annotations Only** field on the Simple Search page.)

To make the data in NCIA more valuable to researchers, NCI has a curator who looks at the images and creates “curation data” about them. This could be clinical outcomes (patient survived or died?) or analysis (number of lesions, etc). The curation data is uploaded into NCIA by someone with Admin permissions using the Upload Curation Spreadsheet feature. For more information, see *Uploading and Parsing the Curation Spreadsheet* on page 41. Once the data has been uploaded, the curation data is available for search on the Annotation Keyword Search page. See the following section.

## Annotation Keyword Search Page

**Note:** In an annotation keyword search, there are no user defined keywords. You will select from among appropriate keywords assigned the annotation files by curators.

To perform an annotation keyword search, follow these steps:

1. Click the **Add Keyword Criteria** button on either the Simple Search page or the Advanced Search page.

This opens the Annotation Keyword Search page.

**Annotation Keyword Search**

This page allows you to search for series based on annotation keywords and their values.

First, choose the search terms on which you would like to search. Then, press the "Display Keywords" button to view the keywords available for each search term.

[← BACK TO SIMPLE SEARCH](#)

PREVIOUSLY SELECTED SIMPLE SEARCH CRITERIA	
Anatomical Site	CHEST
Collection(s)	RIDER, TEST
Image Modality(ies)	CT, DX
Image Slice Thickness	> 1.0 AND < 8.0

**SEARCH TERMS**

<div style="border: 1px solid #ccc; height: 150px; margin-bottom: 5px;"></div> <div style="display: flex; justify-content: space-between; padding: 0 5px;"> <span>Available</span> <span>Selected</span> </div> <div style="display: flex; justify-content: space-between; padding: 0 5px;"> <div style="width: 45%;"> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;">BBBBB</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;">TestCDE</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;">TestCDE-TE</div> </div> <div style="width: 5%; text-align: center;"> <div style="border-top: 1px solid #ccc; height: 10px; margin-bottom: 2px;"></div> <div style="border-bottom: 1px solid #ccc; height: 10px; margin-bottom: 2px;"></div> </div> </div> <div style="display: flex; justify-content: space-between; padding: 0 5px;"> <div style="width: 45%;"> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;">AAAAA</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;">NumericCDE</div> </div> <div style="width: 5%; text-align: center;"> <div style="border-top: 1px solid #ccc; height: 10px; margin-bottom: 2px;"></div> <div style="border-bottom: 1px solid #ccc; height: 10px; margin-bottom: 2px;"></div> </div> </div>	<div style="display: flex; justify-content: space-between; padding: 0 5px;"> <div style="width: 45%;"> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;">SELECT &gt;</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;">SELECT ALL &gt;&gt;</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;">&lt;&lt; REMOVE ALL</div> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;">&lt; REMOVE</div> </div> <div style="width: 5%; text-align: center;"> <div style="border-top: 1px solid #ccc; height: 10px; margin-bottom: 2px;"></div> <div style="border-bottom: 1px solid #ccc; height: 10px; margin-bottom: 2px;"></div> </div> </div> <div style="width: 45%; text-align: center;"> <div style="border: 1px solid #ccc; padding: 2px; margin-bottom: 2px;">DISPLAY KEYWORDS</div> </div>
--	--

SUBMIT

RESET

Figure 2.2 Annotation Keyword Search page

Criteria from the previous page display in a table above the list of search terms (Figure 2.2).

2. At any point, click the **Back to Simple Search** or **Back to Advanced Search** buttons to return you to the previous page. The search criteria you have already defined still display.

3. The **Search Terms Available** select box displays a list of all search terms found for collections you selected on the previous page. Use the **Select** or **Select All** buttons to move one or more of those to the **Selected** box.
4. You can click **Submit** to execute the search at this point  
OR
5. You can click the **Display Keywords** button to display the keywords for the selected search terms and drill down to more detailed search criteria.
6. Identify keywords in the Search Terms dialog box and move them to the Selected pane as described in step #3.
7. You can click **Submit** to execute the search at this point  
OR
8. You can click the **Display Keywords** button again to display the keywords for the selected search terms and drill down to more detailed search criteria ([Figure 2.3](#)).

### Annotation Keyword Search

This page allows you to search for series based on annotation keywords and their values.

First, choose the search terms on which you would like to search. Then, press the "Display Keywords" button to view the keywords available for each search term.

[← BACK TO SIMPLE SEARCH](#)

PREVIOUSLY SELECTED SIMPLE SEARCH CRITERIA	
Anatomical Site	CHEST
Collection(s)	RIDER, TEST
Image Modality(ies)	CT, DX
Image Slice Thickness	> 1.0 AND < 8.0

SEARCH TERMS	
Search Terms	<div>Available</div> <div>BBBBB TestCDE TestCDE-TE</div> <div> <a href="#">SELECT &gt;</a>  <a href="#">SELECT ALL &gt;&gt;</a>  <a href="#">&lt;&lt; REMOVE ALL</a>  <a href="#">&lt; REMOVE</a> </div>
	<div>Selected</div> <div>AAAAA NumericCDE</div> <div> <a href="#">? ?</a> </div>

[DISPLAY KEYWORDS](#)

Choose the keywords for which you want results returned.

Search Term	Keywords
AAAAAA	<div>Available</div> <div>AA A1</div> <div> <a href="#">SELECT &gt;</a>  <a href="#">SELECT ALL &gt;&gt;</a>  <a href="#">&lt;&lt; REMOVE ALL</a>  <a href="#">&lt; REMOVE</a> </div>
NumericCDE	<div>Available</div> <div></div> <div> <a href="#">SELECT &gt;</a>  <a href="#">SELECT ALL &gt;&gt;</a>  <a href="#">&lt;&lt; REMOVE ALL</a>  <a href="#">&lt; REMOVE</a> </div>

[? SUBMIT](#) [? RESET](#)

Figure 2.3 Expanded Annotation Keyword Search page

- a. At this point, additional keywords (CDEs) to your search terms have been added in the **Available** panels. Move any terms you want to add to your criteria to the appropriate selected boxes.
  - b. If the available data is numeric, define the data from a range field (circled in [Figure 2.3](#)).
9. Once you have finished defining criteria, click **Submit** to execute the search.
  10. Click **Reset** to clear fields of all criteria. This moves you back to the initial Annotation Term Search page. The criteria you selected in the Simple or Advanced Search pages still displays in summarized table format.

Searches are based on criteria named on Simple or Advanced Search pages, plus criteria specified on this Annotation Keyword Search page.

Results display as described in *Viewing Search Results* on page 29.

## Performing an Advanced Search

An Advanced Search has all fields available for a Simple Search, as well as expanded options. All advanced searches are made at the series level from the Advanced Search page.

To perform an Advanced Search, follow these steps:

1. Initiate the search by following one of these options:
  - Click the **Advanced Search** link in the Welcome panel of the NCIA home page.
  - Click the **Advanced Search** link on the Simple Search page. Criteria that you may have already selected on the Simple Search page displays on the Advanced Search page.

