Department of Veterans Affairs

Automated Surgical Risk Calculator

Testing Manual



November 2014

Version 1.2

# Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Version | Description | Author |
| 11/18/14 | 1.0 | Initial Draft | B. Frey |
| 11/20/14 | 1.1 | Updated to include the following user stories:   * Display User Name from VistA * Select Surgical Specialty * Patient Age Manual Entry * Patient Gender Manual Entry * Select Surgical Procedure * Procedure list has Descriptions, CPT codes, and RVUs | B. Frey |
| 11/21/2014 | 1.2 | Technical Edit | S. Vetzel |

**Table of Contents**

[Revision History i](#_Toc404343204)

[Testing Manual Introduction 1](#_Toc404343205)

[Test Case #1 – Display User Name from VistA 2](#_Toc404343206)

[Test Case #2 – Select Surgical Specialty 4](#_Toc404343207)

[Test Case #3 – Patient Age Manual Entry 6](#_Toc404343208)

[Test Case #4 – Patient Gender Manual Entry 9](#_Toc404343209)

[Test Case #5 – Select Surgical Procedure 11](#_Toc404343210)

[Test Case #6 – Procedure list has Descriptions, CPT codes, and RVUs 14](#_Toc404343211)

# Testing Manual Introduction

Project Name: Automated Surgical Risk Calculator (ASRC)

Test Plan Type: Functional

Tester Name: Bill Frey

Environment: VA Future Technology Lab

**Purpose:**

The ARSC testing manual will support the development of an “Automated Surgical Risk Calculator Tool” that can be used at the time the patient is considered for surgical referral by a primary care provider and at the time a surgeon is requesting a surgery. This Tool will support clinical decision-making regarding perioperative risk (includes preoperative, intraoperative, and postoperative). Providers will verify patient-specific data that is automatically pulled from available data sources, enter remaining fields, and be provided with a real-time individual risk calculation of perioperative surgical mortality based on historic Veterans Affairs Surgical Quality Improvement Program (VASQIP) data and current VASQIP risk-adjusted models that are specialty-specific. The data entered and the calculated results will be available for viewing in the Computerized Patient Record System (CPRS) as a progress note. The data will also be transferred and stored as discrete fields in Veterans Health Systems and Technology Architecture (VistA) and a Structured Query Language (SQL) database for use by the National Surgery Office (NSO).

The purpose of this document is to provide clear and easy to follow test scripts with associated screen shots to facilitate thorough testing by the Hewlett-Packard Enterprise Services (HPES) team and subsequent use for User Functional Testing (UFT). The Testing Manual will be updated as new functionality is developed and is available for testing.

**User must have access to the ASRC Future Technology Lab environment and to the following applications:**

VistA/CPRS**:** Access to these legacy Veterans Affairs (VA) Electronic Health Record (EHR) applications is required to validate patient information and to access the ASRC Application (from CPRS).

[**ASRC Application**](http://54.235.83.7/srcalc/newCalc)**:** New tool being developed by the ASRC providing the calculator user interface and functions.

**Conventions:**

* In the test cases below, “**Step**” indicates an instructional step in a procedure that is not specifically related to testing a requirement. There is no need to indicate a Pass or Fail for Steps (these cells have been greyed out).
* “***VP***” indicates a step that verifies a procedure with expected results and actual results, which is directly related to testing a requirement. Enter (P)ass or (F)ail for each VP.

# Test Case #1 – Display User Name from VistA

**User Story:**  ASRC-104: Display User Name from VistA

**Description:** As a VA clinical user, I want the tool to display my user name from VistA, so that it is obvious what user is logged in.

*Acceptance Criteria:*

\* Tool will log valid VistA users into the system

\* Tool will display logged in user’s names

**Preparation:** None

**Precondition**: Access to VA Future Technology Lab & ASRC Application.

**UFT Note:** UFT users please note that using the User Number will only be required until single-sign on with CPRS is implemented. Please use the login method that works when you are performing your tests.

| ***#*** | **Steps** | **Steps/Actions** | **Expected Results (VP) / Reference Information (STEP)** | **Actual Results**  **(P)ass / (F)ail** |
| --- | --- | --- | --- | --- |
| ***Test Case #1 – Display User Name from VistA*** | | | | |
|  | **Step** | Access the ASRC Application. | The ASRC application is displayed. |  |
|  | ***VP*** | Attempt to Login to the ASRC Application as a valid user - Radiologist (valid User Number 11716 entered in Username) | Verify that User: RADIOLOGIST,ONE is displayed. |  |
|  | ***VP*** | Attempt to login to the ARSC Application as an invalid user (enter invalid User Number 2) | Verify that appropriate login error message is displayed. |  |
|  |  | *End of Test Case 1* |  |  |

# Test Case #2 – Select Surgical Specialty

**User Story:**  ASRC-11: Select Surgical Specialty

**Description:** As a provider, I want to select my surgical specialty, So that the tool performs the specialty-specific calculation.

