

In-Lab Training Manual

UniCel® DxC 600i Synchron® Access® Clinical Systems

For *In Vitro* Diagnostic Use



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UniCel® DxC 600i

In-Lab Training Manual

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Chapter 1

Instrument Overview

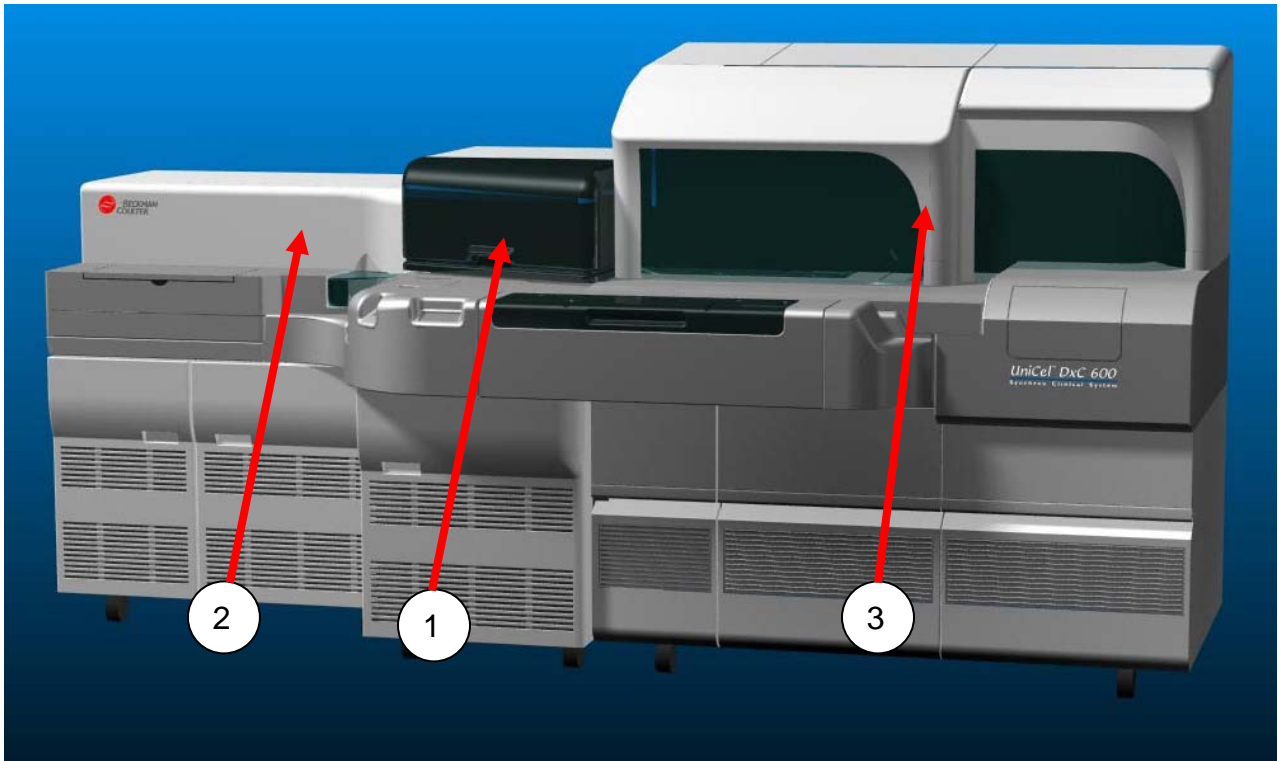
General Introduction

The UniCel® DxC 600i Synchron® Access® Clinical System is an automated, computer-driven, general chemistry and immunoassay system. The DxC 600i combines the UniCel DxC 600 general chemistry analyzer and the Access 2 immunoassay analyzer into a single instrument presentation. Samples are loaded from a single point of entry, through a Closed Tube Aliquotter (CTA) unit.

System Components

The UniCel DxC 600i consists of three major components:

- 1) Closed Tube Aliquotter (CTA)
- 2) Access 2 Immunoassay Analyzer (Access)
- 3) UniCel DxC 600 General Chemistry Analyzer (DxC)



Closed Tube Aliquotter

The CTA functions as a sample processing manager by aliquotting and routing samples to the Access 2 and/or UniCel DxC 600 analyzer according to programming requirements.

The CTA can be divided into the following areas:

Sample Loading Area

The Sample Loading area is used to:

- Load samples onto the system
- Identify sample programming by bar code ID
- Identify sample routing requirements
- Present samples to the Sample Aliquotting Area
- Load samples onto the DxC

Sample Aliquotting Area

The Sample Aliquotting area is used to:

- Pierce primary tube caps for entry of the aliquot probe
- Aliquot samples for Access testing
- Hold aliquots for transfer to the Access
- Transfer aliquots to the Access

Access 2 Immunoassay Analyzer

The Access 2 Immunoassay Analyzer is a random access immunoassay instrument. The Access 2 Analyzer is intended for the in vitro determination of a variety of analytes such as cardiac markers, thyroid hormones, cancer markers, fertility hormones, and anemia markers in biological fluids such as serum, plasma, and urine (sample type is assay dependent).

The Access consists of the following modules:

Carousel Module

The Carousel Module identifies samples and presents samples and reagents to the main pipettor. The reagents are stored in a refrigerated reagent compartment that holds 24 reagent packs. Automation racks on the sample carousel receive aliquots from the CTA. Racks may be manually loaded for maintenance, calibration, low volume sample processing, and independent mode operation.

Main Pipettor Module

The Main Pipettor Module pipettes sample and reagent into a Reaction Vessel in the Analytical Module. The Main Pipettor level senses, mixes reagent, mixes the reaction mixture, and cleans the probe by ultrasonics.

Fluidics Module

The Fluidics Module provides wash buffer delivery, liquid waste removal and substrate delivery.

Analytical Module

The testing process occurs at the Analytical Module. Reaction Vessels (RVs) which are used for the testing process are stored here. During the testing process, vessels are transported, incubated, washed, and have readings taken.

Electronics Module

The Electronics Module provides the electronic components necessary for powering the system; computer drives to support mechanical functions, and component drivers for the various components of the analyzer.

Peripherals Module

The Access Peripherals Module consists of an external hand-held bar code reader, a touch screen monitor, a keyboard, a mouse, and a computer. These components allow the operator to interface with the instrument.

UniCel DxC 600 General Chemistry Analyzer

The UniCel DxC 600 Synchron Clinical System is an automated clinical chemistry analyzer designed for the in vitro determination of a variety of general chemistries, therapeutic drugs, and other chemistries. Analysis can be performed on a variety of biological fluids such as serum, plasma, urine, and cerebrospinal fluid (CSF). Sample type is chemistry dependent.

The DxC can be divided into the following:

Sample Handling System

The DxC Sample Handling System is used to deliver samples to the Modular Chemistry and Cartridge Chemistry systems. The sample handling system receives the samples from the CTA, positions the samples for pipetting and analysis, and removes the samples when they are no longer needed by the system.

Modular Chemistry (MC) System

The Modular Chemistry System is used to provide rapid analysis of sodium, potassium, chloride, carbon dioxide, total calcium, and glucose. Glucose analysis is performed in a cup module. The remaining chemistries are performed by an Ion Selective Electrode (ISE) module consisting of an Electrolyte Injection Cup (EIC), a flow cell, and electrodes specific for each analyte. Bulk reagents are stored in the reagent storage area.

Cartridge Chemistry (CC) System

The Cartridge Chemistry System provides random access analysis of analytes chosen by the user. Reagents are delivered from reagent cartridges stored in a refrigerated compartment that houses up to 59 cartridges. The reactions occur in permanent glass cuvettes that are housed in a reaction carousel. Reagents are delivered to the reaction carousel by reagent probes working in conjunction with a reagent syringe. Sample is added by a CC sample probe and syringe. Mixers are responsible for mixing the reagent and sample. Reactions are read by a photometer assembly. A cuvette wash station cleans the cuvettes for reuse.

Hydropneumatic System

The Hydropneumatic System is responsible for providing vacuum, compressed air, diluted wash solution, and deionized water.

Operation and Control Components

Basic operating functions are controlled and reviewed by utilizing the DxC 600i monitor, mouse, touch screen, keyboard, and push-button controls. These provide the interface between the operator and the DxC.

Additional detailed information about CTA components, DxC 600 components, and Access components can be found in the following References:

**CTA: UniCel DxC 600i Synchron Access Clinical Systems
(Online) Instructions For Use Manual
DxC 600: UniCel DxC Synchron Clinical Systems (Online)
Instructions For Use Manual
Access: Access Online HELP System**

Sample Processing Summary

CTA Processing Summary

Programming functions are performed, and then the sample is loaded onto the DxC 600i load area. The operator presses the green RUN button to begin the test process. Once the RUN button is pressed, the CTA identifies sample programming and loads the sample on the CTA sample wheel.

If Access testing is required:

The sample cap is pierced (when a cap is present on the sample) and the aliquot probe aspirates the sample and delivers it to an aliquot vessel (AV). The cap piercing probe and aliquot probe are cleaned with wash buffer.

The Pick and Place transfers each AV containing an aliquot to an automation rack on the Access sample carousel.

The sample rack containing the sample is then transferred to the DxC analyzer.

If no Access testing is required:

The CTA sends the sample rack directly to the DxC analyzer.

Access Processing Summary

Sample and reagent are transferred by the main pipettor from their respective carousels to an RV in the analytical module and mixed

The RV containing the sample and reagent is transferred to the incubator belt and incubated. The RV is transferred to the wash/read carousel when incubation is complete.

The RV is washed three times to remove all unbound material. Substrate is added, and the RV is incubated while being moved to the luminometer. The luminometer reads the amount of light generated by the chemiluminescent reaction, and the light generated is converted to concentration.

The used RV is transferred back to the incubator belt and into the RV waste bag.

DxC Processing Summary

The sample rack is loaded onto the DxC load area by the CTA. The CTS (closed tube sampling) will pierce the cap (if present) in preparation for the MC and CC sample probes. The rack is then loaded onto the DxC Sample Carousel by the DxC sample handling system.

If CC testing is required, the CC reagent probes aspirate reagent from the CC reagent carousel into a cuvette. The reagent is mixed and warmed to reaction temperature, during which time reagent blank readings are taken. The blank readings may or may not be used in calculating the concentration of analyte.

The MC System begins MC testing (if required) by delivering reagent to the glucose cup and the ISE module. Sample is added by the MC sample probe. The glucose sensor determines the glucose concentration in the cup, and the ion selective electrodes in the flow cell determine the concentration of each of the electrolytes.

When the CC reagent has been warmed to the reaction temperature, the CC sample probe delivers sample to the cuvette containing the pre-warmed reagent. Measurements are taken by the photometer. The reaction readings are converted to concentration.

The sample rack is off-loaded when it is no longer needed by the system.

MC and CC processes occur simultaneously.

Chapter 2

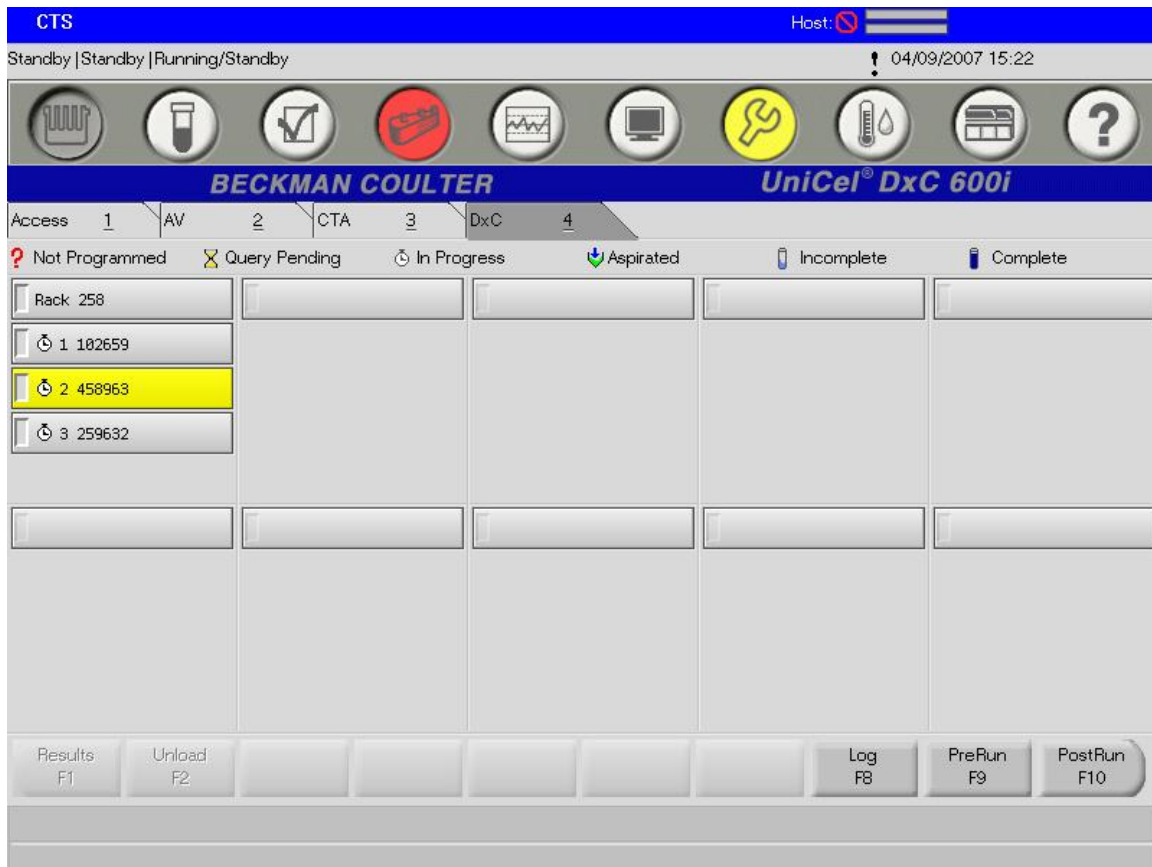
Software Overview

General Introduction

DxC 600i operating functions and programming functions are initiated from the main operator screen at the DxC analyzer. The screen provides status information to determine the present state of the entire DxC 600i system.




The Access analyzer screen is used for Access specific functions such as calibration, maintenance, reagent/supply load, diagnostics, or during independent mode operations.

DxC 600i Main Menu

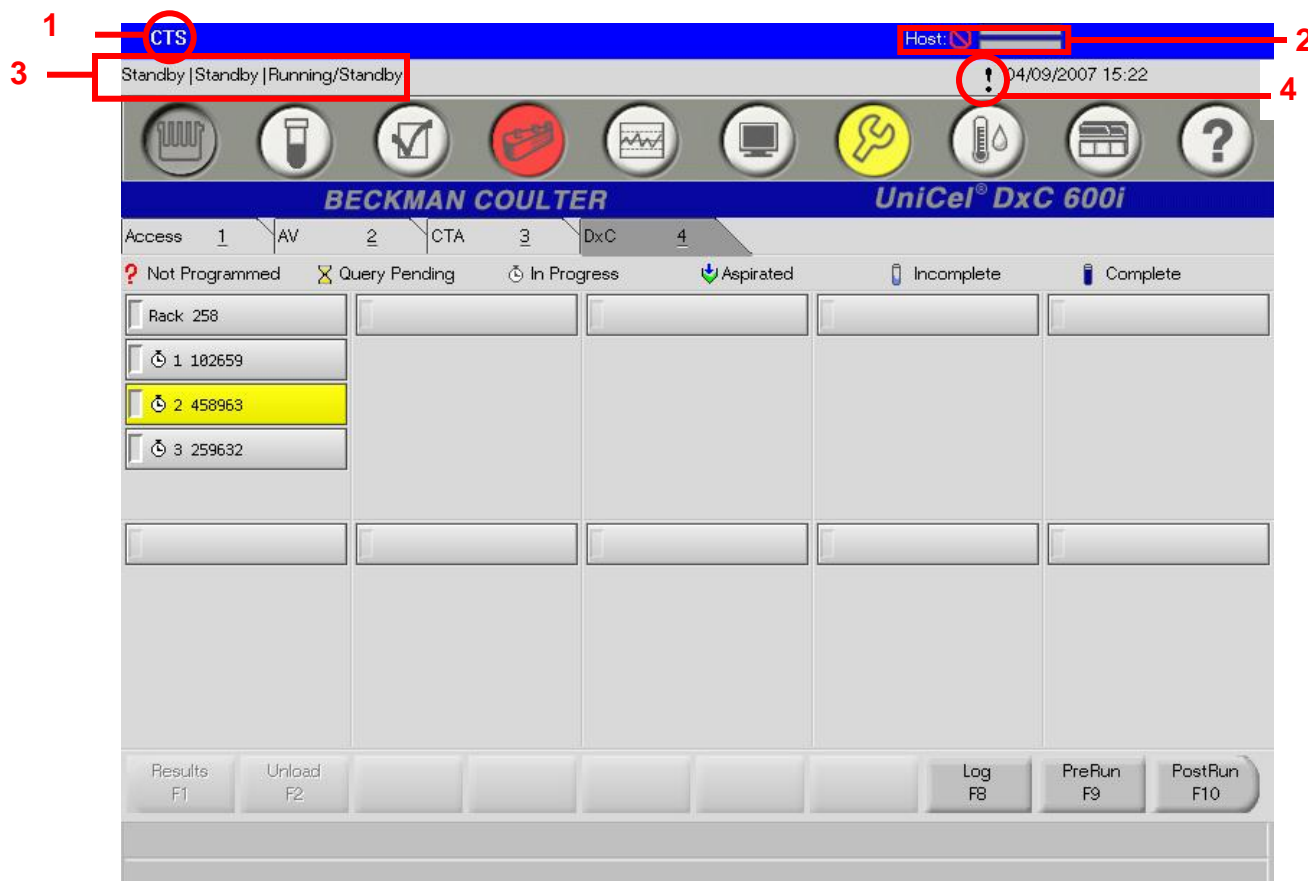


Navigation

The Dx C 600i system* provides three software navigation methods that you can use to select an item on a screen or in a window:

	<p><u>Touchscreen:</u> Touch a part of the screen using the tip of your finger or a touch device</p>
	<p><u>Mouse:</u> Use the mouse to point the cursor and click the left mouse button to select an item</p>
	<p><u>Keyboard:</u> Press a keyboard equivalent such as a function key or the tab key to select an item</p>

*Both the Dx C 600i and Access monitors use the three software navigational methods.



Status Indicators

The status of the system can be determined from any screen on the DxH 600i monitor using the following indicators:

1 CTS Indicator

- Indicates when the **C**losed **T**ube **S**ampling is enabled
- A red circle with a slash through it indicates the CTS is not enabled

2 Host Communication Bar

- Shows communication status between host/DxH 600i
- Blue/Green bar indicates information transfer
- A red circle with a slash through it indicates the host and DxH 600i are not communicating

3 System Operating Condition

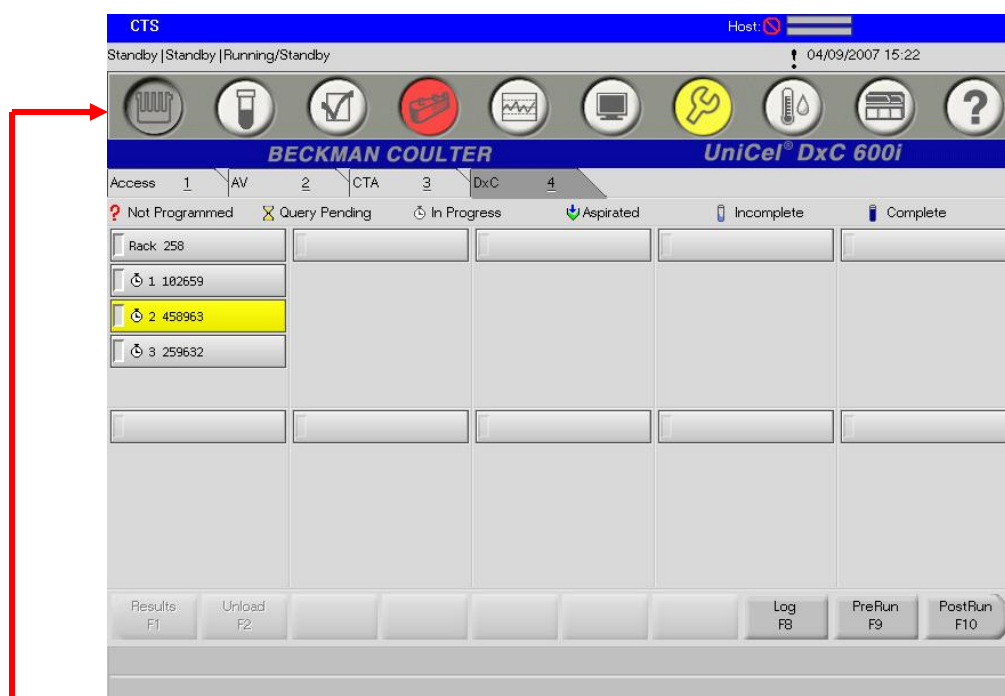
- Identifies the operating condition of the entire DxH 600i system
- The operating condition is arranged in the following order:

Access | CTA | DxH

Note: the DxH status **may** be divided into MC/CC

4 Access Event Log Symbol

- Neutral color background indicates the Access is operating normally
- Yellow color background indicates a caution condition exists at the Access analyzer
- Red color background indicates a warning condition requiring immediate attention exists at the Access analyzer



Function Selection Icons

Function icons provide access to each of the major functional areas of the DxH 600i system. The background color of the function icons may change to yellow or red to alert the operator when attention is required.

	Main	View status information and perform main operating functions.
	Samples	Perform sample programming functions including patients and quality control.
	Results	Retrieve results.
	Rgts/Cal	View reagent and calibration status and perform reagent and calibration functions.
	QC	Define and manage Quality Control functions.
	Setup	Perform Set Up functions.
	Utils	Perform priming, maintenance, and diagnostic functions on the DxH and CTA.
	Status	View hardware status information.
	Instr Cmd	Initiate specific instrument commands (example: Home, Pause, Shutdown, etc).
	Help	View the DxH 600i and/or the DxH 600/800 Instructions for Use (IFU) Manuals



The Main Menu Screen at the DxH 600i monitor is used to determine the sample status for each sample.

Sample Status Icons are available from each tab to view the sample status. The icon is displayed in front of the Sample ID on the Main Menu screen.

Tabs are available to view the sample status at the following four areas:

- Access analyzer
- AV area
- CTA unit
- DxH analyzer

Access Main Menu



The Access monitor is used during Access calibration, maintenance, reagent /supply load, diagnostics, or when operating the Access analyzer during independent mode.

The following can be monitored from any screen at the Access monitor:

System Mode

- Indicates the status of the Access analyzer
- May be *Ready* (blue), *Running* (green), *Paused* (yellow), or *Not Ready* (red)

The Access System Mode corresponds to the Access status at the System Operating Condition field from the DxC 600i monitor.