These options open the Advanced Search page (*Figure 2.4*).

**SEARCH** SIMPLE SEARCH

SEARCH CRITERIA	
Image Modality(ies)	<div>Available</div> <div>CR CT DX HC MR RG</div> <div>SELECT &gt; SELECT ALL &gt;&gt; &lt;&lt; REMOVE ALL &lt; REMOVE</div> <div>Selected</div>
Contrast	Either Enhanced or Unenhanced
Anatomical Site	<div>Available</div> <div>ABDOMEN CHEST CHEST - PA, AN CHEST ABDOM CT, CHEST, W HAND KNEE</div> <div>SELECT &gt; SELECT ALL &gt;&gt; &lt;&lt; REMOVE ALL &lt; REMOVE</div> <div>Selected</div>
Image Slice Thickness	<input type="checkbox"/> I would like to filter by "Image Slice Thickness" > 0 mm AND <= 5 mm
Minimum Number of Previous Studies	Baseline Plus
Number of Months between Baseline and Final Study	
Collection(s) <a href="#">Collection Descriptions</a>	<div>Available</div> <div>LIDC RIDER TEST Virtual Colonosc</div> <div>SELECT &gt; SELECT ALL &gt;&gt; &lt;&lt; REMOVE ALL &lt; REMOVE</div> <div>Selected</div>
Series Includes Annotations	Series With or Without Annotations

Modality Manufacturer	
Manufacturer	<input checked="" type="checkbox"/> All Manufacturers
Model(s)	
Software Version	

DICOM			
0008	103E	Series Description	
0018	1210	Convolution Kernel	<div>Available</div> <div>B B30f B31f B31s B45f</div> <div>SELECT &gt; SELECT ALL &gt;&gt; &lt;&lt; REMOVE ALL</div> <div>Selected</div>

Figure 2.4 Advanced Search page

2. Choose the search criteria as described in Table 2.2.

Advanced Search Criteria	Description
Image Modality(ies)	Select from the available image modalities. If none are selected, then the search returns data for all modalities.
Contrast	Select from the drop-down list. For example, <ul style="list-style-type: none"> <li>Enhanced</li> <li>Un-enhanced</li> <li>Either Enhanced or un-enhanced</li> </ul>

Table 2.2 Advanced Search Criteria

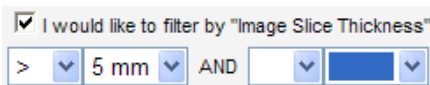
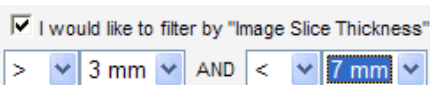
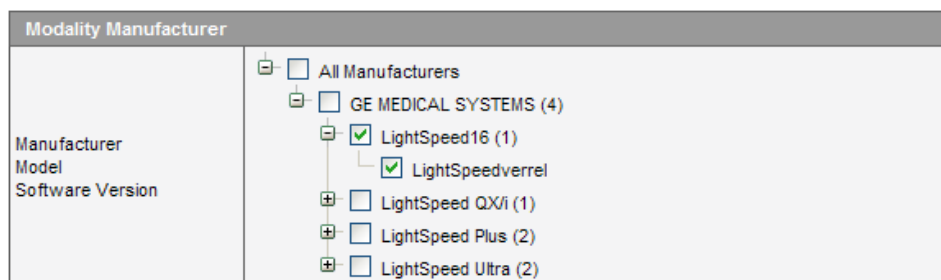
<b>Advanced Search Criteria</b>	<b>Description</b>
<b>Anatomical Site</b>	Select from the available anatomical sites. If none are selected, then the search returns data for all anatomical sites.
<b>Image Slice Thickness</b>	<p>Select <b>I would like to filter by Image Slice Thickness</b> to allow you to select a thickness range or number. Use the first set of drop-down boxes only to select one thickness by using (=), greater than (&gt;) or greater than or equal to (&gt;=) to a selected thickness. For example, for a thickness greater than 5mm, select the following:</p>  <p>Use both sets of drop-down boxes to select a range of numbers. For example, for a range between 3mm and 7 mm, select the following:</p>  <p>If you do not select this, then the search returns data for all image slice thicknesses.</p>
<b>Previous Minimum Number of Studies</b>	Patients are selected if more than the entered number of studies has been performed on the patient. It is specified as baseline (first visit) plus the number of subsequent visits. Select a number from the drop-down list.
<b>Number of Months between Baseline and Final Study</b>	This allows selection of cases with the desired amount of follow-up. Select equal (=), greater than (>), greater than or equal to (>=), less than (<) or less than or equal to (<=) from the drop-down list and enter the desired number of months.
<b>Collection(s)</b>	Collections are NCI-defined groupings of image data sets. Select from the available collections. Select from the available collections. If none are selected, then the search returns data for all collections. Click <b>Collection Descriptions</b> for more information about the collections.
<b>Annotations</b>	Select the radio button to indicate whether or not the search <b>should only include series that have annotations</b> . As a default, the search returns results containing series with or without annotations.

Table 2.2 Advanced Search Criteria (Continued)

- Choose the modality manufacturer search criteria as shown in and described in Table 2.3.



The screenshot shows the 'Modality Manufacturer' search criteria interface. On the left, there are labels for 'Manufacturer', 'Model', and 'Software Version'. On the right, a tree view shows the selection process. The 'All Manufacturers' checkbox is checked. Under 'All Manufacturers', 'GE MEDICAL SYSTEMS (4)' is expanded and checked. Under 'GE MEDICAL SYSTEMS (4)', 'LightSpeed16 (1)' and 'LightSpeedverrel' are checked. Other options like 'LightSpeed QX/i (1)', 'LightSpeed Plus (2)', and 'LightSpeed Ultra (2)' are listed but not checked.

Figure 2.5 Modality Manufacturer Search Criteria

Criteria	Description
<b>Manufacturer Model Software Version</b>	<p>This option displays a tree view of the manufacturers, models and software versions for the image modality. The number in parentheses indicates the number of items under that branch of the tree.</p> <ul style="list-style-type: none"> <li>Click on the plus sign to expand a branch of the tree or click on the minus sign to collapse a branch of the tree.</li> <li>Select a manufacturer, model or software version for your search by clicking in the box next to the item. Any items under the branch you selected are automatically selected for you. For example, LightSpeed16 was selected above.</li> </ul> <p>If none are selected, then the search returns data for all manufacturers.</p>

Table 2.3 Modality Manufacturer Search Criteria

4. Choose the DICOM search criteria as shown in [Figure 2.6](#) and described in Table 2.4. For more information on DICOM, see <http://medical.nema.org/>.

DICOM			
0008	103E	Series Description	<input type="text"/>
0018	1210	Convolution Kernel	<input type="text" value="v"/>
0018	0060	Kilovoltage Peak Distribution	<input type="text" value="v"/> AND <input type="text" value="v"/> ?

