Department of Veterans Affairs

Automated Surgical Risk Calculator

Testing Manual



January 2015

Version 1.5.1

# 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 |
| 12/17/2014 | 1.3 | Updated to include the following user stories:   * Field Display Grouping * Patient BMI Manual Entry * Patient DNR Manual Entry * Checkbox Custom Variables * Change Checkbox Custom Variable Text * Radio Button Custom Variables | B. Frey |
| 12/17/2014 | 1.4 | Technical Edit | S. Vetzel |
| 01/05/2015 | 1.4.1 | Updated   * Test Case 3 – added fractional test and clarified test case navigation steps. * Test Case 5 – added steps needed to enter all required fields and clarified navigation steps. * Test Case 7 – added note to Acceptance Criteria section that states that as new groups (e.g., Medications) are added their grouping will be tested as part of the test case associated with the new User Story. | B. Frey |
| 1/14/2015 | 1.4.2 | Updated to include these User Stories   * ASRC-120: Alkaline Phosphatase Lab Result Manual WNL/Abnormal * ASRC-84: Alkaline Phosphatase Lab Result Manual Entry Numerical * ASRC-132: Alkaline Phosphatase Lab Result Translation | B. Frey |
| 1/19/2015 | 1.4.3 | Updated to include these User Stories   * ASRC-119: BUN Lab Result Manual WNL/Abnormal * ASRC-83: BUN Lab Result Manual Entry Numerical * ASRC-131: BUN Lab Result Translation * ASRC-27: Patient Weight 6 Months Prior Manual Entry | B. Frey |
| 1/23/2015 | 1.5 | Updated to include these User Stories   * ASRC-18: Serum Albumin Lab Result Manual WNL/Abnormal * ASRC-17: Serum Albumin Lab Result Manual Entry Numerical * ASRC-15: B Serum Albumin Lab Result Translation * ASRC-9: Search for procedure by CPT Code * ASRC-165: Display Patient BMI Categorization   Removed ASRC-27: Patient Weight 6 Months Prior as the User Story is being reworked based on new input from customer. | B. Frey |
| 1/26/2015 | 1.5.1 | Technical Edit | S. Vetzel |

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# 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 transfer and store 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 reflect updates 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 following test cases, “**Step**” indicates an instructional step in a procedure 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, related directly 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 displays |  |
|  | ***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 displays. |  |
|  | ***VP*** | Attempt to login to the ARSC Application as an invalid user (enter invalid User Number 2) | Verify that appropriate login error message displays. |  |
|  |  | *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 information that is current.

*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 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 previous 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 displays.  Test user (Radiologist) is logged in. | |  | | |
|  | **Step** | | Select General Surgery Specialty and click the continue button. | The General Specialty shows as selected when clicked.  The General Surgery specialty screen displays after clicking continue | |  | | |
|  | **VP** | | * In the Age box enter -1 * Enter all other required fields for the specialty * Run calculation | Verify that an appropriate error message is displayed | |  | | |
|  | **VP** | | * In the Age box enter 0 * Enter all other required fields for the specialty * Run calculation | Verify that the value is accepted. | |  | | |
|  | **VP** | |  | Verify that the entered Age (0) is displayed | |  | | |
|  | **Step** | | * Click “Start New Calculation” * Select the specialty again (e.g., if testing General Surgery reselect it and Continue to that specialty screen) |  | |  | | |
|  | **VP** | | * In the Age box enter 1000 * Enter all other required fields for the specialty * 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 * Enter all other required fields for the specialty * Run calculation | Verify that the value is accepted | |  | | |
|  | **VP** | |  | Verify that the entered Age (999) is displayed | |  | | |
|  | **Step** | | * Click “Start New Calculation” * Select the specialty again (e.g., if testing General Surgery reselect it and Continue to that specialty screen) |  | |  | | |
|  | **VP** | | * In the Age box enter value 18.1 (non-integer containing a fractional value) * Enter all other required fields for the specialty * Run calculation | Verify that the entered Age (18.1) is displayed | |  | | |
|  | **Step** | | * Click “Start New Calculation” * Select the specialty again (e.g., if testing General Surgery reselect it and Continue to that specialty screen) |  | |  | | |
|  | **VP** | | In the Age box enter “One” and run calculation.  Enter all other required fields for the specialty. | Verify that an appropriate error message is displayed | |  | | |
|  | **VP** | | Without entering an Age run the calculation.  Enter all other required fields for the specialty. | 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 information that is current.

*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 displays 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 “Start New Calculation” * Select the Cardiac specialty again | 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 previous 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 displays 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 all other required fields for the specialty |  |  |
|  | **VP** | Run calculation | Verify that the long form of the procedure description is displayed |  |
|  | **Step** | * Click “Start New Calculation” * Select the specialty again (e.g., if testing General Surgery reselect it and Continue to that specialty screen) |  |  |
|  | **VP** | Run calculation without selecting a procedure | Verify that an appropriate error message 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 displays 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 |  |  |

# Test Case #7 – Field Display Grouping

**User Story:**  ASRC-55: Field Display Grouping

**Description:** As a provider, I want the input fields grouped together (e.g., Demographics, Medications, etc.),

So that the variable entry page is intuitive.

*Acceptance Criteria:*

The Field Display Grouping follows,

Table 1 - Field Grouping Categories

|  |
| --- |
| CPT Coded Procedure Planned, |
| Surgical Specialty, |
| Demographics, |
| BMI, |
| Medications, |
| Laboratory Values, |
| Clinical Conditions or Diseases specified in the coefficient data source. Clinical Conditions or Diseases shall be subdivided into |
| * + “Recent” and |
| * + “History of” categories. |

NOTE: Field Groupings will be incrementally verified as new field groups are added (e.g., Medications) and will be included as part of the related test case associated with the new User Story being implemented.