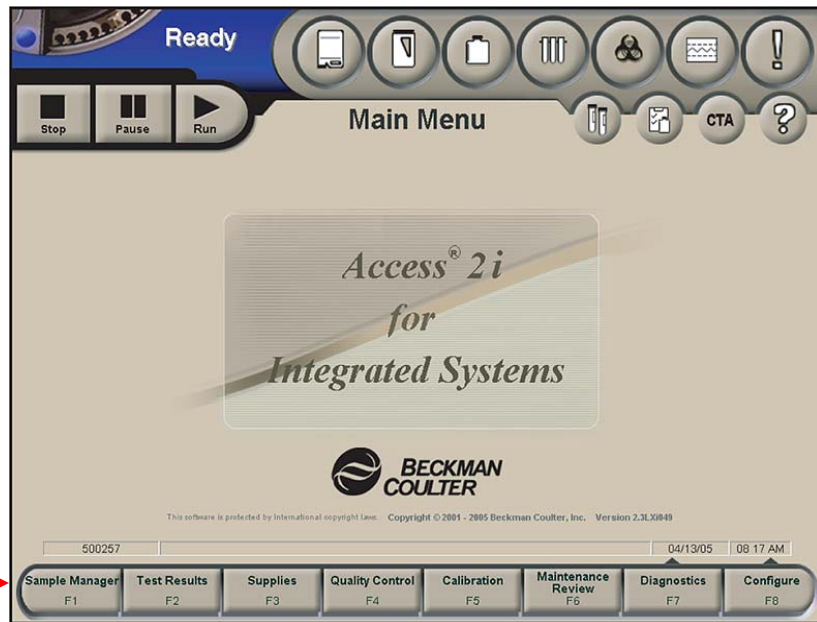
Note: A Menu and Back tab appear at the right side of all screens on the Access monitor except for the Main Menu. The Menu tab gives the operator access to the Main Menu Functions. The Back tab returns the operator to the previously viewed screen.



Status Buttons





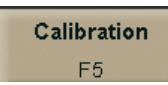


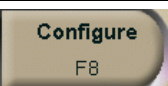
- Includes the following: Wash Buffer, Liquid Waste, Substrate, Reaction Vessels (RVs), RV Waste Bag, Quality Control, Event Log, Work Pending, Supplies Required, CTA, and Help
- Buttons change color to reflect conditions:
 - Neutral
 - ◆ Normal operating condition
 - Yellow
 - ◆ Caution condition/event
 - Red
 - ◆ Warning condition/event
- System Command Buttons
 - Used to initiate the following commands:
 - ◆ Run, Pause, Stop (Emergency)

Note: When the CTA is loading patient or QC samples the CTA will initiate the Access Run.



Function Buttons

The following Access menu functions can be selected from the Main Menu or from any screen at the Access monitor using the MENU tab:

	Program maintenance and calibration requests at the Access analyzer, and program/process patients during independent mode operation.
	Monitor samples in progress at the Access analyzer and recall results at the Access analyzer during independent mode operation
	Load supplies and load/unload reagents at the Access analyzer
	Not used with a DxC 600i system
	Configure calibrator lot specific parameters into the Access analyzer and review calibration information from the Access analyzer
	Check/print the temperatures of thermal zones and substrate, Run/Enable/Disable the Utility assay, and display the System Check results screen
	Initialize, prime and access Device Diagnostics at the Access analyzer. (Diagnostic functions at the Access analyzer can only be performed when the CTA is off line.)
	Set the system default values and formats, and configure tests

Note: When the Access is operating as part of the DxC 600i system, certain operating functions are grey (not active) at the Access analyzer. Certain Diagnostic features are not available when the CTA is online, including Device Diagnostics, Initialize System, and Volume Check.



The <CTA> button is used to place the CTA off-line/on-line. The CTA must be off-line for Access servicing. The CTA must be placed back on-line to resume normal operations.

The <CTA> button is red when the CTA is off-line.

The <CTA> button is yellow during normal operations (when the CTA is in control of the Access 2).

Chapter 3

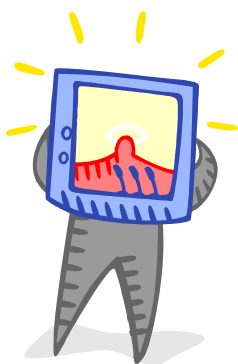
Daily Start Up

General Information

The following information will assist you in successfully performing the DxC 600i Daily Start Up.

Access Communication

Follow these steps when interacting with the software to successfully communicate with Access:








1. **Tell** — **Tell** the instrument the task you would like to perform.
2. **Wait** — **Wait** for the instrument to tell you it is ready for you to perform the task.
3. **Do** — **Do** the task.
4. **Done** — Tell the instrument you are **done** with the task.

Access Maintenance Cautions



- Let Access maintenance routines run to completion unless there is an emergency. Canceling a maintenance routine may damage the instrument and compromise the integrity of subsequent test results.
- If a maintenance routine is cancelled, **DO NOT** initialize the system. Call Technical Support for assistance.
- Use only 2.0 mL sample cups when performing Access maintenance routines. Use of any other sample containers may result in level sensing errors and cancellation of the maintenance routine.

Access Supplies

Access Supply	Change during...	Software Required	Yellow Caution	Red Warning	Notes
Wash Buffer 	Any System Mode	No	None	Reservoir Empty	<ul style="list-style-type: none"> Red Warning: No new tests scheduled
Liquid Waste 	Any System Mode	No	None	Waste Bottle Full	<ul style="list-style-type: none"> Red Warning: No new tests scheduled Some systems may be directly plumbed to a drain
Reaction Vessels 	<i>Ready Running Paused</i>	Yes	≤ 60	≤ 28	<ul style="list-style-type: none"> Red Warning: No new tests scheduled; must wait until <i>Ready</i> to load RVs
Reaction Vessel Waste 	<i>Ready Running Paused</i>	Yes	≤ 60	0 spaces remaining (full waste bag)	<ul style="list-style-type: none"> Red Warning: No new tests scheduled Do not remove RV Waste bag while an RV is ejecting
Substrate 	<i>Ready</i>	Yes	≤ 60 tests or ≤ 3 days left (on supply screen)	Empty or expired (on supply screen)	<ul style="list-style-type: none"> Red Warning: No new tests scheduled, must wait until <i>Ready</i> to load substrate
Reagent Packs	<i>Ready Running Paused</i>	Yes	≤ 10 tests or ≤ 3 days left (on supply screen)	Empty or expired (on supply screen)	<ul style="list-style-type: none"> <Supplies Required> button turns yellow to alert operator when reagent is not on-board, expired or not calibrated

CTA Supplies

CTA Supply	Change during...	Software Required	Yellow Caution	Red Warning	Notes
Wash Buffer	<i>Standby Running</i>	No	≤ 100 aliquots	No buffer available for new tests	<ul style="list-style-type: none"> Visually inspect daily Red Warning: No new tests scheduled
Aliquot Vessels	<i>Standby Running</i>	Yes	≤60	≤28	<ul style="list-style-type: none"> Red Warning: No new tests scheduled
Aliquot Vessel Waste	<i>Standby Running</i>	Yes	None	0 spaces remaining (full waste)	<ul style="list-style-type: none"> Monitor space remaining daily Red Warning: No new tests scheduled
Auto-Gloss	<i>Standby Running</i>	Yes	Pop-Up warnings at 10%, 5% and 0% volume	0 tests available	<ul style="list-style-type: none"> Check volume as part of weekly maintenance

DxC Reagents

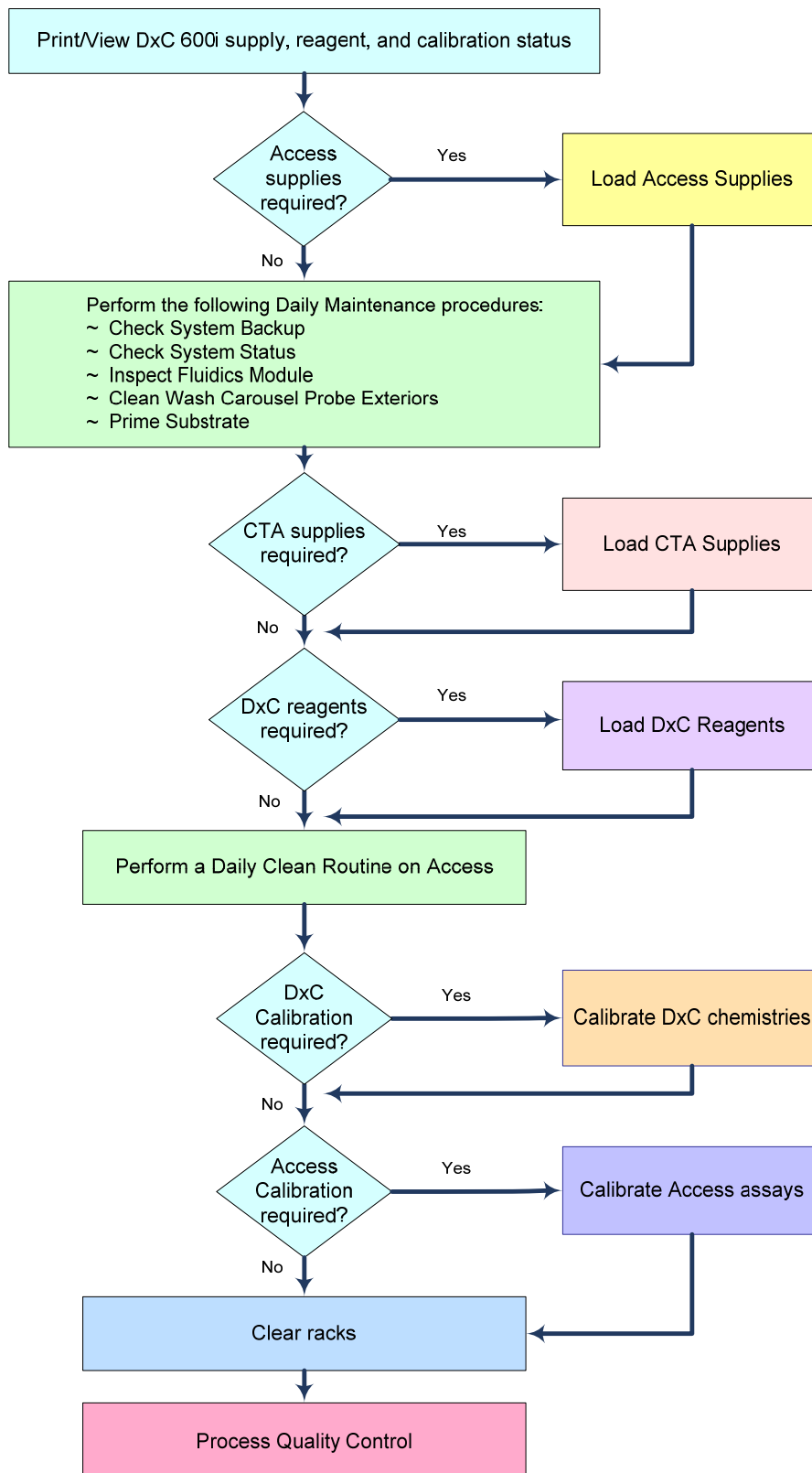
DxC Reagent	Change during...	Software Required	Yellow Caution	Red Warning	Notes
MC Reagent	<i>Standby</i>	Yes	Pop-Up warnings at 10%, 5% and 0% volume	0 tests available, Expired	
CC Reagent	<i>Standby Running</i>	Yes	Pop-Up warning at 5 test and 0 tests remaining in cartridge	0 tests available, Expired	

**Flowchart
Information**

The Daily Start Up flowchart lists all tasks necessary to bring the UniCel DxH 600i to operating condition for the start of a run.

- The tasks are listed in the most efficient order.
- Some tasks may be performed on one component of the system while another component is performing a different task. This allows multi-tasking to decrease start up time
- Some tasks may be performed at alternate times.
Example: Access calibration may be performed during off-peak hours.
- All tasks may not be required each day.
Example: Access assays are calibrated infrequently.
- Refer to individual flowcharts for instructions on each task.
- Colors are used to categorize groups of tasks.
Example: The Daily Start Up flowchart has “Load Access Supplies” in yellow boxes. Access supply loading flowcharts on adjacent pages are also color coded yellow.

DxC 600i Daily Start Up



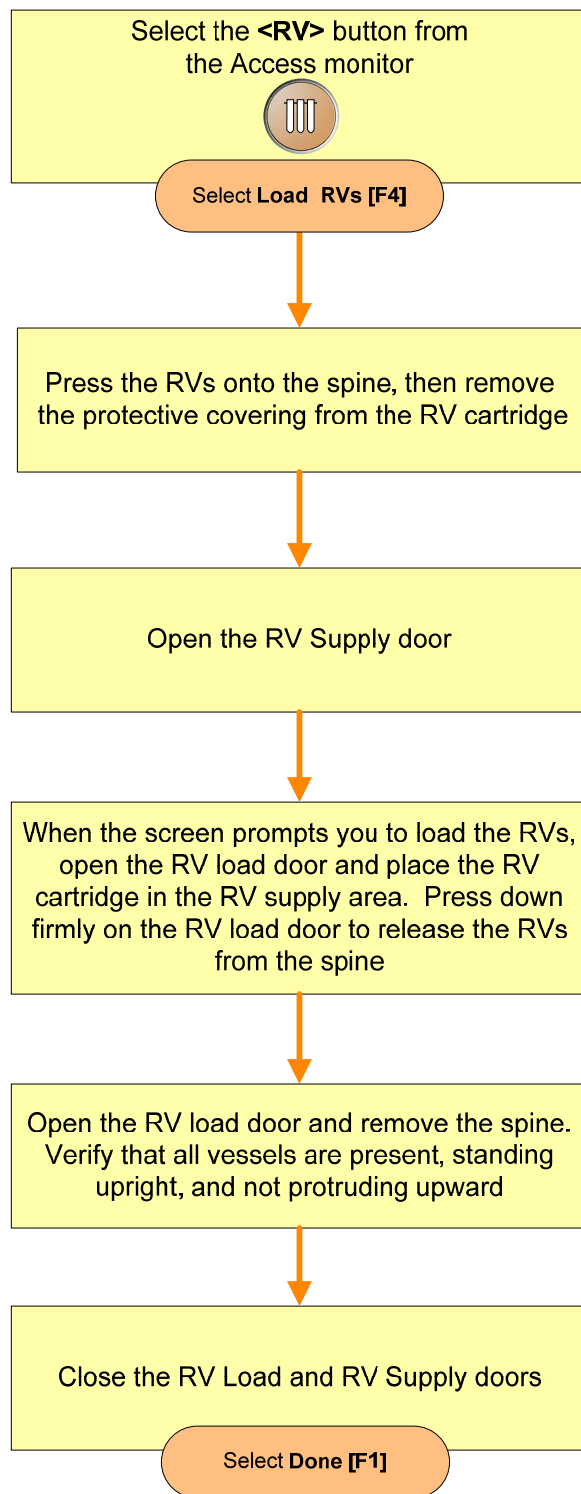
Print DxC 600i Supply, Reagent and Calibration Status

Select **Rgts/Cal** from the DxC 600i monitor



Select **Print [F10]**

Load Access RVs



Change Access RV Waste Bag

Select the **<RV Waste>** button from the Access monitor



Select **Change RV Waste Bag [F6]**

Open the RV Supply door

Unfold a new waste bag; grasp its sides, and pull gently to expand it

Remove the old waste bag, seal it, and discard according to standard laboratory practices

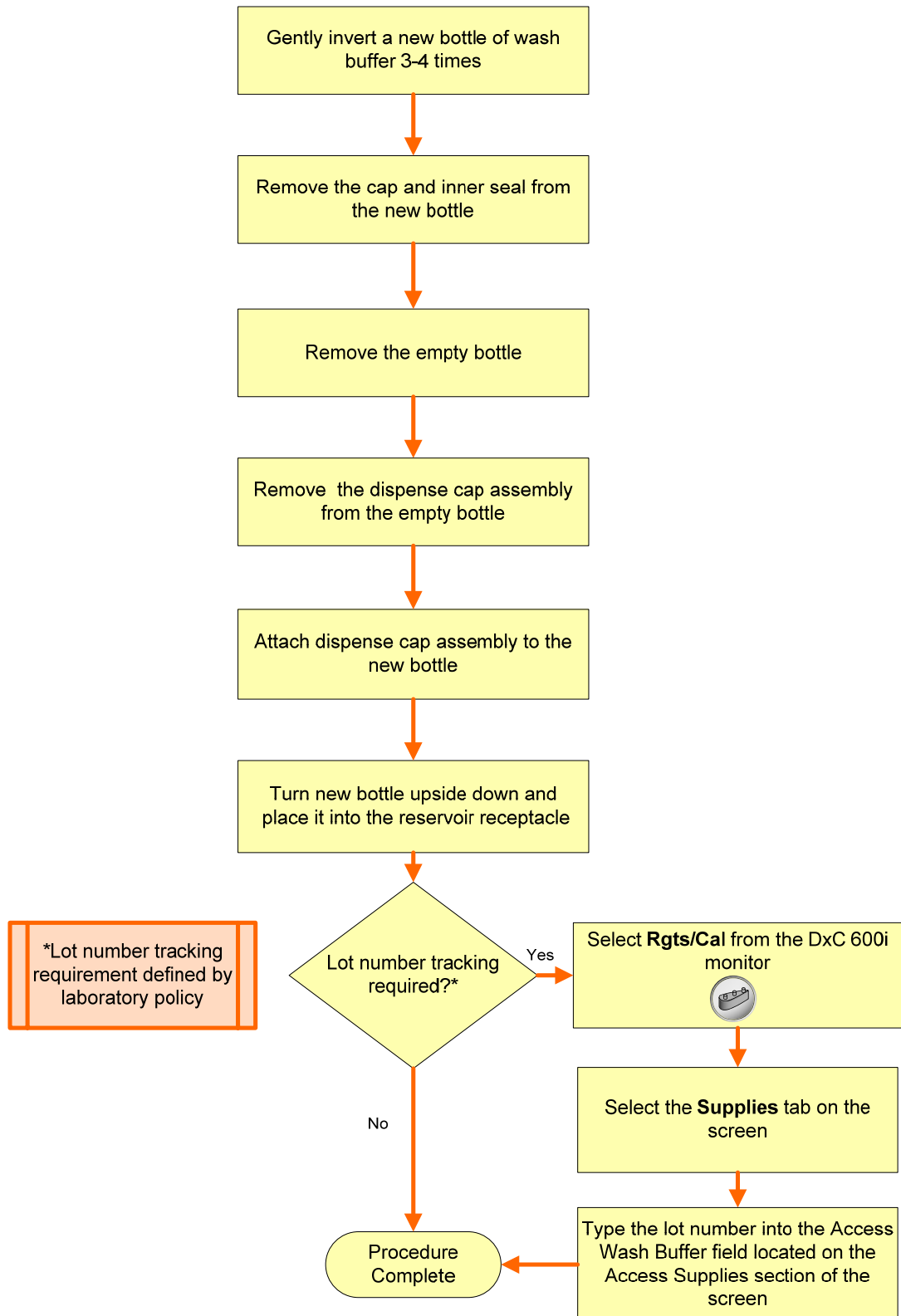
Place the new waste bag in position by sliding the plastic collar on the bag into the slot on the waste chute. Ensure the collar is firmly seated

Close the RV Supply door

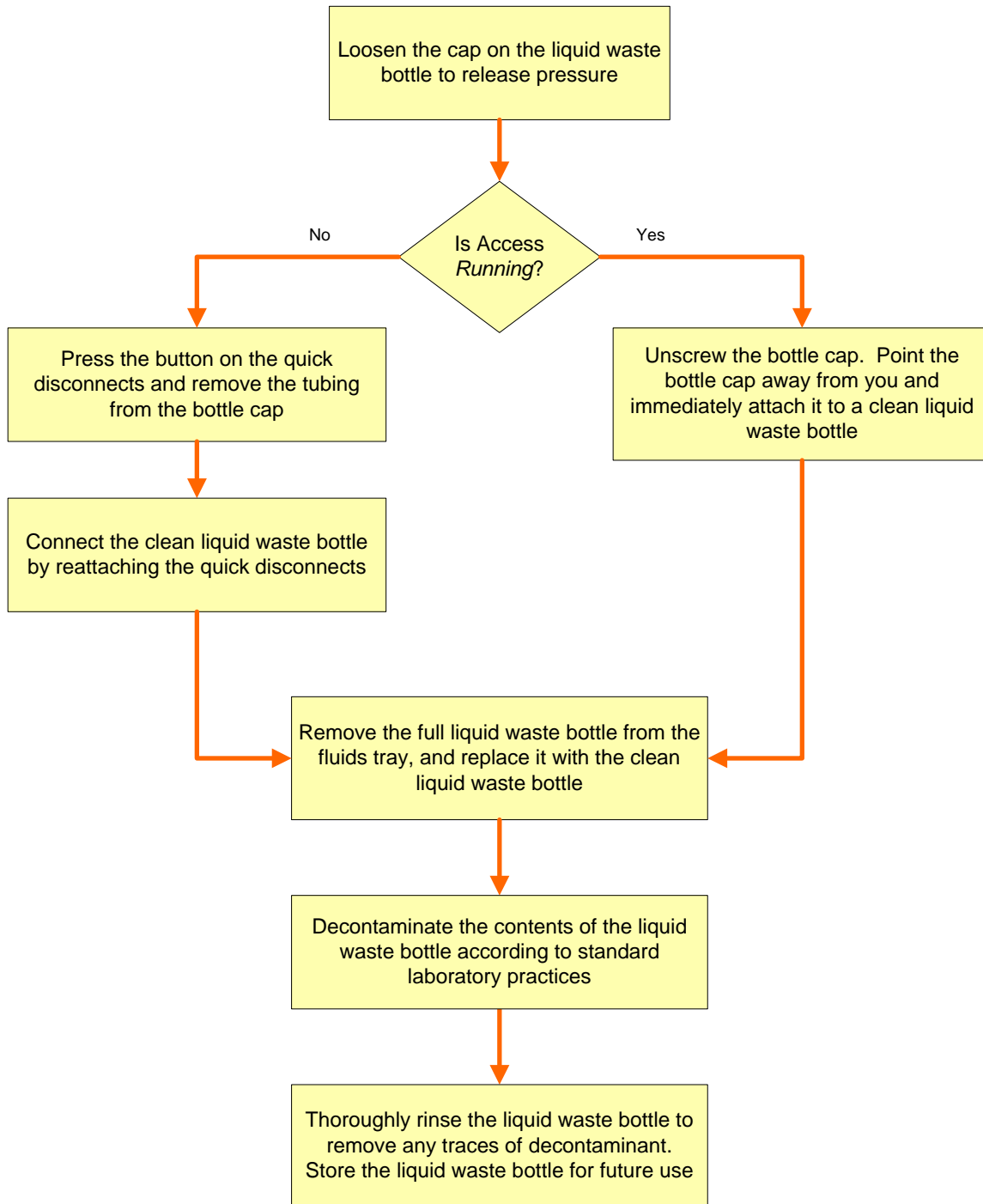
Select **Done [F1]**

Caution
When the system is running, it may eject RVs into the RV waste bag. If the system is running when you change the RV waste bag, wait until you hear an RV eject and you will have 36 seconds to change the bag