Figure 2.6 DICOM Search Criteria

Criteria	Description
<b>Series Description</b>	Enter your description of the Series. The Series Description is a DICOM tag with a group number of 0008 and element number of 103E. The specified text must exactly match a portion of an existing series description (not case-sensitive).
<b>Convolution Kernel</b>	<p>Select from the available convolution kernels. Convolution kernel is a label describing the convolution kernel or algorithm used to reconstruct the data. The DICOM tag group number is 0018 and the element number is 1210.</p> <p>If none are selected, then the search returns data for all convolution kernels.</p>

Table 2.4 DICOM Search Criteria

Criteria	Description
<b>Kilovoltage Peak Distribution</b>	<p>Kilovoltage Peak Distribution is the kilo voltage output of the x-ray generator used by a modality. The DICOM tag group number is 0018 and the element number is 0060. The DICOM attribute name is KVP.</p> <p>Use the first set of drop-down boxes only (before the AND) to select a peak distribution by using (=), greater than (&gt;) or greater than or equal to (=&gt;).</p> <p>Use both sets of drop-down boxes to select a range of numbers. From the first drop-down box, select greater than (&gt;) or greater than and equal to (=&gt;) and specify a peak distribution. Then, select less than (&lt;) or less than and equal to (=&lt;) from the second drop-down list and specify the maximum peak distribution.</p>

Table 2.4 DICOM Search Criteria (Continued)

5. Click the appropriate button to initiate, enhance or reset the search.
  - a. Click **Submit** to start the search. The Search Criteria and Search Results (by Subject) pages display (see *Viewing Search Results* on page 29).
  - b. Click **Add Keyword Criteria** to enhance the search with selected keywords. This option takes you to the Annotation Keyword Search page. For more information, see *Searching Curation Data* on page 18.
  - c. Click **Reset** to reset the search criteria to their default values.

After the search is submitted, search criteria are summarized in a Criteria Selected table. Search results display below the table. For more information about search results, see *Viewing Search Results* on page 29.

## Working with Saved Search Queries

After you launch a search, the Search Criteria page displays the search criteria summary for your review. It allows you to save the query for future use. A text field for entering the query name and a **Save Query** button displays below the search criteria (circled in *Figure 2.7*).

The screenshot shows the 'Search Criteria' page. At the top, it says '\*All searches are conducted at the series level'. Below this is a table titled 'CRITERIA SELECTED' with the following rows:

CRITERIA SELECTED	
BBBBB	> 0.0
Collection(s)	RIDER, TEST
NumericCDE	> 0.0
TestCDE	StudyLevel2, SeriesLevel, PatientLevel2, ImageLevel

Below the table, there is a text input field and a button labeled 'SAVE QUERY' with a magnifying glass icon. These two elements are circled in the image.

Figure 2.7 Save Query option

**Note:** If you launched the search from a previously saved query, then the text field and **Save Query** buttons do not display.



## Saving a Search Query

To save a search query, perform the following steps:

1. Enter a name for the saved query in the **Save Query** text field.
2. Click the **Save Query** button.

NCIA attempts to save the query and displays a message that indicates the success or failure and suggests any additional actions that are required.

## Managing Saved Queries

Click the **View Saved Queries** link in the left sidebar of the viewer to display the Saved Queries page (*Figure 2.8*).

These are your saved queries. If a query has new results, you can click on the icon in the New Data Available column to go directly to only new results. If you resubmit a query, you will be taken directly to all search results, old and new.

☒ REMOVE SELECTED ITEMS

Query Name▼	Last Executed▼	New Data Available	Resubmit Query	Edit Query	<input type="checkbox"/>
<a href="#">Enhanced Query</a>	3/2/06 1:54 PM		<a href="#">RESUBMIT QUERY</a>	<a href="#">EDIT QUERY</a>	<input type="checkbox"/>
<a href="#">CT Query</a>	3/2/06 1:53 PM		<a href="#">RESUBMIT QUERY</a>	<a href="#">EDIT QUERY</a>	<input type="checkbox"/>

Figure 2.8 Saved Queries page

This page displays a table of all queries that are currently saved for you. Table columns are described in Table 2.5. The table is sorted in descending order by **Last Executed** date by default. You can also sort by **Query Name** by clicking on the down arrow next to the column title.

Saved Query	Description
<b>Query Name</b>	The name of the query displays as a link. The default is that the criteria themselves do not display. The link toggles whether the criteria for the saved query displays. Click the link to display/not display the criteria selected for the query.
<b>Last Executed</b>	The most recent date and time you executed the query displays. The time is displayed for the Eastern Time (US and Canada) time zone.
<b>New Data Available</b>	An icon appears if new data is available for the saved query. Click the icon to display the results (new data only) on the Search Results page.
<b>Resubmit Query</b>	Click the <b>Resubmit Query</b> button to submit the query using the saved criteria and display the results on the Search Results page. The results contain both old and new data.

Table 2.5 Saved Query descriptions



<b>Saved Query</b>	<b>Description</b>
<b>Edit Query</b>	Click the <b>Edit Query</b> button to display the Search page displaying the criteria that was saved for the query. You can then modify the criteria.
<b>Checkbox</b>	Click the checkbox to mark the query for deletion. You can click the checkbox in the header to select all queries or you can select queries individually.

Table 2.5 Saved Query descriptions (Continued)

You can perform the following actions on the Saved Queries page.

- **Remove Selected Items**--Check the box corresponding to any Saved Query line items and click the **Remove Selected Items** button to delete selected saved queries.  
After NCIA attempts to delete the queries, it returns you to the **Manage Saved Queries** page; a message displays that indicates the success or failure and suggests any additional actions that are required.
- **View Query History**--Click the **Query History** tab to display the View Query History page (see *Viewing a Query History* on page 28).
- **Resubmit a Saved Query**--If you resubmit a saved query, the name of the saved query displays on the Search Results page with the following message:

**These are the results of the {Name} saved query.**

If the query is executed for new data only, the following message appears:

**These are the results of the {Name} saved query (new data since {Date} only).**

{Date} is the last execute date used as part of the criteria of the query to make it only display new results.

## Editing Saved Queries

**Note:** You cannot edit the name of a saved query. You can, however, re-run the query and save this as a new query with a new name. You can then go back and delete the old query.

Perform the following steps to edit a saved query.

1. Click the **Edit Query** button from the Saved Queries page (*Figure 2.8* on page 26) to display the Search page containing the criteria that was saved for the query. The name of the saved query being edited is shown in the following information message:  
**Saved query {Name} is being edited. After pressing Submit and viewing the results, you will have the option to save the changes.**
2. Edit the criteria for the saved query and click **Submit**.

3. The Search Criteria page ([Figure 2.9](#)) displays the criteria and the Search Results page displays the results for the edited criteria.