**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 #7 –* Field Display Grouping** | | | | |
|  | **Step** | Login to the ASRC Application. | The ASRC application displays and login was successful |  |
|  | **Step** | Select Cardiac and click Continue | The Cardiac screen displays |  |
|  | **VP** | Examine the Cardiac Screen | Verify available field display groupings are within the groupings listed in Table 1 in Case 7’s Acceptance Criteria. |  |
|  | **Step** | Click the Browser back button |  |  |
|  | **Step** | Select General Surgery and click Continue | The General Surgery screen is displayed |  |
|  | **VP** | Examine the General Surgery Screen | Verify available field display groupings are within the groupings listed in Table 1 in Case 7’s Acceptance Criteria. |  |
|  | **Step** | Click the Browser back button |  |  |
|  | **Step** | Select Neurosurgery and click Continue | The Neurosurgery screen is displayed |  |
|  | **VP** | Examine the Neurosurgery Screen | Verify available field display groupings are within the groupings listed in Table 1 in Case 7’s Acceptance Criteria. |  |
|  | **Step** | Click the Browser back button |  |  |
|  | **Step** | Select Orthopedic and click Continue | The Orthopedic screen is displayed |  |
|  | **VP** | Examine the Orthopedic Screen | Verify available field display groupings are within the groupings listed in Table 1 in Case 7’s Acceptance Criteria. |  |
|  | **Step** | Click the Browser back button |  |  |
|  | **Step** | Select Other Non-Cardiac Specialty and click Continue | The Other Non-Cardiac Specialty screen is displayed |  |
|  | **VP** | Examine the Other Non-Cardiac Specialty Screen | Verify available field display groupings are within the groupings listed in Table 1 in Case 7’s Acceptance Criteria. |  |
|  | **Step** | Click the Browser back button |  |  |
|  | **Step** | Select Thoracic and click Continue | The Thoracic screen is displayed |  |
|  | **VP** | Examine the Thoracic Screen | Verify available field display groupings are within the groupings listed in Table 1 in Case 7’s Acceptance Criteria. |  |
|  | **Step** | Click the Browser back button |  |  |
|  | **Step** | Select Urology and click Continue | The Urology screen is displayed |  |
|  | **VP** | Examine the Urology Screen | Verify available field display groupings are within the groupings listed in Table 1 in Case 7’s Acceptance Criteria. |  |
|  | **Step** | Click the Browser back button |  |  |
|  | **Step** | Select Vascular and click Continue | The Vascular screen is displayed |  |
|  | **VP** | Examine the Vascular Screen | Verify available field display groupings are within the groupings listed in Table 1 in Case 7’s Acceptance Criteria. |  |
|  | **Step** | Click the Browser back button |  |  |
|  |  | End of Test Case 7 |  |  |

# Test Case #8 – Patient Functional Status Entry

**User Story:**  ASRC-29: Patient Functional Status Entry

**Description:** As a provider, I want to select the patient's functional status as "independent,” "partially dependent,” or "totally dependent", so that functional status is included in the risk calculation

*Acceptance Criteria:*

*\** Tool displays Functional Status and provides selectable statuses: Independent, Partially Dependent, and Totally Dependent

\* Tool displays entered Functional Status on calculation result page.

\* Tool displays appropriate error message if Functional Status 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 #8 –* Patient Functional Status Entry** | | | | |
|  | **Step** | Login to the ASRC Application. | The ASRC application is displays and login was successful |  |
|  | **Step** | Select General Surgery and click continue | The General Surgery screen displays |  |
|  | **VP** | Examine the selected surgical specialty screen | Verify that functional status displays along with the following selections   * Independent * Partially Dependent * Totally Dependent |  |
|  | **Step** | Select a Procedure and enter a valid age | Selected procedure and entered age are displayed |  |
|  | **VP** | Select Independent and click Run Calculation | Verify that screen is updated with the results (grouping is labelled Calculation Inputs) and that the selected functional status is displayed along with the other values. |  |
|  | **Step** | Click the Browser back button | The variable entry screen displays for the selected specialty. |  |
|  | **Step** | Select a Procedure and enter a valid age | Selected procedure and entered age are displayed |  |
|  | **VP** | Select Partially Dependent and click Run Calculation | Verify that screen is updated with the results (grouping is labelled Calculation Inputs) and that the selected functional status is displayed along with the other values. |  |
|  | **Step** | Click the Browser back button | The variable entry screen displays for the selected specialty. |  |
|  | **Step** | Select a Procedure and enter a valid age | Selected procedure and entered age are displayed |  |
|  | **VP** | Select Totally Dependent and click Run Calculation | Verify that screen is updated with the results (grouping is labelled Calculation Inputs) and that the selected functional status is displayed along with the other values. |  |
|  | **Step** | Navigate back to the Surgical Specialty Selection page | Surgical Specialties are displayed |  |
|  | **VP** | Select Neurosurgery and repeat steps 2-12 | The results are the same for Neurosurgery |  |
|  | **VP** | Select Orthopedic and repeat steps 2-12 | The results are the same for Orthopedic |  |
|  | **VP** | Select Other Non-Cardiac Specialty and repeat steps 2-12 | The results are the same for Other Non-Cardiac Specialty |  |
|  | **VP** | Select Thoracic and repeat steps 2-12 | The results are the same for Thoracic |  |
|  | **VP** | Select Urology and repeat steps 2-12 | The results are the same for Urology |  |
|  | **VP** | Select Vascular and repeat steps 2-12 | The results are the same for Vascular |  |
|  |  | End of Test Case 8 |  |  |

# Test Case #9 – Patient BMI Manual Entry

**User Story:**  ASRC-21: Patient BMI Manual Entry

**Description:** As a provider, I want the tool to allow manual data entry of the patient's current Body Mass Index,

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 BMI and a manual entry box for each specialty

\* Tool displays BMI in the correct field grouping (IAW VA GFI FY2013 Coefficients)

\* Manual entry are numerical (not radio button categorization).