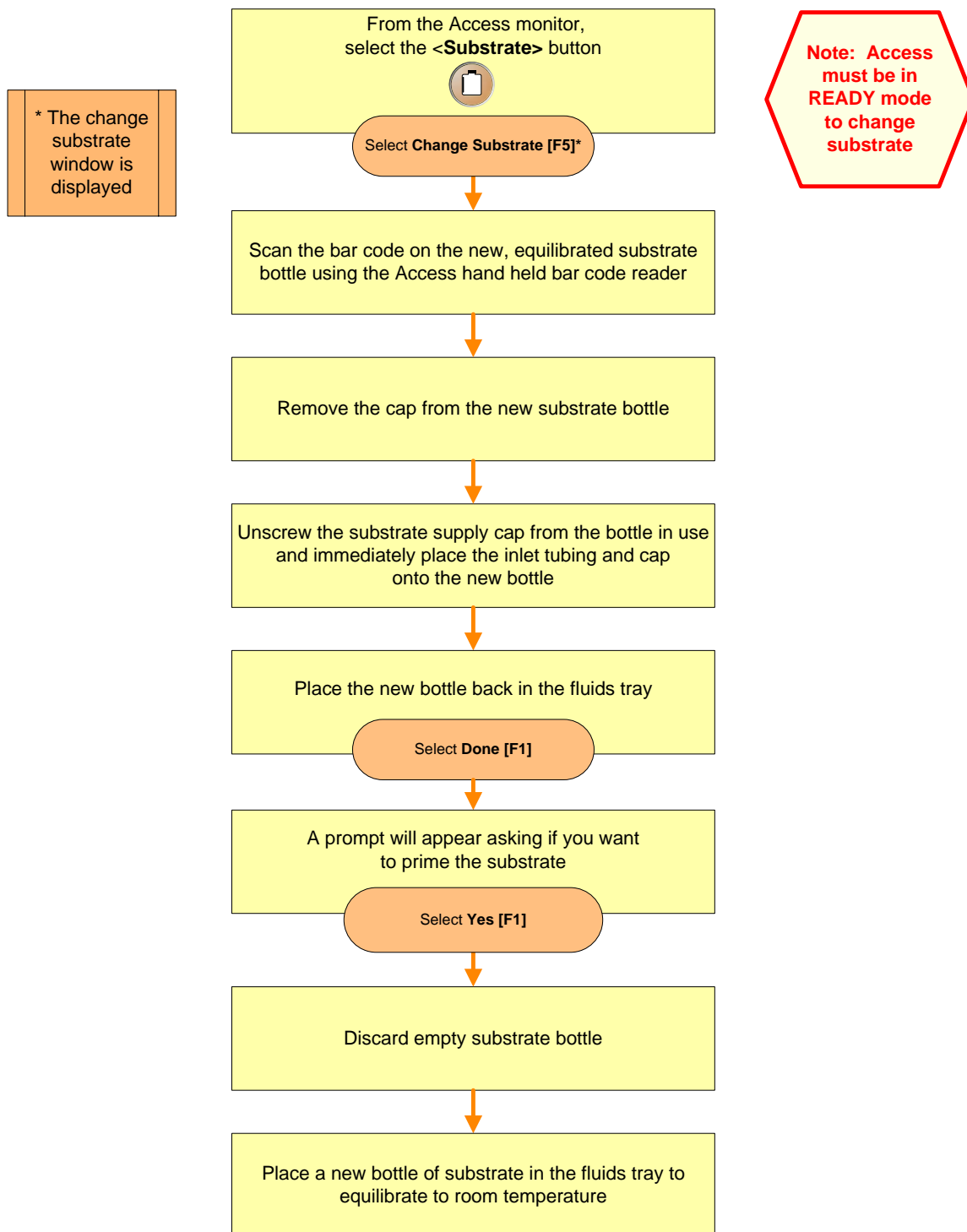
Change Access Wash Buffer



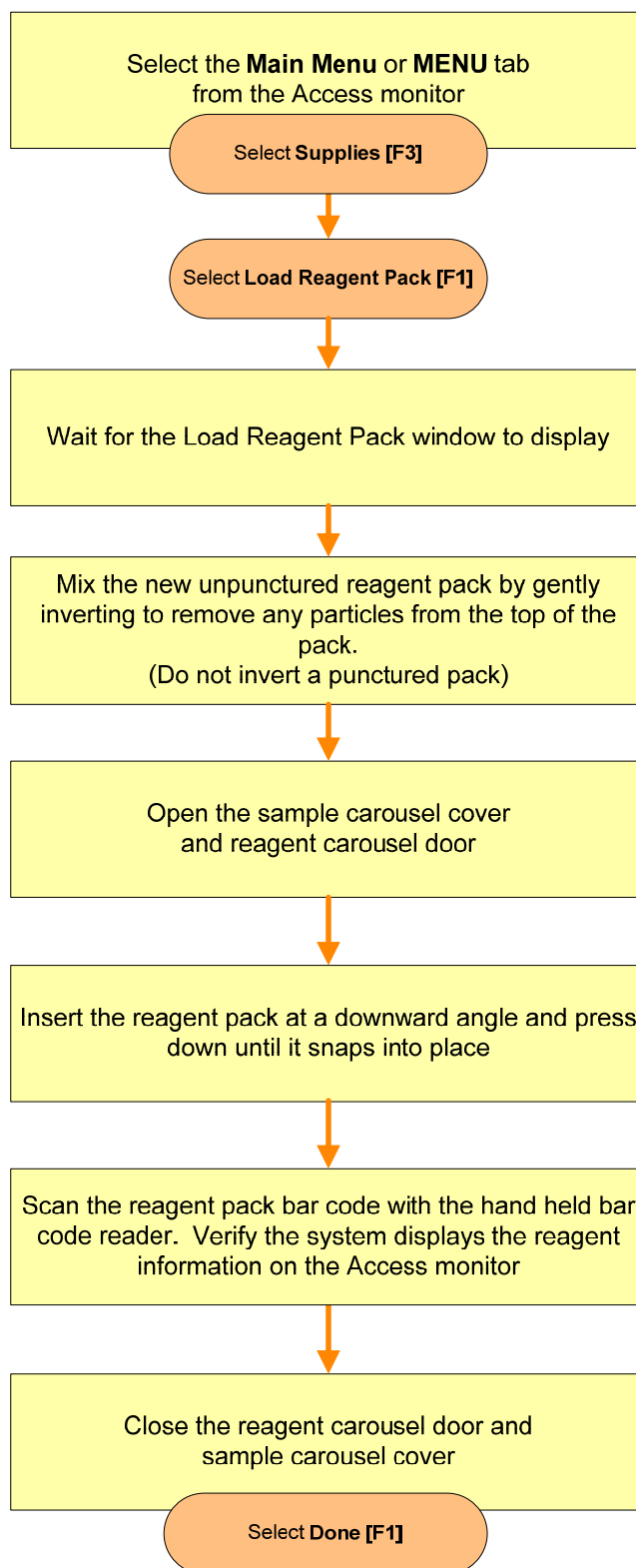
Empty Access Liquid Waste



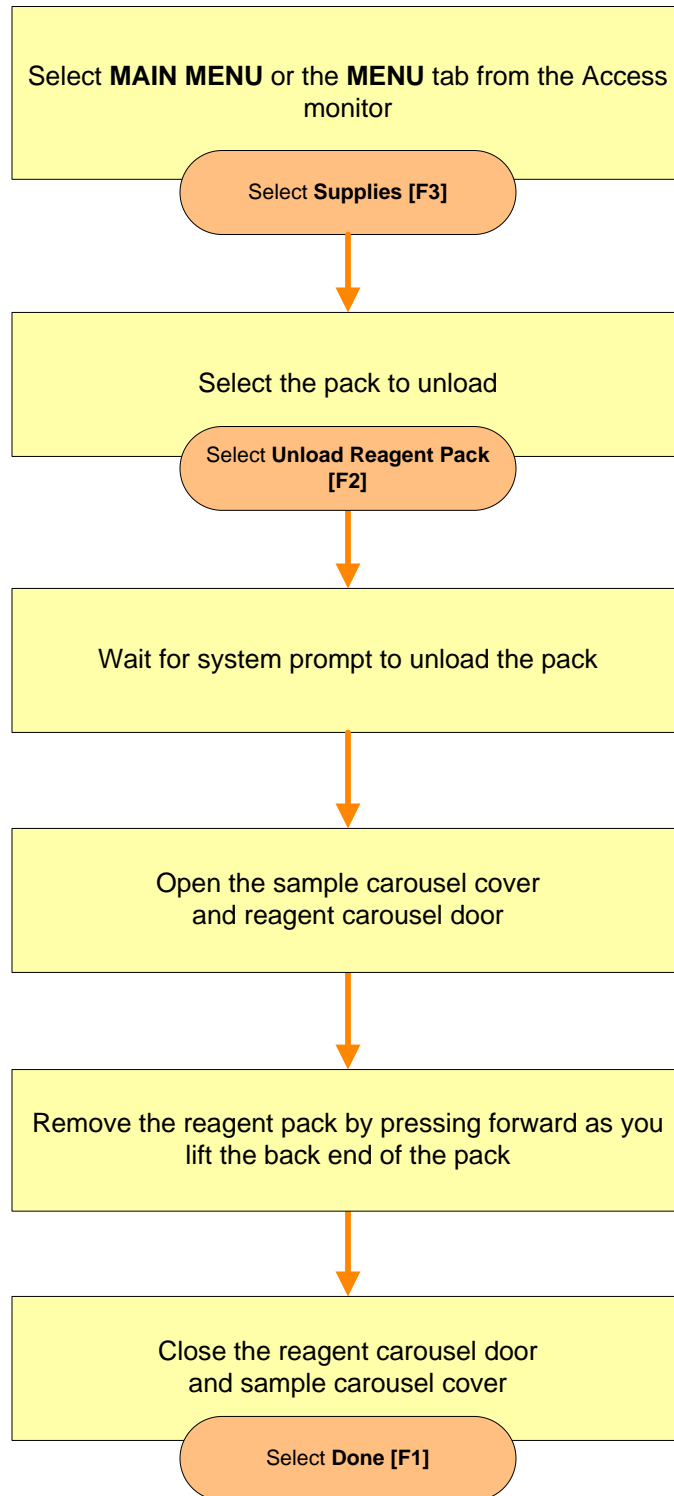
Change Substrate



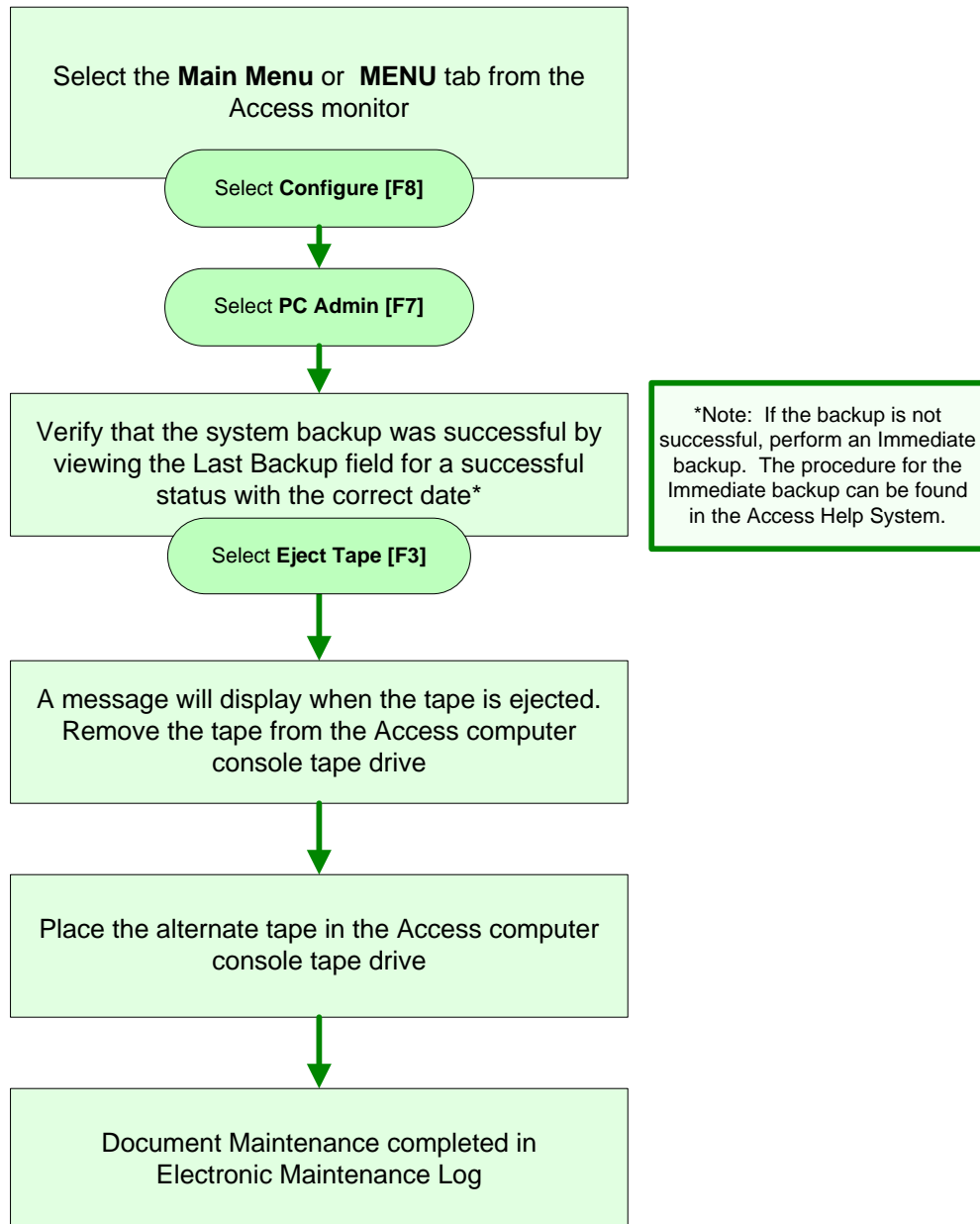
Load Access Reagent



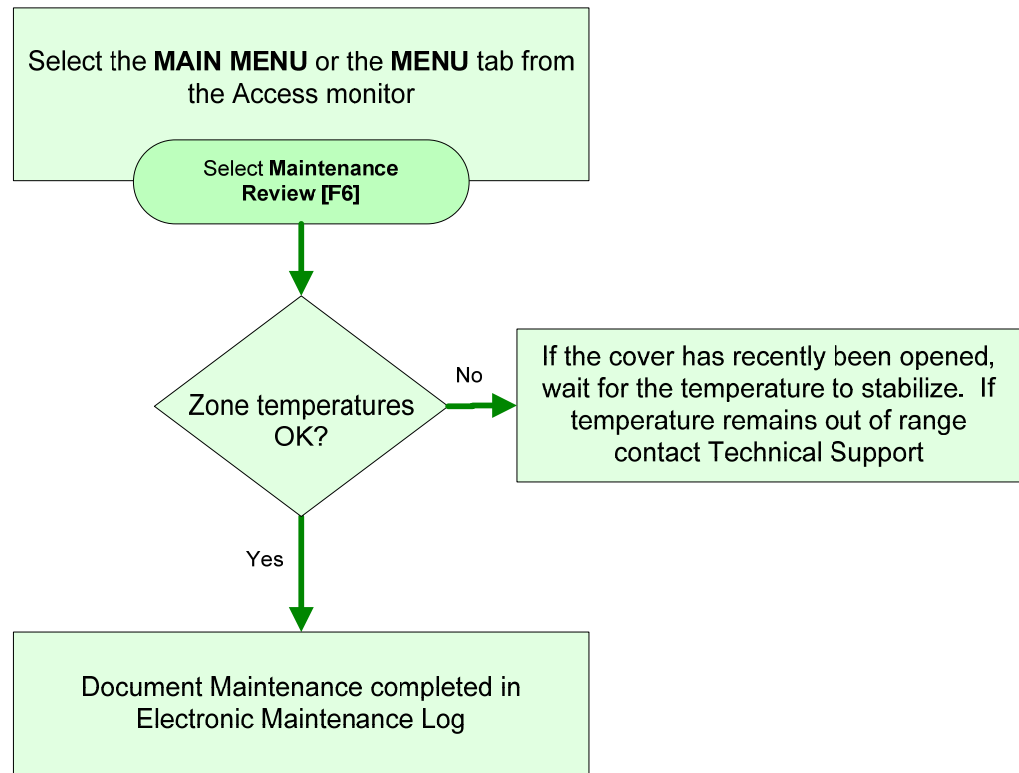
Unload Access Reagent



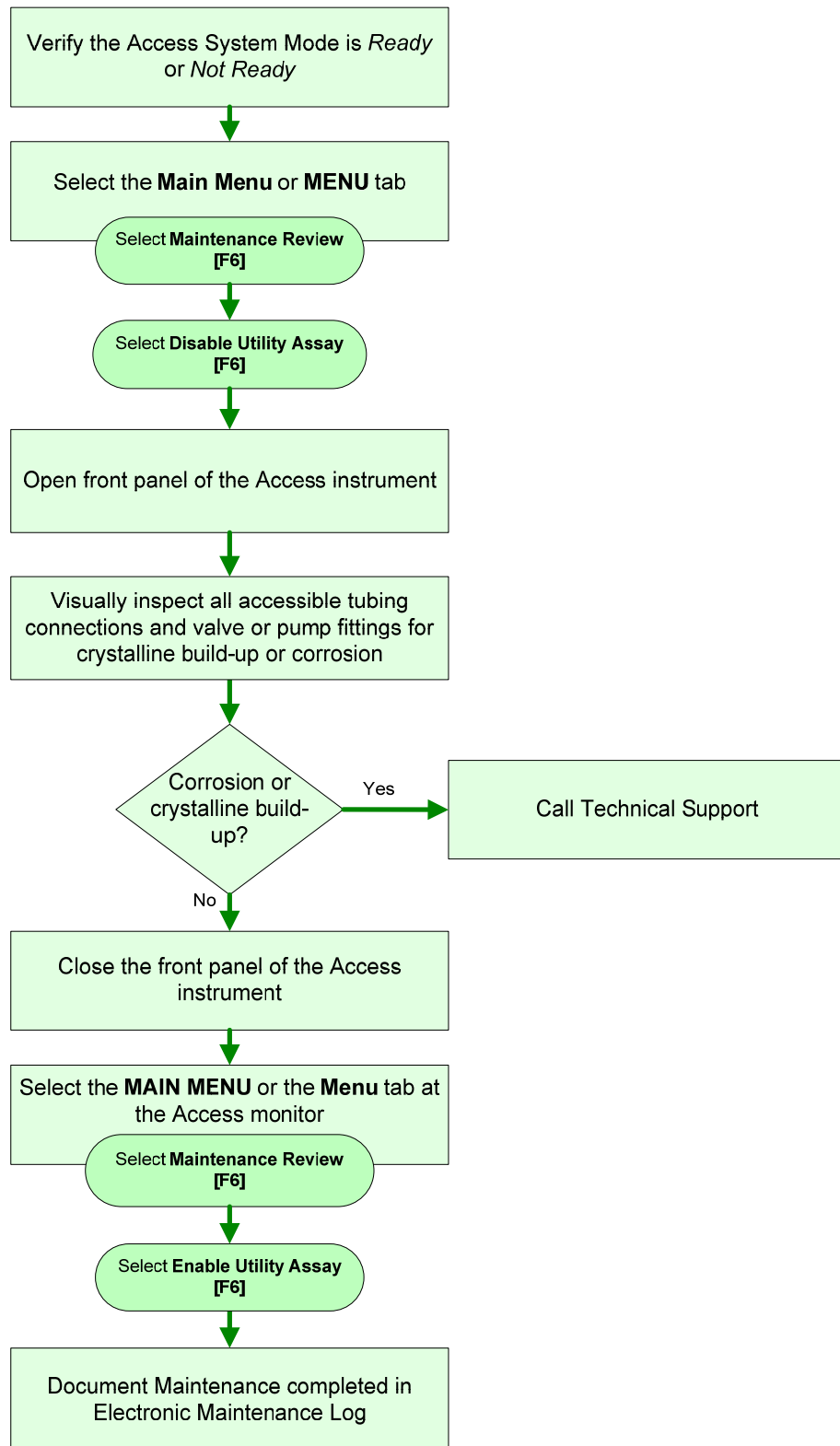
Check Access Tape Backup



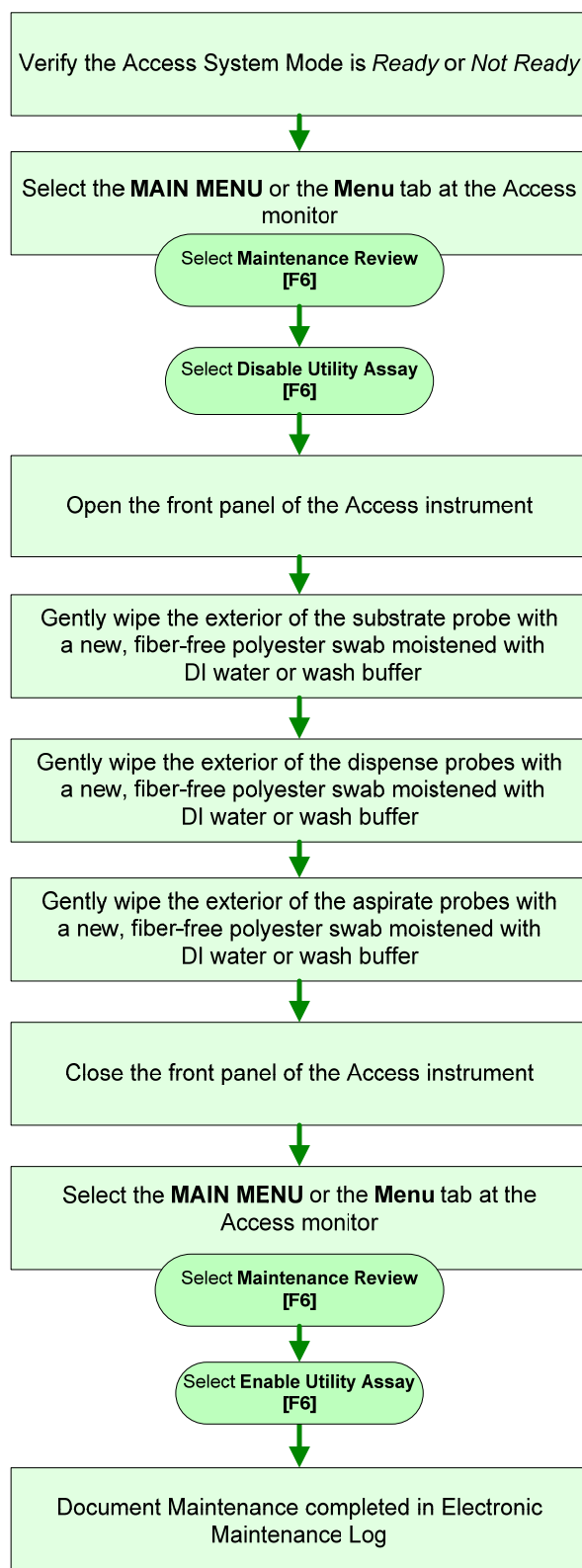
Check System Status



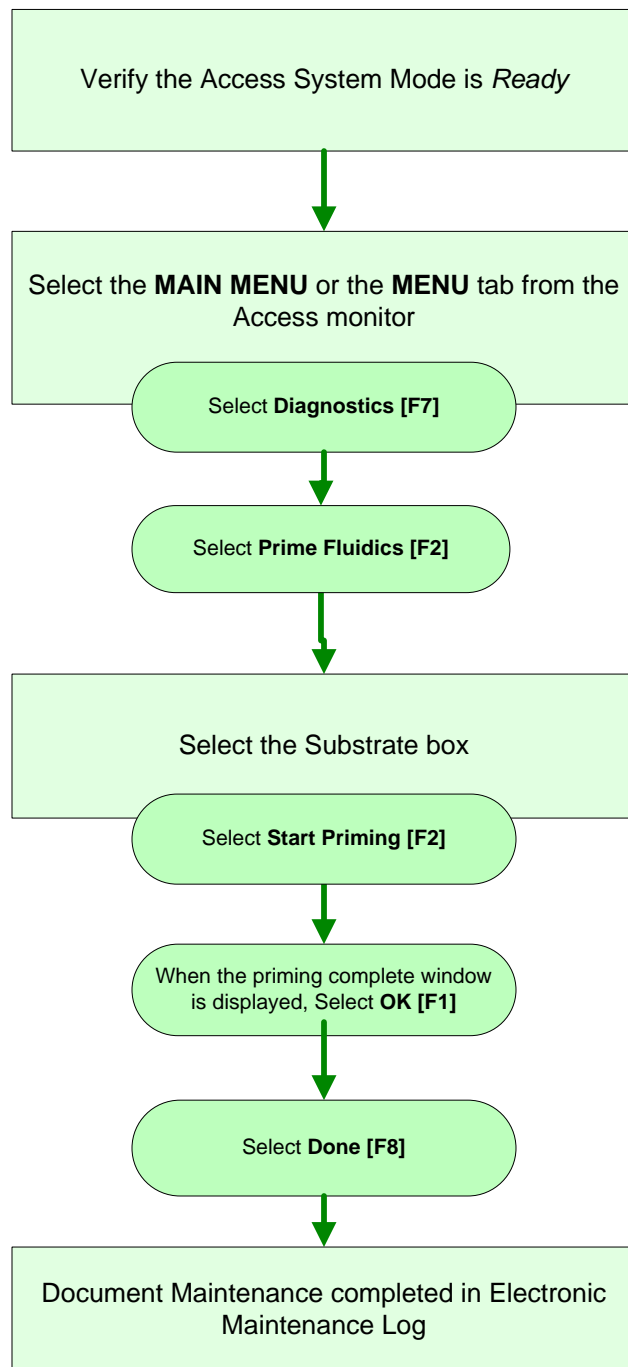
Inspect Access Fluidics



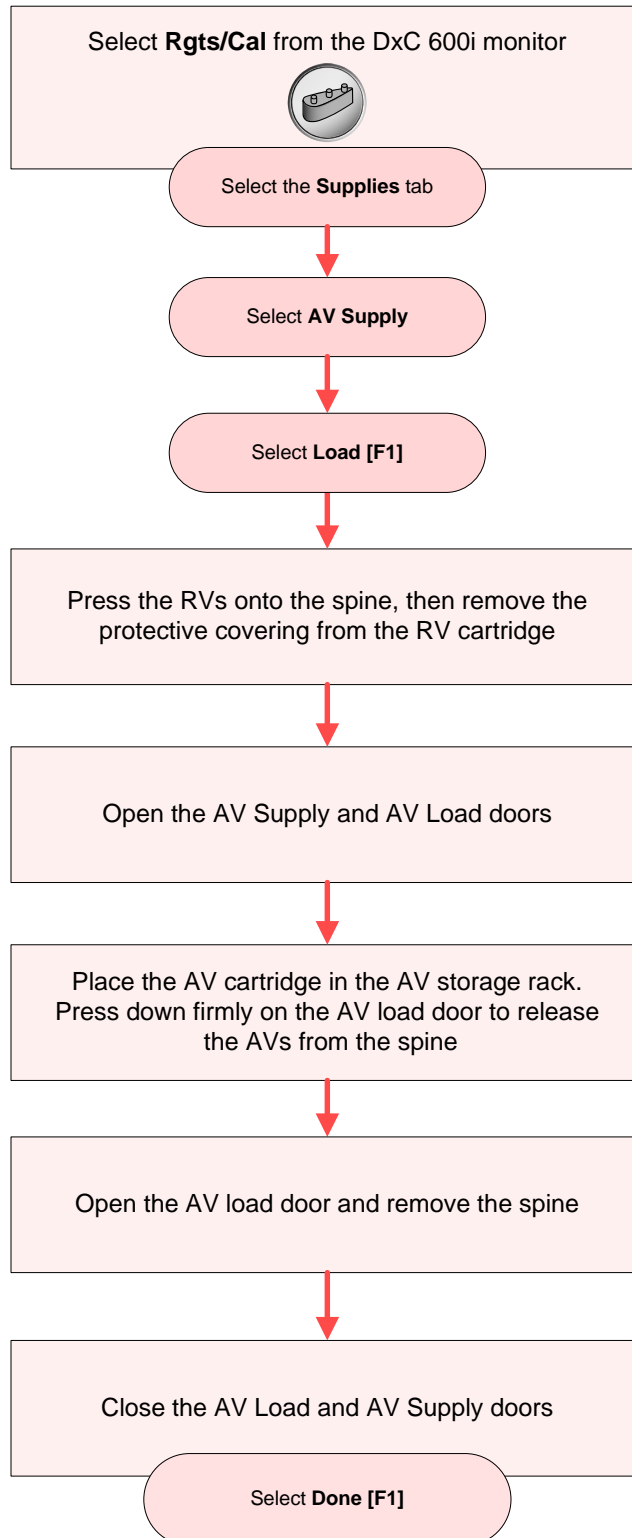
Clean Access Wash Carousel Probe Exteriors