**Search Criteria**

\*All searches are conducted at the series level

CRITERIA SELECTED	
Collection(s)	RIDER
Contrast	Enhanced

**Save Query:**

☒ Update saved query "Enhanced Query" with the new criteria  
☐ Save this criteria as a new saved query called:


 **SAVE QUERY**

Figure 2.9 Save Edited Query

4. Choose one of the following choices (see [Figure 2.9](#)).
  - a. Select **Update saved query {Query Name} with the new criteria** and click **Save Query**.
  - b. Select **Save this criteria as a new saved query called**, enter a new query name and click **Save Query**.
  - c. If you do not like the results returned by the criteria, navigate back to the Search page to try again.

If you clicked the **Save Query** button, the system attempts to save the query and displays a message which indicates the success or failure and performs any additional actions that are required.

## Viewing a Query History

Click the **View Query History** link in the left sidebar or the **Query History** tab from the Saved Queries page to display the Query History page (see [Figure 2.10](#)). The Query History page displays a table of the last twenty queries that you executed which includes queries that are not saved and saved queries that are resubmitted. The Query History table contains the data in Table 2.6.






<div> <div>Saved Queries</div> <div>Query History</div> </div>		
<b>Query History</b>		
These are the last twenty queries that have been submitted. A query can be resubmitted by clicking the 'Resubmit Query' button.		
Query Name	Last Executed	Resubmit Query
<a href="#">CT Query</a>	3/6/06 5:53 PM	 <b>RESUBMIT QUERY</b>
<a href="#">No Name Provided</a>	3/6/06 5:53 PM	 <b>RESUBMIT QUERY</b>
<a href="#">CT Query</a>	3/6/06 5:52 PM	 <b>RESUBMIT QUERY</b>
<a href="#">RIDER Query</a>	3/6/06 5:51 PM	 <b>RESUBMIT QUERY</b>
<a href="#">No Name Provided</a>	3/6/06 5:51 PM	 <b>RESUBMIT QUERY</b>

Figure 2.10 Query History page

<i>Field Name</i>	<i>Description</i>
<b>Query Name</b>	<p>The name of the query displays as a link. The link toggles whether the criteria for the saved query is displayed. The text of the link can appear three different ways depending on the situation</p> <ul style="list-style-type: none"> <li>• If the query was not saved, <b>No Name Provided</b> displays as the link.</li> <li>• If the query is a saved query that has not been edited since the last execution date, the name of the saved query is displayed.</li> <li>• If the query is a saved query that has been edited since the last execution date, the name of the saved query is displayed with an asterisk. The asterisk refers to a message at the bottom of the page which is a warning to you that the results are based on the criteria that were used at the time the query was run, not the criteria that is currently saved for the query.</li> </ul>
<b>Last Executed</b>	The date and time that you executed the query. The time is displayed for the Eastern Time (US & Canada) time zone.
<b>Resubmit Query</b>	Click the <b>Resubmit Query</b> button to submit the query using the saved criteria. The results display on the <b>Search Results</b> page (see <i>Viewing Search Results</i> on page 29).

Table 2.6 Query History

Click the **Saved Queries** tab to display the Saved Queries page (see *Managing Saved Queries* on page 26).

## Viewing Search Results

In reviewing search results, it is important to review the hierarchy of submissions in NCIA.

**Clinical trial > Patient (Subject) > Study > Series > Images**

Search results display first as *Search Results (by Subject)*. As you click on **Show Studies** links in those results, NCIA drills down to *Search Results (Studies for Subject)* where more details for studies display. From these results, when you click **Show Images** links, the *Search Results (Images for Series)* display, revealing thumbnail images within a series.

**Note:** At any point in the process of reviewing results, you can add items--the entire patient, a study, a series, or specific images--to your data basket by selecting the items and clicking the **Add to Basket** button. This identifies objects to be downloaded.


When you download a series that have annotation files (indicated by **Yes** in the **Contains Annotations** column), they are automatically downloaded as well.


## Search Results (by Subject)

The Search Results (by Subject [patient]) page displays a table containing the results of the search by subject (*Figure 2.11*). At the bottom right, the numbered sequence of hits in the visible list displays as well as the number of entire hits.

**Search Results (by Subject)**

Subjects checked ☒ can be added to your basket.

☒ CHECK ALL ☐ UNCHECK ALL  ADD TO BASKET

Search Results (by Subject)					
	Trial ID ▼	Subject ID ▼	Studies ▼	Series ▼	
<a href="#">Show Studies</a>	TEST	0000000000000001	2 / 2	5 / 7	<input type="checkbox"/>
<a href="#">Show Studies</a>	RIDER	13614193285010001	4 / 4	8 / 12	<input type="checkbox"/>
<a href="#">Show Studies</a>	RIDER	13614193285010002	6 / 6	12 / 18	<input type="checkbox"/>
<a href="#">Show Studies</a>	RIDER	13614193285010003	7 / 7	14 / 21	<input type="checkbox"/>
<a href="#">Show Studies</a>	RIDER	13614193285010004	3 / 3	6 / 9	<input type="checkbox"/>
<a href="#">Show Studies</a>	RIDER	13614193285010005	5 / 5	10 / 15	<input type="checkbox"/>
<a href="#">Show Studies</a>	RIDER	13614193285010006	4 / 4	8 / 12	<input type="checkbox"/>
<a href="#">Show Studies</a>	RIDER	13614193285010007	3 / 3	6 / 9	<input type="checkbox"/>
<a href="#">Show Studies</a>	RIDER	13614193285010008	2 / 2	4 / 6	<input type="checkbox"/>
<a href="#">Show Studies</a>	RIDER	13614193285010009	2 / 2	4 / 6	<input type="checkbox"/>

| 1 - 20 of 85 | [Next](#) >>


 [VIEW MY BASKET](#)

Figure 2.11 Search Results by Subject

Table 2.7 describes each item in the Search Results (by subject) table.

Search Result	Description
<b>Show Studies</b>	Click this hypertext link to display the studies for this subject.
<b>Trial ID</b>	Trial identification number
<b>Subject ID</b>	Subject identification number
<b>Studies</b>	Contains two numbers: the number of studies that met the criteria / total number of studies for the subject
<b>Series</b>	Contains two numbers: the number of series that met the criteria / total number of series
<b>Checkbox</b>	Click the checkbox to mark the result for addition to your data basket. Click the checkbox in the header to select all results, or you can select results individually.

Table 2.7 Search Results (by Subject)

- Click any **Show Studies** links to display the studies for this subject where more details for studies display. See *Search Results (Studies for Subject)* on page 31.

**Note:** If you submitted a query that includes collections to which you do not have access, the following message displays:

**Results for the [Collection Name] collection are not included in the results because you do not have access to that collection.**

Some search results may display, but results from the disallowed collection are not included. If you specified multiple disallowed collections, the message appears once for each collection.