\* Tool will validate that BMI is greater than or equal to 0.

**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 #9 –*** Patient BMI Manual Entry | | | | |
|  | **Step** | Login to the ASRC Application | The ASRC application is displayed and login was successful |  |
|  | **Step** | Select Cardiac Surgical Specialty and click Continue | The Cardiac screen is displayed |  |
|  | **VP** | Examine the selected Surgical Specialty screen | * Verify that BMI is displayed along with a manual entry box * Verify that BMI is displayed in the correct field grouping |  |
|  | **VP** | * Enter data in other required fields on the screen * Enter -1 in the BMI box * Click Run Calculation | Verify that an appropriate error message is displayed |  |
|  | **VP** | * Enter data in other required fields on the screen * Enter 0 in the BMI box * Click Run Calculation | Verify that the entered BMI is shown on the Calculation Results page |  |
|  | **VP** | * Enter data in other required fields on the screen * Enter 500 in the BMI box * Click Run Calculation | Verify that an appropriate error message is displayed |  |
|  | **VP** | * Enter data in other required fields on the screen * Enter 499 in the BMI box * Click Run Calculation | Verify that the entered BMI is shown on the Calculation Results page |  |
|  | **Step** | Navigate back to the Surgical Specialty Selection page | Surgical Specialties are displayed |  |
|  | **VP** | Select General Surgery and repeat steps 2-8 | The results are the same for General Surgery |  |
|  | **VP** | Select Neurosurgery and repeat steps 2-8 | The results are the same for Neurosurgery |  |
|  | **VP** | Select Orthopedic and repeat steps 2-8 | The results are the same for Orthopedic |  |
|  | **VP** | Select Other Non-Cardiac Specialty and repeat steps 2-8 | The results are the same for Other Non-Cardiac Specialty |  |
|  | **VP** | Select Thoracic and repeat steps 2-8 | The results are the same for Thoracic |  |
|  | **VP** | Select Urology and repeat steps 2-8 | The results are the same for Urology |  |
|  | **VP** | Select Vascular and repeat steps 2-8 | The results are the same for Vascular |  |
|  |  | End of Test Case 9 |  |  |

# Test Case #10 – Patient DNR Manual Entry

**User Story:**  ASRC-38: Patient DNR Manual Entry

**Description:** As a provider, I want the tool to allow manual entry of Do Not Resuscitate status,

So that I can still perform the risk calculation if it could not be automatically retrieved or if I have more current information.

*Acceptance Criteria:*

*\** Tool displays DNR and a checkbox for each specialty

\* Tool displays DNR in the correct field grouping (IAW VA GFI FY2013 Coefficients)

\* Tool displays “yes” on calculation results page when DNR is checked

\* Tool displays “No” on calculation results page when DNR is not checked

**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 #10 –* Patient DNR Manual Entry** | | | | |
|  | **Step** | Login to the ASRC Application. | The ASRC application displays and login was successful |  |
|  | **Step** | Select the Cardiac surgical specialty and click continue | The Cardiac screen displays |  |
|  | **VP** | Examine the selected Surgical Specialty screen | * Verify that there DNR and a corresponding checkbox are displayed * Verify that DNR is displayed in the correct field grouping |  |
|  | **VP** | * Enter data in other required fields on the screen * Check the DNR box * Click Run Calculation | Verify on the Calculations Results screen that DNR is displayed as “Yes” |  |
|  | **Step** | Navigate back to the previously selected surgical specialty screen | The surgical specialty screen is displayed (e.g., Cardiac) |  |
|  | **VP** | * Enter data in other required fields on the screen * Clear the BMI box (uncheck) * Click Run Calculation | Verify that the Calculations Results screen that DNR is displayed as “No” |  |
|  | **Step** | Navigate back to the Surgical Specialty Selection page | Surgical Specialties are displayed |  |
|  | **VP** | Select General Surgery and repeat steps 2-7 | The results are the same for General Surgery |  |
|  | **VP** | Select Neurosurgery and repeat steps 2-7 | The results are the same for Neurosurgery |  |
|  | **VP** | Select Orthopedic and repeat steps 2-7 | The results are the same for Orthopedic |  |
|  | **VP** | Select Other Non-Cardiac Specialty and repeat steps 2-7 | The results are the same for Other Non-Cardiac Specialty |  |
|  | **VP** | Select Thoracic and repeat steps 2-7 | The results are the same for Thoracic |  |
|  | **VP** | Select Urology and repeat steps 2-7 | The results are the same for Urology |  |
|  | **VP** | Select Vascular and repeat steps 2-7 | The results are the same for Vascular |  |
|  |  | End of Test Case 10 |  |  |

# Test Case #11 – Checkbox Custom Variables Display and Modification

**User Story(s):**  ASRC-41: Checkbox Custom Variables | ASRC-154: Change Checkbox Custom Variable Text

**Description –** As a provider, I want the tool to support specialty-specific checkbox variables, so that I can intuitively input specialty-specific data.

*Acceptance Criteria – ASRC-41:*

\* Tool displays at least one functional custom checkbox variable.

\* Tool displays entered checkbox value on calculation result page.

\* Tool only displays the variable entry on the appropriate specialty pages.

**Description – ASRC-154:** As an ASRC Administrator, I want to modify the text of a checkbox custom variable, so that I can update the risk models without development effort.