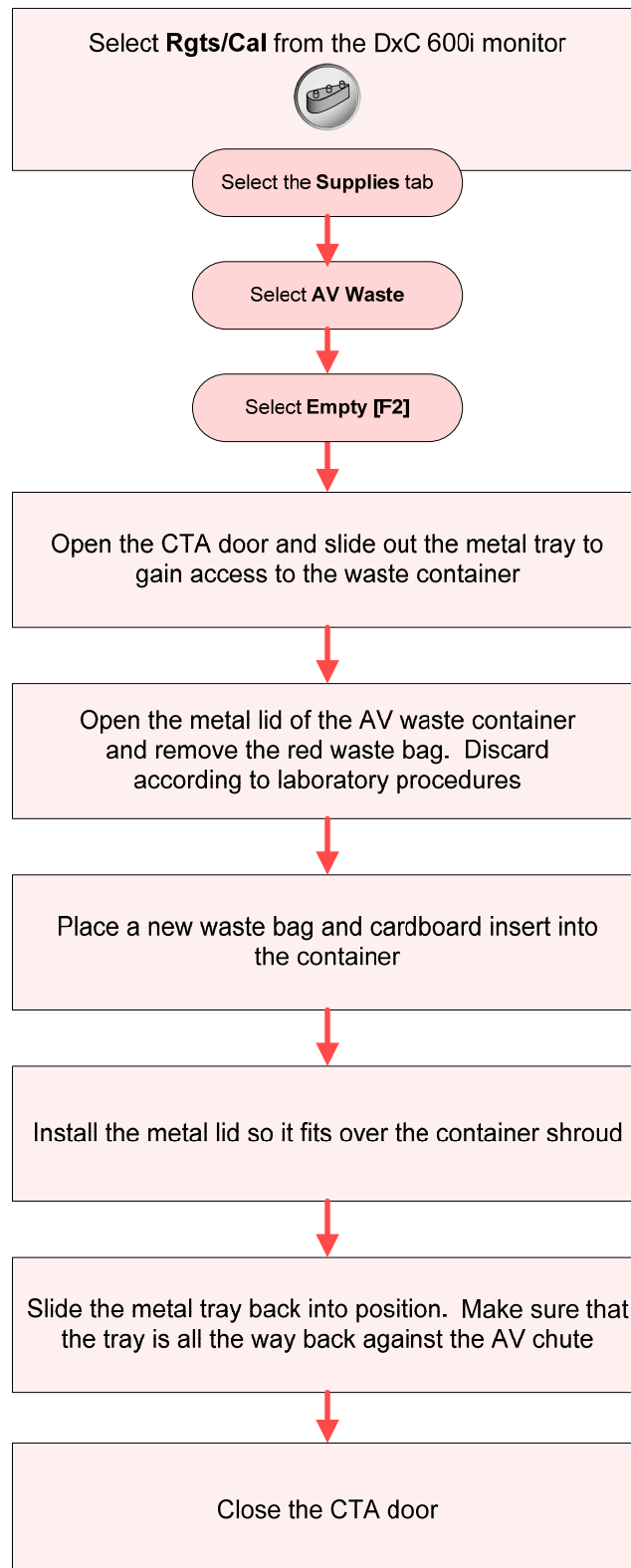
Prime Substrate



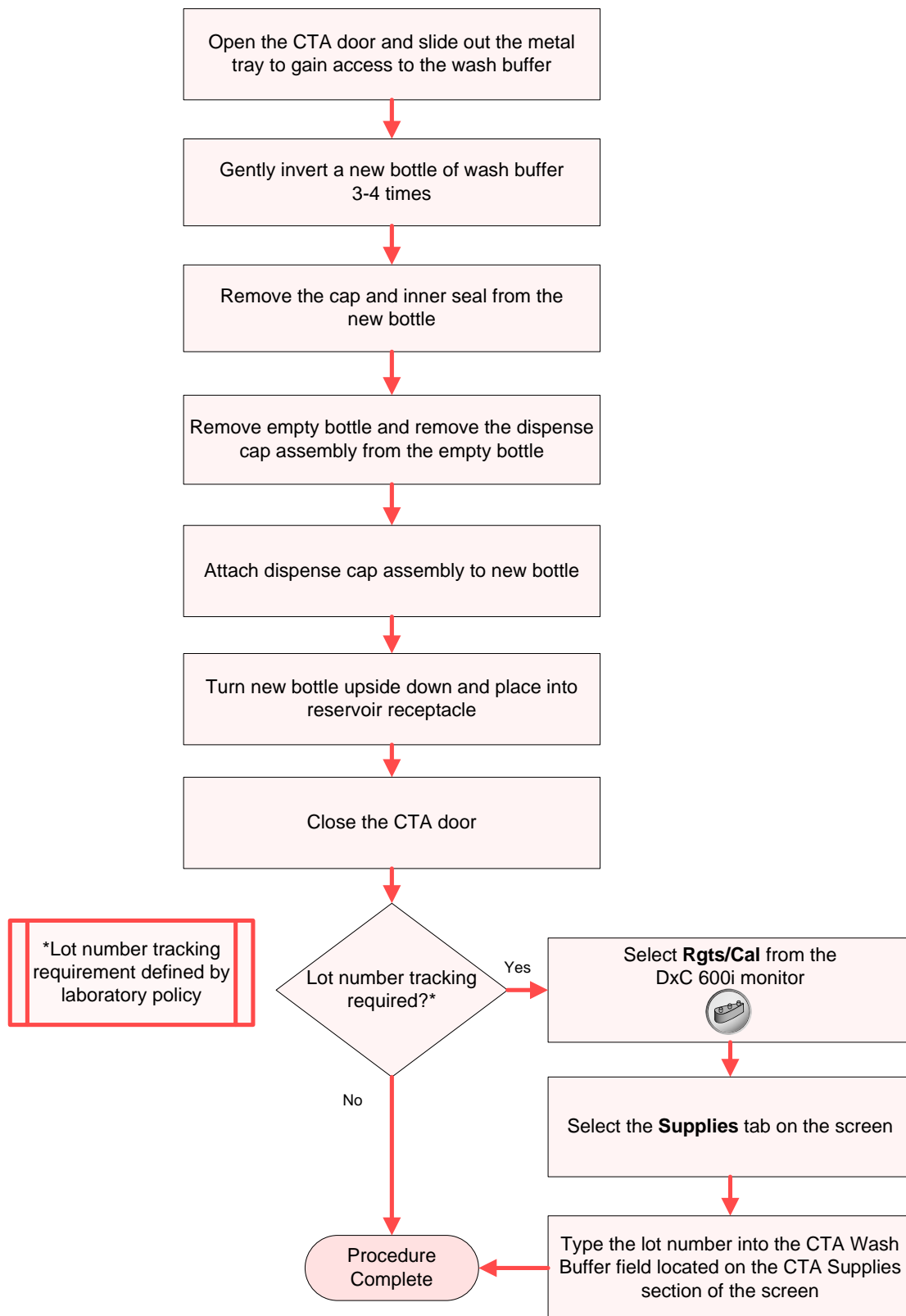
Load Avs at the CTA



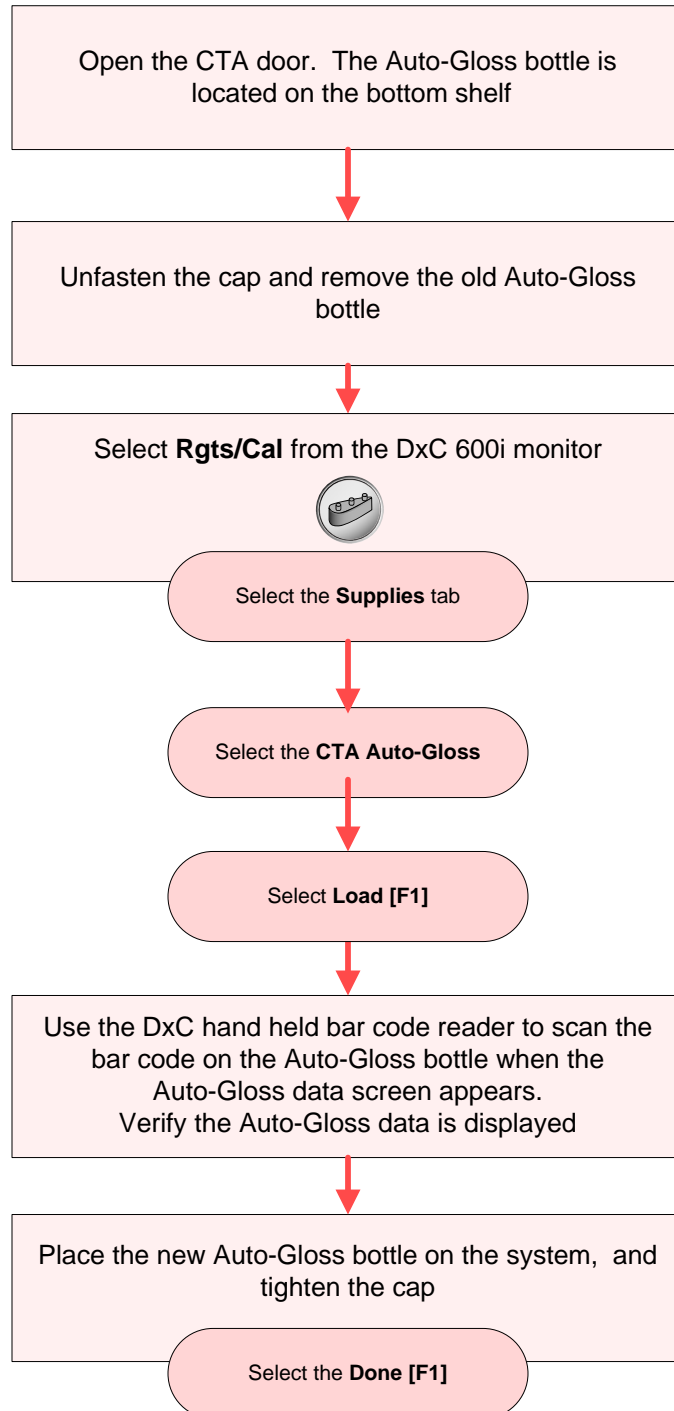
Change CTA AV Waste Container



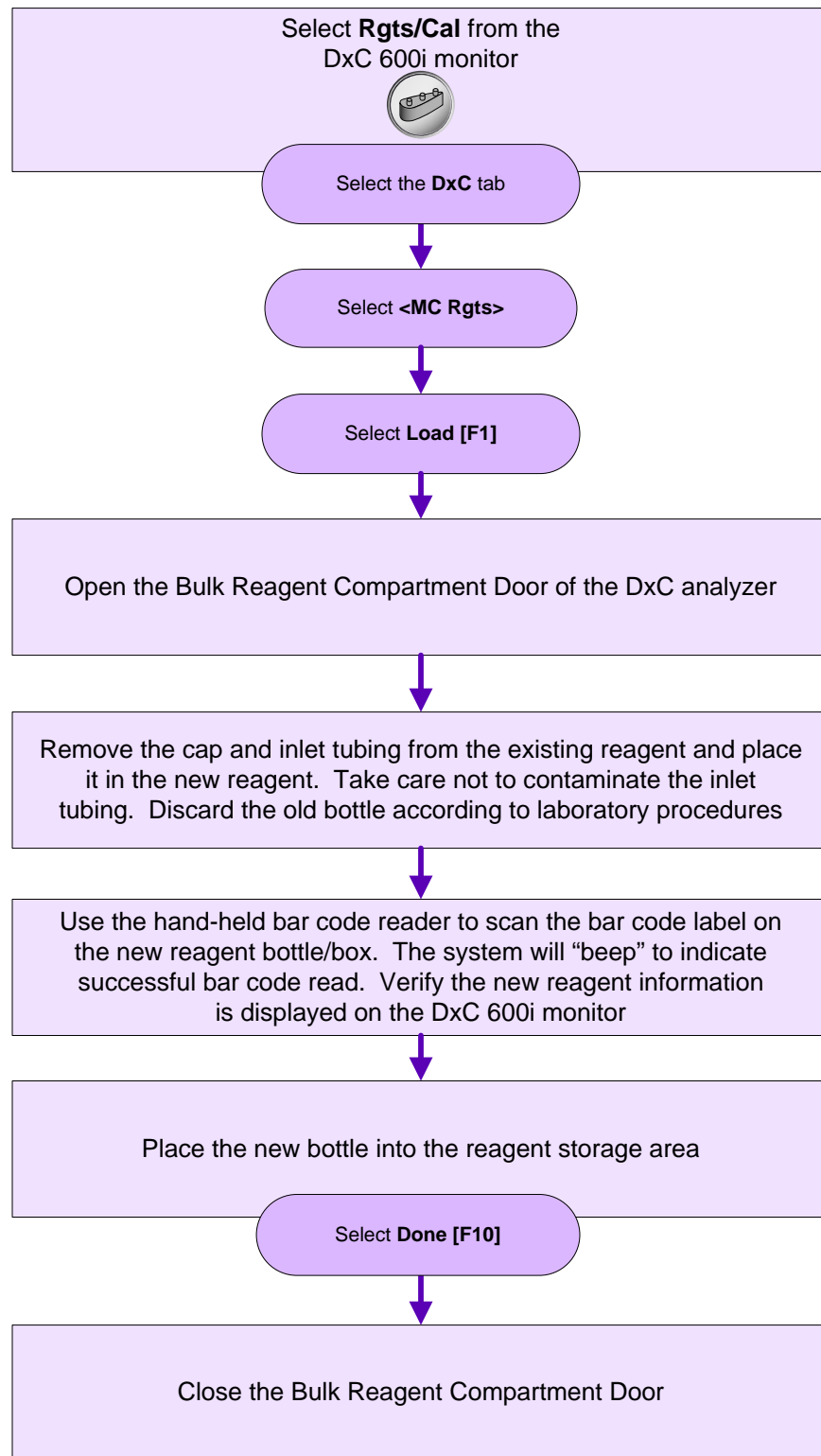
Change the CTA Wash Buffer



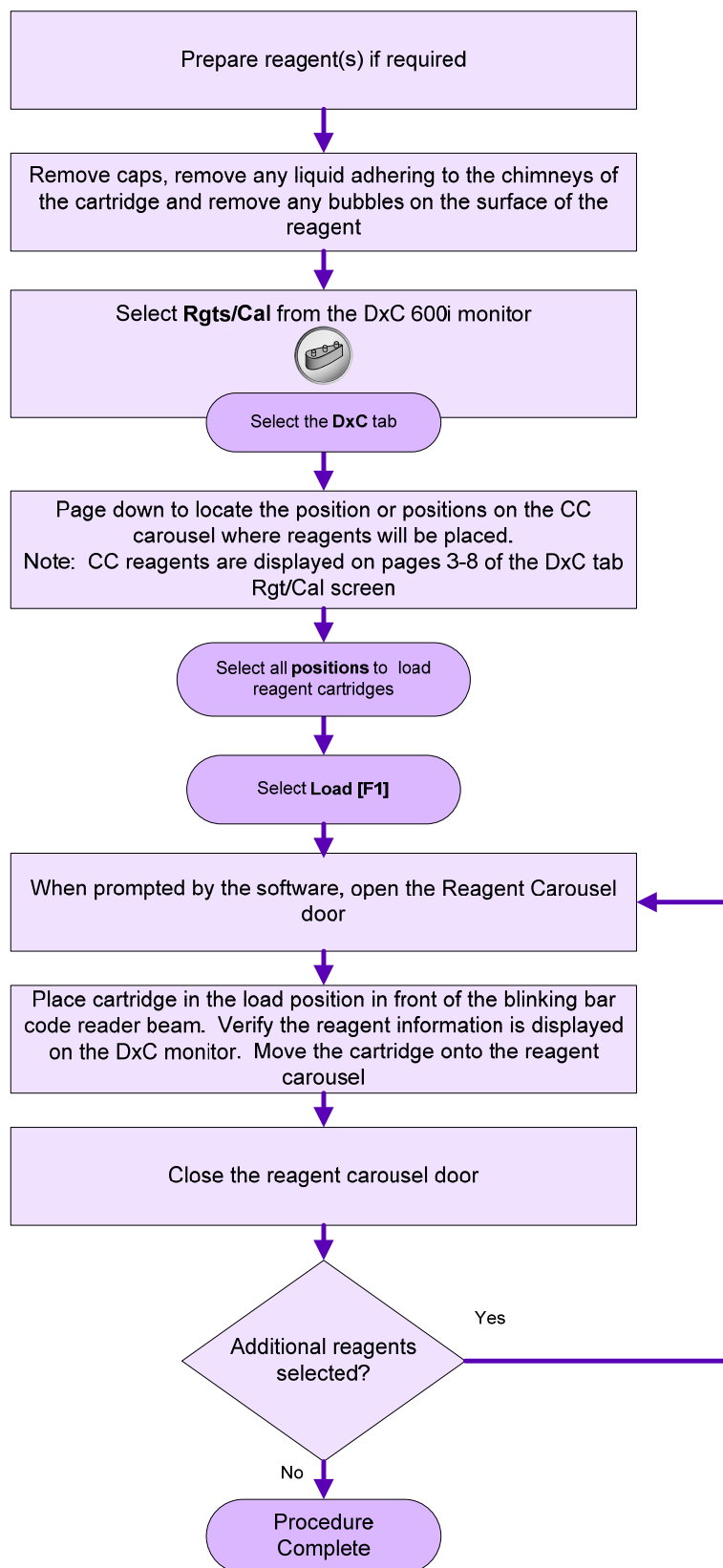
Change the CTA Auto-Gloss



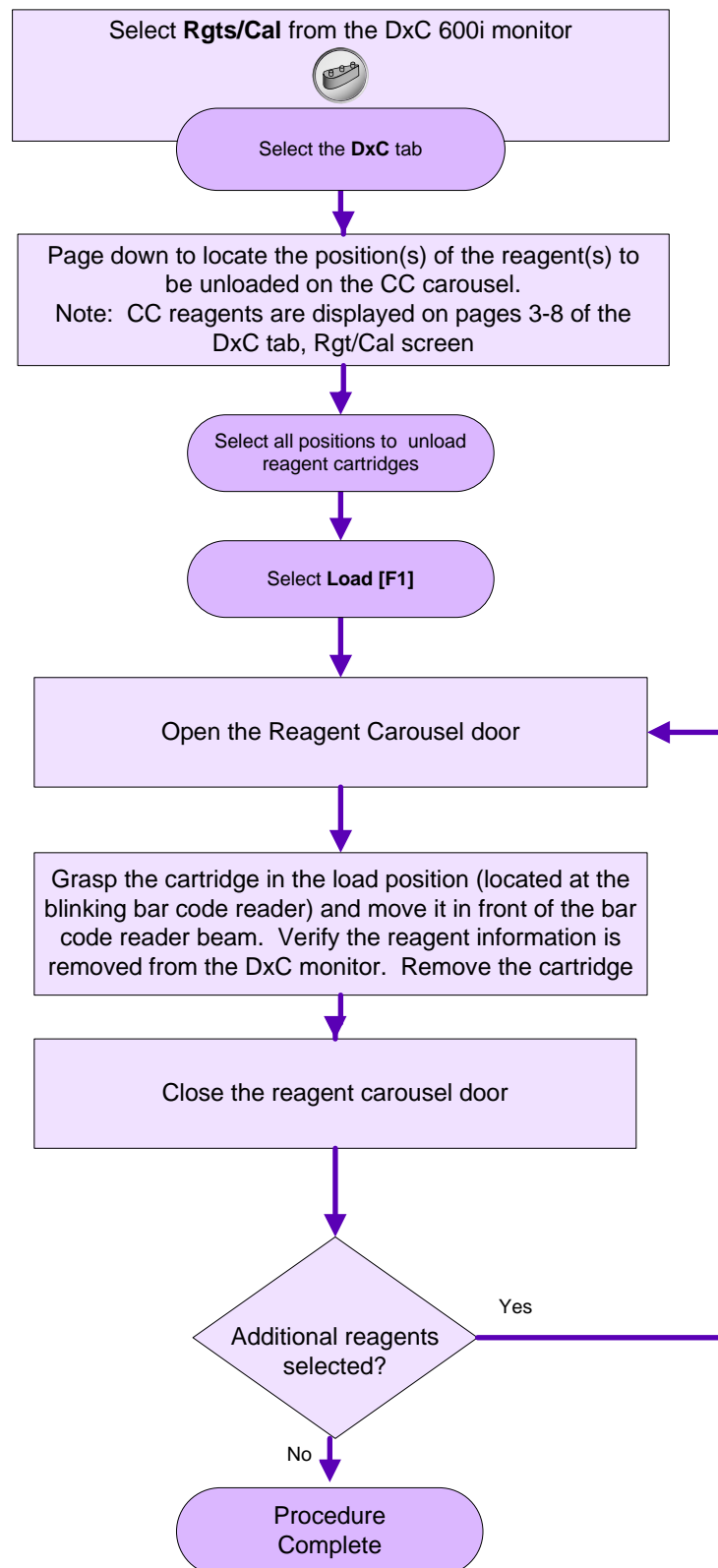
Load DxC MC Reagent



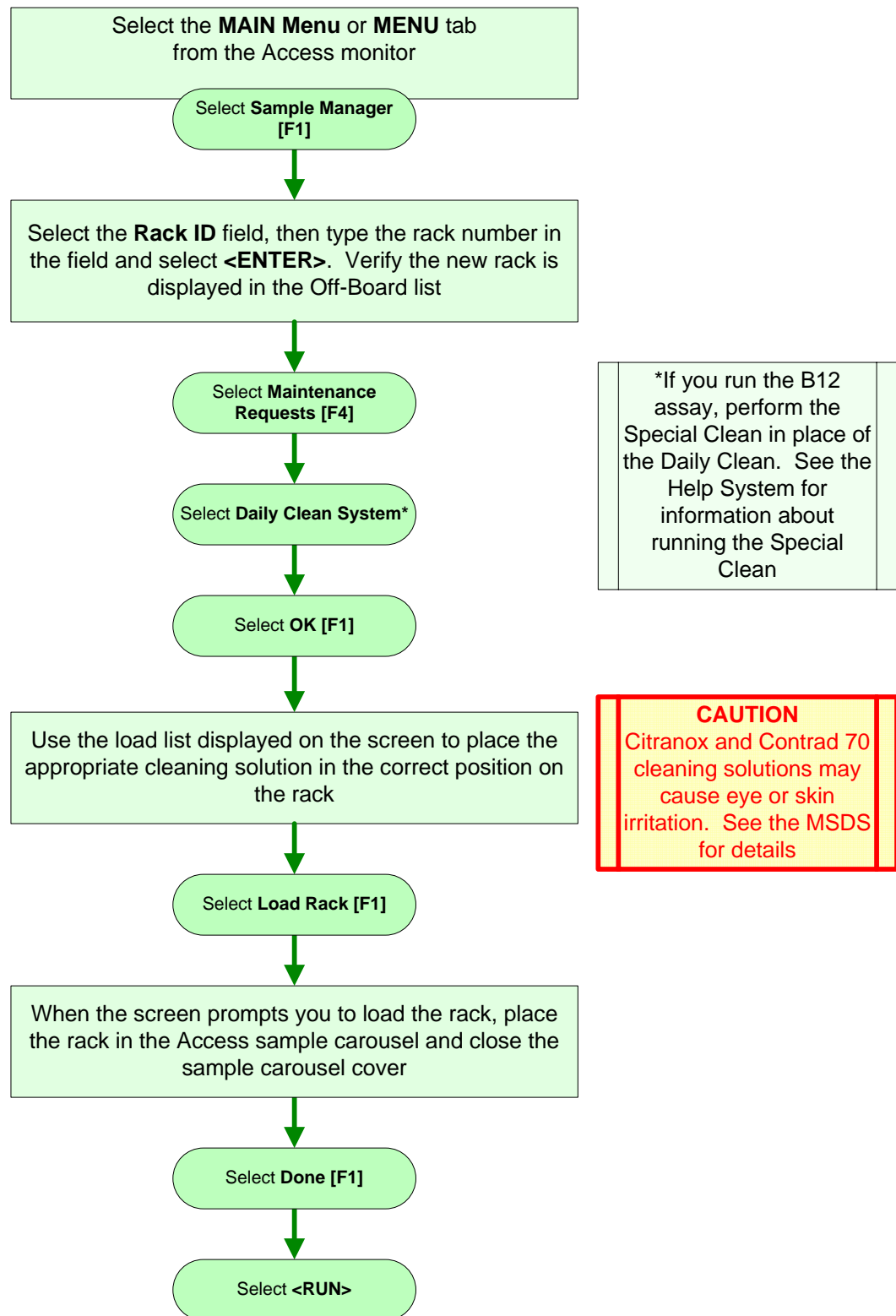
Load DxC CC Reagent



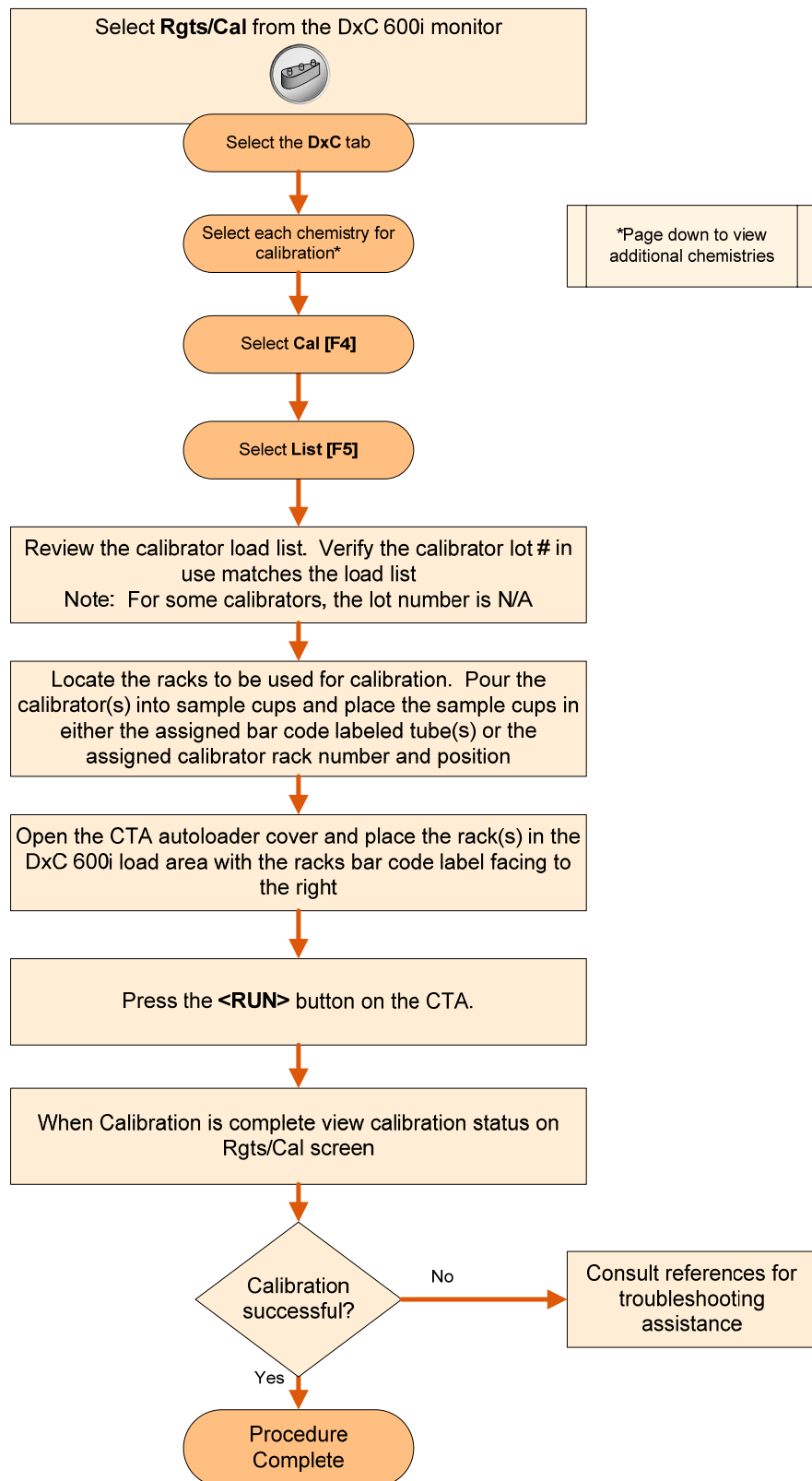
Unload DxC CC Reagent



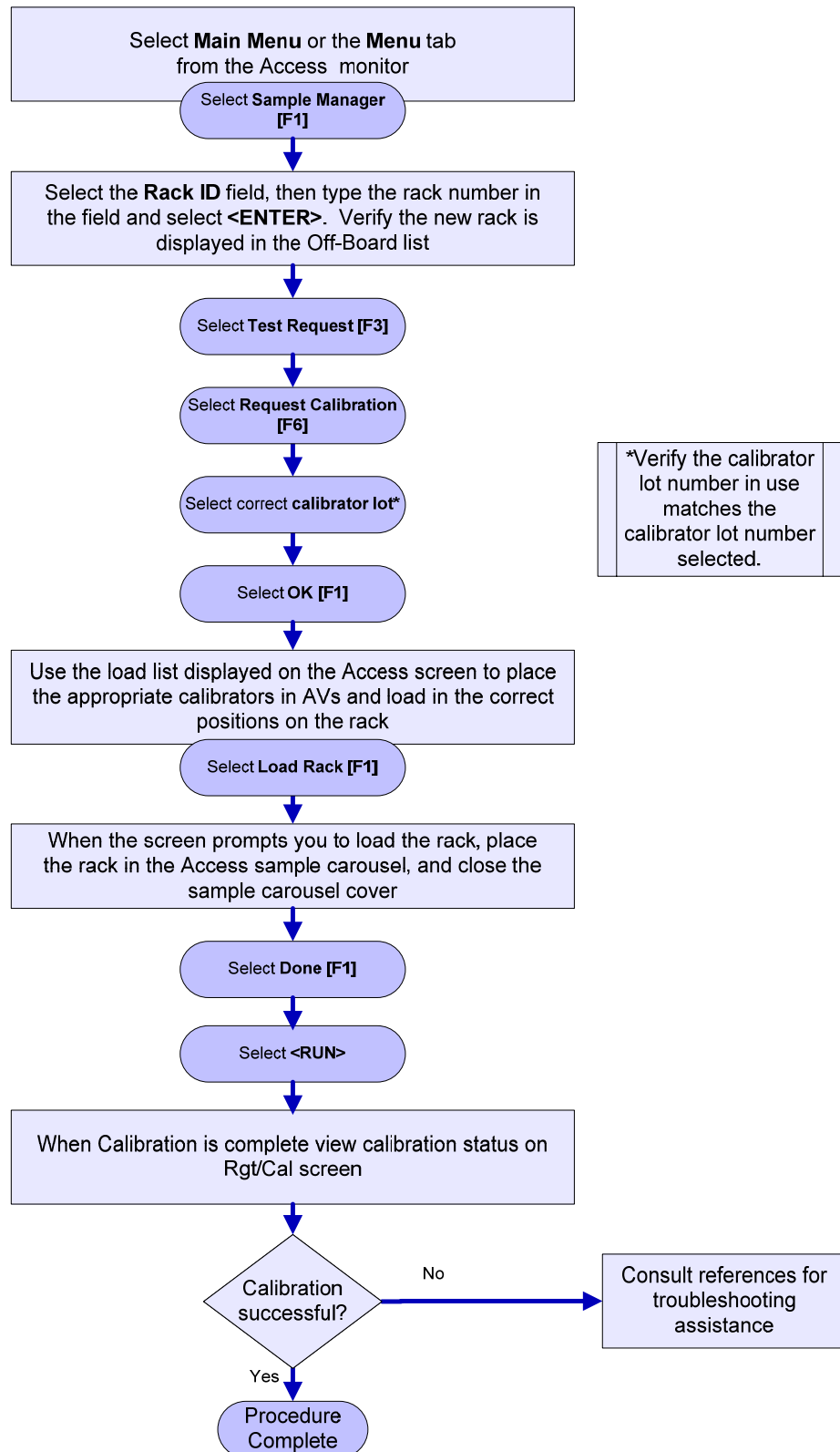
Process Daily Clean



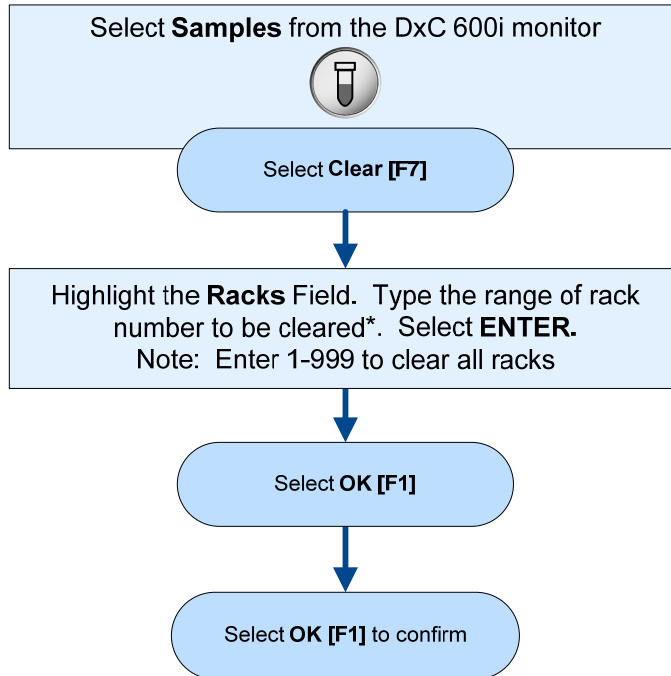
Calibrate DxC Chemistries



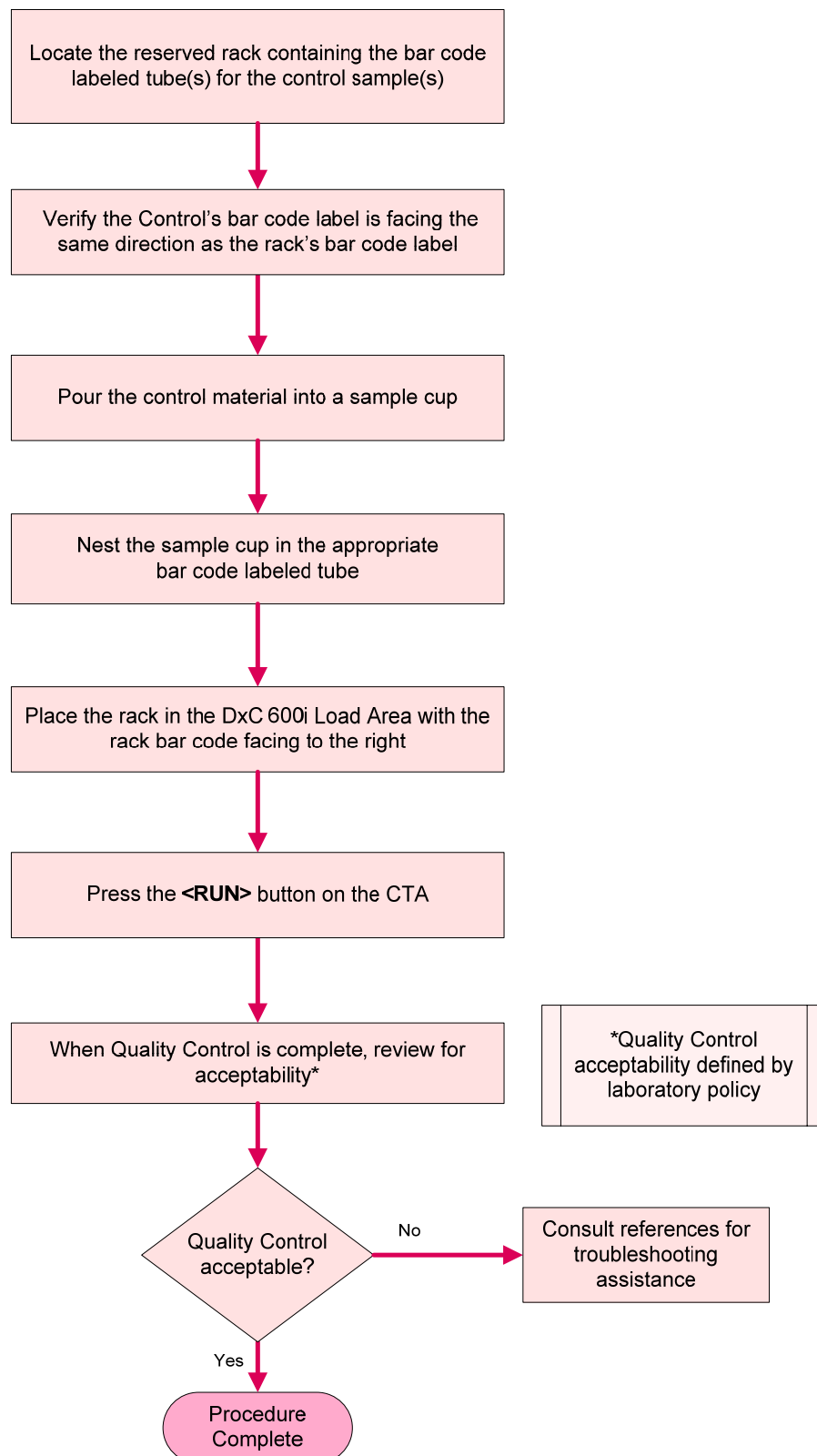
Calibrate Access Assays



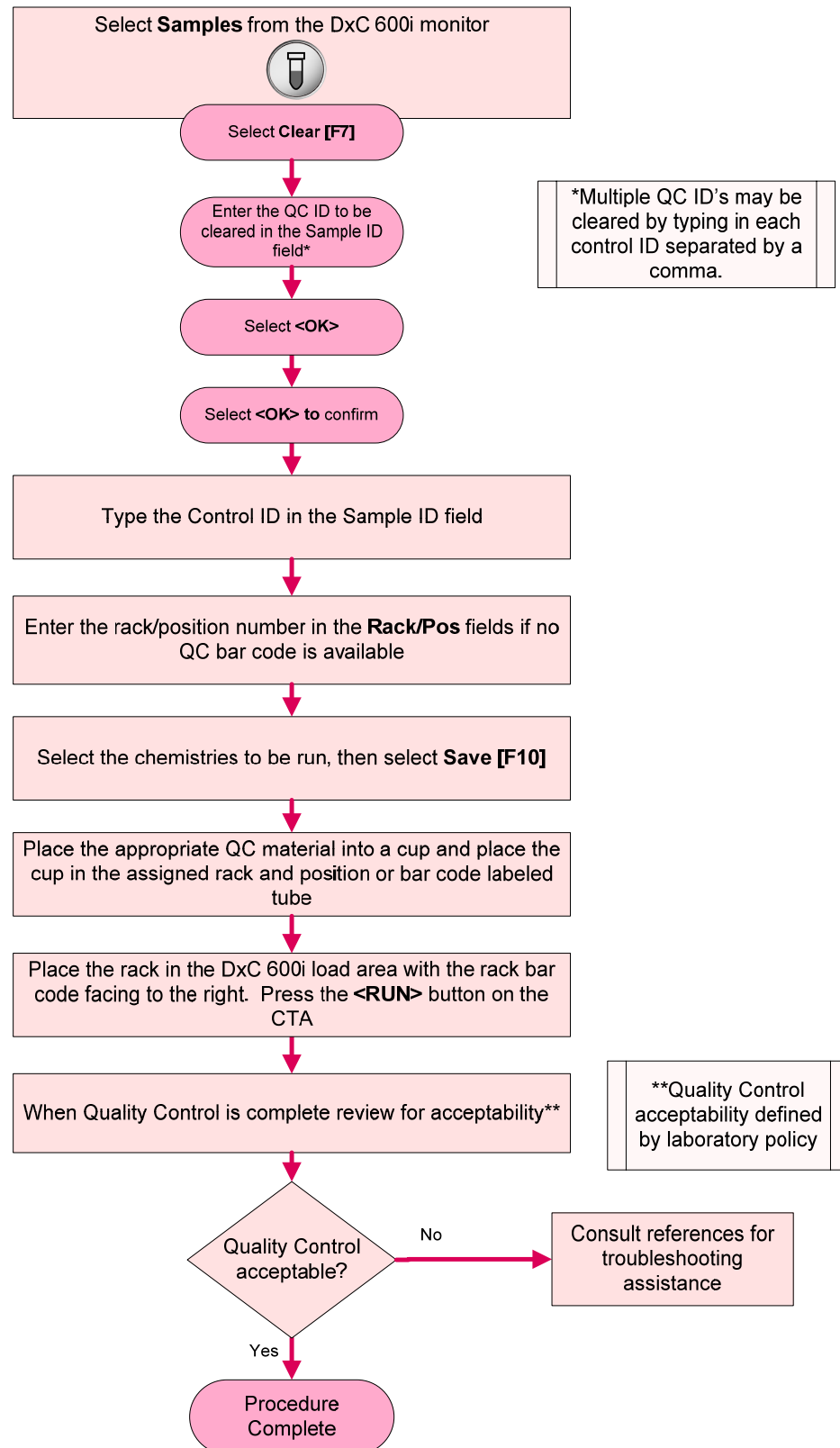
Clear DxC Racks



Process QC using Auto Generation of Control



Manually Program Quality Control





Chapter 4





Sample Processing


DxC 600i Sample Containers

The following describes the sample containers that may be used on the DxC 600i system:

Rack Designation	Validated Containers
Non-Reserved	
	<ul style="list-style-type: none"> Primary sample tubes: Caps removed <ul style="list-style-type: none"> – 12 x 75 mm – 13 x 75 mm – 13 x 100 mm – 16 x 75 mm – 16 x 100 mm 0.5 mL sample cups (P/N 651412) 2.0 mL sample cups (P/N 81902 or P/N 652730)
	<p>1-Blade Thick CTS (closed tube sampling):</p> <ul style="list-style-type: none"> Primary sample tubes with caps: <ul style="list-style-type: none"> – BD Hemogard^a <ul style="list-style-type: none"> ➤ 13 x 75 mm ➤ 13 x 100 mm ➤ 16 x 100 mm – Greiner Vacuette^a <ul style="list-style-type: none"> ➤ 13 x 75 mm ➤ 13 x 100 mm <p>1-Blade Narrow CTS (closed tube sampling):</p> <ul style="list-style-type: none"> Primary sample tubes with caps: <ul style="list-style-type: none"> – Sarstedt S-Monovette^a <ul style="list-style-type: none"> ➤ 15 x 92 mm ➤ 15 x 75 mm (requires rack A18642)

^aAll trademarks are the property of their respective owners.

