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i-STAT Alinity Training

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Clinical Product Specialist

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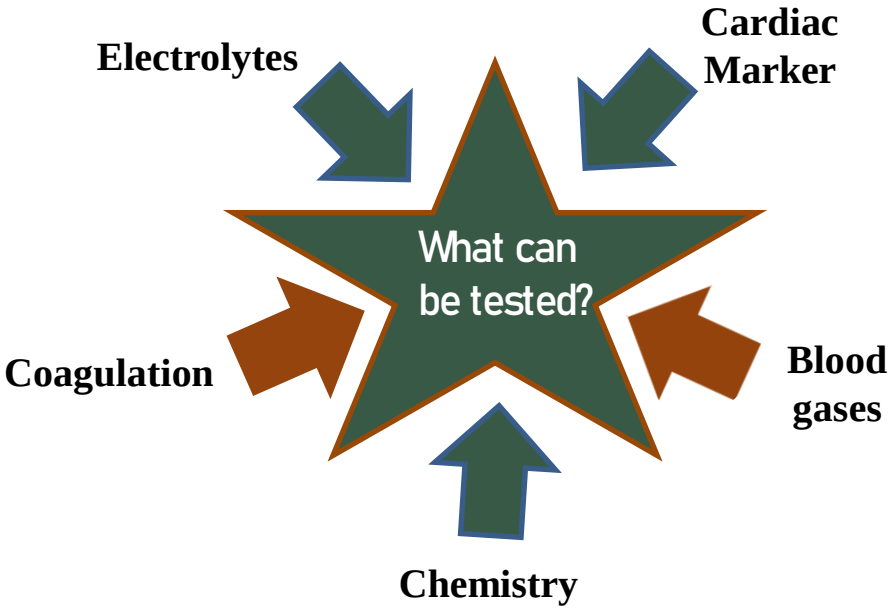
What is i-STAT?

The i-STAT System is an advanced handheld diagnostic tool that provides real-time, lab-accurate results at the patient's bedside within minutes.



i-STAT Alinity Cartridge Menu

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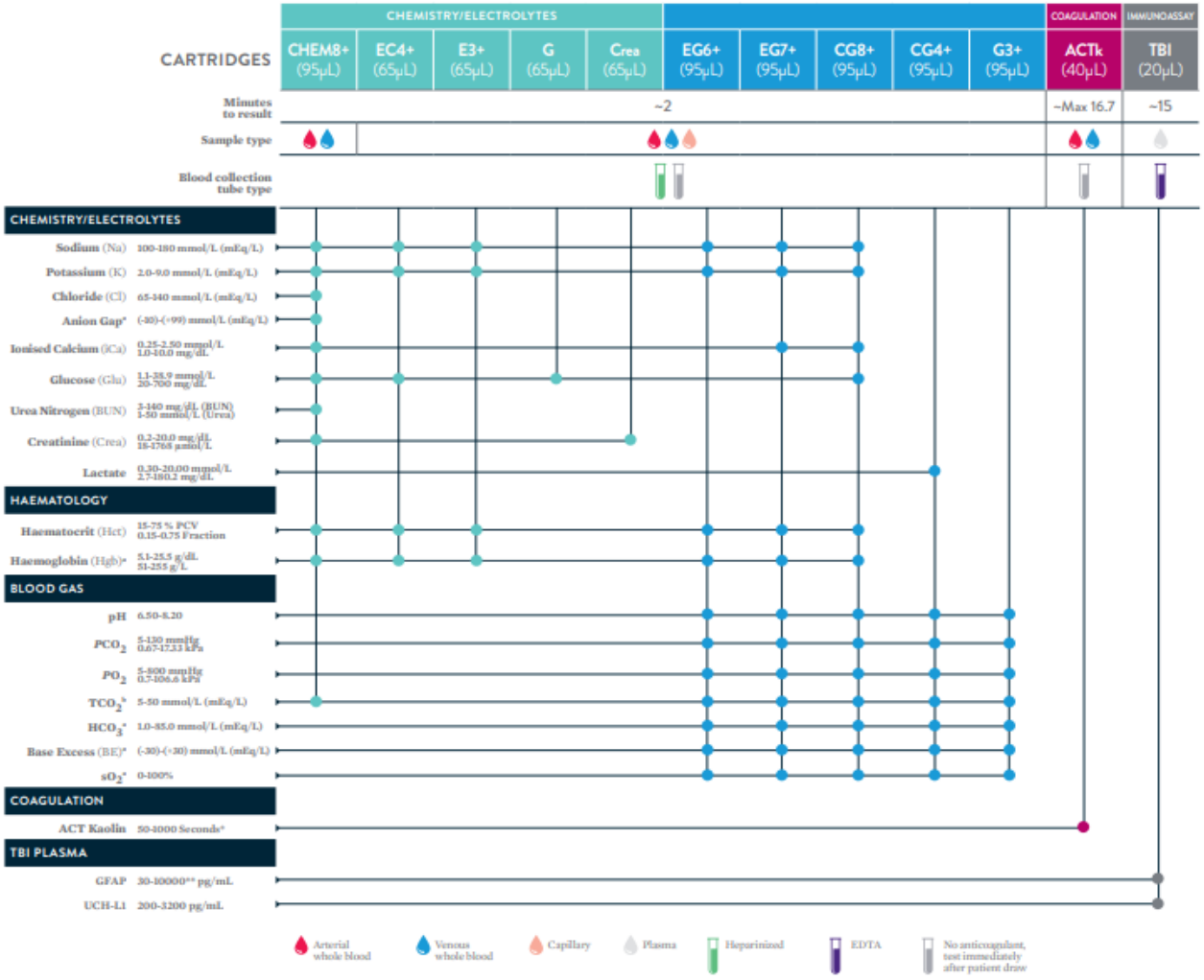
Extensive cartridge menu for many different clinical settings



The portable, handheld *i-STAT Alinity* offers the power and versatility to meet a range of testing needs.

*The range from 77 - 1000 seconds (PREWRM mode) has been verified through method comparison studies.

** Under a rare set of circumstances, the GFAP assay quantitative result may be reported as ">5574". When this result is shown, the GFAP assay range has been automatically truncated due to detection of signal response variability that could lead to an underestimate of the reported value. In these cases, another cartridge may be run to obtain a quantitative result.

[a]Calculated. [b]TCO_2 is measured on the *CHEM8+* cartridge and calculated on all others.

INTENDED USE

For intended use and complete product information, visit globalpointofcare.abbott.

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i-STAT Alinity Advanced Features

- Optic sensors
- High-resolution Camera
- Large High-resolution, Color Tou en
- Rechargeable battery

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System Components

1 i-STAT Alinity Instrument

2 Rechargeable Battery

3 Cartridges

4 Electronic Simulator

5 Base Station

6 Portable Printer

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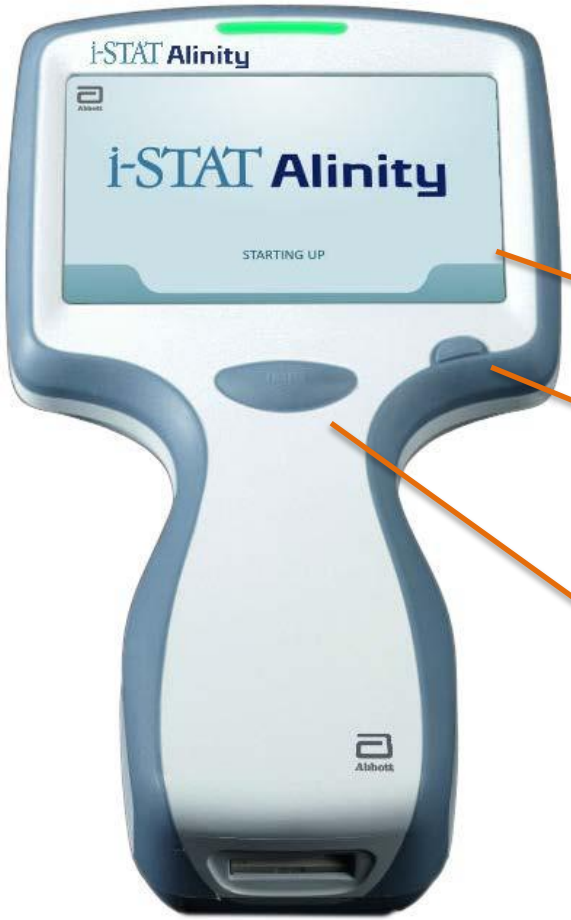
Anatomy Of The Instrument



Hand Held Analyzer

- Store 500 results
- Operating temperature 16 - 30 ºC

Display Screen

Power Button

Barcode Capture Button

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LED Light Indicator ★

Green : Instrument is starting up or test results are complete.