This situation can occur when you save a query. If a query is saved when you have access to a collection and then resubmit the query later (after your access to the collection has been revoked), the system still has the disallowed collection criteria saved.

2. You can perform the following actions on the Search Results (by Subject) page (*Figure 2.11*).
  - Click the down arrow next to a column title to sort the column by that item.
  - Click the **Previous** (or <<) and **Next** (or >>) buttons at the bottom of the table to display the previous or next set of results. The numbers of the results displayed is shown.
  - Click the **Add to Basket** button to add items selected to your data basket (see *Adding Items to Your Basket* on page 34).
  - Click **View My Basket** to display the items in your data basket (see *Managing the Data Basket* on page 34).


## Search Results (Studies for Subject)


When you click a study in the *Search Results (by Subject)* page, the Search Results (Studies for Subject) page opens. This page displays specific information for each study: the **Study ID**, **Date** and **Description** followed by a table containing the details for each study (*Figure 2.12*).

SEARCH >> SUBJECT >> **STUDY**

### Search Results (Studies for Subject 13614193285010011)

☒ CHECK ALL
 ☐ UNCHECK ALL

 ADD TO BASKET

Study ID	Date						
1.3.6.1.4.1.9328.50.1.5906	2000-01-01 00:00:00.0						
Description							
CT CHEST W/ CONTRAST							
	Series	Images	Description	Modality	Manufacturer	Contains Annotations	
<a href="#">Show Images</a>	1.3.6.1.4.1.9328.50.1.5907	2		CT	GE MEDICAL SYSTEMS	No	<input type="checkbox"/>
<a href="#">Show Images</a>	1.3.6.1.4.1.9328.50.1.5911	63	CT CHEST 5 X 5	CT	GE MEDICAL SYSTEMS	No	<input type="checkbox"/>
<a href="#">Show Images</a>	1.3.6.1.4.1.9328.50.1.6012	58	Recon 2: CT CHEST 5 X 5	CT	GE MEDICAL SYSTEMS	No	<input type="checkbox"/>


 VIEW MY BASKET

Figure 2.12 Studies for Subject Search Results

Table 2.8 describes each item in the Search Results (for subject) table.

Search Result	Description
Show Images	Click this link to display the images for the series .
Series	Series ID

Table 2.8 Studies for Subject Search Results

<b>Search Result</b>	<b>Description</b>
<b>Images</b>	Number of images for that series which can be displayed by clicking the <b>Show Images</b> link. This number includes both visible images that meet the criteria and those that do not. For example, where “3/4” displays, there are 4 studies total for the patient, and 3 of those 4 have images that met the search criteria.
<b>Description</b>	Description of the Series
<b>Modality</b>	Modality
<b>Manufacturer</b>	Name of the manufacturer
<b>Contains Annotations</b>	Displays <b>Yes</b> or <b>No</b> , revealing if there are annotation files. <b>Yes</b> becomes a hypertext link if the series has corresponding annotations for which the content type has been identified by curators. Hover over or click the link to display the annotation content type(s). If annotation files are available, but the content type is not known, <b>Yes</b> displays but is not hypertext.
<b>Checkbox</b>	Click the checkbox to mark the result for addition to your basket. You can click the checkbox in the header to select all results or you can select results individually.

Table 2.8 Studies for Subject Search Results

1. Click any **Show Images** links to display the studies for this subject where more details for studies display. For more information, see *Search Results (Images for Series)* on page 32.
2. You can perform the following additional actions on the Search Results (Studies for Subject) page.
  - Click the **Check All** or **Uncheck All** buttons to check or uncheck all items on the search results page or click the checkboxes individually.
  - Click the **Add to Basket** button to add items selected to your data basket (see *Adding Items to Your Basket* on page 34).
  - Click **View My Basket** to display the items in your data basket (see *Managing the Data Basket* on page 34).

## Search Results (Images for Series)

When you click the **Show Images** link in the *Search Results (Studies for Subject)* page, this opens the Search Results (Images for Series) page. This page displays images for

the corresponding series you selected. A table contains information defined for the series, followed by thumbnail images for that series (*Figure 2.13*).

SEARCH » SUBJECT » STUDY » **SERIES**

### Images for Series 1.3.6.1.4.1.9328.50.1.5907

Images on this page are meant to aid selection only. The downloaded DICOM files will be provided at their original resolution.

Subject ID	Study ID	Date	Modality	Manufacturer	Contains Annotations
13614193285010011	1.3.6.1.4.1.9328.50.1.5906	Jan 1, 2000	CT	GE MEDICAL SYSTEMS	No

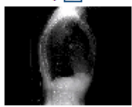
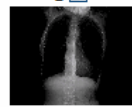
Images checked ☒ can be added to your basket.

☒ CHECK ALL ☐ UNCHECK ALL  ADD TO BASKET

Images for Series 1

1 ☐

2 ☐

| 1 - 2 of 2 |


 VIEW MY BASKET

Figure 2.13 Images for Series Search Results

Table 2.9 describes each item in the Search Results (Images for Series) table.

Search Result	Description
<b>Subject ID</b>	Subject identification number
<b>Study ID</b>	Study identification number
<b>Date</b>	Date
<b>Modality</b>	Modality
<b>Manufacturer</b>	Name of the manufacturer
<b>Contains Annotations</b>	Displays <b>Yes</b> or <b>No</b> , revealing if there are annotation files. <b>Yes</b> becomes a hypertext link if the series has corresponding annotations for which the content type has been identified by curators. Hover over or click the link to display the annotation content type(s). If annotation files are available, but the content type is not known, <b>Yes</b> displays but is not hypertext.

Table 2.9 Images for Series Search Result fields

You can perform the following actions on the Search Results (Images for Series) page:

- To enlarge an image, float your cursor over an image thumbnail. A larger version of the image displays in the upper right hand corner of the page.
- To check or uncheck all items on the search results page, click the **Check All** or **Uncheck All** buttons. To select individual images, click the image thumbnail checkboxes individually.

- Click the **Add to Basket** button to add selected items selected to your data basket (see *Adding Items to Your Basket* on page 34). Images that you add become highlighted.
- Click **View My Basket** to display the items in your data basket (see *Managing the Data Basket* on page 34).

## Working with the Data Basket

---

As you review search results in NCIA, you can add items at any level to your data basket for subsequent download.

### Adding Items to Your Basket

You can add items to your basket at the subject [patient], study, series and images levels.

1. To select items, use the **Check All** and **Uncheck All** buttons above the search results tables to check or uncheck all items on a given search results page or click the corresponding checkboxes for items individually.
2. When satisfied, click the **Add to Basket** button.

The items added to the basket are highlighted.

### Managing the Data Basket

Click the **View Contents** link in the left sidebar, **Manage Data Basket** from the top menu bar or the **View My Basket** button from Search Results pages to display the My



Data Basket page. This page displays a table of all the items in your data basket (Figure 2.14).