Rack Designation	Validated Containers
<p data-bbox="581 268 721 300">Reserved</p> <div data-bbox="586 300 690 405">  </div> <div data-bbox="427 415 873 856">  </div> <div data-bbox="427 856 873 1360">  </div> <div data-bbox="427 1360 873 1843">  </div>	<ul style="list-style-type: none"> <li data-bbox="906 415 1321 520">• 0.5 mL sample cups (P/N 651412) in 5 mL transfer tubes (P/N 979272) <li data-bbox="906 604 1321 741">• 2.0 mL sample cups (P/N 81902 or P/N 652730) in 5 mL transfer tubes (P/N 979272) <li data-bbox="906 1035 1357 1140">• 13 mm (1.0 mL) insert cup (P/N 81916) for 12 x 75 mm or 13 x 75 mm tubes <li data-bbox="906 1549 1357 1654">• 16 mm (2.0 mL) insert cup (P/N 81917) for 16 x 75 mm tubes

Low Volume Samples	Validated Containers
	Access assays
	<ul style="list-style-type: none"> Aliquot Vessel (AV) manually loaded in automation racks (1900-1999).

	DxC only chemistries
	<p>Use the following in Reserved Racks: </p> <ul style="list-style-type: none"> 0.5 mL cups (P/N 651412) in inserts (P/N 476406). Place rack in DxC 600i Load Area for DxC processing BD Microtainer^a (baby bullets) in pediatric tube adapter (P/N 472987). Place rack in DxC 600i Load Area for DxC processing SYNCHRON Microtube (P/N 448774). Place rack in DxC 600i Load Area for DxC processing



^aAll trademarks are the property of their respective owners.


Sample Racks

Samples are placed in Synchron sample racks for processing on the DxC 600i system. The following rack sizes are available:

- 13 x 75 mm
- 16 x 75 mm
- 13 x 100 mm
- 16 x 100 mm

Racks come in various colors. Racks are available in purple, blue, brown, green, and gray. The color coding of racks may be useful in designating racks for specific functions.

Reserved racks are assigned in the instrument software.

Reserved racks are labeled with  so that operators will know the rack has a reserved rack assignment.

Avoid system errors by following these instructions:

- Place tubes in rack sizes designated for their use.
- Place validated primary sample tubes with or without caps and sample cups (0.5 mL/2.0 mL) directly in non-reserved racks.
- Place cups nested in cup inserts or cups nested in primary tubes in reserved racks.
- Use only validated sample containers in racks specified for their use.

Sample Preparation

Prepare samples as follows prior to loading on the system:

- Remove visible blood from the top of capped tubes with a cotton tipped swab moistened with DI water.
- Use the CTA Primary Tube Sample Template to determine adequate sample volume. (Note: a DxC Primary Sample Tube Template is available to determine adequate volume for samples requiring DxC testing only)
- Ensure there are no bubbles in samples.
- Ensure that the bar code label is properly placed on the tube and is aligned so that it is visible through the slot in the rack.
- Ensure tube is seated correctly in the rack

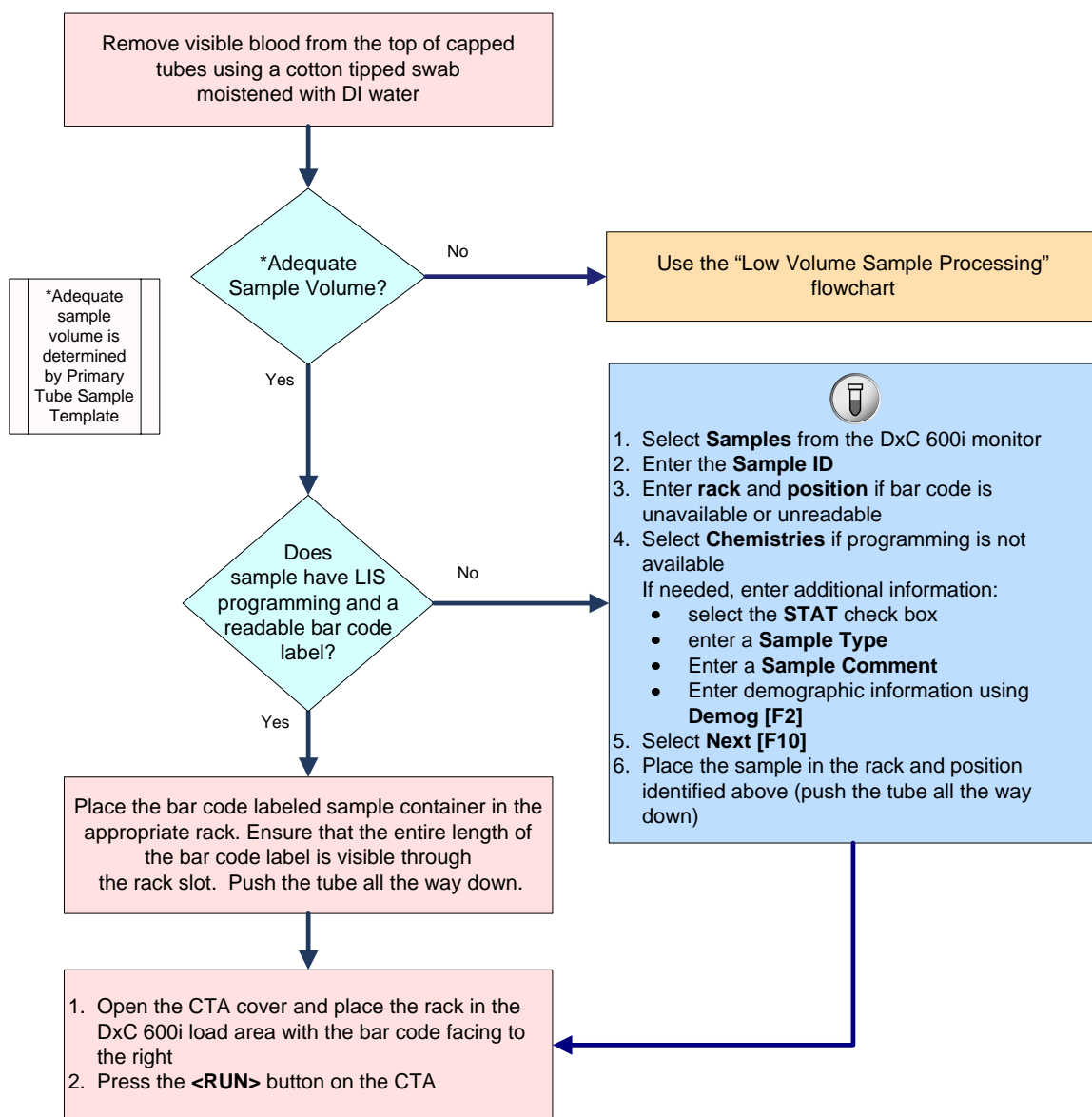
Processing Samples

Programming Samples may be processed using various programming methods on the DxC 600i system. Samples may be programmed at the LIS/HOST, at the DL2000, or at the DxC 600i. Samples may be processed with or without bar codes. Use the instructions on the adjoining pages to process samples based on programming and bar code availability:

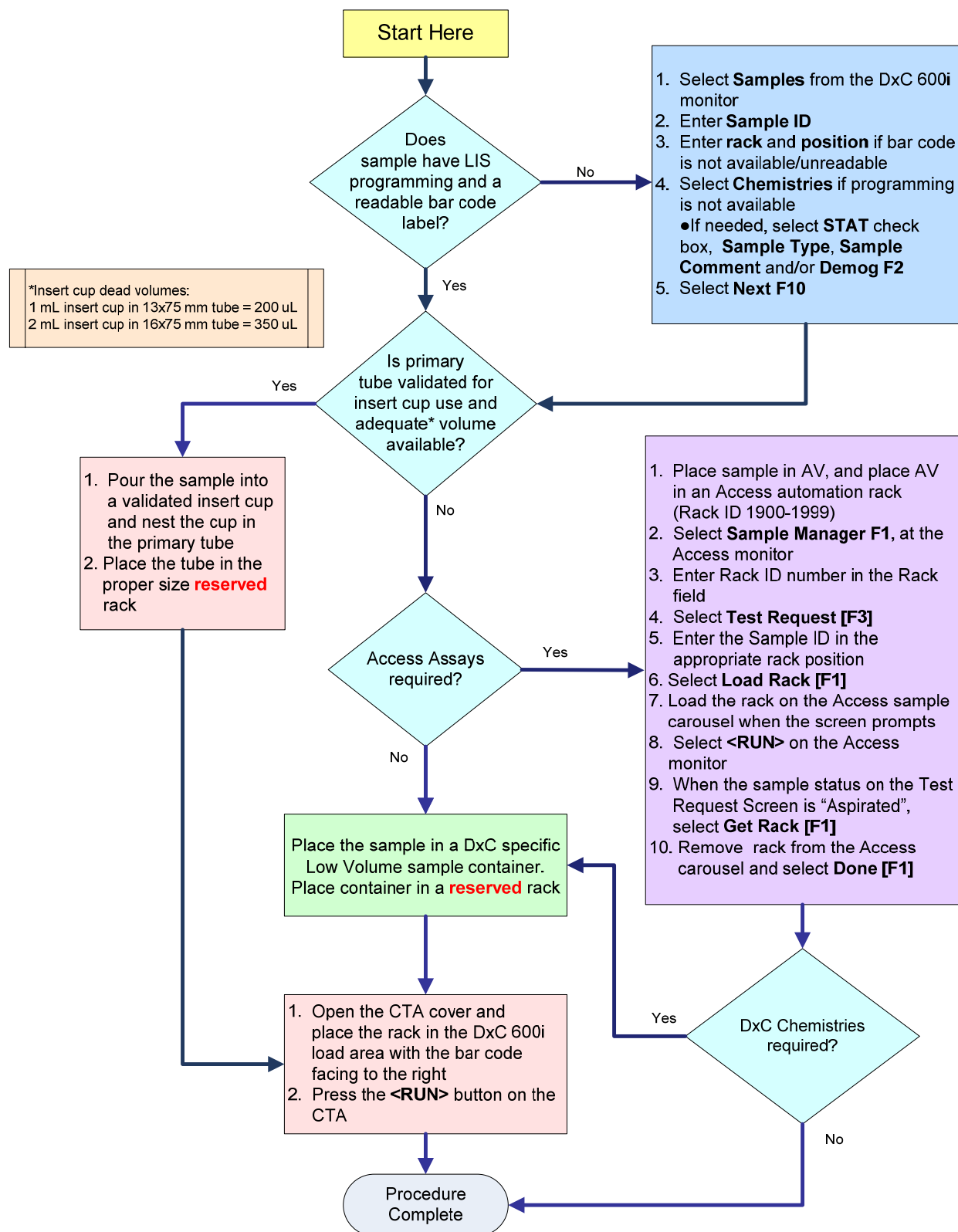
Note: Additional programming features are available such as batch mode, rerun, off-line dilution, serum index, manual ORDAC, etc. Detailed instructions for these options may be found in the UniCel DxC 600/800 Synchron Clinical Systems Instructions For Use Manual or the UniCel DxC Synchron Clinical Systems Reference Manual.

Independent Mode Operations The DxC 600i system is designed to allow the Access analyzer or the DxC analyzer to operate independently. For more information on independent mode operations refer to the UniCel DxC 600i Synchron Access Operator Tips or the DxC 600i Instructions for Use Manual available in online Help.

Sample Processing



Low Volume Sample Processing



Chapter 5

DxC 600i Instrument Commands

The DxC 600i instrument commands can be used to control functions of DxC and CTA instrument components. Instrument commands include:

Home:

- Moves mechanical assemblies to their “home” positions and primes the system
- Recovers from a motion error
- Returns the system to *Standby* from the *Stopped* state

Pause:

- Prevents initiation of new or additional tests at the DxC or CTA
- Tests in process are completed
- Use to return the system to standby as soon as possible

Shutdown:

- Use to reboot or safely shutdown the system
- Files are safely closed to prevent data corruption (Failure to follow recommended procedure may result in data corruption)

Enable/Disable Modules:

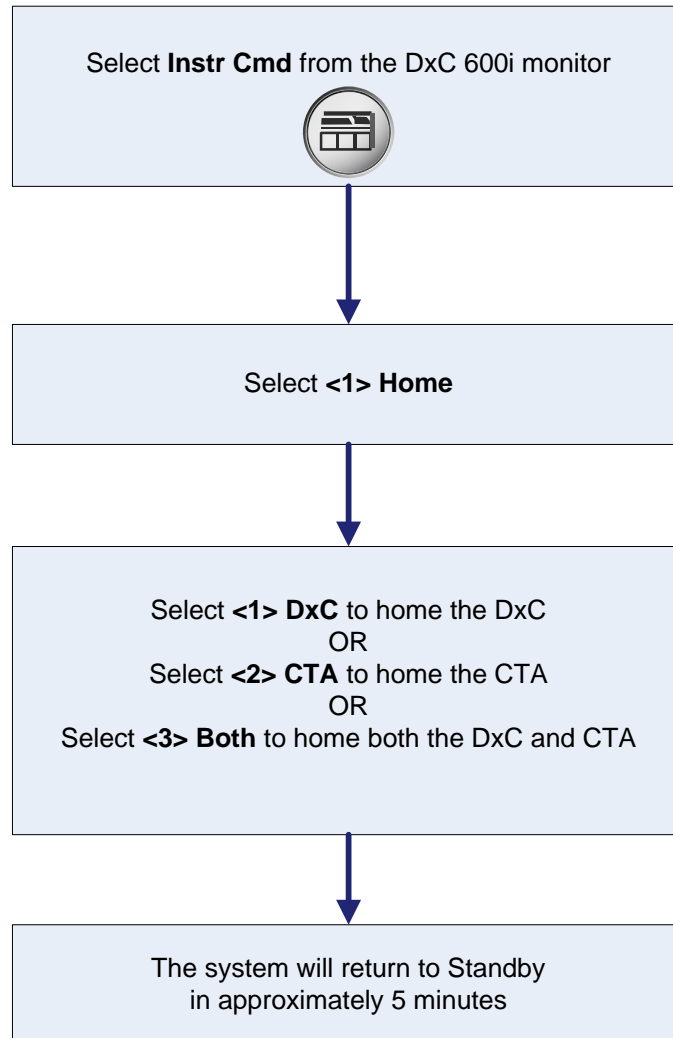
- Use to enable/disable an individual MC cup module, the MC ISE, the entire MC side, the CC Photometer, the LPIA module, the CC lower reagent carousel, or the entire CC side of the system
- All programming for disabled modules is aborted. When a module is disabled the system will not run, prime, perform diagnostics, or maintenance procedures using that module
- The system may disable modules automatically after certain unrecoverable error conditions
- When a module is enabled, it will automatically prime
- When all cup modules are disabled, the ISE module is automatically disabled

Unload All:

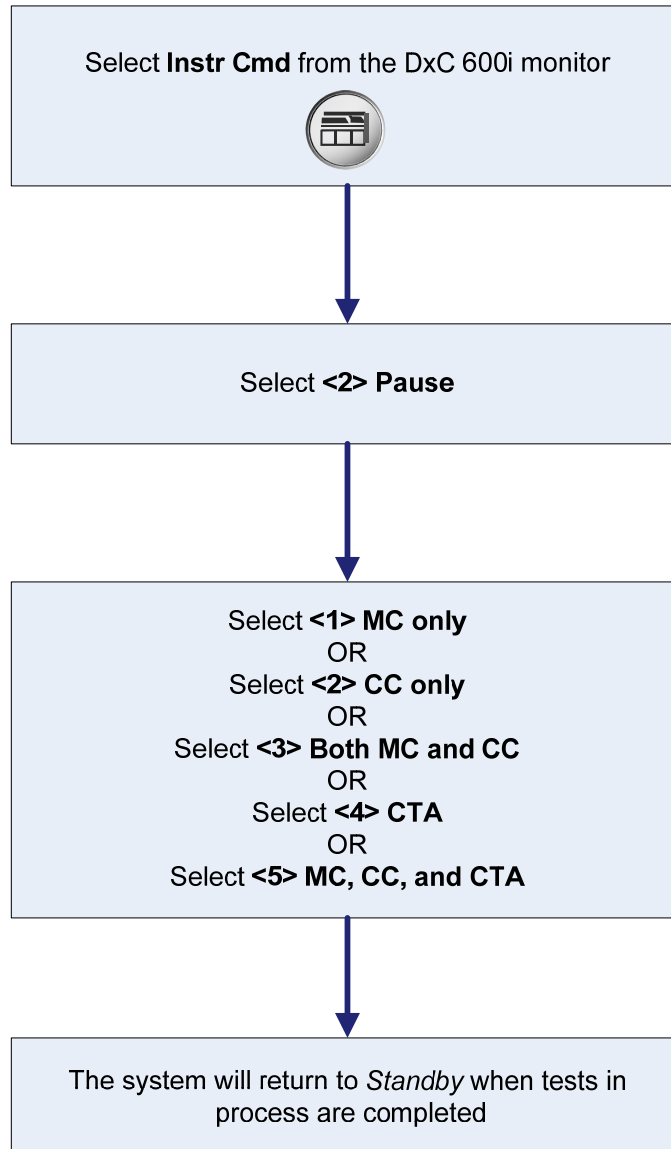
- Use to unload racks from the DxC/CTA sample carousel
- Use when access to a sample(s) is required
- Use when the screen displays racks on the Main Screen but the racks are not on the sample carousel following a system error

Other instrument commands include: **<3> Stop Print**, **<5> Pause Waste B**, and **<6> Resume Waste B**. Information about these commands may be found in the UniCel DxC Synchron Clinical Systems Instructions For Use Manual.

Home the DxC/CTA



Pause the DxC/CTA



Shutdown the DxC 600i System

The DxC 600i system may require power down when:

- Parts replacement procedures specify power to be turned off
- The lab power goes off
- The system is moved to a new location
- Recommended by a BCI specialist for troubleshooting purposes

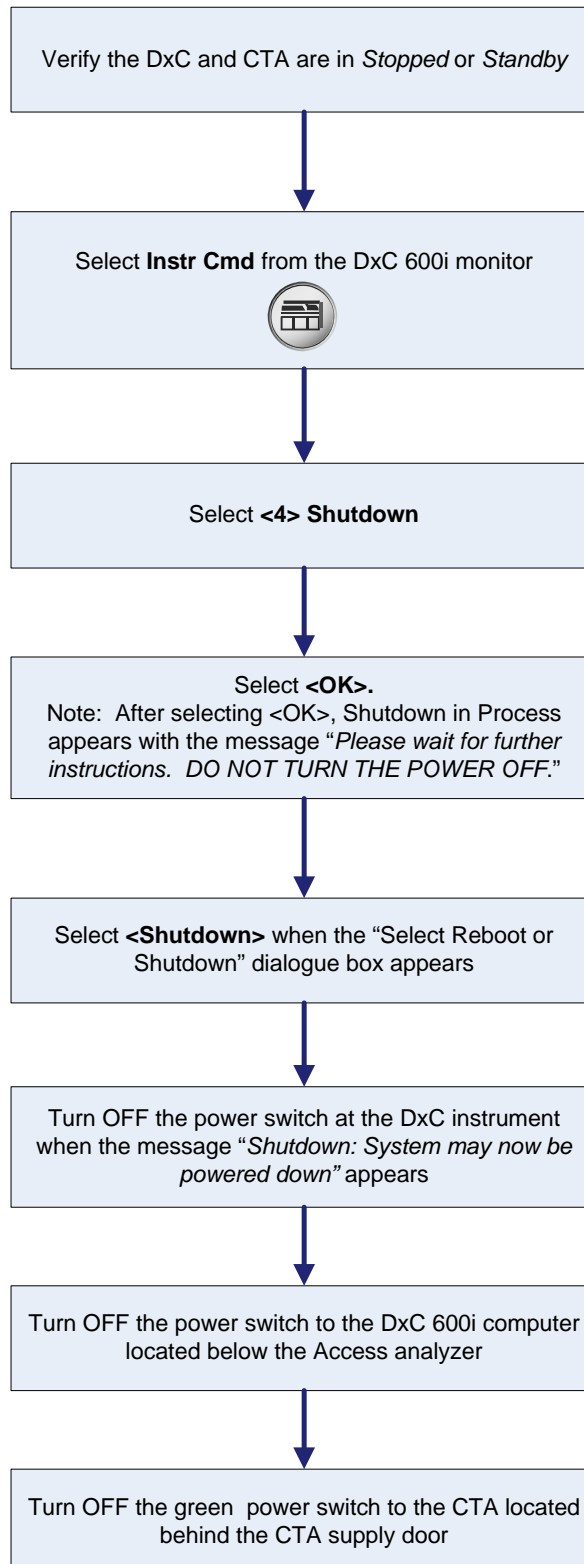
Avoid system errors by following these recommendations:

- The CTA unit must be powered down whenever the DxC is powered down
- The CTA may be powered down/up without rebooting the DxC analyzer if there are no racks on the CTA sample wheel or no aliquotted AVs at the AV queue

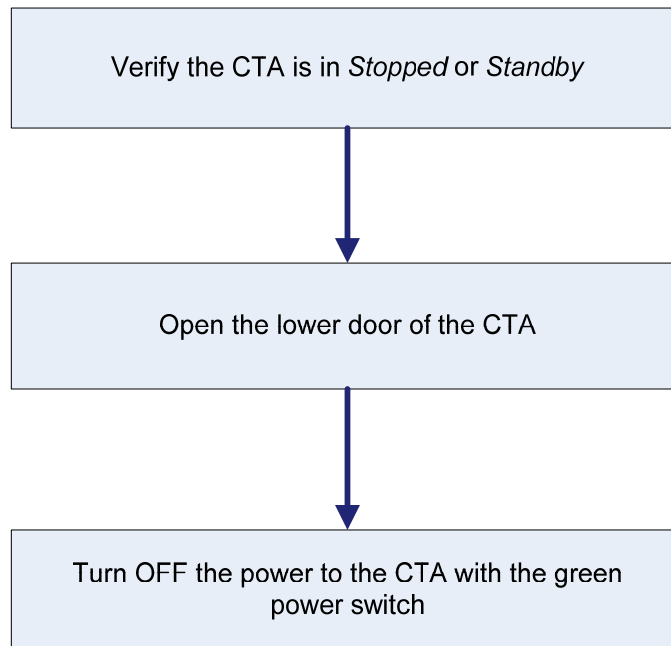
Note: The Access system is powered down separately at the Access analyzer.

