I-STAT Training - Quick Tips

Point-Of-Care-Testing Department

Clinical Laboratories

Stanford Health Care

Stanford Children's Health

Patient/ Operator ID entry

Patient ID entry:

- Joint Commission requirement for 2 forms Patient Identification.

- Scan Patient armband for CSN = 9-digit in LPCH and 12-digit in SHC

- Enter twice if manually enter in.

- ## Operator/User ID:
  - Trained personnel will be issued a bar-coded ID label for scanning with the ISTAT meter.
  - It is the 5-digit or 6-digit of the ID badge number.

I-STAT cartridge storage, handling and supplies

- Cartridges are stored in refrigeration at 2 - 8º C (35 - 46º F). Use within manufacturer expiration date listed on the box. It takes 5 minutes to warm up one packet and one hour to warm up one whole box of cartridges.

- Different cartridges have different expiration date at room temp storage. Write room temp expiration date on individual pouch or box if pouches are kept inside the box.

- Handle cartridges by the edges only. Burst or damaged cartridge will not give results.

  Your unit clerk has to go to the clinical lab for cartridge supplies - call ahead to **650-736-2127 Blood Gas Lab.**

Blood sample information

- **Non-Heparinized 1CC TB syringe. Blood has to be tested within 3 minutes.**

- **Heparinized syringe. Use within 10 minutes with blood gently mixed before sampling.**

- **For coagulation tests, i.e. ACT, test the sample immediately.**

- **Do not use blood if it is clotted**

- **Do not draw air bubbles into the syringe – blood gas values are affected.**

- **Perform test promptly**

All of the above factors affect blood gas results.

I-STAT testing process

- **It takes 2 minutes to see results. Coagulation testing take up to 10 minutes to complete.**

- **Do not remove cartridge during testing process (<u>Cartridge Locked</u>) – instrument will be damaged if cartridge is forcibly removed**

- **Instrument should maintain at a horizontal level during testing.**

- **Test process and error messages are shown on the bottom of the screen.**

- **Errors with ***, < or > will allow any results to transmit to Epic.**

- **Clean meter with Sani-Cloth wipe after each patient use per Infection Control protocol**

Interferences for I-STAT testing

- **Syringes with >10 units of Heparin falsely lowers ionized calcium results.**

- **Abnormally low or high Total Proteins in patient can falsely decrease or increase the Hematocrit value. Hct values are used for trending only, not as an indicator for transfusion.**

- **Do not remove cartridge during testing process (Cartridge Locked) – instrument will be damaged if cartridge is forcibly removed.**
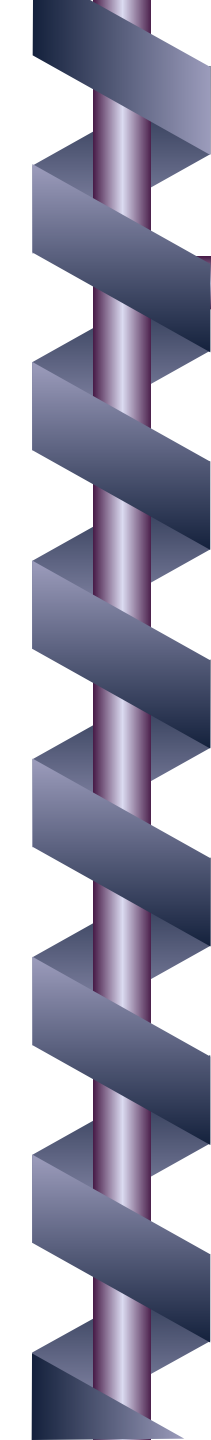
When testing needs to be repeated

- Conditions that a testing needs to be repeated with a fresh blood sample:

    – Sample is clotted
    – Sample is contaminated with IV fluids
    – Abnormal results that do not match with patient treatment protocol. Alert values must be documented and reported to the attending physicians to ensure proper patient treatment.
    – Results with ***, >, < or <> - if persistent do not use ISTAT for testing. Send sample to the Lab. These errors are transmitted to EPIC system.