White : Cartridge is processing.

Red : Requires immediate attention.

Blue : Battery is charging.

Cartridge port

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Rechargeable Battery

Camera and IR port

Cartridge anatomy

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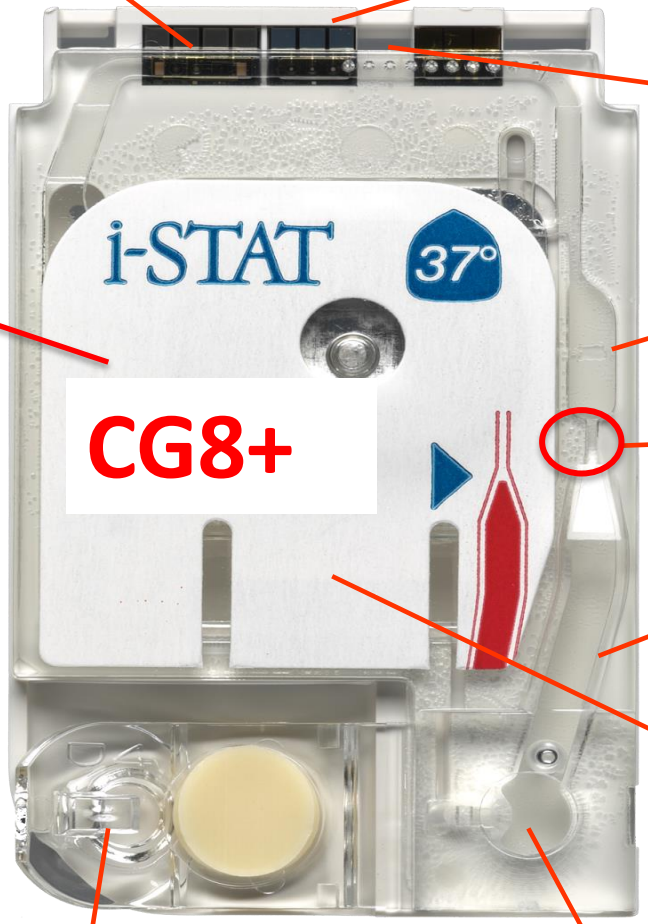

Sensors

Contact Pads

Sensors Channel

Calibration pouch

Air Chamber

Fill mark

Sample Chamber

Bladder

Snap Closure

Sample Well

Cartridge handling

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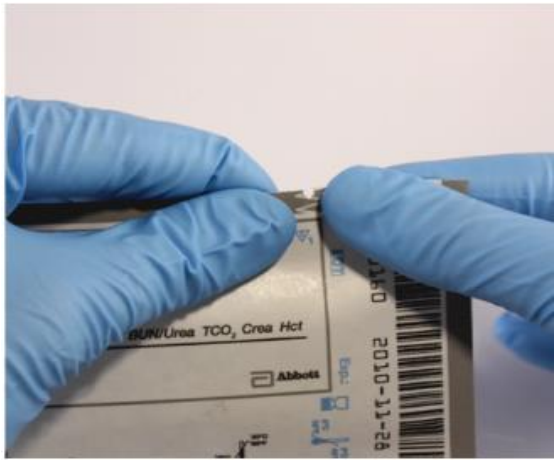
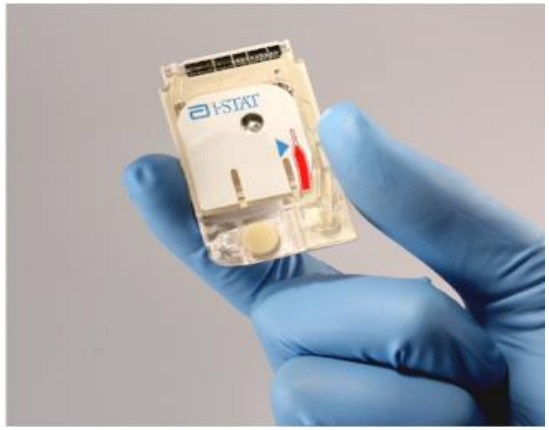
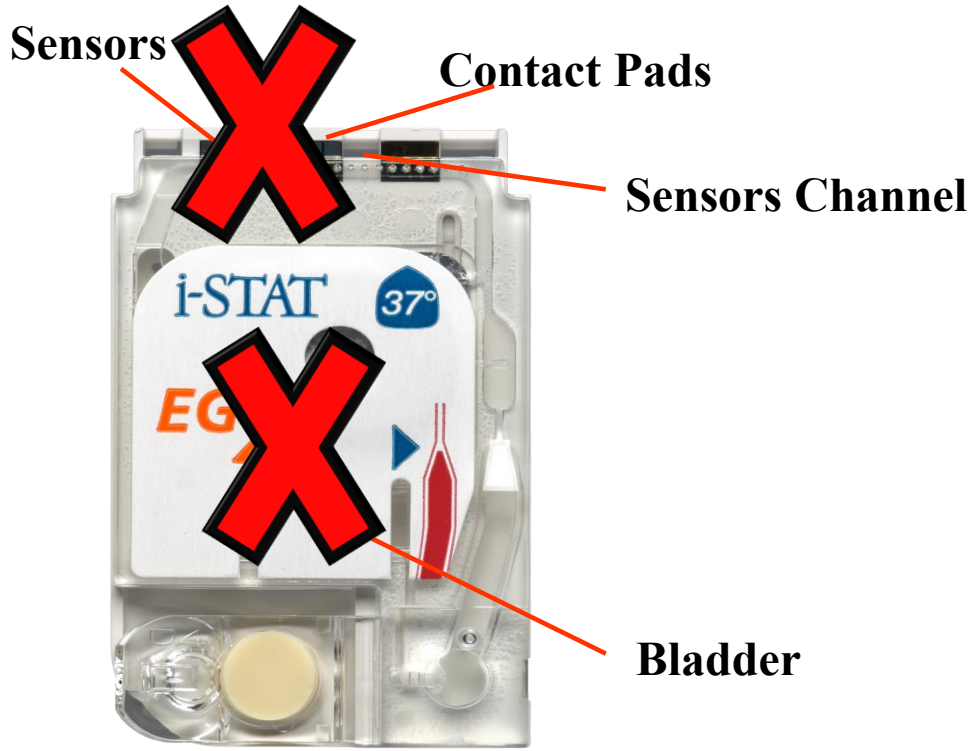


Step 1: Carefully tear open the cartridge pouch



Step 2: Hold the cartridge by the sides at all times



IMPORTANT: Do not touch the sensors or apply pressure to the center of the cartridge

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2.3 Cartridge Storage

2-8ºC

Refrigerated storage

★ Until expiry date stated on the box

18-30ºC

Room temperature storage

★ 14d = 14 days

★ 2m = 2 months

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Preparation of cartridge

- Pouched cartridge must be equilibrated at room temperature for **5 minutes** before use.

- Box of cartridges must be equilibrated at room temperature for **1 hour before** use.

✗ Cartridge must not be returned to the refrigerator once has been taken out !!

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External electronic simulator

- Electronic Simulator test provides an independent check on the ability of the instrument to take accurate and sensitive measurements.