*Acceptance Criteria – ASRC-154:*

\* If a user has the Administrator role in ASRC the user can access the Administrative pages.

\* An Administrative user can modify the displayed text for a checkbox variable.

\* The variables names must be 80 characters or less

**Preparation:** None

**Precondition**: Access to VA Future Technology Lab & ASRC Application. Requires access to an ASRC Administrator account.

**UFT Note:** UFT users please note that using the User Number will only be required until single-sign on with CPRS is implemented. Use the User Number “1” to sign on as an administrator. 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 #11 –* Checkbox Custom Variables Display and Modification** | | | | |
|  | **Step** | Login to the ASRC Application as an Administrator | The ASRC application is displayed and login was successful |  |
|  | **Step** | Select the General Surgery surgical specialty and click continue | The General Surgery screen is displayed |  |
|  | **Step** | Examine the selected Surgical Specialty screen | The “Preop Pneumonia” checkbox is displayed |  |
|  | **VP** | Click on the Administration link (located on Welcome Screen) | Verify that the Model Administration page is displayed |  |
|  | **VP** | Click on the Edit link for “Preop Pneumonia” (A custom Checkbox variable) | Verify that the Display Name for “Preop Pneumonia” is displayed and can be selected for editing |  |
|  | **VP** | Change the Display Name to “Preop Pneumonia TEST” and click Save Changes | The Variable Definition List how displays “Preop Pneumonia TEST” |  |
|  | **VP** | Navigate back to the General Surgery page | Verify that “Preop Pneumonia TEST” is displayed as the custom variable name |  |
|  | **VP** | * Enter all required fields * check the Preop Pneumonia TEST checkbox * Click Run Calculation | Verify that the Preop Pneumonia TEST variable and the value “Yes” is displayed in the Calculation Inputs section of the Calculation results page |  |
|  | **VP** | * Return to the Administrators page and edit the checkbox variable again * Enter greater than 80 characters and save * Navigate back to the General Surgery screen | Verify that an appropriate error message is displayed for a variable name that is too long (must be 80 characters or less)  (cut and paste this 81 character string into the editable variable box)  012345678901234567890123456789012345678901234567890123456789012345678901234567891 |  |
|  | **VP** | * Return to the Administrators page and edit the checkbox variable again * Enter an 80 character name and save * Navigate back to the General Surgery screen | Verify that the variable name displays correctly.  (cut and paste this 80 character string into the editable variable box)  01234567890123456789012345678901234567890123456789012345678901234567890123456789 |  |
|  | **Step** | * Click on Run a new calculation * Click on the Administration Link * Edit the checkbox variable * Rename to original name – “Preop Pneumonia” * Navigate to the General Surgery page | The custom checkbox variable is displayed as “Preop Pneumonia” |  |
|  |  | End of Test Case 11 |  |  |

# Test Case #12 – Radio Button Custom Variables Display and Modification

**User Story(s):**  ASRC-42: Radio Button Custom Variables

**Description –** As a provider, I want the tool to support specialty-specific radio button variables, So that I can intuitively input specialty-specific data.

*Acceptance Criteria – ASRC-42:*

\* Tool displays at least one functional radio button variable.

\* Tool displays entered radio button value on calculation result page.

**Preparation:** None

**Precondition**: Access to VA Future Technology Lab & ASRC Application. This test is dependent on ASRC-154: Change Checkbox Custom Variable Text (see Test Case 11) and assumes that it has been implemented.

**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 #12 –* Radio Button Custom Variables Display and Modification** | | | | |
|  | **Step** | Login to the ASRC Application as an Administrator | The ASRC application displays and login was successful |  |
|  | **Step** | Select the General Surgery surgical specialty and click continue | The General Surgery screen is displayed |  |
|  | **Step** | Examine the selected Surgical Specialty screen | The “Functional Status” Radio Buttons are displayed |  |
|  | **Step** | Click on the Administration link  (located on Welcome Screen) | The Model Administration page displays. |  |
|  | **VP** | Click on the Edit link for “Functional Status” (A custom Radio Button variable) | Verify that the Display Name for “Functional Status” is displayed and can be selected for editing. |  |
|  | **VP** | Change the Display Name to “Functional Status TEST” and click Save Changes | The Variable Definition List how displays “Functional Status TEST” |  |
|  | **VP** | Navigate back to the General Surgery page | Verify that “Functional Status TEST” displays as the custom radio button variable name. |  |
|  | **VP** | * Enter all required fields * Click the “Functional Status TEST” Radio Button * Click Run Calculation | Verify that the “Functional Status TEST” variable displays in the Calculation Inputs section of the Calculation results page. |  |
|  | **VP** | * Return to the Administrators’ page and edit the radio button variable again * Enter greater than 80 characters and save * Navigate back to the General Surgery screen | Verify that an appropriate error message is displayed for a variable name that is too long (must be 80 characters or less)  (cut and paste this 81 character string into the editable variable box)  012345678901234567890123456789012345678901234567890123456789012345678901234567891 |  |
|  | **VP** | * Return to the Administrators page and edit the radio button variable again * Enter an 80 character name and save * Navigate back to the General Surgery screen | Verify that the variable name displays correctly.  (cut and paste this 80 character string into the editable variable box)  012345678901234567890123456789012345678901234567890123456789012345678901234567890 |  |
|  | **Step** | * Click on Run a new calculation * Click on the Administration Link * Edit the radio button variable * Rename to original name – “Functional Status” * Navigate to the General Surgery page | The custom checkbox variable is displayed as “Functional Status” |  |
|  |  | End of Test Case 12 |  |  |

# Test Case #13 – Alkaline Phosphatase Lab Result Manual WNL/Abnormal

**User Story(s):**  ASRC-120: Alkaline Phosphatase Lab Result Manual WNL/Abnormal

**Description –** As a provider, I want the tool to allow "Presumed Within Normal Limits (WNL)" or Presumed Too High (> 125mU/ml) for the Alkaline Phosphatase lab result, So that I can still complete the calculation if it could not be retrieved and override a value if I know a more current value.