*Acceptance Criteria:*

\* Selected Surgical Specialty screen is displayed when continue is clicked.

**Preparation:** None

**Precondition**: Access to VA Future Technology Lab & ASRC Application.

**UFT Note:** UFT users please note that using the User Number will only be required until single-sign on with CPRS is implemented. Please use the login method that works when you are performing your tests.

| ***#*** | **Steps** | **Steps/Actions** | **Expected Results (VP) / Reference Information (STEP)** | **Actual Results**  **(P)ass / (F)ail** |
| --- | --- | --- | --- | --- |
| ***Test Case #2 –* Select Surgical Specialty** | | | | |
|  | **Step** | Login to the ASRC Application. | The ASRC application is displayed and login was successful |  |
|  | **VP** | Select the General Surgery Specialty and click continue | Verify that the General Surgery specialty screen is displayed |  |
|  | ***Step*** | Click the browser back button to navigate until the Select Surgical Specialty screen is displayed | Surgical Specialty selection screen is displayed |  |
|  | ***Step/VP*** | Repeat step 2 selecting Neurosurgery specialty | Verify same results |  |
|  | **Step/VP** | Repeat step 3 then step 2 selecting Orthopedic specialty | Verify same results |  |
|  | **Step/VP** | Repeat step 3 then step 2 selecting Other Non-Cardiac Specialty | Verify same results |  |
|  | **Step/VP** | Repeat step 3 then step 2 selecting Thoracic specialty | Verify same results |  |
|  | **Step/VP** | Repeat step 3 then steps 2-3 selecting Urology specialty | Verify same results |  |
|  | **Step/VP** | Repeat step 3 then steps 2-3 selecting Vascular specialty | Verify same results |  |
|  |  | End of Test Case 2 |  |  |

# Test Case #3 – Patient Age Manual Entry

**User Story:**  ASRC-20: Patient Age Manual Entry

**Description:** As a provider, I want the tool to allow manual data entry of the patient's current age, So that I can still perform the calculation if it could not be automatically retrieved or if I have more current information.

*Acceptance Criteria:*

\* Tool allows entry of age greater than or equal to 0

\* Tool rejects entry less than 0 with a user-visible error message

\* Tool rejects entry greater than 999 with a user-visible error message

\* Tool rejects entry that is not an integer with a user-visible error message

\* Tool rejects a blank Age entry with a user-visible error message

\* Tool display entered age on calculation result page

\* Each model that has the Manual Entry of Age (all non-cardiac) meets the above criteria

**Preparation:** None

**Precondition**: Access to VA Future Technology Lab & ASRC Application.

**UFT Note:** UFT users please note that using the User Number will only be required until single-sign on with CPRS is implemented. Please use the login method that works when you are performing your tests.