Run once every 6 Monthly
Testing Time: 20 Seconds

Results: Pass / Fail

Perform an Electronic Simulator Test

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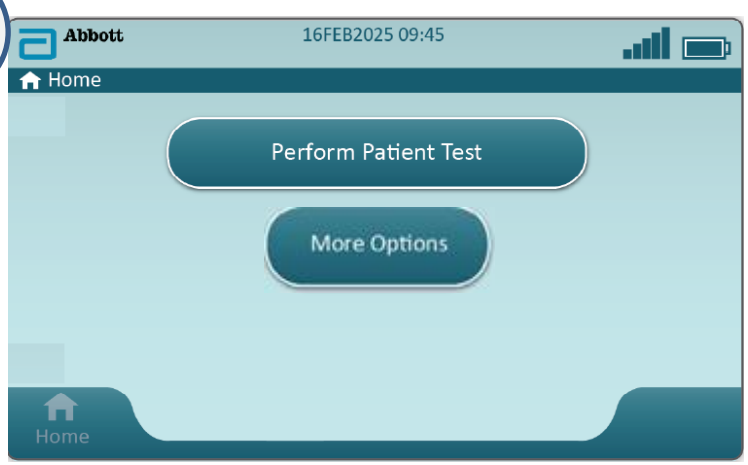
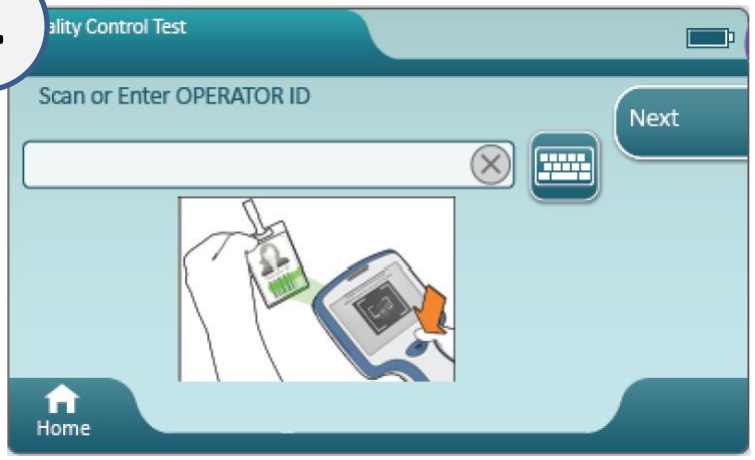
1



2

3

4



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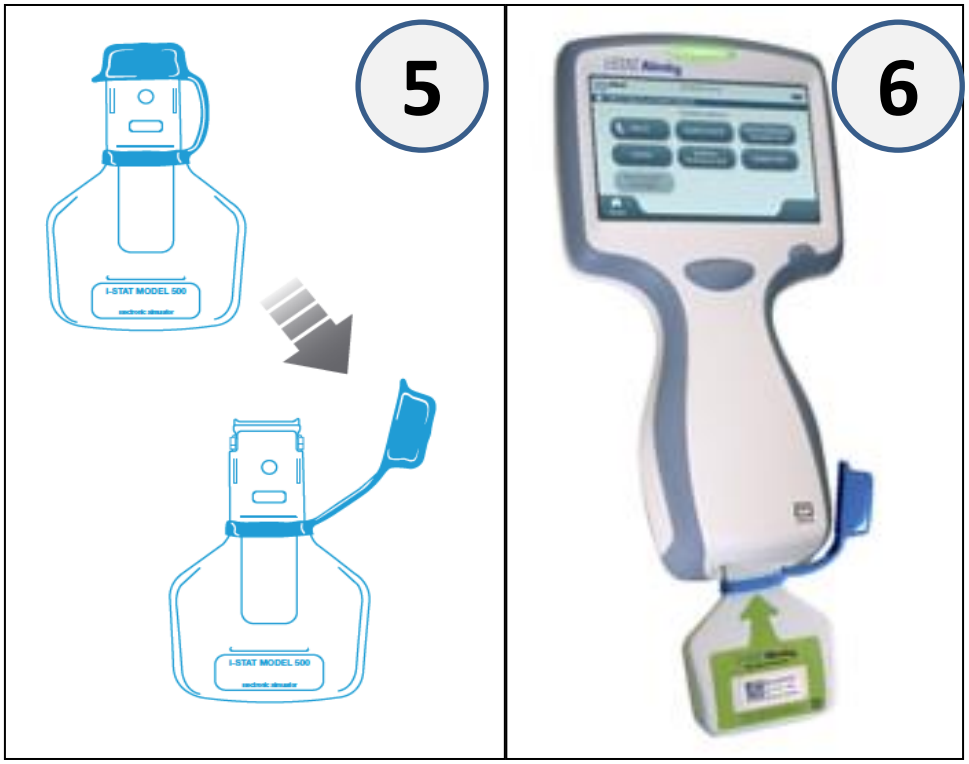

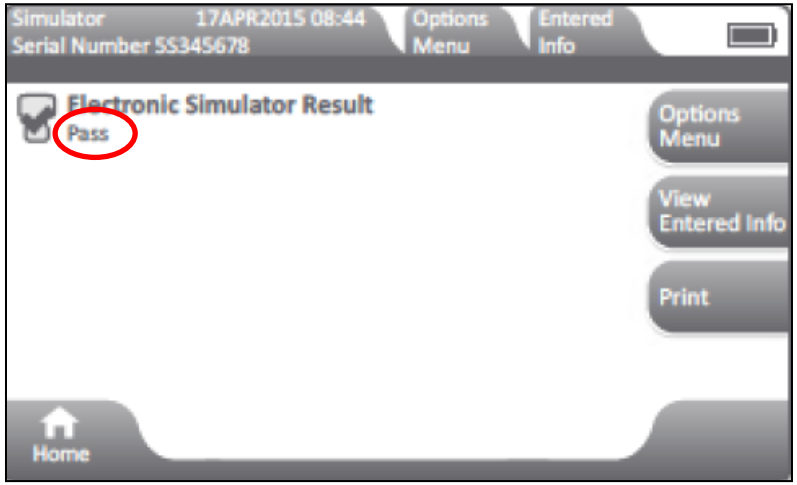

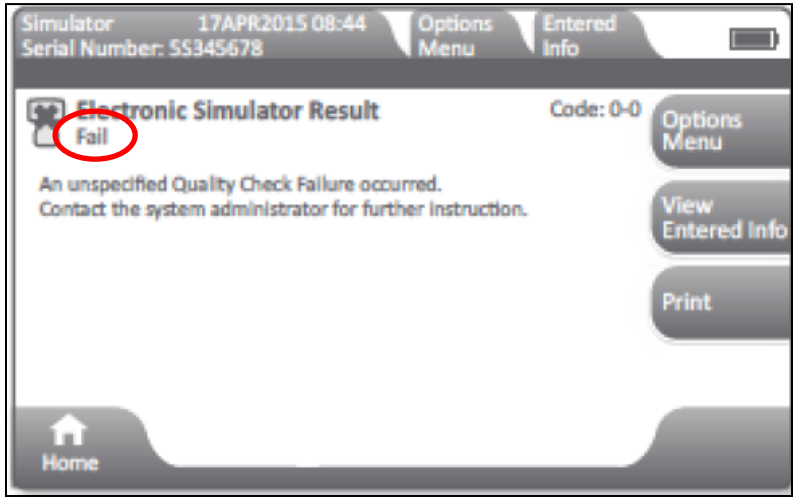

- Use care when handling the Electronic Simulator. Avoid touching the sensor area. Replace cap after use.

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Base Station

- charge the rechargeable battery while it is attached to the i-STAT Alinity instrument.
- used for wired connectivity to transmit data to the data manager.