*Acceptance Criteria:*

* General, Thoracic, Urology, Vascular, and Other Non-Cardiac variable entry pages contains radio buttons to select Alkaline Phosphatase:
* WNL > 125 mU/ml is displayed for Presumed Too High
* Tool displays entry on the calculation results page
* Tool displays the variable in the Laboratory variable Field Group

**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 #13 –* Alkaline Phosphatase Lab Result Manual WNL/Abnormal** | | | | |
|  | **Step** | Login to the ASRC Application as user 11716 (Radiologist) | The ASRC application displays and login was successful |  |
|  | **VP** | Select the General Surgery, Thoracic, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page examine the available variables | Verify that each specialty contains radio buttons to select Alkaline Phosphatase  AND  The Alkaline Phosphatase variables are in the “Laboratory Values” field group. |  |
|  | **VP** | Select the General Surgery, Thoracic, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Select the “Presumed WNL” radio button * Select values for all other variables needed for the calculation * Run Calculation | Verify that “Presumed WNL” is displayed for Alkaline Phosphatase for each specialty |  |
|  | **VP** | Select the General Surgery, Thoracic, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Select the “Presumed >125mU/ml” radio button * Select values for all other variables needed for the calculation * Run Calculation | Verify that “Presumed >125mU/ml” is displayed for Alkaline Phosphatase for each specialty |  |
|  | **VP** | Select the General Surgery, Thoracic, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Don’t select any value for Alkaline Phosphatase * Select values for all other variables needed for the calculation * Run Calculation | Verify that “Please select an option” is displayed for each specialty |  |
|  |  | End of Test Case 13 |  |  |

# Test Case #14 – Alkaline Phosphatase Lab Result Manual Entry Numerical

**User Story(s):**  ASRC-84: Alkaline Phosphatase Lab Result Manual Entry Numerical

**Description –** As a provider, I want to tool to allow manual entry of the Alkaline Phosphatase lab result,   
So that I can still complete the calculation if it could not be retrieved and override a value if I know a more current value.

*Acceptance Criteria:*

* The calculation result page should display the numerical value if available.
* The tool will accept input that is greater than or equal to 10 and less than or equal to 750.
* Tool displays the variable in the Laboratory variable Field Group

**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 #14 –* Alkaline Phosphatase Lab Result Manual Entry Numerical** | | | | |
|  | **Step** | Login to the ASRC Application as user 11716 (Radiologist) | The ASRC application displays and login was successful |  |
|  | **VP** | Select the General Surgery, Thoracic, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page examine the available variables | Verify that each specialty contains the Manual Numerical Entry box for Alkaline Phosphatase  AND  The Alkaline Phosphatase manual entry variable is in the “Laboratory Values” field group. |  |
|  | **VP** | Select the General Surgery, Thoracic, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Select the Alkaline Phosphatase “Numerical” radio button (do not fill in a value) * Select values for all other variables needed for the calculation * Run Calculation | Verify that the message “Please enter a valid number” is displayed |  |
|  | **VP** | Select the General Surgery, Thoracic, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Select the Alkaline Phosphatase “Numerical” radio button * Fill in a value < 10 * Select values for all other variables needed for the calculation * Run Calculation | Verify that the message “Value must be greater than or equal to 10” is displayed |  |
|  | **VP** | Select the General Surgery, Thoracic, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Select the Alkaline Phosphatase “Numerical” radio button * Fill in a value > 750 * Select values for all other variables needed for the calculation * Run Calculation | Verify that the message “Value must be less than or equal to 750” is displayed |  |
|  | **VP** | Select the General Surgery, Thoracic, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Select the Alkaline Phosphatase “Numerical” radio button * Fill in a value >= 10 and <= 750 * Select values for all other variables needed for the calculation * Run Calculation | Verify that the calculation runs successfully. |  |
|  |  | End of Test Case 14 |  |  |

# Test Case #15 – Alkaline Phosphatase Lab Result Translation

**User Story(s):**  ASRC-132: Alkaline Phosphatase Lab Result Manual Translation

**Description –** As a provider, I want the Alkaline Phosphatase lab result translated into normal (WNL - Within Normal Limits, or too high (> 125mU/ml) on the user interface, So that I can easily see the result's effect on the calculation.

*Acceptance Criteria:*

* <= 125 the tool displays "WNL (Actual Value:<value>)" or
* 125 the tool displays ">125mU/ml (Actual Value: <value>)

**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 #15 –* Alkaline Phosphatase Lab Result Translation** | | | | |
|  | **Step** | Login to the ASRC Application as user 11716 (Radiologist) | The ASRC application displays and login was successful |  |
|  | **VP** | Select the General Surgery, Thoracic, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Enter a number >=10 and < 125 in the Alkaline Phosphatase manual entry box * Select values for all other variables needed for the calculation * Run Calculation | Verify that “WNL (Actual value:<entered value>) ” is displayed for Alkaline Phosphatase for each specialty |  |
|  | **VP** | Select the General Surgery, Thoracic, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Enter a number >125 and <=750 in the Alkaline Phosphatase manual entry box * Select values for all other variables needed for the calculation * Run Calculation | Verify that “>25 mg/dl (Actual value:<entered value>) ” is displayed for Alkaline Phosphatase for each specialty |  |
|  | **VP** | Select the General Surgery, Thoracic, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Select the “Presumed WNL” radio button * Select values for all other variables needed for the calculation * Run Calculation | Verify that “Presumed WNL” is displayed for Alkaline Phosphatase for each specialty |  |
|  | **VP** | Select the General Surgery, Thoracic, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Select the “Presumed >125mU/ml” radio button * Select values for all other variables needed for the calculation * Run Calculation | Verify that “Presumed >125mU/ml” is displayed for Alkaline Phosphatase for each specialty |  |
|  |  | End of Test Case 15 |  |  |