  If tests are repeated within 5 minutes, only the second set of results are allowed to stay as the permanent record.

  Erroneous results can be deleted by pressing " 8 " in Field 2 under Sample Type screen or call POCT at 4-8934.

  Do not use i-STAT for patient testing if repeated ***, < or > are shown. Send blood samples to the Clinical Lab for analysis.

Quality Controls (QC) for I-STAT: Internal, external and liquid controls

- **<u>Internal Simulator (QC):</u>**
  - It is programmed to run automatically every 8 hours of instrument use.
- **<u>External Simulator (QC):</u>**
  - Use the metallic QC when prompted by the instrument. Do not touch the metallic sensors.
  - Use this External QC to test meter is it is dropped to ensure instrument integrity. Patient testing is disable if meter is broken. Call POCT # 724-8934 to retrieve broken meter.
- **<u>Liquid Controls:</u>**
  - Liquid QC is performed in the units monthly
 - Liquid QC is also required on each new shipment/Lot.

Training and competency

- Each I-STAT user must have Initial training and competency.

- A 6-month competency and then an Annual competency are required.

- Hands-on demonstration is required as part of the competencies.

Training and competency

- When the competency certification expires within 30-day timeframe, a message appears on the display screen to alert you the expiration date.

Operator ID
12345
Certification
Expires
15MAY17

1 - Continue
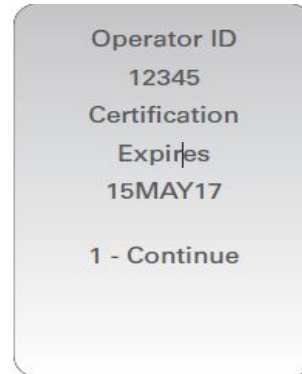
- Users contact POCT 4-8934 Option 4 to complete the required test before the due date.

Training and competency

- User will be locked out for testing if competencies are not kept up to date.

- Re-training is required once the user ID expired in the ISTAT database.

- Sharing operator ID is not permissible as it may become a patient safety issue.

Troubleshooting the I-STAT instrument

- Avoid test errors to reduce cost and to improve efficiency with patient care.
- I-STAT instrument performs quality checks for each testing.
- Examples of error messages and corrective actions:
  - "**Low Batteries or Dead Batteries**" – Replace the 9 volt batteries
  - "**External Simulator Run Required**" – Insert the metallic EQC to run quality checks
  - "**Analyzer Error**" – Place the instrument in the docking station to reset software profile. Run the electronic Simulator afterwards.
  - "**Cartridge Error**" – Try another cartridge, previous cartridge may be mishandled
  - "**Invalid or Expired CLEW**" – Call POCT department @ 650-724-8934 to update I-STAT software

Troubleshooting the I-STAT - Continue

- "**Unable to Position Sample**" – Snap closure has not been closed tightly or sample has clotted
- "**Cartridge Pre-burst**" – Calibration pouch of the I-STAT cartridge has been damaged, use another cartridge
- "**Sample underfilled or overfilled**" – Blood should be sampled up to the blue arrow point on the cartridge, use another cartridge

- Notify **POCT department 650-724-8934 Option 4 for I-STAT problems and replacements.**

- Notify **SHC IT 3-3333 or LPCH IT 8-7500 if the results are not transmitted to EPIC.**

- **Do not take ISTAT to Material Management or Clinical Engineering.**

Monthly Compliance Report – Joint Commission Requirements

Monthly Compliance checks:

✔ User training/competency/certification status.
✔ Invalid patient ID when performing the i-STAT test.
✔ Meter(s) are cleaned per Infection Control protocol.
✔ Room and refrigerator temperatures are monitored and recorded daily on chart/log.
✔ ISTAT cartridges are properly dated when store at room temperature.
✔ ISTAT cartridges are properly disposed when expired with room temp storage or manufacturer expiration date.
✔ The acceptable monthly compliance score is >90%. Reports are sent to unit medical director.