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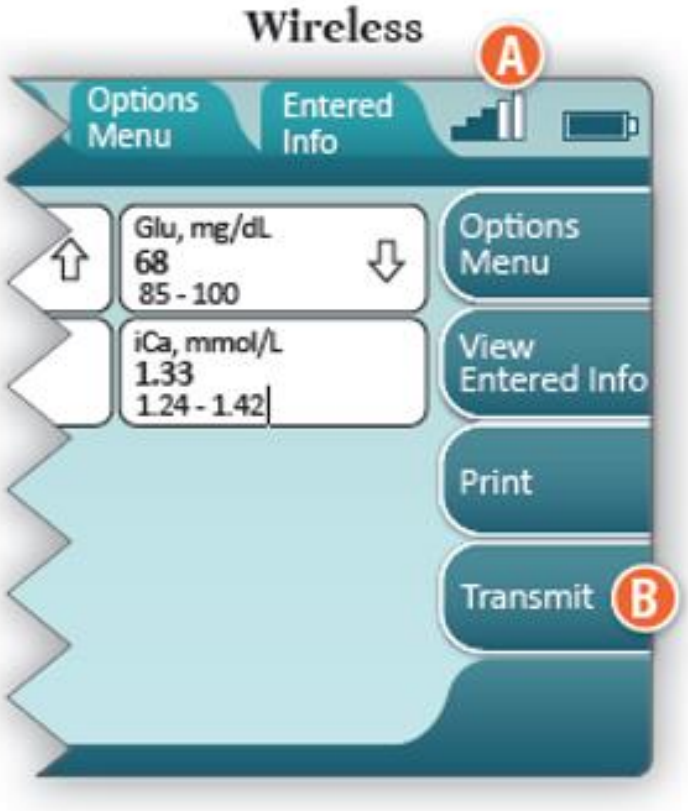
Data Transmission

1



2

Portable Printer

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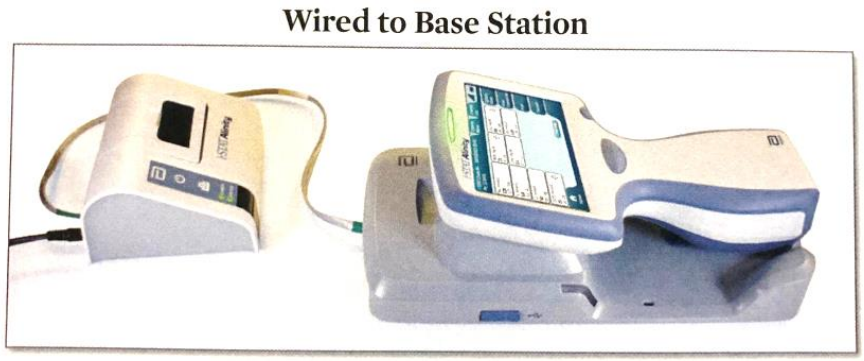
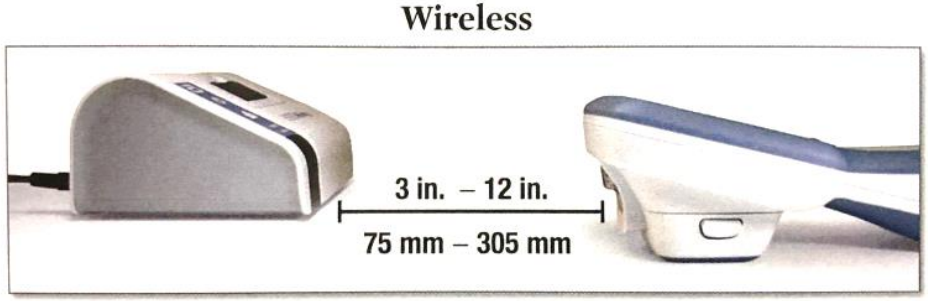


- Prints information about patient and quality control tests.



- Print out the results through wireless and wired method.

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i-STAT testing procedure

Three components to enter before proceeding with a test:

1. Operator ID
2. Patient's ID
3. Cartridge barcode

CARTRIDGE FILL BEST PRACTICES

CARTRIDGE FILL BEST PRACTICES

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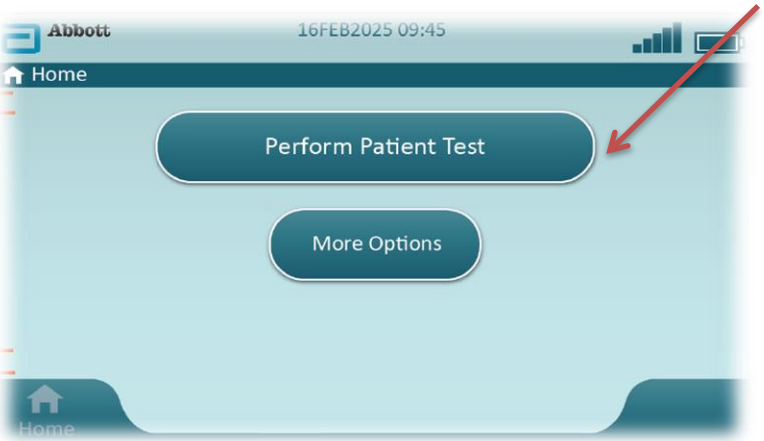
How to perform Patient Testing ?

1

2

3



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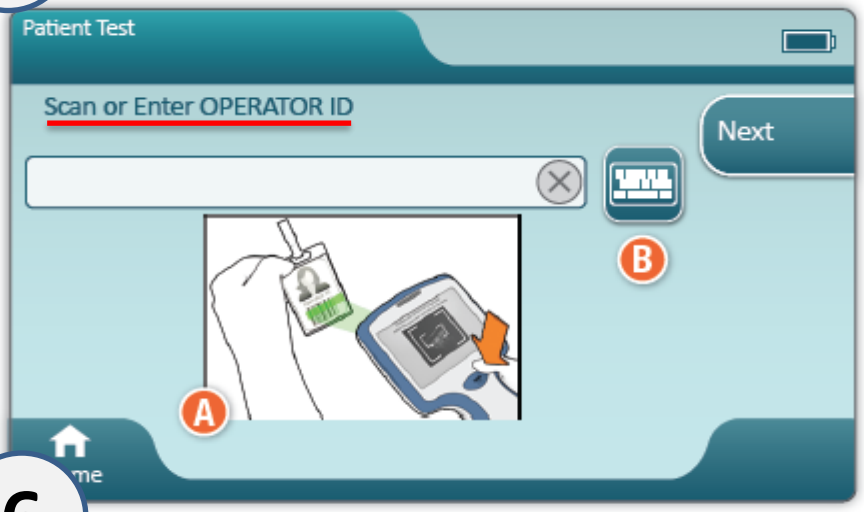
✱, the information is mandatory.

4



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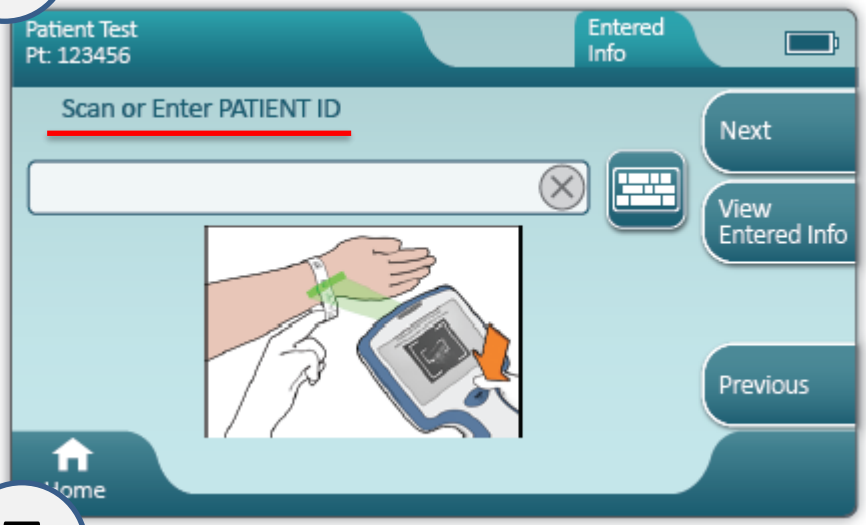