# Test Case #16 – BUN Lab Result Manual WNL/Abnormal

**User Story(s):**  ASRC-119: BUN Lab Result Manual WNL/Abnormal

**Description –** As a provider, I want to tool to allow "Presumed Within Normal Limits (WNL)" or Presumed Too High (> 25mg/dl) for the BUN lab result, so that I can still complete the calculation if it could not be retrieved and override a value if I know a more current value.

*Acceptance Criteria:*

* General Surgery, Thoracic, Neurosurgery, Urology, Vascular, and Other Non-Cardiac variable entry page contains radio buttons to select BUN:
  + WNL (presumed within Normal Limits)
  + > 25 mg/dl (Presumed too high)
* Tool displays entry on the calculation results page.

**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 #16 –* BUN Lab Result Manual WNL/Abnormal** | | | | |
|  | **Step** | Login to the ASRC Application as user 11716 (Radiologist) | The ASRC application displays and login was successful |  |
|  | **VP** | Select the General Surgery, Thoracic, Neurosurgery, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page examine the available variables | Verify that each specialty contains radio buttons to select BUN values  AND  The BUN variables are in the “Laboratory Values” field group |  |
|  | **VP** | Select the General Surgery, Thoracic, Neurosurgery, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Select the “Presumed WNL” radio button * Select values for all other variables needed for the calculation * Run Calculation | Verify that “Presumed WNL” is displayed for BUN for each specialty |  |
|  | **VP** | Select the General Surgery, Thoracic, Neurosurgery, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Select the “Presumed > 25 mg/dl” radio button * Select values for all other variables needed for the calculation * Run Calculation | Verify that “Presumed > 25 mg/dl” is displayed for BUN for each specialty |  |
|  | **VP** | Select the General Surgery, Thoracic, Neurosurgery, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Don’t select any value for BUN * Select values for all other variables needed for the calculation * Run Calculation | Verify that “Please select an option” is displayed for each specialty |  |
|  |  | End of Test Case 16 |  |  |

# Test Case #17 – BUN Lab Result Manual Entry Numerical

**User Story(s):**  ASRC-83: BUN Lab Result Manual Entry Numerical

**Description –** As a provider, I want to tool to allow manual entry of the BUN lab result,   
So that I can still complete the calculation if it could not be retrieved and override a value if I know a more current value.

*Acceptance Criteria:*

* The calculation result page should display the numerical value if available.
* The tool will accept input that is greater than or equal to 2 and less than or equal to 90.

**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 #17 –* BUN Lab Result Manual Entry Numerical** | | | | |
|  | **Step** | Login to the ASRC Application as user 11716 (Radiologist) | The ASRC application displays and login was successful |  |
|  | **VP** | Select the General Surgery, Thoracic, Neurosurgery, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page examine the available variables | Verify that each specialty contains the Manual Numerical Entry box for BUN  AND  The BUN manual entry variable is in the “Laboratory Values” field group. |  |
|  | **VP** | Select the General Surgery, Thoracic, Neurosurgery, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Select the BUN “Numerical” radio button (do not fill in a value) * Select values for all other variables needed for the calculation * Run Calculation | Verify that the message “Please enter a valid number” is displayed |  |
|  | **VP** | Select the General Surgery, Thoracic, Neurosurgery, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Select the BUN “Numerical” radio button * Fill in a value < 2 * Select values for all other variables needed for the calculation * Run Calculation | Verify that the message “Value must be greater than or equal to 2” is displayed |  |
|  | **VP** | Select the General Surgery, Thoracic, Neurosurgery, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Select the “Numerical” radio button * Fill in a value > 90 * Select values for all other variables needed for the calculation * Run Calculation | Verify that the message “Value must be less than or equal to 90” is displayed |  |
|  | **VP** | Select the General Surgery, Thoracic, Neurosurgery, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Select the BUN “Numerical” radio button * Fill in a value >= 2 and <= 90 * Select values for all other variables needed for the calculation * Run Calculation | Verify that the calculation runs successfully. |  |
|  |  | End of Test Case 17 |  |  |

# Test Case #18 – BUN Lab Result Translation

**User Story(s):**  ASRC-131: BUN Lab Result Manual Translation

**Description –** I want the BUN lab result translated into Presumed WNL (Within Normal Limits), or Presumed >25mg/dl (too high) on the user interface, So that I can easily see the result's effect on the calculation.

*Acceptance Criteria:*

* <= 25 mg/dl the tool displays "WNL (Actual Value:<value>)" or
* > 25 mg/dl the tool displays “> 25 mg/dl (Actual Value: <value>)

**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 #18 –* BUN Lab Result Translation** | | | | |
|  | **Step** | Login to the ASRC Application as user 11716 (Radiologist) | The ASRC application displays and login was successful |  |
|  | **VP** | Select the General Surgery, Thoracic, Neurosurgery, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Enter a number >=2 and <=25 in the BUN manual entry box * Select values for all other variables needed for the calculation * Run Calculation | Verify that “WNL (Actual value:<entered value>) ” is displayed for BUN for each specialty |  |
|  | **VP** | Select the General Surgery, Thoracic, Neurosurgery, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Enter a number >25 and <=90 in the BUN manual entry box * Select values for all other variables needed for the calculation * Run Calculation | Verify that “>25 mg/dl (Actual value:<entered value>) ” is displayed for BUN for each specialty |  |
|  |  | End of Test Case 18 |  |  |

# Test Case #19 – Serum Albumin Lab Result Manual WNL/Abnormal

**User Story(s):**  ASRC-18: Serum Albumin Lab Result Manual WNL/Abnormal

**Description –** As a provider, I want to tool to allow "Presumed Within Normal Limits (WNL)" (> 3.5g/dl) or "Presumed Too Low" (<= 3.5g/dl) for the albumin lab result, so that I can still complete the calculation if it could not be retrieved and override a value if I know a more current value.