[← BACK TO SEARCH RESULTS](#)

### My Data Basket

\*The National Cancer Institute (NCI) attests to the validity and completeness of the images contained on this site. By downloading these images, you agree to the NCI general use guidelines.

Due to the large file size of image data stored on this site, the NCI requires that all users take full responsibility for any computer hardware or software performance issues resulting from the download of these images. Please make sure to evaluate your system resources before attempting to download.

**Note: Please disable popup blockers before initiating download.**

[🛒 DOWNLOAD ALL ITEMS](#) [✓ REMOVE SELECTED ITEMS](#)

Subject ID	Study ID	Series ID	Contains Annotations	Number of Images Selected out of Number Available	Size (in MB)	Delete? <input type="checkbox"/>
13614193285010001	1.3.6.1.4.1.9328.50.1.139	1.3.6.1.4.1.9328.50.1.144	No	72 / 72	37.9	<input type="checkbox"/>
13614193285010001	1.3.6.1.4.1.9328.50.1.139	1.3.6.1.4.1.9328.50.1.217	No	61 / 61	32.1	<input type="checkbox"/>
13614193285010001	1.3.6.1.4.1.9328.50.1.2	1.3.6.1.4.1.9328.50.1.7	No	73 / 73	38.4	<input type="checkbox"/>
13614193285010001	1.3.6.1.4.1.9328.50.1.2	1.3.6.1.4.1.9328.50.1.81	No	57 / 57	30.0	<input type="checkbox"/>
13614193285010001	1.3.6.1.4.1.9328.50.1.275	1.3.6.1.4.1.9328.50.1.280	No	64 / 64	33.7	<input type="checkbox"/>
13614193285010001	1.3.6.1.4.1.9328.50.1.275	1.3.6.1.4.1.9328.50.1.345	No	55 / 55	28.9	<input type="checkbox"/>
13614193285010001	1.3.6.1.4.1.9328.50.1.401	1.3.6.1.4.1.9328.50.1.406	No	67 / 67	35.2	<input type="checkbox"/>
13614193285010001	1.3.6.1.4.1.9328.50.1.401	1.3.6.1.4.1.9328.50.1.522	No	61 / 61	32.1	<input type="checkbox"/>
13614193285010008	1.3.6.1.4.1.9328.50.1.4434	1.3.6.1.4.1.9328.50.1.4439	No	72 / 72	37.9	<input type="checkbox"/>
13614193285010008	1.3.6.1.4.1.9328.50.1.4434	1.3.6.1.4.1.9328.50.1.4517	No	59 / 59	31.0	<input type="checkbox"/>
13614193285010008	1.3.6.1.4.1.9328.50.1.4553	1.3.6.1.4.1.9328.50.1.4558	No	73 / 73	38.4	<input type="checkbox"/>
13614193285010008	1.3.6.1.4.1.9328.50.1.4553	1.3.6.1.4.1.9328.50.1.4656	No	60 / 60	31.6	<input type="checkbox"/>
Estimated download time T1 (1.5 Mbps): 7 minute(s)				<b>Total Size:</b>	407.2 MB	
Estimated download time DSL (256 Kbps): 1 hour(s), 15 minute(s)						

[🛒 DOWNLOAD ALL ITEMS](#)

Figure 2.14 My Data Basket page

Table 2.10 describes each item in the Data Basket table

Data Basket Field	Description
Subject ID	Subject identification number
Study ID	Study identification number
Series ID	Series identification number
Contains Annotations	Displays <b>Yes</b> or <b>No</b> , revealing if there are annotation files. <b>Yes</b> becomes a hypertext link if the series has corresponding annotations for which the content type has been identified by curators. Hover over or click the link to display the annotation content type(s). If annotation files are available, but the content type is not known, <b>Yes</b> displays but is not hypertext.
Number of Images Selected out of Number Available	Contains two numbers: Number of Images Selected / Number Available

Table 2.10 My Data Basket field

<b>Data Basket Field</b>	<b>Description</b>
<b>Size (in MB)</b>	Size of the file in MB

Table 2.10 My Data Basket field (Continued)

The total size of your data basket and the estimated download time displays at the bottom of the My Data Basket page ([Figure 2.14](#)).

Select the check box of an item and click the **Remove Selected Items** button to delete an item from your basket. You can continue to add items to your data basket from the Search Results pages.

## Downloading the Data Basket

Once you are satisfied with your selections, click the **Download** button.

**Note:** Disable popup blockers before you download the files.

The selected images can be downloaded through one of the following modes:

### 1. HTTP (HTTP threshold is less than 3GB)

If total size is below the HTTP download threshold, a progress bar displays to show the progress of the file being zipped. As the file is zipped, the progress bar updates. Once the file is 100% zipped, enter the path (or destination) where the file should be downloaded on your local workstation. The status of the download, including the percent downloaded, displays until the download is completed.

### 2. FTP (FTP threshold is greater than 3GB)

If the size is above the HTTP download threshold, the file will be zipped and a message displays indicating that you should expect an email with a link to download the file via FTP. Once you receive the **FTP mail** email, download the file from the FTP site using a FTP client. FTP client software that supports downloads larger than 3 gigabytes is required to download files from the FTP server.

Links to selected tools that can provide this capability:

**Note:** This list is not an endorsement of the FTP client software. You may choose your own FTP client software.

- Windows

Filezilla: <http://prdownloads.sourceforge.net/filezilla/>

[FileZilla 2 2 16 setup.exe?download](http://prdownloads.sourceforge.net/filezilla/FileZilla_2_2_16_setup.exe?download)

- Macintosh

NetFinder: <http://www.versiontracker.com/dyn/moreinfo/macosx/3107>

Fetch: <http://fetchsoftworks.com/>

**Note:** The use of the Macintosh FTP clients listed may require you to purchase the tools. In addition to the tools listed, there are free command line tools (type [curl ftp://imaging.nci.nih.gov](http://imaging.nci.nih.gov)) included with the Macintosh.

For example, download and install the Filezilla software on your Windows system. Enter the FTP address supplied in the FTP email (for example, <ftp://>

[imaging.nci.nih.gov/](http://imaging.nci.nih.gov/)) in the **Address** box. The zip files display under the **Remote Site** panel. Double-click your zip file and the transfer begins.

## Obtaining DICOM Viewers

---

Images in the NCIA repository are stored in the medical image standard, Digital Imaging and Communications in Medicine (DICOM). A DICOM file stores the digital image along with a series of tags that contain metadata about the image such as patient ID, study ID, patient weight, anatomic site, and so forth. For more information about DICOM, see <http://medical.nema.org/>.

Below are selected links to freeware DICOM image viewers, provided for your convenience. This is not an endorsement of the listed viewers. Many other DICOM viewers are available on the Internet.