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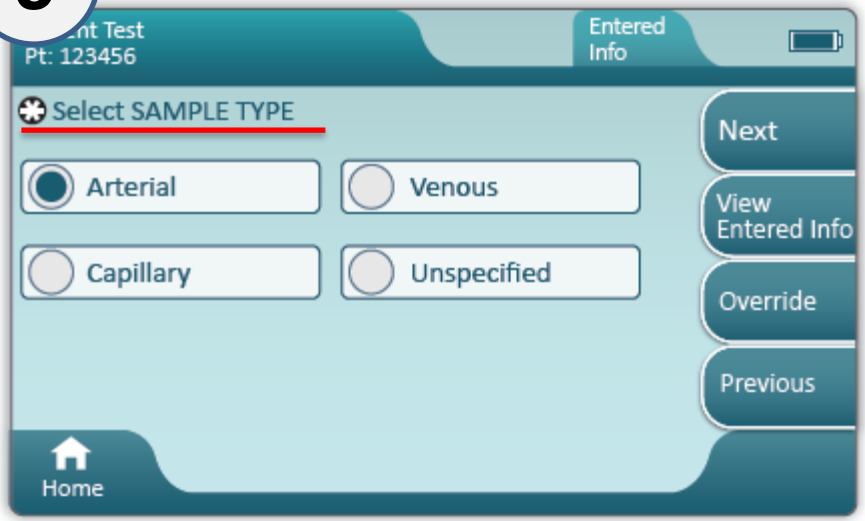

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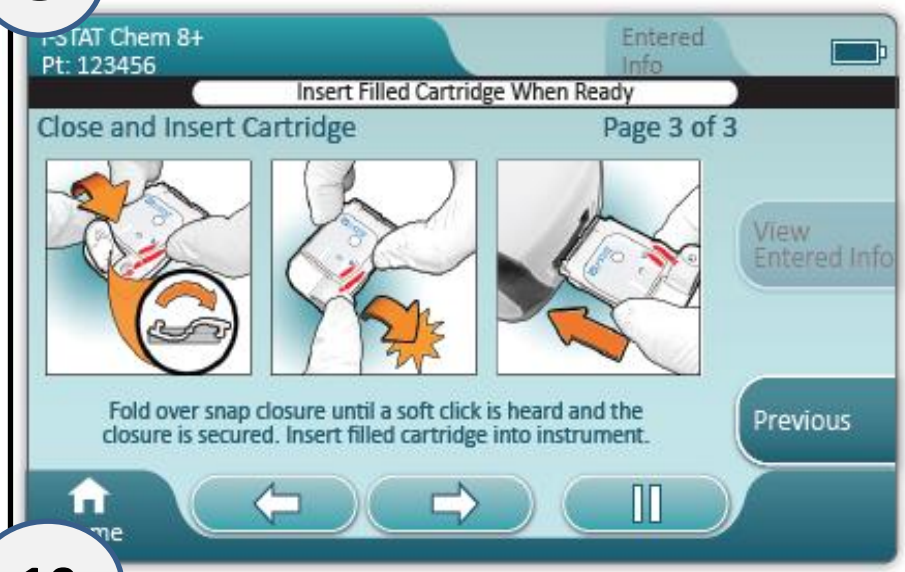
8



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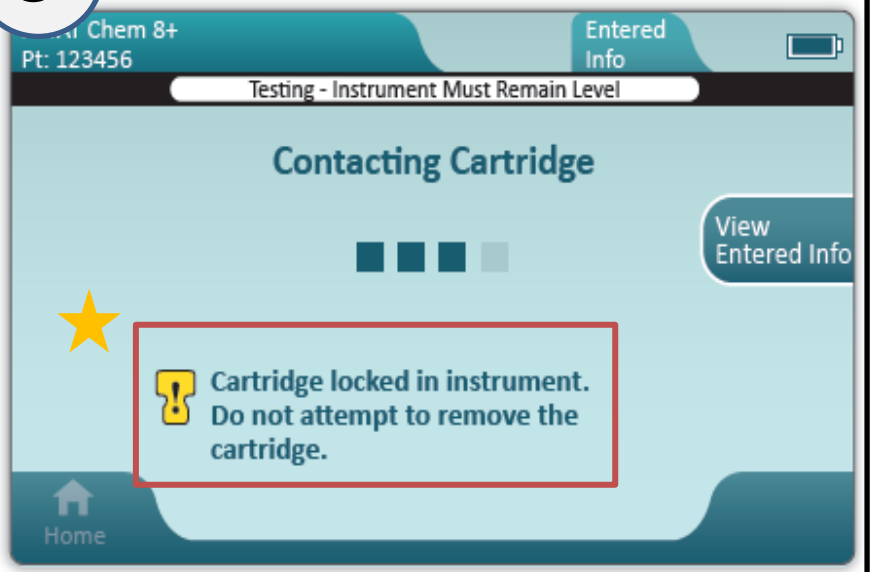

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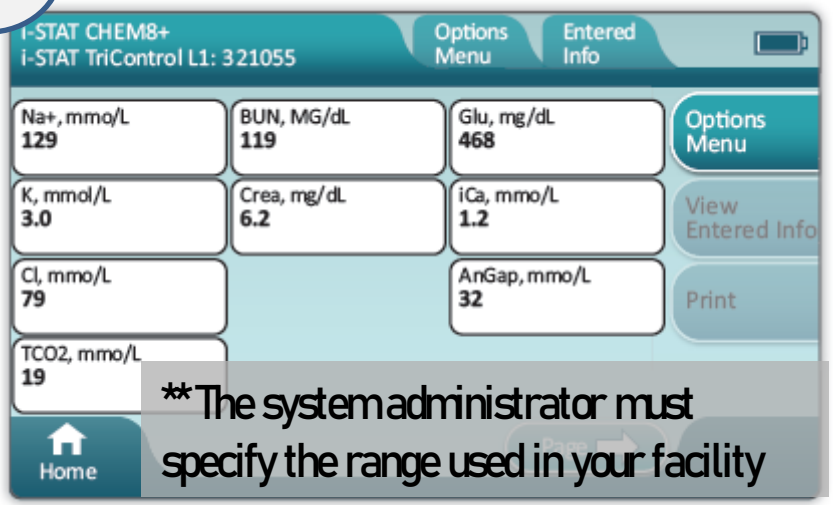

**The system administrator must specify the range used in your facility

An audible cue will be heard when results are ready. Touch Silence or remove cartridge to silence the audio.

Interpreting test results

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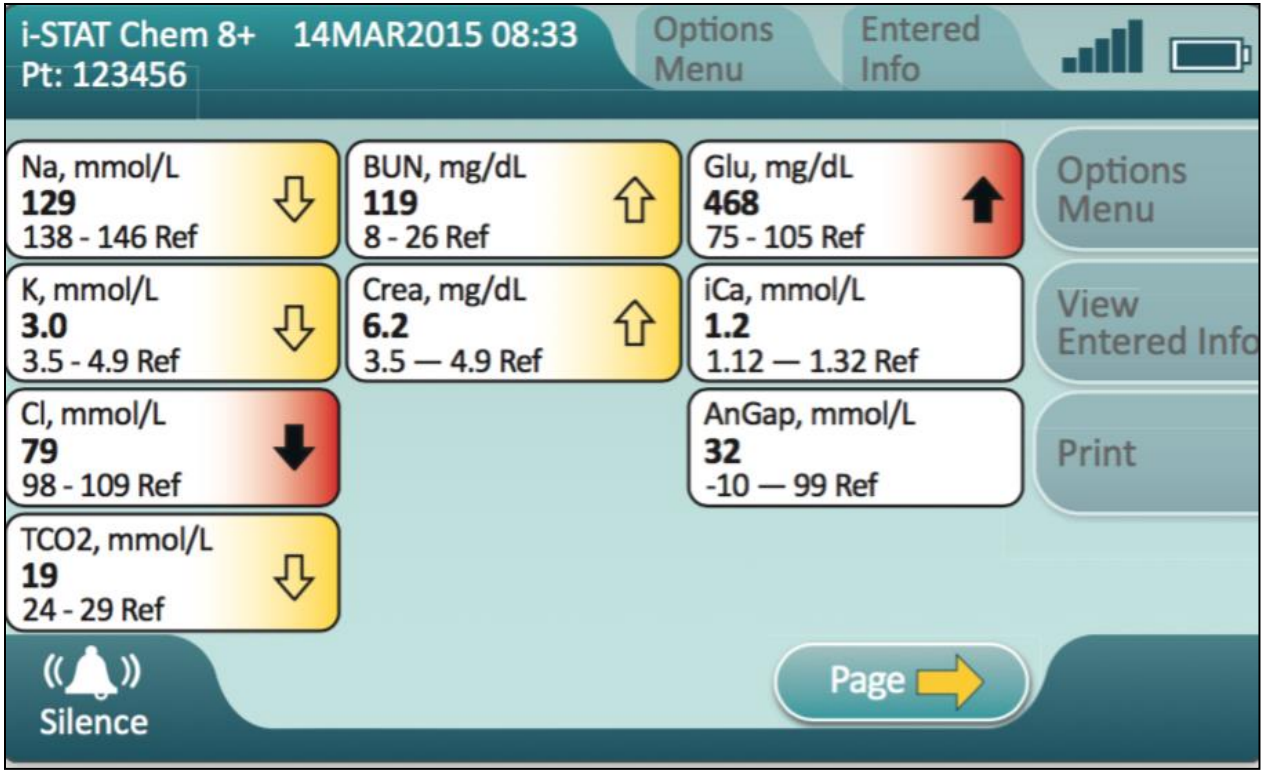
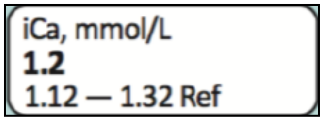
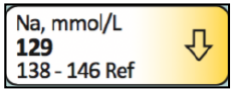
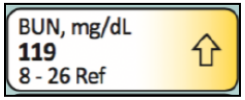