*Acceptance Criteria:*

* General Surgery, Neurosurgery, Orthopedic, Thoracic, Urology, and Vascular variable entry page contains radio buttons to select Serum Albumin:
* “Presumed WNL” is available as a selection *as the leftmost entry*.
* “Presumed <= 3.5g/dl” is available as a selection
* Tool displays entry on the calculation results page.

**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 #19 –* Serum Albumin Lab Result Manual WNL/Abnormal** | | | | |
|  | **Step** | Login to the ASRC Application as user 11716 (Radiologist) | The ASRC application displays and login was successful |  |
|  | **VP** | Select the General Surgery, Neurosurgery, Orthopedic, Thoracic, Urology, and Vascular surgical specialties and on each specialty page examine the available variables | Verify that each specialty contains radio buttons to select Serum Albumin values  AND  The Serum Albumin variables are in the “Laboratory Values” field group |  |
|  | **VP** | Select the General Surgery, Neurosurgery, Orthopedic, Thoracic, Urology, and Vascular surgical specialties and on each specialty page   * Select the “Presumed WNL” radio button * Select values for all other variables needed for the calculation * Run Calculation | Verify that “Presumed WNL” is displayed for Serum Albumin for each specialty  AND  Verify that “Presumed WNL” is displayed in the left most column |  |
|  | **VP** | Select the General Surgery, Neurosurgery, Orthopedic, Thoracic, Urology, and Vascular surgical specialties and on each specialty page   * Select the “Presumed <= 3.5 g/dl” radio button * Select values for all other variables needed for the calculation * Run Calculation | Verify that “Presumed <= 3.5 mg/dl” is displayed for Serum Albumin for each specialty |  |
|  | **VP** | Select the General Surgery, Neurosurgery, Orthopedic, Thoracic, Urology, and Vascular surgical specialties and on each specialty page   * Don’t select any value for Serum Albumin * Select values for all other variables needed for the calculation * Run Calculation | Verify that “Please select an option” is displayed for each specialty |  |
|  |  | End of Test Case 19 |  |  |

# Test Case #20 – Serum Albumin Lab Result Manual Entry Numerical

**User Story(s):**  ASRC-17: Serum Albumin Lab Result Manual Entry Numerical

**Description –** As a provider, I want to tool to allow manual entry of the Serum Albumin lab result,   
So that I can still complete the calculation if it could not be retrieved and override a value if I know a more current value.

*Acceptance Criteria:*

* The calculation result page should display the numerical value if available.
* General Surgery, Neurosurgery, Orthopedic, Thoracic, Urology, and Vascular variable entry page contains a numerical input box for Serum Albumin:
* The tool will accept input that is greater than or equal to 1 and less than or equal to 6.

**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 #20 –* Serum Albumin Lab Result Manual Entry Numerical** | | | | |
|  | **Step** | Login to the ASRC Application as user 11716 (Radiologist) | The ASRC application displays and login was successful |  |
|  | **VP** | Select the General Surgery, Neurosurgery, Orthopedic, Thoracic, Urology, and Vascular surgical specialties and on each specialty page examine the available variables | Verify that each specialty contains the Manual Numerical Entry box for Serum Albumin  AND  The Serum Albumin manual entry variable is in the “Laboratory Values” field group. |  |
|  | **VP** | Select the General Surgery, Neurosurgery, Orthopedic, Thoracic, Urology, and Vascular surgical specialties and on each specialty page   * Select the Serum Albumin “Numerical” radio button (do not fill in a value) * Select values for all other variables needed for the calculation * Run Calculation | Verify that the message “Please enter a valid number” is displayed |  |
|  | **VP** | Select the General Surgery, Neurosurgery, Orthopedic, Thoracic, Urology, and Vascular surgical specialties and on each specialty page   * Select the Serum Albumin “Numerical” radio button * Fill in a value < 1 * Select values for all other variables needed for the calculation * Run Calculation | Verify that the message “Value must be greater than or equal to 1” is displayed |  |
|  | **VP** | Select the General Surgery, Neurosurgery, Orthopedic, Thoracic, Urology, and Vascular surgical specialties and on each specialty page   * Select the Serum Albumin “Numerical” radio button * Fill in a value > 6 * Select values for all other variables needed for the calculation * Run Calculation | Verify that the message “Value must be less than or equal to 6” is displayed |  |
|  | **VP** | Select the General Surgery, Neurosurgery, Orthopedic, Thoracic, Urology, and Vascular surgical specialties and on each specialty page   * Select the Serum Albumin “Numerical” radio button * Fill in a value >= 1 and <= 6 * Select values for all other variables needed for the calculation * Run Calculation | Verify that the calculation runs successfully. |  |
|  |  | End of Test Case 20 |  |  |

# Test Case #21 – Serum Albumin Lab Result Translation

**User Story(s):**  ASRC-15: Serum Albumin Lab Result Manual Translation

**Description –** As a provider, I want the Serum Albumin lab result translated into "WNL” for values > 3.5g/dl or "<= 3.5g/dl” for values <= 3.5g/dl on the user interface, so that I can easily see the result's effect on the calculation.