Use the flowcharts on the following pages when powering down the DxC 600i system.

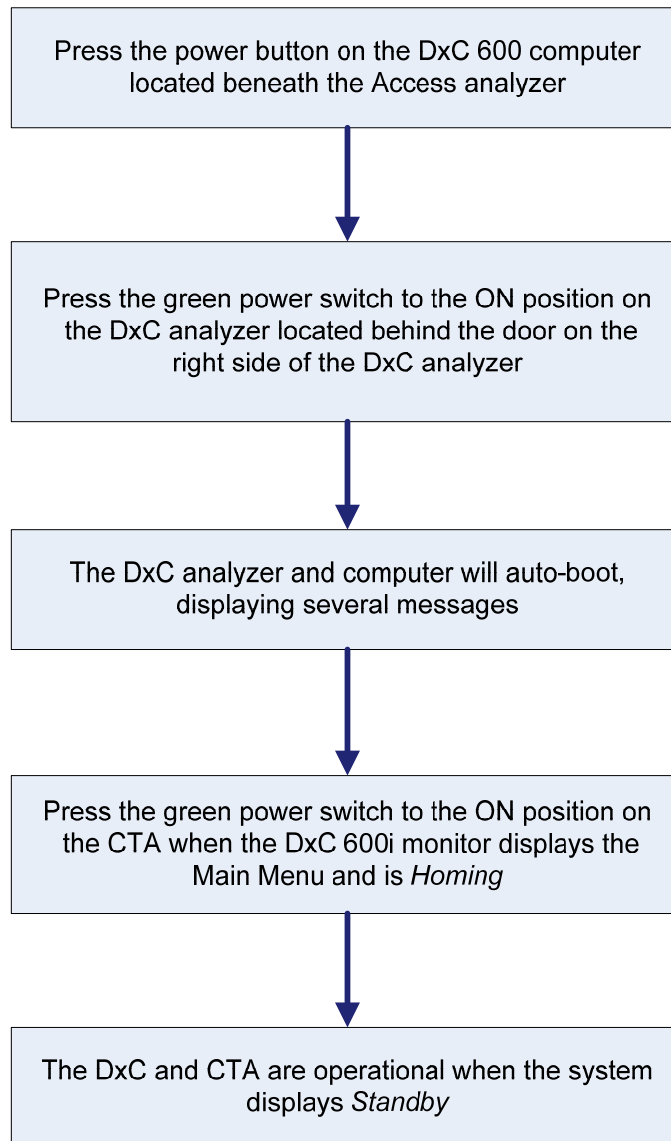
Shutdown the DxC 600 Analyzer
(as part of a DxC 600i system)



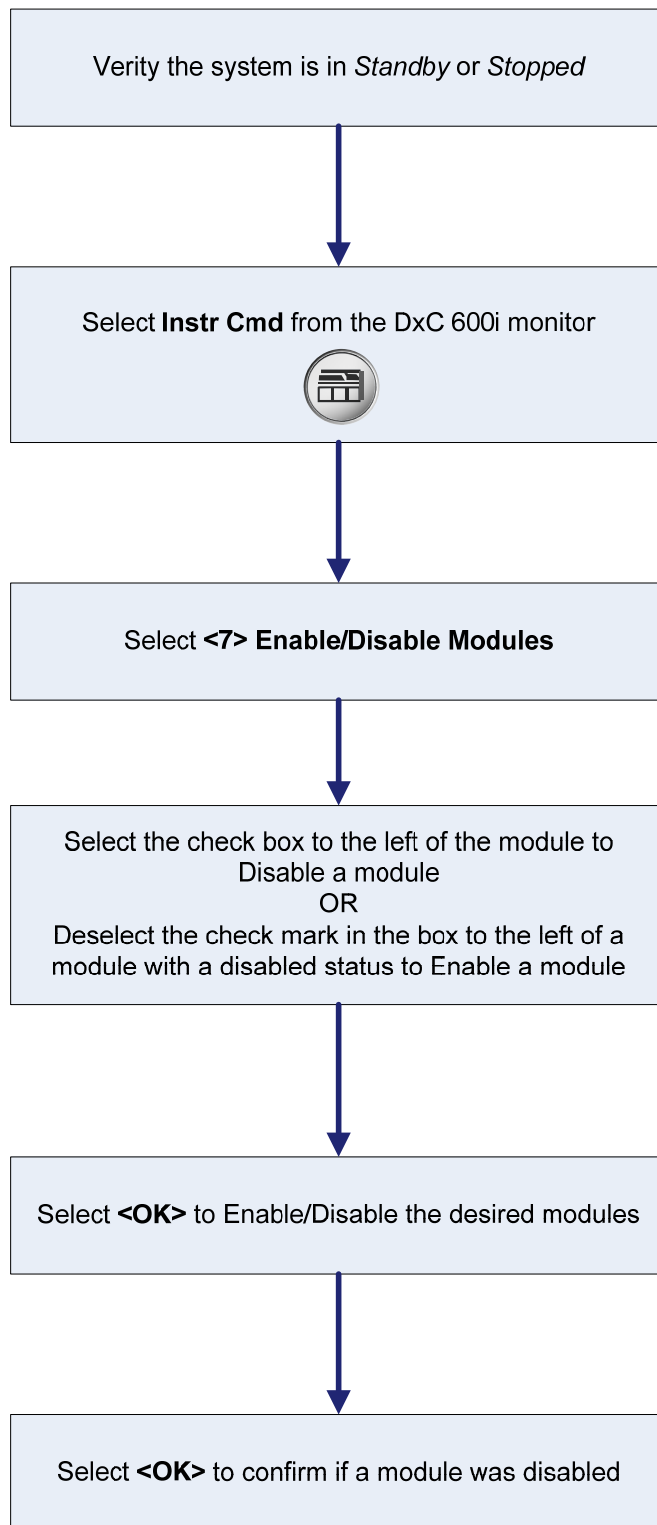
Shutdown the CTA



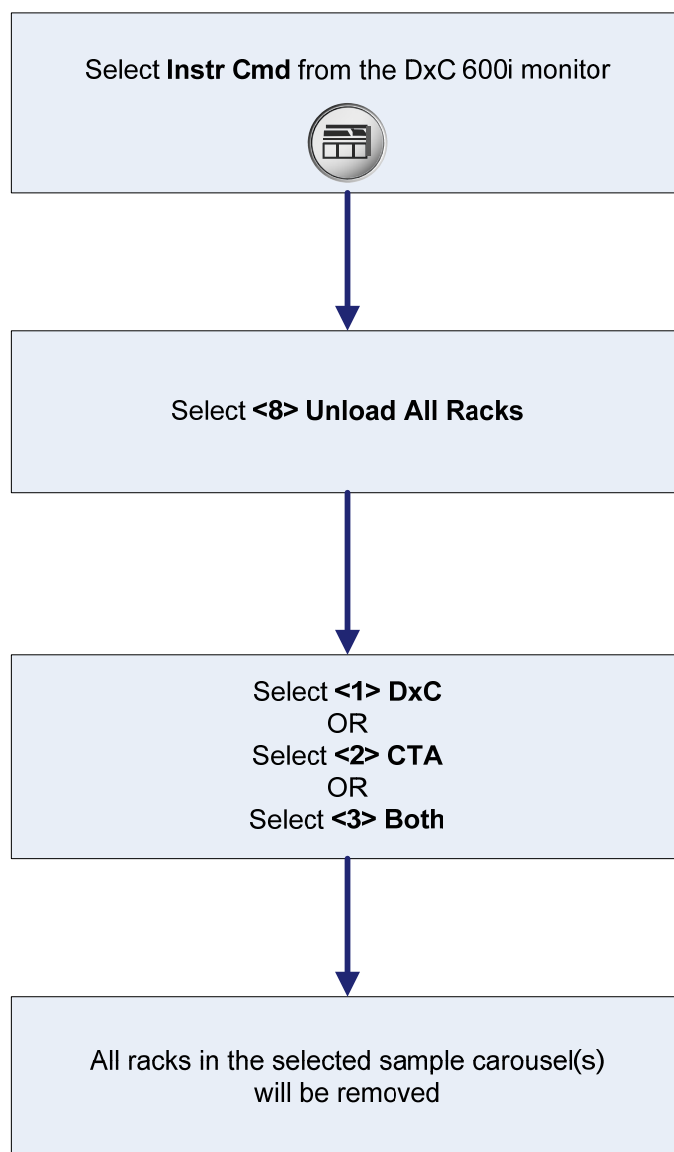
Restarting the DxC 600i System



Enable/Disable Modules



Unload All



Access Commands

The Access system has commands that can be used to Initialize (home), Pause, Shutdown, or set the CTA off-line. These commands are initiated at the Access monitor.

Initialize:

- Use to move mechanical assemblies to their “home” position
- Use to return the system to *Ready* from the *Not Ready/Stopped* state

Pause:

- Prevents new or additional tests from initiating at the Access instrument
- Any tests already in process are completed
- The Access cannot be paused during a maintenance routine
- The system may enter the *Paused* mode if a rack is loaded/unloaded or a reagent is loaded/unloaded

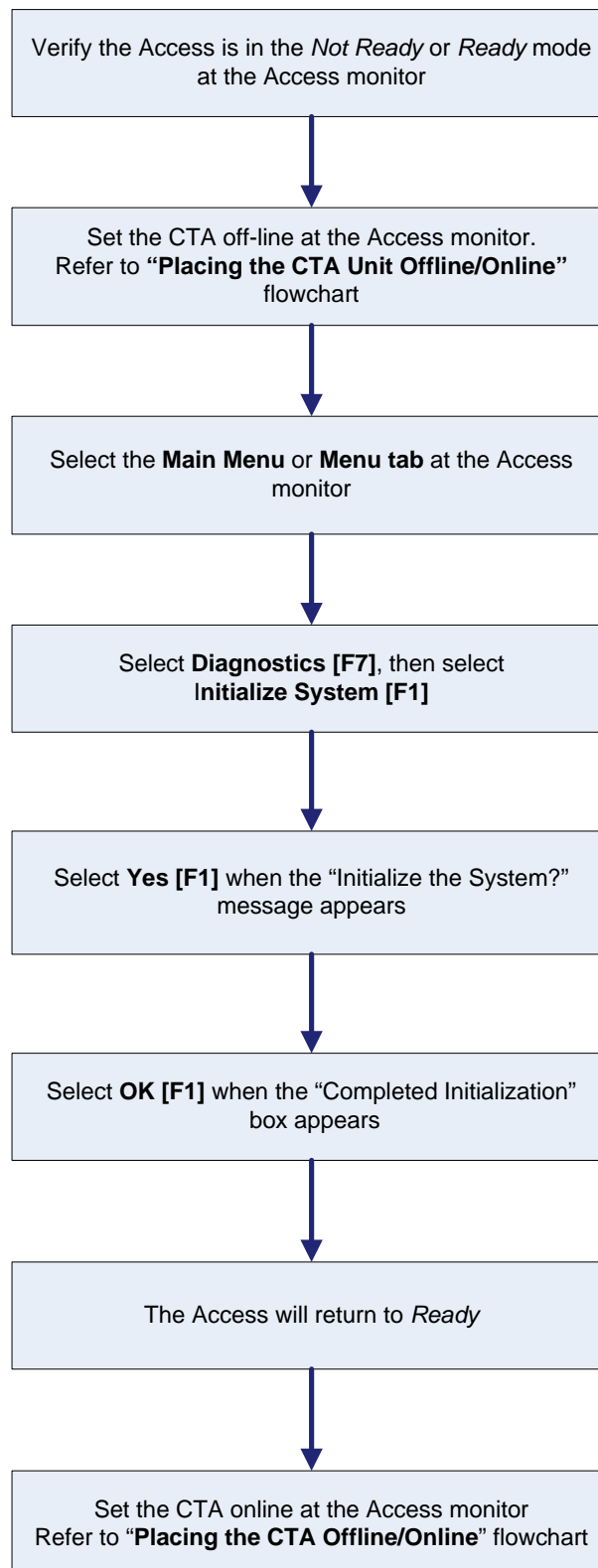
Shutdown:

- Use to reboot or safely shutdown the system
- Files are safely closed to prevent data corruption
- Failure to follow recommended procedure may result in data corruption

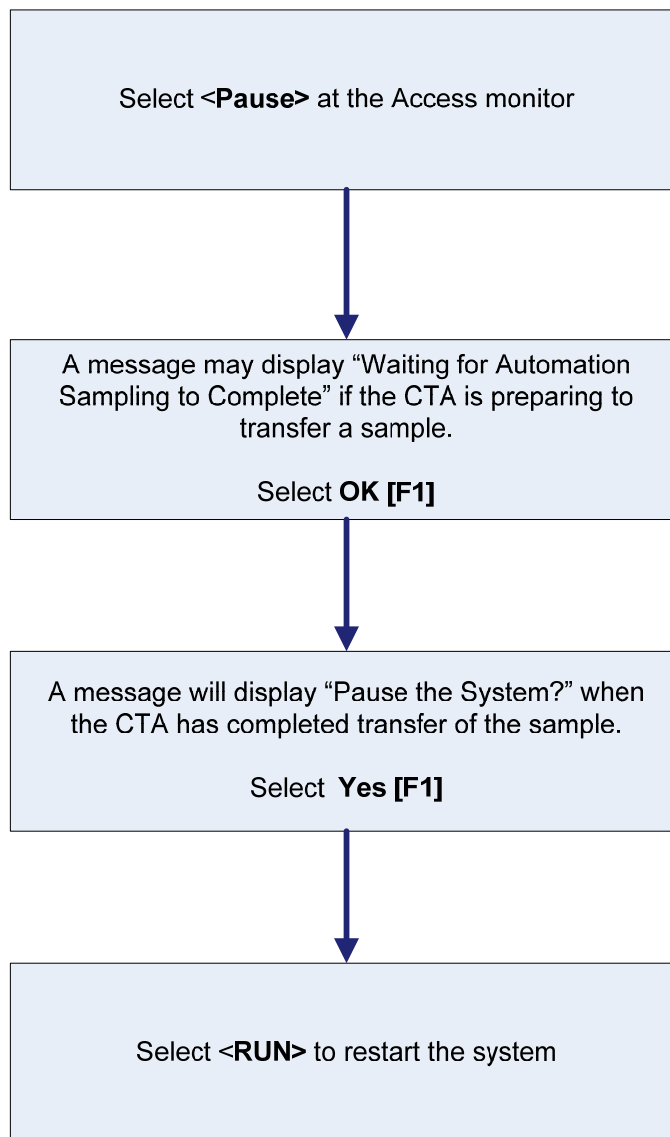
Place the CTA unit off-line:

- Removes the Access analyzer from control of the CTA
- Use before conducting diagnostic or troubleshooting activities on the Access analyzer
- Use before homing Access components

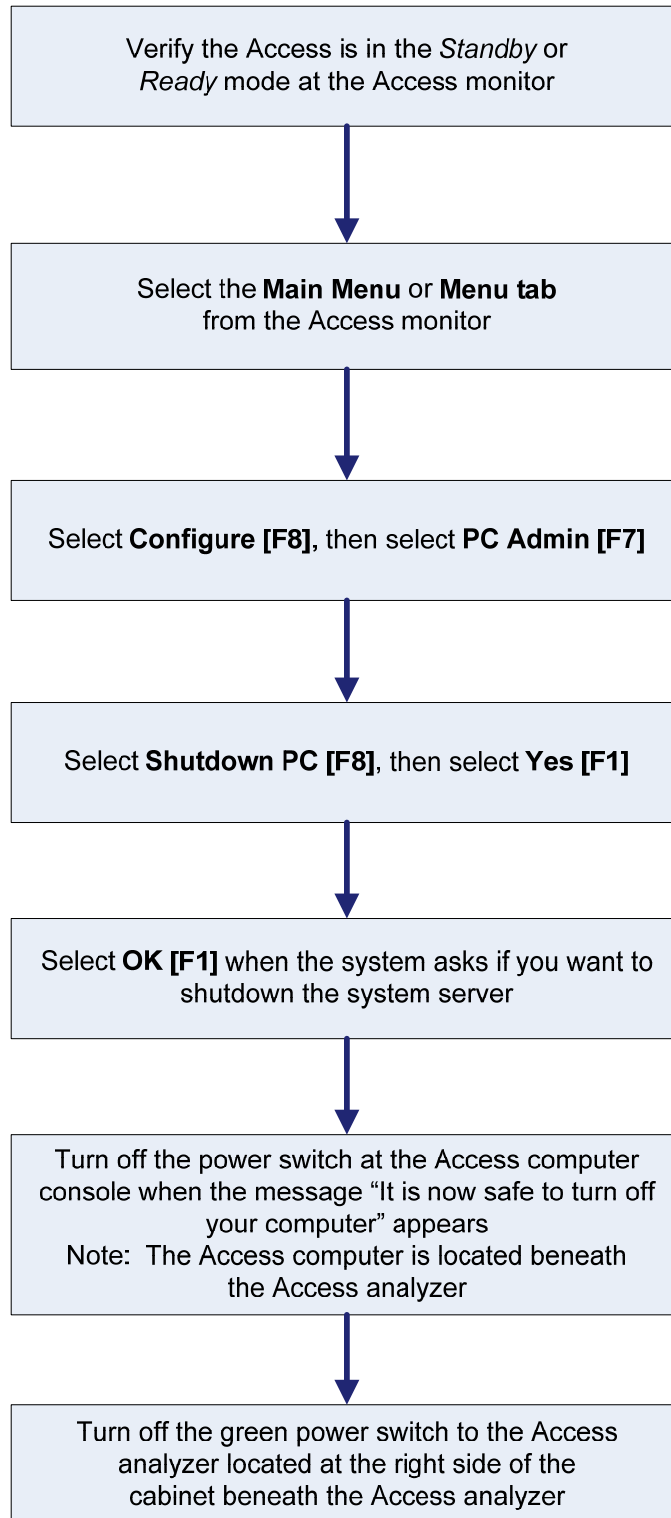
Initialize the Access



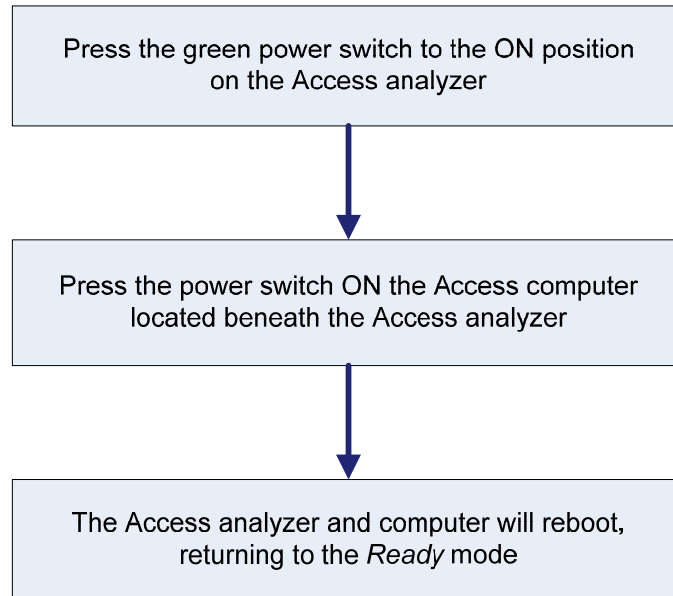
Pause the Access System



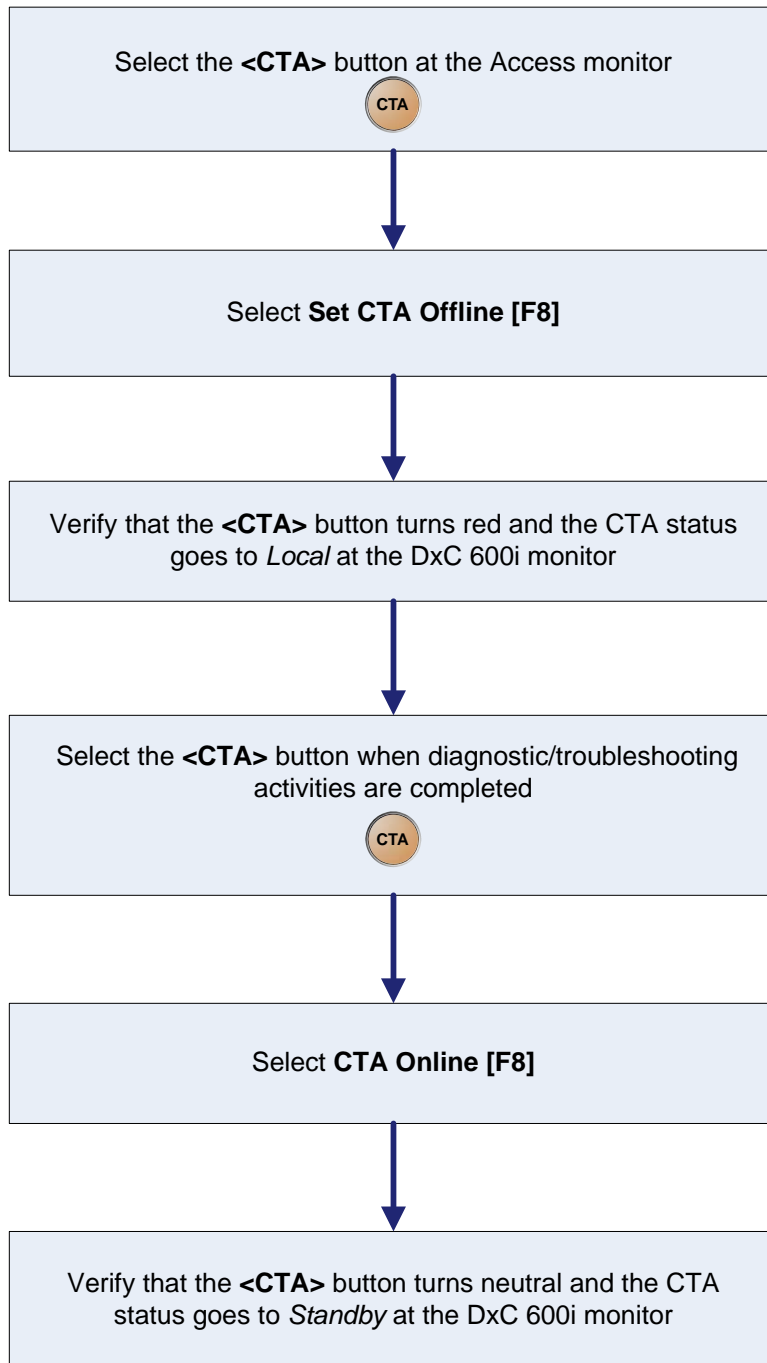
Power Down the Access Analyzer



Restarting the Access Analyzer



Placing the CTA Unit Offline/Online



Resources

Support Personnel

Technical Support (Hotline):

- Provides 24 hour phone support
- Contact at 1-800-854-3633

Applications Specialist:

- Provides installation support
- Your application specialist is _____ and
(Name)
can be reached at _____
(Phone)

Field Service Engineer:

- Installs the instrument
- Repairs and assists in maintaining your instrument
- Your Field Service Engineer is _____ and
(Name)
can be reached at _____
(Phone)

Instructions For Use

The Instructions For Use Manual includes basic operating instructions and maintenance guidelines for the UniCel DxC 600i system. Detailed operation, maintenance, and troubleshooting instructions are not included in this manual.