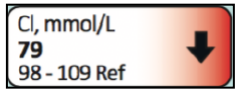
White – Result is in the reference range

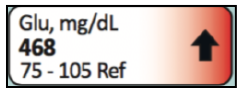
One of more results on the next page is normal/ abnormal/Critical range





Yellow – Result is outside of the reference range, abnormal result.





Red – Result is in the action (critical) range

Suppressed results

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Na, mmol/L
***

Na, mmol/L
>180

AnGap, mmol/L
<>

Starred out Results (***)

- Indicates that a sensor on the cartridge is unable to report a result
- The other results are still reportable.

Out of Range (<) or (>)

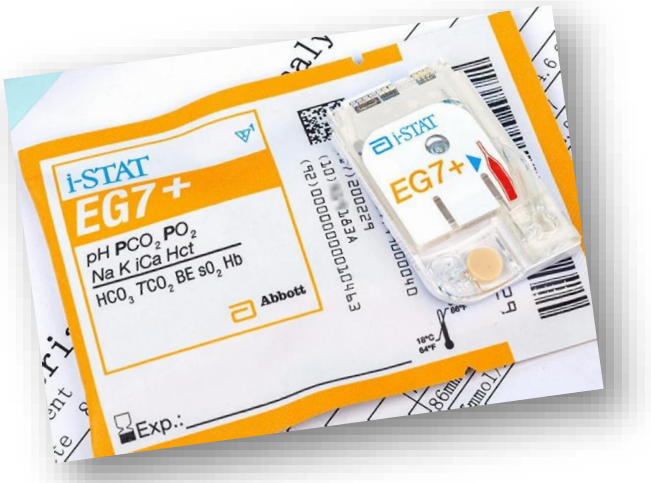
This occur when results are outside the system's measurement ranges.

Null Set

The < > flag indicates that the results for this test were dependent on the result of a test flagged as either > or <.

Causes

- Cartridge not handled properly by user.
- Sample contain interfering substance.
- Wrong sample used



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Acceptable Sample Types

Acceptable Sample Types - **Whole Blood**

- Sodium **Heparin**
- Lithium **Heparin**
- Balanced **Heparin**

★

- Mx sample immediately before removing a sample for testing.
- Filled to the manufacturer labelled capacity

Plain syringe is recommended if the test can be done immediately

On-Screen Error Recovery Help and Resolution Assistance

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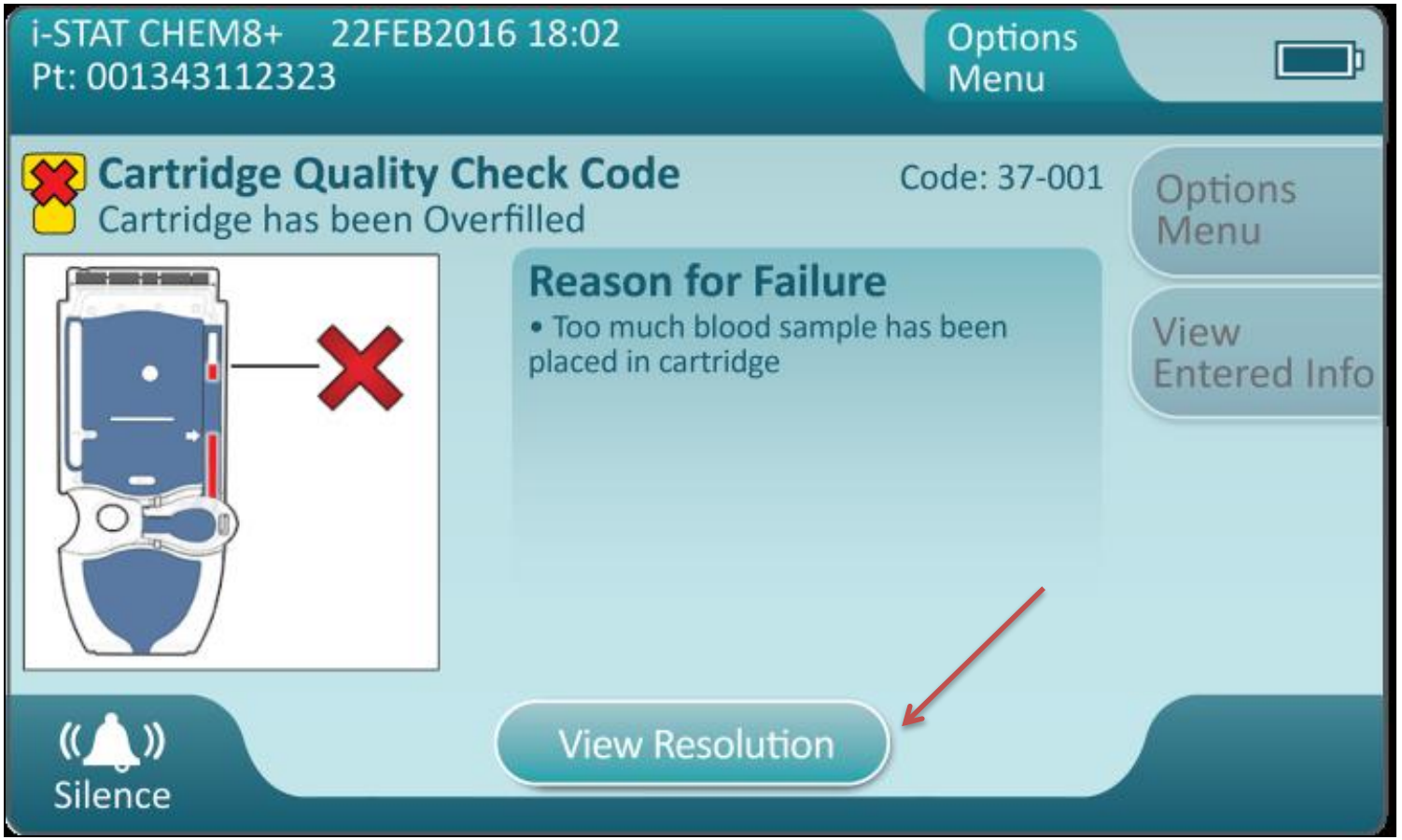