**Note:** The images in this *in vivo* image archive must be downloaded before you can view them using the viewers.

- ImageJ (runs on Linux, Mac OS 9, Mac OS X, Windows, and the Sharp Zaurus PDA): <http://rsb.info.nih.gov/ij/>
- OSIRIX (runs on MAC OSX): <http://homepage.mac.com/rossetantoine/osirix/>
- DICOMWorks (runs on PC): <http://www.dicomworks.com/>

## Initiating Searches from Other Applications

---

Searches in NCIA can be launched from other applications. For more information, see *Accessing NCIA from Another Application* on page 12.



## CHAPTER 3

# NCIA ADMINISTRATION

This chapter discusses administration functions in NCIA.

Topics in this chapter include:

- [Administration Functions Overview](#) on this page
- [Using the Quality Assurance \(QA\) Tool](#) on this page
- [Uploading and Parsing the Curation Spreadsheet](#) on page 41
- [Verifying Submitted Files](#) on page 41

## Administration Functions Overview

---

Administration privileges for NCIA are assigned using the User Provisioning Tool (UPT) by NCICB Application Support personnel.

Administration tools options, all of which are restricted by security, are visible only when a user with Admin privileges logs into NCIA. Admin tasks display as hypertext links under the left sidebar **Tools** menu. Their use is described in the appropriate sections that follow in this chapter.

## Using the Quality Assurance (QA) Tool

---

**Note:** This administration feature is available only to logged in users who have admin privileges.

When an image is uploaded into NCIA, it is not made public immediately. It goes through a quality assurance process by a curator to ensure no private patient data is available, the image is of good quality, and so forth. The NCIA QA tool allows a curator to evaluate the submission and assign the QA status of an image.

To use the QA tool, follow these steps:

1. Click the **QA Tool** hypertext link under **Tools** on the left sidebar.

On the QA Tool page that opens, the left sidebar is replaced with a tree structure that allows you to navigate through different visibility status, trials, patients, studies and series. When you click on a node in the tree, the information associated with that selection displays in the main section of the page. That is the segment of the page where you can perform actions that manage the status and hence, the visibility of the selected component.

2. Click on a series in the left sidebar to display thumbnail views of all images within the series. You can click on an image to open and view the full sized jpeg image (which opens in another browser window).

OR

3. As the curator, click on **Not Yet Reviewed**. This option drills down to images, shown in thumbnail.
4. To update the status of a tree element, select the item and the status you want to assign it.

Five status options are available. They are described in Table 3.1

<b>Submitted Image Status</b>	<b>Description</b>
<b>Not yet reviewed status</b>	This status is automatically assigned an image upon submission to the NCIA database.
<b>Not Visible</b>	Images are submitted but not yet visible
<b>Visible</b>	Images are visible
<b>Resend</b>	Submitters needs to resubmit images
<b>Send to Curation</b>	Images are ready to be sent for curation

Table 3.1 Quality assurance status categories

5. Click **OK**.

**Note:** While still on this page, you can select other groups to which you assign different visibilities.

The QA status history that displays shows all changes have been to the status of this image.

Date	User	Comment	Old Value	New Value
Aug 15, 2006	shinohaa@mail.nih.gov	s	Not Yet Reviewed	Send to Curation
Aug 15, 2006	shinohaa@mail.nih.gov	g	Send to Curation	Not Yet Reviewed

Figure 3.1 QA Status History

6. Click on **View DICOM Header** to view the DICOM header information. This also opens in another browser in table format.
7. To view a full-size copy of the image in JPEG format, click the **View Full Size JPEG** button.
8. The image page also displays an audit trail of the image, the date(s) and person(s) who made changes to the image, associated comments, and the status of the image.

## Uploading and Parsing the Curation Spreadsheet

---

**Note:** This administration feature is available only to logged in users who have admin privileges.

A user with Admin Curator privileges can upload and manage the parsing of a spreadsheet which contains annotations corresponding to images to which the spreadsheet corresponds. To perform these tasks, follow these steps:

1. Click the **Upload Curation Spreadsheet** hypertext link under **Tools** on the left sidebar.

**Note:** This option is visible only to persons logged in with admin curator privileges.

2. On the Curation Spreadsheet Upload page that opens, navigate for the file to upload (by clicking the **Browse** button), and click **Upload**. This starts the upload/parsing process.

NCIA performs a quick and preliminary validation review. If obvious errors are discovered in the file to be uploaded, an appropriate message displays immediately on this page. If the spreadsheet passes the first round of validation, a message displays that you will receive an email when the upload is complete and parsed. That email will outline any additional errors that have been detected, if there are any.

## Verifying Submitted Files

---

**Note:** This administration feature is available only to logged in users who have admin privileges.

When a site submits images to NCIA, a user with admin privileges can verify that the images have been received and monitor the status of the submitted images. This is accomplished in NCIA by generating a report with this information.

To verify image submission, follow these steps:

1. Click the **Verify Submission** hypertext link under **Tools** on the left sidebar.

**Note:** This option is visible only to persons logged in with admin privileges from the submitting site.

2. On the Verify Submission page that opens, enter the appropriate information for the **Date Range** fields, **From** and **To**, in the Search Criteria form:
3. Press the **Submit** button. The search may take a few moments.

Once completed, the report displays below the Verify Submission form (*Figure 3.2*).

**Verify Submission**

SEARCH CRITERIA						
Date (mm/dd/yyyy)	From:	09/06/2005	To:	09/06/2006		
<b>SUBMIT</b> <b>RESET</b>						

**Submission Status**

Please contact [Application Support](#) for help regarding any quarantined files.

Project-Site						
RIDER-MSKCC						
Date	Patients	Studies	Series	Image	Annotation	Quarantined Files
Sep 28, 2005	75	287	824	25417 (25417 visible Images)	0	0
Sep 29, 2005	31	121	302	11729 (11729 visible Images)	0	0

Project-Site						
RIDER-MDACC						
Date	Patients	Studies	Series	Image	Annotation	Quarantined Files
Oct 18, 2005	1	1	1	1 (1 visible Images)	0	0
Nov 30, 2005	10	70	162	10745 (10745 visible Images)	0	0
Dec 1, 2005	8	27	92	7370 (7370 visible Images)	0	0
Dec 6, 2005	1	2	3	4 (4 visible Images)	0	0
Jan 24, 2006	1	1	2	44 (44 visible Images)	0	0
Jan 26, 2006	1	1	2	139 (139 visible Images)	0	0

*Figure 3.2 Verify Submission search criteria and search results*

The results include the following information, grouped by project site in table format. Fields are described in Table 3.2:

Submitted Files Results Fields	Description
Date	Specified data range
Patients	Number of patients represented in search results
Studies	Number of studies represented in search results
Series	Number of series represented in search results
Image	Number of visible images represented in search results
Annotation	Number of annotation files represented in search results
Quarantined Files	Number of quarantined files represented in search results. Files can be quarantined for a variety of reasons: an unidentified site; required values that were left blank, an invalid header, no manifest in the zip file, and so forth.