DxC 600i and DxC 600/800 Instructions For Use manuals are available through the Online Help of the DxC 600i system.

Detailed instructions are contained in the Reference materials listed on the next page.

Reference Materials

UniCel DxC 600i Synchron Access Clinical System:

- UniCel DxC 600i Synchron Access Clinical Systems [Instructions for Use Manual](#)
 - Basic Operating instructions and maintenance guidelines for the UniCel DxC 600i System
 - Provided on-line at the DxC 600i monitor
- UniCel DxC 600i Synchron Access Clinical Systems [Operator Tips](#)
 - Provides additional information about the system and the chemistries used on the system
 - Provided as laminated sheets
- UniCel DxC 600i Synchron Access Clinical Systems CTA [Primary Tube Sample Template](#)
 - Use to establish adequate sample volume
 - Provided as a laminated sheet

Access 2:

- Access 2 Immunoassay System [Quick Reference Guide](#)
 - Contains basic operating and maintenance guidelines for the Access 2 analyzer
 - Provided in a hard copy manual
- Access 2 Immunoassay System [HELP](#)
 - Contains detailed operating instructions, theory of operation, troubleshooting guidelines, and detailed maintenance instructions
 - Provided on-line at the Access 2 monitor
- Access 2 [Installation Implementation Guide](#)
 - Assists in making a smooth transition integrating your new system into your daily routine
 - Provided in a hard copy manual
- Access [Immunoassay System Assay Manual](#)
 - Contains product inserts for all Access Immunoassay System assays
 - Provided on a CD-ROM

**Reference
Materials
(Continued)**

UniCel DxC Synchron Clinical Systems:

- UniCel DxC Synchron Clinical Systems [Reference Manual](#)
 - Contains detailed system description, operating instructions, theory of operation, system calibration, programming procedures, and quality control information.
 - Provided on a CD-ROM
- Synchron Clinical Systems [Chemistry Information Manual](#)
 - Contains specific chemistry information for the full range of analytes available on the DxC system
 - Provided on a CD-ROM (Updates available at beckmancoulter.com)
- UniCel DxC Synchron Clinical Systems [Host Interface Specifications](#)
 - Provides necessary information to interface the DxC 600i system to a Laboratory Information System (LIS)
 - Includes Tables/Codes to interpret instrument codes printed on patient reports
 - Provided on a CD-ROM
- Synchron Clinical Systems [Performance Verification Manual](#)
 - Assists in making a smooth transition integrating your new system into your daily routine
 - Includes guidelines for evaluating precision, accuracy, linearity, and method comparison
 - Provided in a hard copy manual and CD-ROM
- UniCel DxC 600/800 Synchron Clinical Systems [Operator Tips](#)
 - Provides additional information about your system including screen names for general chemistries and immunoassays
 - Provided on laminated sheets
- Synchron LX/UniCel DxC Clinical Systems [Primary Tube Sample Template](#)
 - Use to establish adequate sample volume for the DxC 600
 - Provided as a laminated sheet
- UniCel DxC Synchron Clinical Systems [Instructions for Use Manual](#)
 - Basic operating instructions and maintenance guidelines for the UniCel DxC System
 - Provided on-line at the DxC 600i monitor

In-Lab Competency Checklist

UniCel DxC 600i Synchron Access Clinical System

Purpose The following In-Lab Competency Checklist can be used to document the In-Lab training of laboratory staff members on the operation of the DxC 600i system. As each operator is trained, both the trainer and the trainee initial and date the documentation form.

UniCel® DxC 600i Synchron® Access® Clinical System

Task	Resource	How Measured?	Achieved?		N/A	Date	Trainee Initial	Trainer Initial
			Y	N				
Supplies								
• Determine supply / reagent status for Access	DxC 600i Instructions For Use (IFU) → Chapter 2: Pre-Test Activities	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Determine supply / reagent status for CTA		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Determine supply / reagent status for DxC		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Load supplies/reagents on Access		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Load supplies/reagents on CTA		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Load supplies/reagents on DxC		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Calibration								
• Determine calibration status for Access immunoassays	DxC 600i Instructions For Use (IFU) → Chapter 3: System Calibration	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Determine calibration status for DxC chemistries		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Program and process calibration on Access immunoassays		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Program and process calibration for DxC chemistries		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

UniCel® DxC 600i Synchron® Access® Clinical System

Task	Resource	How Measured?	Achieved?		N/A	Date	Trainee Initial	Trainer Initial
			Y	N				
Sample Processing								
• Identify sample requirements	Access Assay Manual or Synchron Chemistry Information Manual	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Determine correct sample rack/ container for sample processing at DxC 600i	DxC 600i In Lab Training Manual → Chapter 4: Sample Processing	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Program and process routine and STAT patient samples at DxC 600i	DxC 600i Instructions for Use (IFU) → Chapter 4:Sample Programming and Processing	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Locate completed test results	DxC Instructions for Use (IFU), Chapter 7: Results Recall→ Recall Results by Sample ID	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Quality Control								
• Program and process QC at DxC 600i	DxC 600i Instructions for Use (IFU) ↳Chapter 3: System Calibration → System Calibration → Run Control Samples With Bar Code Labels and Auto Generation of Control Enabled	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Define Quality Control	DxC Instructions for Use: Chapter 5: Quality Control →Define a Control, Control ID Assignments	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• QC Results Management	Instructions for Use: Chapter 5: Quality Control	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

UniCel® DxC 600i Synchron® Access® Clinical System

Task	Resource	How Measured?	Achieved?		N/A	Date	Trainee Initial	Trainer Initial
			Y	N				
Maintenance								
• Perform daily maintenance on Access	From the Sample Manager Screen ↳ Help ↳ Requesting Routine Maintenance ↳ Daily Maintenance	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Perform weekly maintenance on Access	From the Sample Manager Screen ↳ Help ↳ Requesting Routine Maintenance ↳ Weekly Maintenance	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Perform weekly maintenance on DxC	DxC Instructions for Use: Chapter 9: Maintenance	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Perform Twice-monthly maintenance on CTA	DxC 600i Instructions for Use (IFU) → Chapter 6: Maintenance → CTA Maintenance	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Perform Monthly Maintenance on DxC	DxC Instructions for Use: Chapter 9: Maintenance	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Perform 2-Month Maintenance on DxC	DxC Instructions for Use: Chapter 9: Maintenance	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Perform 3-Month Maintenance on DxC		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Perform 4-Month Maintenance on DxC		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

UniCel® DxC 600i Synchron® Access® Clinical System

Task	Resource	How Measured?	Achieved?		N/A	Date	Trainee Initial	Trainer Initial
			Y	N				
• Perform 6-Month Maintenance on DxC		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Perform Yearly Maintenance on CTA		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
• Perform As-Needed Maintenance on CTA								
– Flush CTA Aliquot Probe	DxC 600i Instructions for Use (IFU)→ Chapter 6: Maintenance → CTA Maintenance	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
– Replacing the CTA Pick and Place Head		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Miscellaneous		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Instrument Setup at DxC 600i	DxC Instructions for Use→Chapter 3: System Setup Options	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Quality Control Setup/Definition at DxC 600i	DxC Instructions for Use→Chapter 5: Quality Control →Define a Control, Control ID Assignments	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Quality Control Results Management at DxC 600i	DxC Instructions for Use→Chapter 5: Quality Control	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Operate system in Independent Mode (DxC, CTA or Access non-operational)	DxC 600i Instructions for Use (IFU)→ Appendix A → Independent Operating Modes	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Power down/power up Access, CTA and DxC	DxC 600i Instructions for Use (IFU)→ Chapter 5 → Post Test Activities	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Initialize Access	DxC 600i Instructions for Use (IFU)→ Chapter 5 → Post Test Activities	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

UniCel® DxC 600i Synchron® Access® Clinical System

Task	Resource	How Measured?	Achieved?		N/A	Date	Trainee Initial	Trainer Initial
			Y	N				
Home CTA and DxC	DxC 600i Instructions for Use (IFU)→ Chapter 5 → Post Test Activities	<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
		<input type="checkbox"/> Direct Observation <input type="checkbox"/> Test <input type="checkbox"/> Other _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

DxC 600i Competency Exercise

Name _____

How to Complete this Exercise

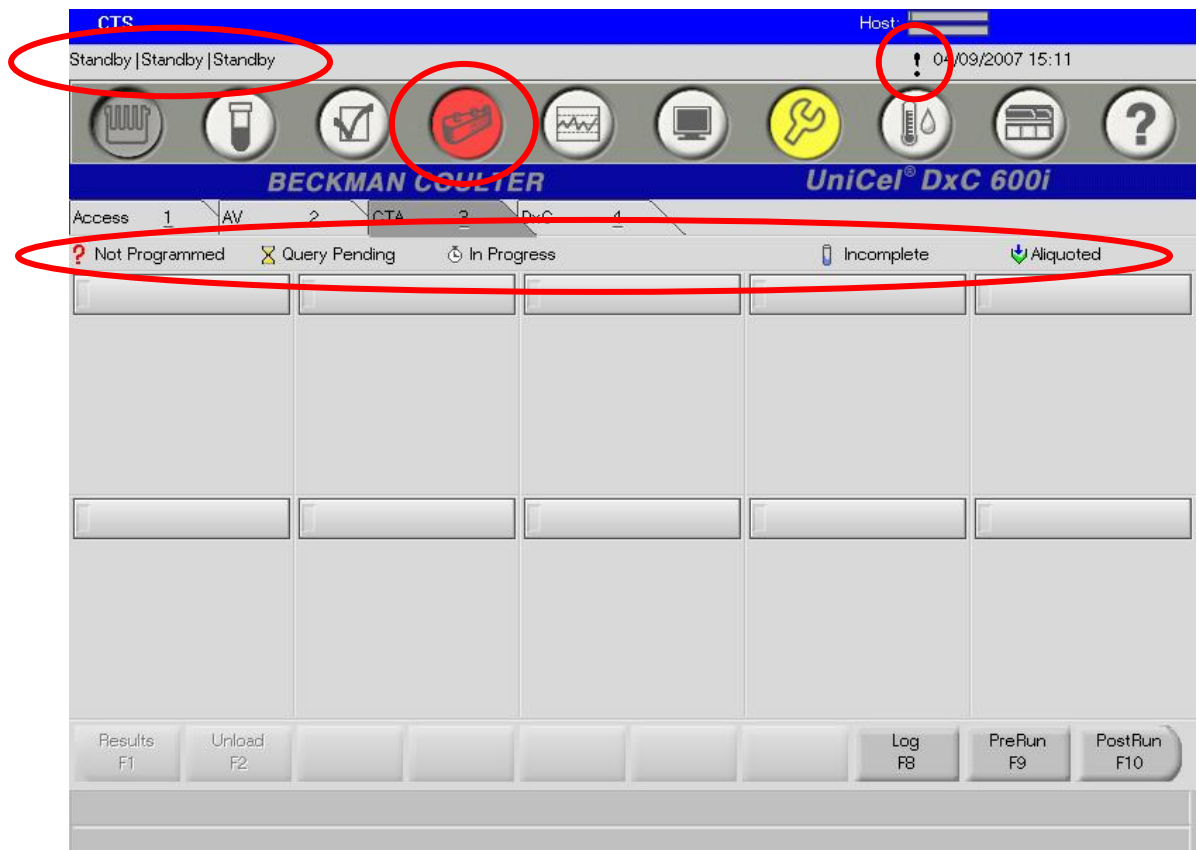
The Competency Exercise should be completed at the end of the In-Lab Training session. All materials supplied with the instrument or used during the training may be used to complete this exercise. Save all reports generated during the exercise. Submit all printed reports and this exercise to your supervisor and/or your Beckman Coulter applications specialist.

Instrument Overview

- 1) The Closed Tube Aliquotter (CTA) functions as a sample processing manager by _____ and routing samples to the Access or DxC analyzer based on programming requirements.
- 2) The Access Main Pipettor _____, mixes reagent, mixes the reaction mixture, and _____ by ultrasonics.
- 3) The DxC Modular Chemistry side of the analyzer is composed of a _____ cup module and an ISE module where a _____ houses electrodes for measurement of sodium, potassium, chloride, CO₂, and calcium.
- 4) The DxC Cartridge Chemistry side of the analyzer delivers reagent from cartridges stored in a refrigerated compartment that houses _____ reagent cartridges.

Software Overview

- 5) The Access analyzer screen is used for calibration, _____, _____, diagnostics or during independent mode operations.
- 6) Label each circle on the picture below with the letter corresponding to it's description:
- a Access Event Log
 - b System Operating Condition
 - c Reagent/Calibration Function Selection Icon
 - d Sample Status Icons



- 7) What tab would you select to view samples on the CTA sample wheel?

- 8) Select the _____ button on the _____ monitor to place the CTA offline.

**Daily Start
Up**

9) Which Access and CTA supplies do not have a yellow caution status?

_____, _____,

10) Which Access and CTA supplies alert the operator when the supply is at ≤ 60 ?

_____, _____,
_____, _____

11) When communicating with the Access 2 you should always follow the following 4 communication steps:

1 _____ 2 _____ 3 _____ 4 _____

12) The only Access supply that requires the instrument component to be in *Standby* before replenishing is the _____.

13) Which reagents are stored in the Hydropneumatic compartment?

_____, _____, _____

14) Where is the Alkaline Buffer stored?

**Daily Start
Up
(Continued)**

15) Using the DxC 600i monitor, where would you go to get a calibration load list for DxC chemistries?

16) Access 2 calibrators are placed in the following container type:

17) Access calibration is requested/loaded at the _____ monitor/analyzer.

18) Perform a Daily Start Up on your DxC 600i system. Keep all reports and show them to your supervisor and/or Beckman Coulter representative when the Daily Start Up is completed.

Sample Processing

19) Place a check mark in the box to the right of the samples shown below that should be placed in a Reserved rack:


☐

☐

☐

☐

☐

☐

20) Tubes with caps must always be placed in a _____ rack.

21) How do you determine adequate sample volume before placing a sample on the system?

Sample Processing

22) Manually program and process samples using the following information:

Sample ID	Sample Type	Priority	Tests	Other Information
Test 1	Serum	Routine	Na, K, Cl, CO2, GLUCm,	Patient Name: Test Sample Patient Age: 3 yrs
Test 2	CSF	STAT	GLUCm	N/A
Test 3	Timed Urine	Routine	GLUCm	Volume: 1340 mL

Note: You may use any material you have available for the samples.

23) Show the reports to your supervisor and/or Beckman Coulter representative.

Instrument Commands

24) Draw a line between the Instrument Command you would use to perform the described function:

Instrument Command		Function
Home		Use to reboot the system
Pause		Use to remove racks from the Menu screen that are not present on the sample carousel
Shutdown		Use to turn on the LPIA
Enable Module		Use to recover from a motion error
Unload All		Use to prevent any new tests from starting

25) When the DxC is powered down the CTA must also be powered down:

True

☐

False

☐**Completion**

26) Give all reports and answers to the competency questions to your supervisor and/or Beckman Coulter representative for comparison to the Answer Key.

Answer Key

Instrument Overview

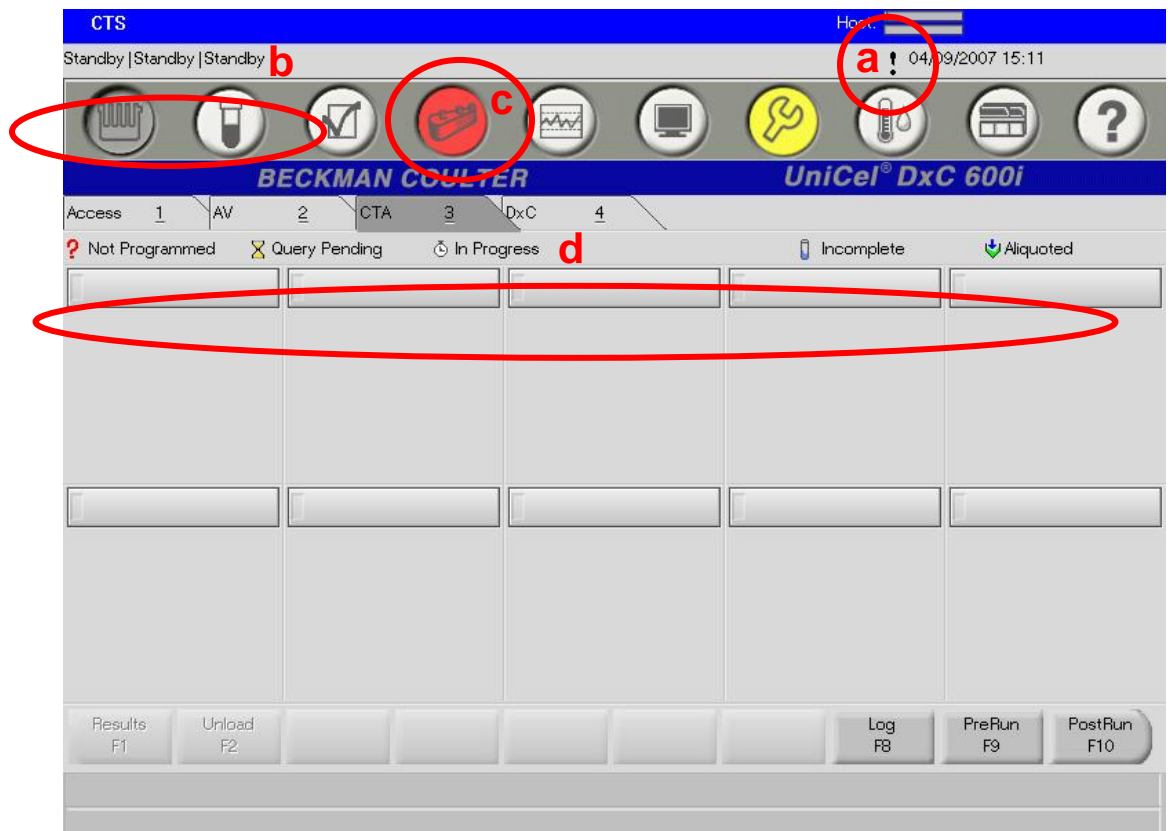
- 1) The Closed Tube Aliquotter (CTA) functions as a sample processing manager by aliquotting and routing samples to the Access or DxC analyzer based on programming requirements.
- 2) The Access Main Pipettor level senses, mixes reagent, mixes the reaction mixture, and cleans the probe by ultrasonics.
- 3) The DxC Modular Chemistry side of the analyzer is composed of a glucose cup module and an ISE module where a flow cell houses electrodes for measurement of sodium, potassium, chloride, CO₂, and calcium.
- 4) The DxC Cartridge Chemistry side of the analyzer delivers reagent from cartridges stored in a refrigerated compartment that houses 59 reagent cartridges.

Software Overview

5) The Access analyzer screen is used for calibration, maintenance, reagent/supply load, diagnostics or during independent mode operations.

6) Label each circle on the picture below with the letter corresponding to it's description:

- a. Access Event Log
- b. System Operating Condition
- c. Reagent/Calibration Function Selection Icon
- d. Sample Status Icons



7) What tab would you select to view samples on the CTA sample wheel?
The CTA Sample Status Tab (3)

8) Select the CTA button on the Access monitor to place the CTA offline.

**Daily Start
Up**

- 9) Which Access and CTA supplies do not have a yellow caution status?

Access Wash Buffer, Access Liquid Waste,
and CTA Aliquot Waste

- 10) Which Access and CTA supplies alert the operator when the supply is at ≤ 60 ?

Access RVs, Access RV Waste,
Access Substrate, CTA Aliquot Vessels

- 11) When communicating with the Access 2 you should always follow the following 4 communication steps:

1 Tell 2 Wait 3 Do 4 Done

- 12) The only Access supply that requires the instrument component to be in Standby before replenishing is the Substrate.

- 13) Which reagents are stored in the Hydropneumatic compartment?

Wash Concentrate, No Foam, Auto Gloss

- 14) Where is the Alkaline Buffer stored?

In the ISE Module Assembly

**Daily Start
Up
(Continued)**

15) Using the DxC600i monitor, where would you go to get a calibration load list for DxC chemistries?

[Rgts/Cal→List \(F5\)](#)

16) Access calibrators are placed in the following container type:

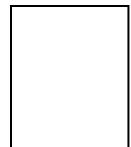
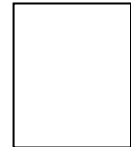
[AVs \(Aliquot Vessels\)](#)

17) Access calibration is requested/loaded at the [Access](#) monitor/carousel.

18) Perform a Daily Start Up on your DxC 600i system. Keep all reports and show them to your supervisor and/or Beckman Coulter representative when the Daily Start Up is completed.

Sample Processing

19) Place a check mark in the box to the right of the samples shown below that should be placed in a Reserved rack:



20) Tubes with caps must always be placed in a Non-Reserved rack.

21) How do you determine adequate sample volume before placing a sample on the system?

Compare the tubes to the Primary Sample Template (PTS)

Sample Processing

22) Manually program and process the samples using the following information:

Sample ID	Sample Type	Priority	Tests	Other Information
Test 1	Serum	Routine	Na, K, Cl, CO2, GLUCm,	Patient Name: Test Sample Patient Age: 3 yrs
Test 2	CSF	STAT	GLUCm	N/A
Test 3	Timed Urine	Routine	GLUCm	Volume: 1340 mL

Note: You may use any material you have available for the samples.

23) Show the reports to your supervisor and/or Beckman Coulter representative.

Instrument Commands

24) Draw a line between the Instrument Command you would use to perform the described function:

Instrument Command	Function
Home	Use to reboot the system
Pause	Use to remove racks from the Menu screen that are not present on the sample carousel
Shutdown	Use to turn on the LPIA
Enable Module	Use to recover from a motion error
Unload All	Use to prevent any new tests from starting

25) When the DxC is powered down the CTA must also be powered down:

True



False

**Completion**

26) Give all reports and answers to the competency questions to your supervisor and/or Beckman Coulter representative for comparison to the Answer Key.



Has satisfactory completed the In-Lab Training Course
on the operation of the

UniCel DxC 600i Clinical System



Beckman Coulter Representative

Date