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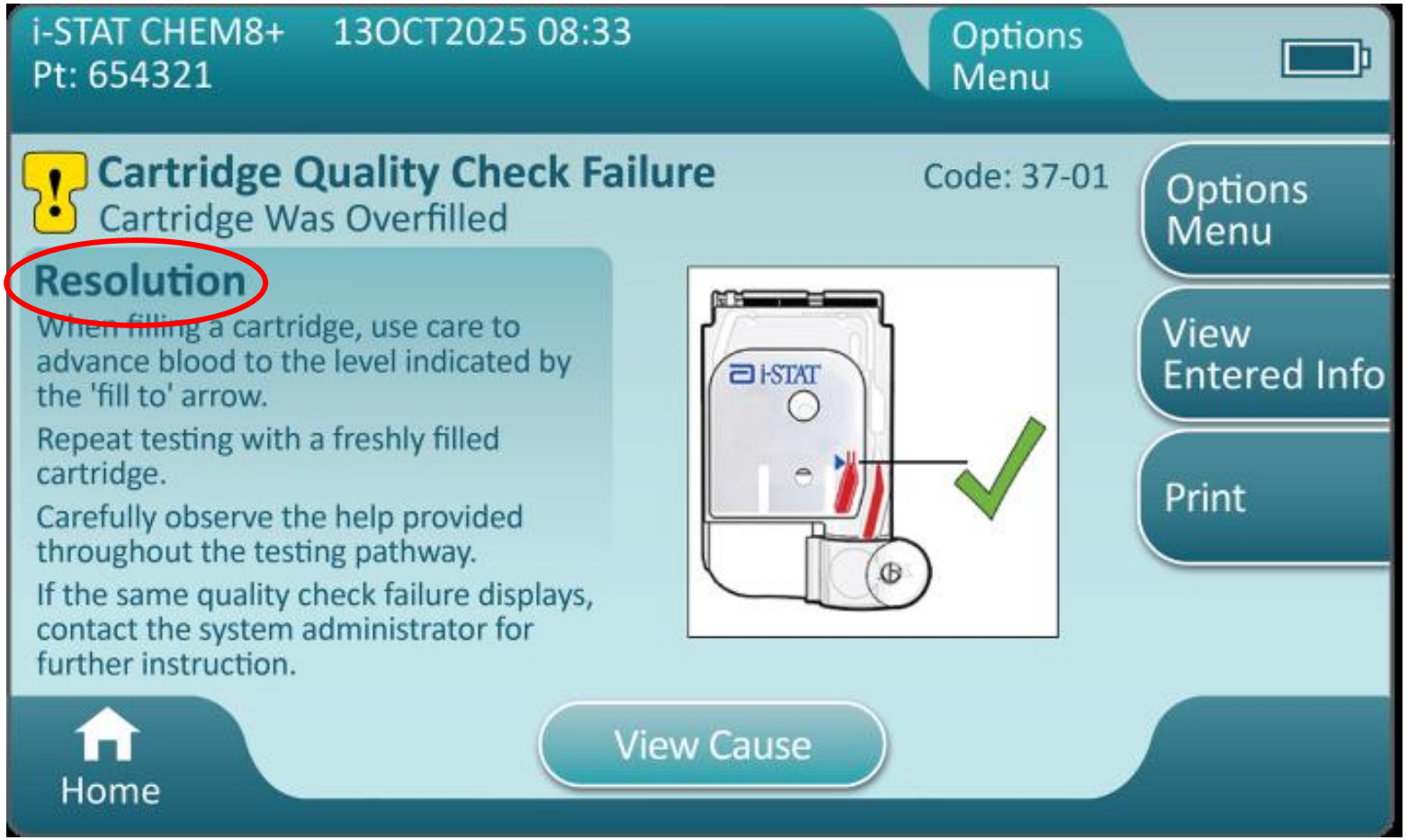

What will affect i-STAT results?

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Cause	Affected parameters
Delay in testing	○ pH, in turn decreasing ionised calcium ○ Blood Gases ○ Lactate ○ Glucose ○ Coagulation Tests ○ HCT
Use of anticoagulants	Coagulation tests
Underfilling of collection devices	Na, Ionized calcium
Iced specimens	PO2, K, Blood Gases
Usage of cold/unequilibrated cartridges	Blood Gases
Hemolysis	Potassium

What will affect i-STAT results?

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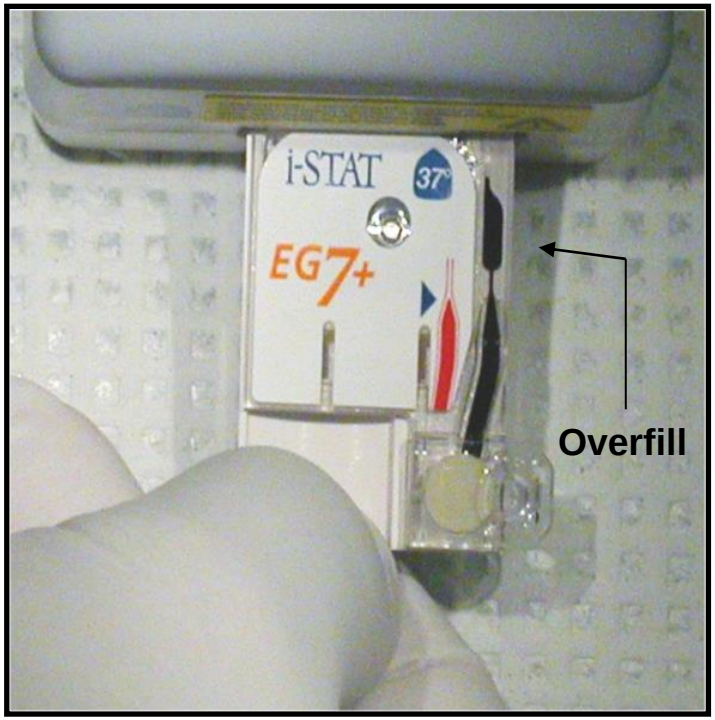
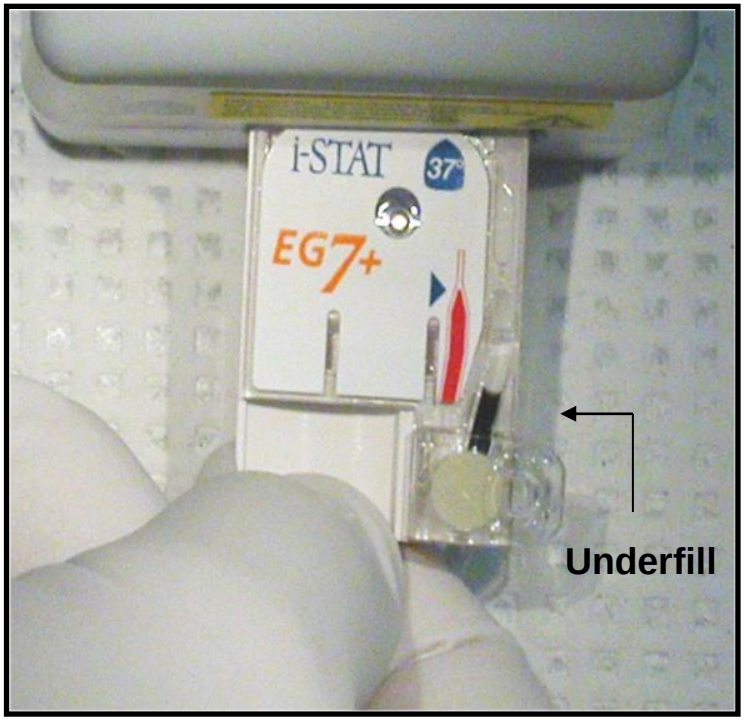
Causes of haemolysis