| ***#*** | **Steps** | **Steps/Actions** | **Expected Results (VP) / Reference Information (STEP)** | **Actual Results**  **(P)ass / (F)ail** |
| --- | --- | --- | --- | --- |
| ***Test Case #3 – Patient Age Manual Entry*** | | | | |
|  | **Step** | Access the ASRC Application.  Login to the ASRC Application as a Radiologist (DUZ 11716) test user | The ASRC application is displayed.  Test user (Radiologist) is logged in. |  |
|  | **Step** | Select General Surgery Specialty and click the continue button. | The General Specialty is shown as selected when clicked.  The General Surgery specialty screen is displayed after clicking continue |  |
|  | **VP** | In the Age box enter -1 and run calculation | Verify that an appropriate error message is displayed |  |
|  | **VP** | In the Age box enter 0 and run calculation | Verify that the value is accepted. |  |
|  |  |  | Verify that the entered Age (0) is displayed |  |
|  | **VP** | In the Age box enter 1000 and run calculation | Verify that an appropriate error message is displayed to the user (that the value must be <= 999) |  |
|  | **VP** | In the Age box enter 999 and run calculation | Verify that the value is accepted |  |
|  | **VP** |  | Verify that the entered Age (999) is displayed |  |
|  | **VP** | In the Age box enter 1.1 and run calculation | Verify that an appropriate error message is displayed |  |
|  | **VP** | In the Age box enter “One” and run calculation | Verify that an appropriate error message is displayed |  |
|  | **VP** | Without entering an Age run the calculation | Verify that an appropriate error message is displayed |  |
|  | **Step** | Navigate back to the surgical specialty screen | The Surgical Specialty screen is displayed |  |
|  | **Step/VP** | Repeat steps 2-11 selecting Neurosurgery specialty. | Verify same results |  |
|  | **Step/VP** | Repeat step 12 then 2 -11 selecting Orthopedic specialty | Verify same results |  |
|  | **Step/VP** | Repeat step 12 then 2 -11 selecting Other Non-Cardiac Specialty | Verify same results |  |
|  | **Step/VP** | Repeat step 12 then 2 -11 selecting Thoracic specialty | Verify same results |  |
|  | **Step/VP** | Repeat step 12 then 2 -11 selecting Urology specialty | Verify same results |  |
|  | **Step/VP** | Repeat step 12 then 2 -11 selecting Vascular specialty | Verify same results |  |
|  |  | *End of Test Case 3* |  |  |

# Test Case #4 – Patient Gender Manual Entry

**User Story:**  ASRC-22: Patient Gender Manual Entry

**Description:** As a provider, I want the tool to allow manual data entry of the patient's gender, So that I can still perform the calculation if it could not be automatically retrieved or if I have more current information.

*Acceptance Criteria:*

\* Tool displays entered gender on calculation result page.

\* Tool displays appropriate error message if gender is not selected prior to running the calculation

\* Tool changes the Variables section label to “Calculation Inputs” when the calculation is executed.

**Preparation:** None

**Precondition**: Access to VA Future Technology Lab & ASRC Application.

**UFT Note:** UFT users please note that using the User Number will only be required until single-sign on with CPRS is implemented. Please use the login method that works when you are performing your tests.

| ***#*** | **Steps** | **Steps/Actions** | **Expected Results (VP) / Reference Information (STEP)** | **Actual Results**  **(P)ass / (F)ail** |
| --- | --- | --- | --- | --- |
| ***Test Case #4 – Patient Gender Manual Entry*** | | | | |
|  | **Step** | Login to the ASRC Application. | The ASRC application is displayed and login is successful. |  |
|  | **Step** | Select Cardiac Surgical Specialty and click continue | The Cardiac screen is displayed |  |
|  | ***VP*** |  | Verify that Gender label and Male Female radio buttons are displayed |  |
|  | ***VP*** | Select Male and run calculation | Verify that the section label changes to Calculation Inputs and that Gender Male is displayed |  |
|  | **Step** | Click the browser back arrow to navigate back to the Cardiac screen | The Cardiac screen is displayed |  |
|  | ***VP*** | Select Female and run calculation | Verify that the section label changes to Calculation Inputs and that Gender Female is displayed |  |
|  | ***VP*** | Run calculation without selecting either Male or Female | Verify that an appropriate error message is displayed |  |
|  |  | *End of Test Case 4* |  |  |

# Test Case #5 – Select Surgical Procedure

**User Story:**  ASRC-6: Select Surgical Procedure

**Description:** As a provider, I want to select the surgical procedure, So that the tool performs the procedure-specific calculation.

Acceptance Criteria:

* Tool displays the shortened procedure description on the variable entry page.
* Tool displays the full procedure on the calculation result page.
* Tool displays appropriate error messages if a surgical procedure is not selected
* Tool meets above criteria for all non-cardiac specialties

**Preparation:** None

**Precondition**: Access to VA Future Technology Lab & ASRC Application.

**UFT Note:** UFT users please note that using the User Number will only be required until single-sign on with CPRS is implemented. Please use the login method that works when you are performing your tests.