*Acceptance Criteria:*

* Values between 0 and 3.5g/dl are translated to “<= 3.5g/dl (Actual Value: <entered value>)”
* Values greater than 3.5g/dl and <= 6 are translated to “WNL (Actual Value: <entered value>)”

**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 #21 –* Serum Albumin Lab Result Translation** | | | | |
|  | **Step** | Login to the ASRC Application as user 11716 (Radiologist) | The ASRC application displays and login was successful |  |
|  | **VP** | Select the General Surgery, Neurosurgery, Orthopedic, Thoracic, Urology, and Vascular surgical specialties and on each specialty page   * Enter a number >=1 and <=6 in the Serum Albumin manual entry box * Select values for all other variables needed for the calculation * Run Calculation | Verify that “WNL (Actual value:<entered value>) ” is displayed for Serum Albumin for each specialty |  |
|  | **VP** | Select the General Surgery, Neurosurgery, Orthopedic, Thoracic, Urology, and Vascular surgical specialties and on each specialty page   * Enter a number >0 and <=3.5 in the Serum Albumin manual entry box * Select values for all other variables needed for the calculation * Run Calculation | Verify that “<= 3.5mg/dl (Actual value:<entered value>) ” is displayed for Serum Albumin for each specialty |  |
|  |  | End of Test Case 21 |  |  |

# Test Case #22 – Search for Procedure by CPT Code

**User Story(s):**  ASRC-9: Search for Procedure by CPT code

**Description –** As a provider selecting a procedure, I want to search for the procedure by CPT code number,   
So that I do not have to manually look through 1000s of procedures.

*Acceptance Criteria*

* The tool will provide a full CPT code match search
* The tool will provide a "starts with" search

This test assumes that Test Case #5 (Select Surgical Procedure) was already performed.

**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 #22 –* Search for Procedure by CPT code** | | | | |
|  | **Step** | Login to the ASRC Application as user 11716 (Radiologist) | The ASRC application displays and login was successful |  |
|  | **VP** | Select the General Surgery surgical specialty   * Click the “Select” procedure link * Enter “0005F” in the search box * Click “Select” to the right of that procedure | Verify that only the entered value “0005F” is displayed.  AND  Verify that it is selectable by clicking “Select” (the short form of the procedure is displayed) |  |
|  | **VP** | * Click the “Select” surgical procedure link again * Enter a “9” in the search box. | Verify that only CPT codes starting with the number “9” are shown  AND  Verify that all codes displayed are 5 digits in length |  |
|  | **VP** | * Click the “Select” surgical procedure link again * Enter a random number with two digits between 10 and 99 in the Search box. | Verify that only CPT codes starting with those two numbers are shown  (This will work for any combination of the first 4 digits of the CPT code as long as there are corresponding CPT codes to display. Try multiple combinations until you are satisfied it works.) |  |
|  | **VP** | * Click the “Select” surgical procedure link again * Enter 999 in the search box | Verify that no results are shown (there are not any CPT codes that start with 999). |  |
|  |  | End of Test Case 22 |  |  |

# Test Case #23 – Display Patient BMI Categorization

**User Story(s):**  ASRC-165: Display Patient BMI Categorization

**Description –** As a provider, I want to see the BMI categorization that the tool automatically derived,   
so that I can identify the way BMI was used in the calculation.

*Acceptance Criteria:*

* Tool displays “Patient BMI Categorization” on the General Surgery, Neurosurgery, Orthopedic, Thoracic, Urology, Vascular, and Other Non-Cardiac variable entry pages.
* The following categories are selectable in the tool given that the lower bound is always exclusive:
  + - Presumed 0 to 18.5
    - Presumed 18.5 to 25
    - Presumed 25 to 30
    - Presumed >= 30
* Tool displays the selected category on the Results Page.

**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 #23 –* Serum Albumin Lab Result Translation** | | | | |
|  | **Step** | Login to the ASRC Application as user 11716 (Radiologist) | The ASRC application displays and login was successful |  |
|  | **VP** | Select the General Surgery, Neurosurgery, Orthopedic, Thoracic, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page | Verify that Radio Buttons for the BMI Categorization are available on each selected specialty.   * Presumed 0 to 18.5 * Presumed 18.5 to 25 * Presumed 25 to 30 * Presumed >= 30 |  |
|  | **VP** | Select the General Surgery, Neurosurgery, Orthopedic, Thoracic, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Select “Presumed 0 to 18.5” * Select values for all other variables needed for the calculation * Run Calculation | Verify that BMI “Presumed 0 to 18.5” is displayed on the Calculation Results page |  |
|  | **VP** | Select the General Surgery, Neurosurgery, Orthopedic, Thoracic, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Select “Presumed 18.5 to 25” * Select values for all other variables needed for the calculation * Run Calculation | Verify that BMI “Presumed 18.5 to 25” is displayed on the Calculation Results page |  |
|  | **VP** | Select the General Surgery, Neurosurgery, Orthopedic, Thoracic, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Select “Presumed 25 to 30” * Select values for all other variables needed for the calculation * Run Calculation | Verify that BMI “Presumed 25 to 30” is displayed on the Calculation Results page |  |
|  | **VP** | Select the General Surgery, Neurosurgery, Orthopedic, Thoracic, Urology, Vascular, and Other Non-Cardiac surgical specialties and on each specialty page   * Select “Presumed >= 30” * Select values for all other variables needed for the calculation * Run Calculation | Verify that BMI “Presumed >= 30” is displayed on the Calculation Results page |  |
|  |  | End of Test Case 23 |  |  |