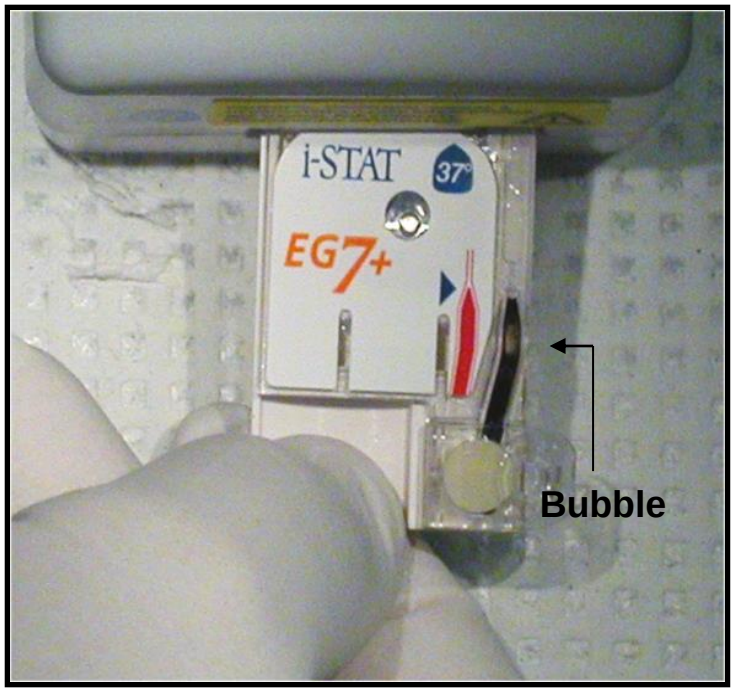
- Residual alcohol used to clean the puncture site
- Muscle activity such as clenching the fist during blood draw
- Excessive squeezing of a heel or finger puncture site
- Use of needle during cartridge filling

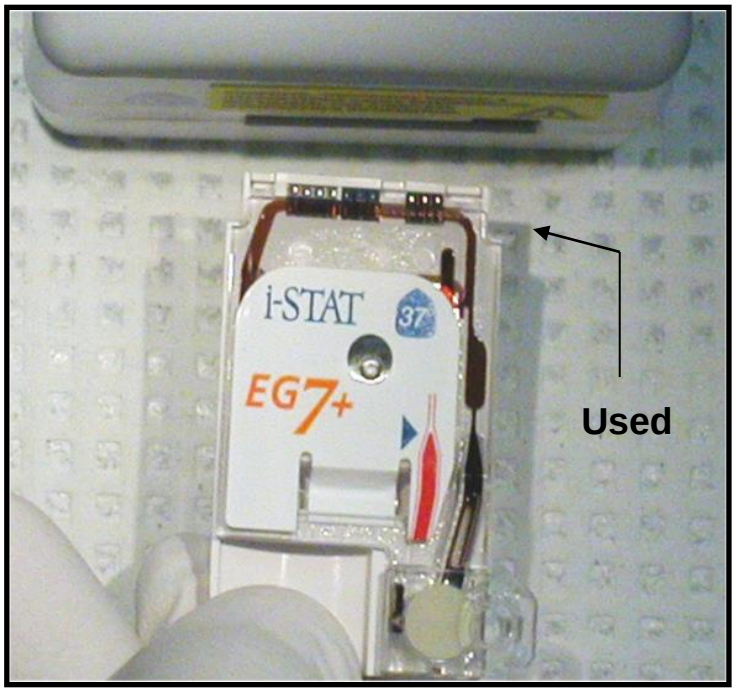
Common Error Codes & Improper Cartridge Filling Practice



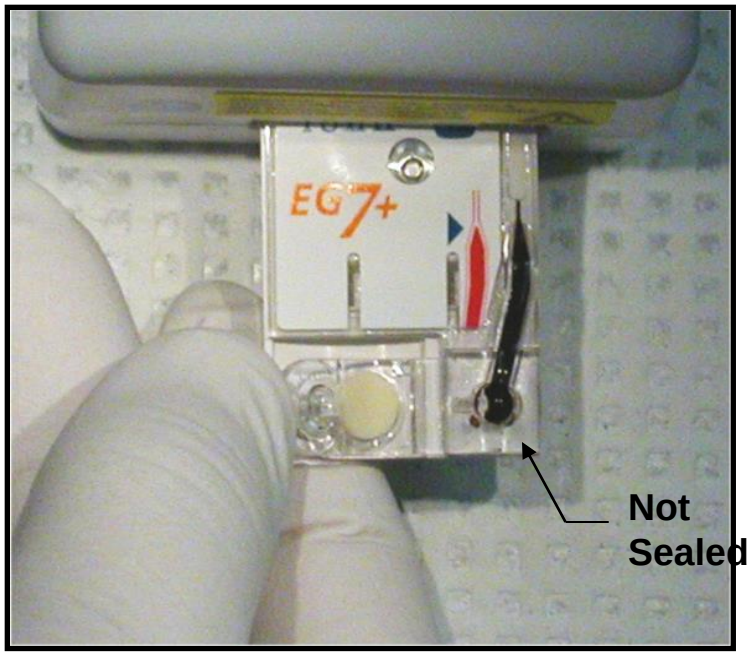


Common Error Codes & Improper Cartridge Filling Practice





Common Error Codes & Improper Cartridge Filling Practice



Cleaning and Disinfection the i-STAT Alinity System

1

Remove a wipe from the container and squeeze out any excess fluid before you begin to wipe the surface.

2

Wipe all surfaces three times. This includes front, back, sides, top and bottom.

CaviWipes
EPA #46781-13

Isopropyl Alcohol Disinfectant

Super Sani-Cloth
EPA #9480-4

3 Allow all surfaces to remain wet for **3** minutes.

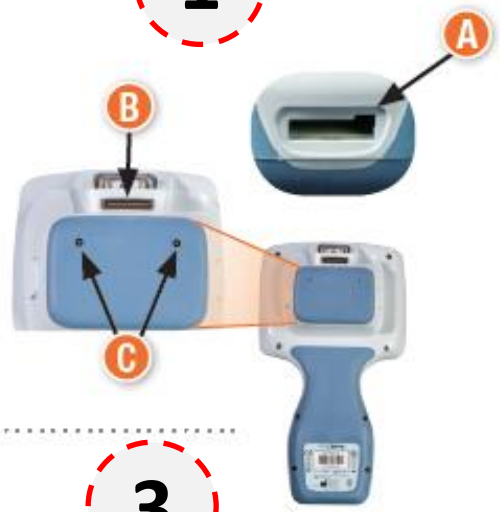
4 Wipe with gauze until dry.

SENSITIVE AREAS

Avoid forcing liquid into these areas:

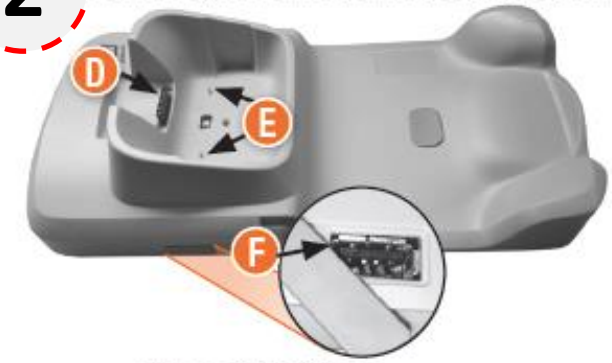
i-STAT Alinity Instrument

1



- **A** Cartridge Port
- **B** 10-Pin Connector under the camera
- **C** Gold contacts (2) on the outside of the battery

2



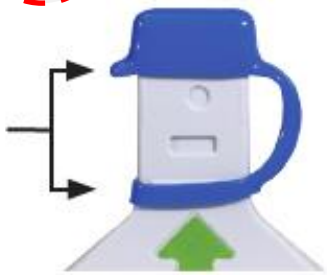
Base Station

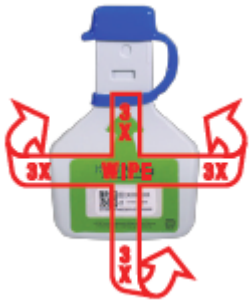
- **D** 10-Pin Connector
- **E** Gold contact pins (2)
- **F** USB Port

3

- **G** **Electronic Simulator**

  Area between protective cap retaining ring and white sensor area





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Thank You !

Hands on time and Quiz!