| ***#*** | **Steps** | **Steps/Actions** | **Expected Results (VP) / Reference Information (STEP)** | **Actual Results**  **(P)ass / (F)ail** |
| --- | --- | --- | --- | --- |
| ***Test Case #5 – Select Surgical Procedure*** | | | | |
|  | **Step** | Login to the ASRC Application. | The ASRC application is displayed and login was successful |  |
|  | **Step** | Select the General Surgery Specialty and click continue | The selected specialty screen is displayed |  |
|  | **Step** | Click “Select” for procedure | The Procedure list is displayed |  |
|  | **VP** | Select the first procedure code on the list | Verify that the short form of the procedure description is displayed as a Variable |  |
|  | **Step** | Enter a valid age in the Age variable input box | The age entered is displayed |  |
|  | **VP** | Run calculation | Verify that the long form of the procedure description is displayed |  |
|  | **Step** | Click the browser back button to navigate back to the General surgery input screen | Screen is shown with no entries for procedure or age |  |
|  | **Step** | Run calculation without selecting a procedure | Verify that an appropriate error message is displayed |  |
|  | **Step** | Click the browser back button to navigate back to the General surgery input screen | Screen is shown with no entries for procedure or age |  |
|  | **VP** | Without selecting a procedure, enter an Age and run calculation | Verify that an appropriate error message is displayed |  |
|  | **Step** | Click the browser back button to navigate until the Select Surgical Specialty screen is displayed | Surgical Specialty selection screen is displayed |  |
|  | **Step/VP** | Repeat steps 2-10 selecting Neurosurgery specialty | Verify same results |  |
|  | **Step/VP** | Repeat step 11 then steps 2-10 selecting Orthopedic specialty | Verify same results |  |
|  | **Step/VP** | Repeat step 11 then steps 12-14 selecting Other Non-Cardiac Specialty | Verify same results |  |
|  | **Step/VP** | Repeat step 11 then steps 2-10 selecting Thoracic specialty | Verify same results |  |
|  | **Step/VP** | Repeat step 11 then steps 2-10 selecting Urology specialty | Verify same results |  |
|  | **Step/VP** | Repeat step 11 then steps 2-10 selecting Vascular specialty | Verify same results |  |
|  |  | End of Test Case 5 |  |  |

# Test Case #6 – Procedure list has Descriptions, CPT codes, and RVUs

**User Story:**  ASRC-7: Procedure list has Descriptions, CPT codes, and RVUs

**Description:** As a provider who is selecting a procedure, I want to see the procedure's CPT code, long description, and RVU, So that I know exactly what procedure I am selecting.

*Acceptance Criteria:*

\* Tool displays for each procedure: CPT code, long description, and RVU.

**Preparation:** None

**Precondition**: Access to VA Future Technology Lab & ASRC Application.

**UFT Note:** UFT users please note that using the User Number will only be required until single-sign on with CPRS is implemented. Please use the login method that works when you are performing your tests.

| ***#*** | **Steps** | **Steps/Actions** | **Expected Results (VP) / Reference Information (STEP)** | **Actual Results**  **(P)ass / (F)ail** |
| --- | --- | --- | --- | --- |
| ***Test Case #6 –* Procedure list has Descriptions, CPT codes, and RVUs** | | | | |
|  | **Step** | Login to the ASRC Application. | The ASRC application is displayed and login was successful |  |
|  | **Step** | Select the General Surgery Specialty and click continue | The selected specialty screen is displayed |  |
|  | **Step** | Click “Select” for procedure | The Procedure list is displayed |  |
|  | ***VP*** |  | Verify that each procedure has a CPT code, long description, and RVU. |  |
|  | ***Step*** | Click the browser back button to navigate until the Select Surgical Specialty screen is displayed | Surgical Specialty selection screen is displayed |  |
|  | ***Step/VP*** | Repeat steps 2-4 selecting Neurosurgery specialty | Verify same results |  |
|  | **Step/VP** | Repeat step 5 then steps 2-4 selecting Orthopedic specialty | Verify same results |  |
|  | **Step/VP** | Repeat step 5 then steps 2-4 selecting Other Non-Cardiac Specialty | Verify same results |  |
|  | **Step/VP** | Repeat step 5 then steps 2-4 selecting Thoracic specialty | Verify same results |  |
|  | **Step/VP** | Repeat step 5 then steps 2-4 selecting Urology specialty | Verify same results |  |
|  | **Step/VP** | Repeat step 5 then steps 2-4 selecting Vascular specialty | Verify same results |  |
|  |  | End of Test Case 6 |  |  |