*Table 3.2 Description of fields in search results for verifying submission to NCIA*

On the bottom of the page, a notation displays the number of files in quarantine for which a site cannot be determined (not shown). This can occur when an uploaded file is invalid or so corrupted that the curators cannot tell where it came from.



# APPENDIX

# A

## URL REFERENCES

This chapter lists URLs associated with NCIA.

- *FTP Client Software Products* on this page
- *DICOM* on this page
- *Cedara* on this page
- *NCIA* on page 44

### FTP Client Software Products

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1. Filezilla: [http://prdownloads.sourceforge.net/filezilla/FileZilla\\_2\\_2\\_16\\_setup.exe?download](http://prdownloads.sourceforge.net/filezilla/FileZilla_2_2_16_setup.exe?download)
2. NetFinder: <http://www.versiontracker.com/dyn/moreinfo/macosx/3107>
3. Fetch: <http://fetchsoftworks.com/>

### DICOM

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1. DICOM: <http://medical.nema.org/>.
2. ImageJ DICOM Viewer: <http://rsb.info.nih.gov/ij/>
3. OSIRIX DICOM Viewer: <http://homepage.mac.com/rossetantoine/osirix/>
4. DICOMWorks DICOM Viewer: <http://www.dicomworks.com/>

### Cedara

---

Cedara I-Response Workstation (IRW): <http://ncicb.nci.nih.gov/download>

Once the NCICB Download page appears, click **N** to find NCIA, and then click the IRW download link.

## NCIA

---

1. NCIA access: <http://imaging.nci.nih.gov>
2. NCIA portal site: <http://ncia.nci.nih.gov>

# APPENDIX B NCIA GLOSSARY

Acronyms referred to in this NCIA guide are described in this glossary.

<i><b>Term</b></i>	<i><b>Definition</b></i>
<b>caBIG</b>	cancer Biomedical Informatics Grid
<b>CIP</b>	Cancer Imaging Program
<b>DICOM</b>	Digital Imaging and Communications in Medicine
<b>GUI</b>	Graphical User Interface
<b>HHS</b>	Health and Human Services
<b>NCI</b>	National Cancer Institute
<b>NCIA</b>	National Cancer Imaging Archive
<b>NCICB</b>	National Cancer Institute Center for Bioinformatics
<b>WAR</b>	Web Application Resource



# INDEX

## A

Accessing NCIA from other application 12

Access to an image collection 31

Adding to Data Basket 34

Administration

overview 39

privileges 39

uploading, parsing spreadsheet 41

using QA tools 39

verifying submitted files 41

Advanced Search 21

Annotation keyword search 19

Annotations

downloading files 15

file(s) associated with image 32

files with described 18

finding only series with 18

keywords assigned by curators 19

keyword search 16

searching curation files 19

Application Support 12

Archive, purpose 3

audience for guide 1

## C

Cedara I-Response Workstation (IRW)

URL references 43

CIP, link 10

Collection access 31

Convolution kernel 24

Criteria

Advanced Search 22

format of search page 16

Simple Search 17

summary 18

CTEP, link 11

Curation

data search 19

files with ... data 18

Curator

assigning curation data 19

assigning image status 39

using QA tools 39

## D

Data Basket

adding items 34

deleting items 36

downloading 36

estimated download time 36

managing 34

DCP, link 11

Deleting items from basket 36

Deleting saved query 27

DICOM

DICOMWorks viewer 37

ImageJ viewer 37

image viewers 37

introduction 4, 37

OSIRIX viewer 37

references 43

Search criteria 24

Digital image

DICOM 4, 37

Downloading Data Basket 36

## E

Editing a query 27

Email, FTP mail 36

## F

Fetch FTP client software 36

Filezilla FTP client software 36

FTP

client software 36

client software products 43

download threshold 36

site 36

## G

Glossary [45](#)  
 Guided tour [11](#)

## H

Hierarchy of objects, NCIA [16, 29](#)  
 HTTP download threshold [36](#)

## I

Image  
     annotations, uploading [41](#)  
     Modality(ies) [22](#)  
     Slice Thickness [18](#)  
     status assignment [39](#)  
     thumbnails [33](#)  
 Images  
     for Series, Search Results [32](#)  
     interpreting corresponding numbers [35](#)  
     verifying submitted [41](#)  
 Imaging archive, purpose [3](#)  
 IRW  
     Cedara I-Response Workstation URL [43](#)

## K

Keyword, annotation search [19](#)  
 Kilovoltage Peak Distribution [25](#)

## L

Launching NCIA from another application [12](#)  
 Login [5](#)

## M

Managing Data Basket [34](#)  
 Manufacturer search criteria [23](#)  
 Modality manufacturer [23](#)

## N

NCIA  
     database search, introduction [15](#)  
     launching from another application [12](#)  
     login [5](#)  
     News page Site Map [10](#)  
     online help methods [11](#)  
     pre-login options [4](#)  
     purpose [3](#)  
     Quick Links [7](#)  
     URL references [43](#)  
 NCICB Application Support [12](#)  
 NetFinder FTP client software [36](#)

## O

Objects in NCIA, hierarchy of [16, 29](#)  
 Online Help [11](#)  
 Online tutorial [11](#)  
 OSIRIX DICOM viewer [37](#)  
 Overview  
     NCIA [3](#)  
 overview  
     guide chapters [1](#)

## P

Parsing annotation spreadsheet [41](#)  
 Performing  
     Advanced search [21](#)  
     Simple search [16](#)

## Q

QA tools, using [39](#)  
 Query History, viewing [28](#)  
 Quick Links [7](#)

## R

Results  
     by subject [30](#)  
     Images for Series [32](#)  
     Studies for Subject [31](#)

## S

Saved Queries  
     Query History [28](#)  
     table [26](#)  
     viewing [26](#)  
 Saved Query  
     deleting [27](#)  
     editing [27](#)  
 Search  
     Advanced [21](#)  
     annotation keywords [19](#)  
     curation data [18, 19](#)  
     introduction [15](#)  
     page criteria [16](#)  
     query, saving [26](#)  
     Simple [16](#)  
 Search criteria  
     Advanced search [22](#)  
     DICOM [24](#)  
     modality manufacturer [23](#)  
     Simple search [17](#)  
     summary page [25](#)  
 Search page  
     drop-down lists [16](#)  
     selection boxes [16](#)

text fields [16](#)

## Search Results

By Subject [30](#)

Images for Series [32](#)

Studies for Subject [31](#)

Series, number of [30](#)

Simple Search [16](#)

Site Map [10](#)

Spreadsheet, annotations upload [41](#)

Studies, number of [30](#)

Studies for Subject search results [31](#)

## T

Transferring FTP file [37](#)

## U

Uploading annotation spreadsheet [41](#)

### User

creating account [4](#)

login [5](#)

## V

Verifying submitted images [41](#)

Viewing Query History [28](#)

Viewing Saved Queries [26](#)

