i-STAT 1 TESTING

Training Guide
i-STAT 1 System Components

Batteries
Rechargeable Downloader
Electronic Simulator
Analyzer
Cartridges
Overview of i-STAT 1
Overview of the i-STAT 1
Overview of the i-STAT 1
Rechargeable Downloader

Download results ASAP

• Charges the battery
• Downloads results to LIS and HIS
• Screen states:
  – “Communication in Progress”
Cartridge Storage

Expiration Dates

• Refrigerated: Good until Expiration Date on pouch or box
• Room Temperature:
  ACTk, Creatinine, PT/INR -14 days
  Write 14-day expiration date on each cartridge pouch

  G3+, CG8, CG4 – 2 months
  Write 2 month expiration date on each cartridge pouch

Warm-Up

• Box: 1 hour
• Cartridge: 5 minutes

Cartridge Handling

• Remove cartridge from pouch.
• Handle cartridge by its edges.
• Avoid touching the contact pads or exerting pressure over the center of the cartridge.
Cartridge

- CALIBRANT POUCH
- FILL LINE
- SNAP COVER
- SAMPLE WELL
Where to Get Cartridges

• i-STAT cartridges are stored in GRJ 239, in the walk-in refrigerator located immediately to the right once you walk through the door. The combination to unlock the door to GRJ 239 will be provided to the site coordinator or designee.

• Document the number of boxes taken, the department, and the date on the clip board located in the refrigerator.
i-STAT 1 Quality Control

1. Internal simulator is set to run automatically every 8 hrs.

2. External simulator should be run if the internal simulator fails, if the analyzer has been dropped, or if the analyzer displays: “Analyzer error/Use Electronic Simulator.” Contact the Point of Care Coordinators (x35392, x61462, or x63858; email MGH POCT Coordinators).

3. Liquid controls will be run by the Point of Care Testing Program unless testing site chooses to self order reagents.
i-STAT 1 Sample Requirements

ACT:

- Whole blood (venous or arterial) collected in a plain plastic syringe without anticoagulant:

  1. From an indwelling line, flush the line with 5 mL saline and discard the first 5 mL of blood or three to six dead space volumes of the catheter.

  2. From an extracorporeal line, flush the line by withdrawing 5 mL of blood into a syringe and discard the syringe. Use a fresh plastic syringe to collect the testing sample.

- Whole blood (venous or arterial) collected in a collection tube without anticoagulant, clot activators, or serum separators. Device used to transfer sample to the cartridge must be plastic.
PT/INR:

• Whole blood (venous) collected in a plastic syringe or plastic collection tube without anticoagulant, clot activators, or serum separators. Device used to transfer sample from tube to the cartridge must be plastic. *(Some experts recommend drawing and discarding a venous sample of at least 1.0 mL prior to drawing sample for coagulation testing.)*

• Fresh capillary whole blood dispensed directly into the cartridge from the finger. Use the first drop of blood from the fingerstick.
i-STAT 1 Test Menu

13:24 27MAY05

Test Menu

1- Last Result
2- i-STAT Cartridge
i-STAT 1 Testing

1. Turn analyzer on by pressing the on/off key
2. Test Menu: select 2 for i-STAT Cartridge
3. Scan or Enter Operator ID: Repeat if prompted. (barcodes can be scanned)
4. Scan or Enter Patient ID: Repeat if prompted. (barcodes can be scanned)
5. Enter cartridge lot# by scanning barcode on cartridge package. Place analyzer on a flat surface and do not move during testing
6. Remove cartridge from pouch. **Handle a cartridge by its edges. Avoid touching contact pads or exerting press over center of cartridge.**
7. Thoroughly mix sample and dispense sample until it reaches the fill mark on the cartridge (blue arrow). **Samples in unheparinized syringes must be added immediately to the cartridge (ACT and PT/INR)**
8. Close cartridge by pressing on outside edge of door until it snaps in place.
9. Insert cartridge into cartridge port
10. Enter sample type when prompted.
11. View patient results
TEST AND RESULT FLAGS

“****”

- Results are not reportable due to sensor errors or interfering substances
- Repeat test with new cartridge. *(For ACT & PT/INR repeat with fresh sample)*
- If results are flagged again, draw a fresh sample and send to the lab

“<“ or “>”

- Results that are less than or greater than the reportable range. Send sample to the lab, if necessary

↑ ↓

- If results appear with a bold arrow pointing up or down, the results are above or below the action range. Follow testing site policy for high or low results.

< >

- Results that are dependent on results that are outside the reportable range. Send sample to lab if necessary
## Troubleshooting

<table>
<thead>
<tr>
<th>Error Code/Description</th>
<th>Message/Action</th>
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</thead>
<tbody>
<tr>
<td>128: Invalid sample type</td>
<td><strong>Battery Low</strong>: Replace or charge batteries</td>
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<tr>
<td>130: Air bubble detected in sample</td>
<td><strong>Upload Required</strong>: Place analyzer in downloader</td>
</tr>
<tr>
<td>131: Under-filled cartridge</td>
<td><strong>Cartridge Preburst</strong>: Use another cartridge. Do not press on center of cartridge</td>
</tr>
<tr>
<td>140: Expired cartridge lot</td>
<td><strong>Unable to Position Sample</strong>: Cartridge not sealed or sample clotted. Use another cartridge</td>
</tr>
<tr>
<td>141: Barcode not scanned</td>
<td><strong>Analyzer Error/Use electronic simulator</strong>: Call POCT Program for assistance. (x35392, x61462, x63858)</td>
</tr>
<tr>
<td>146: Overfilled cartridge</td>
<td><strong>Cartridge Error</strong>: Use another cartridge.</td>
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