

PROCEDURE

Corewell Health East - Inoperable Chemistry Instrumentation - Troy

This Procedure is Applicable to the following Corewell Health sites:
Corewell Health Beaumont Troy Hospital

Applicability Limited to:	N/A
Reference #:	34363
Version #:	2
Effective Date:	08/05/2025
Functional Area:	Clinical Operations
Lab Department Area:	Lab - Chemistry

1. Principle

This procedure describes the notification and procedural actions to take to maintain operations when the Chemistry department has instrument or Reverse Osmosis water system downtime which may significantly impact testing turnaround times. Backup analyzers will be utilized when available. If there is no back up for the system that is inoperable, samples may need to be transported to another site for testing.

2. Responsibility

Personnel who have completed the competency requirements will perform these tasks.

3. Procedure

- A. Inform nursing staff when significant delays are anticipated for any STAT chemistry results.
 1. Emergency (EC) Charge Nurse: Use Mobile heartbeat or 248-964-8757
 2. Inpatient (IP) Nursing: M-F 8 am-4 pm: Mobile heartbeat or 248-964-5160 (Nursing Administration to page managers) Weekends, off-shifts and holidays.
- B. Extended downtime of greater than 2 hours:
 1. Notify nursing as stated above.
 2. Notify Troy Administration using mobile heartbeat Administrator On Call Troy.
 3. Notify lab administration and medical director using Teams, email or phone call.
 4. Notify Surgery by calling 248-964-8444 Operating Room desk.
 5. Notify Royal Oak Laboratory (RO) that we will be sending specimens to them for analysis at 248-551-8065 or 248-551-8068.
- C. All ABL 825 Blood Gas instruments inoperative:
 1. Immediately notify EC, IP Nursing, Surgery and Respiratory Care at 248-964-0814 of the issue.
 2. Obtain an ABL 90 instrument from one of the ICUs, ORs or back-up instrument in POC.
 3. Day Shift- Notify POC to help retrieve ABL 90. If staff not available, call respiratory using mobile heartbeat.
 4. Battery is good for less than 1 hour. Connect to power after transporting.
 5. Log into ABL 90 with generic Operator ID.
 6. Check analyzer status for green light/reagent status.

Entities will reference associated Documentation contained within this document as applicable
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- a. Top of screen- select analyzer status
- b. Left side of screen- select Consumables- tells how many tests left and expiration. Sensor cassette= 100 tests/30 days and Solution pack 600 activities/30 days.

NOTE: you can change/exchange consumables with another ABL 90 if there is not enough tests to get through the shift.

D. Replace Reagents if necessary:

1. Replacements – located in the POC annex and refrigerator.

NOTE: Three levels of Liquid Quality Control (QC) must be tested after sensor cassette and/or Solution pack replacement. Stored in the POC office. Follow instructions in the ABL 90 FLEX PLUS Blood Gases and Electrolytes in Whole Blood procedure. [Corewell Health East – ABL90 FLEX PLUS Blood Gases, Co-Oximetry, Electrolytes and Metabolites](#)

2. Replacing the Solution Pack

- a. Press Menu > Analyzer Status > Replacement > Replace > Replace Solutions.
- b. Lift the inlet to the capillary position and wait for the solution pack to unlock.
- c. Remove the used solution pack and dispose of it as infectious waste.
- d. Activate the new solution pack by pulling out the safety pin.
- e. Press the lid firmly down by pressing the elevated side (where the safety pin was) totally down until the side taps click into the side tap holes.
- f. Remove the top layer of the label on top of the solution pack, so that the biohazard label appears to remind you that the solution pack after use must be disposed of as infectious waste.
- g. Insert the new solution pack by pushing it into place until it latches into the instrument.

3. Replacing the Sensor Cassette

- a. Press Menu > Analyzer Status > Replacement > Replace > Replace Sensors.
- b. Remove the old sensor cassette by pulling it upwards and out of the compartment with thumb and index finger. Dispose of the used sensor cassette as infectious waste.
- c. Remove the foil on top of the conditioning unit.
- d. Screw off the revealed lid of the unit.
- e. Remove the new sensor cassette.
- f. Seat the new sensor firmly into the seat in the sensor compartment until resistance is met.
- g. Press Proceed. The sensor compartment closes.
- h. Press OK. The smart chip technology recognizes and registers the sensor cassette. Conditioning of the new sensor takes 1 ½ - 2 hours before all analytes are ready for use.

4. Quality Control

- a. One level of the internal built in QC measurements are by default, performed every 8 hours.
- b. To check the quality control status, enter the Analyzer Status screen.
- c. To perform/repeat an unscheduled built-in QC measurement:
 - 1) Press Menu > Analyzer Status > Quality Control.
 - 2) Top 3 QC on the list are internal QC.
 - 3) Highlight the QC solution to run; press START QC.
 - 4) Result is shown after measurement is completed.

NOTE: 3 levels of liquid QC must be run after sensor and/or Solution pack replacement.

E. Patient Testing:

1. Tests available on the ABL: pH, pCO₂, O₂HB, Potassium (K), Sodium (NA), Glucose, Lactic Acid (LA) and Ionized Calcium.

a. ABG Syringe:

- 1) Lift sampling inlet to the syringe position- light turns green.
- 2) Select 65 ul sample on screen; take off syringe tip cap.
- 3) Insert sample into inlet making sure black inlet clip is on the needle.
- 4) Place syringe tip firmly against inlet gasket and press it upwards to sample.
- 5) Make sure plunger is not pushed back by the probe.
- 6) DO NOT PRESS THE PLUNGER.

- 7) Type in the patient's Instrument ID number.
- 8) Calibration will be performed with every sample.
- b. **Capillary ABG:**
 - 1) Lift sampling inlet to the capillary position- light turns green.
 - 2) Take black inlet clip off sampling needle.
 - 3) Mix the capillary sample and remove the capillary caps.
 - 4) Place capillary tube up to sampling needle and press against the inlet gasket.
 - 5) When prompted, remove the capillary and close inlet.
 - 6) Type in patient's Instrument ID number.
 - 7) Replace inlet clip when done.

4. Architect Chemistry Analyzers inoperable:

- A. When all Architect Chemistry Analyzers are down:
 1. Perform the Na, K, Cl, Total Carbon Dioxide (TCO₂), glucose from a serum/lithium plasma sample on the ABL 825.
 2. If a STAT lactate is ordered, you will need to have a GREEN top sample drawn and analyze on the ABL. **DO NOT USE A GRAY TOP TUBE!**
 3. All other testing should be sent to RO for analysis.
 - a. A packing list will be created to send specimens to RO.
 - b. After scanning the tube onto the packing list, the test being sent to RO will need to be selected.
 - 1) Highlight the line just scanned.
 - 2) In the "Tests to Ship" box, check the box associated with the test(s) being sent to RO.
 - 3) Repeat for any additional specimens.
 - c. Specimens should be divided between STAT, Inpatient and Outpatient samples and bagged separately.
 - d. The specimens should be transported in a STAT cooler.
 - e. STAT couriers should be called to transport samples every 60 minutes.
 - f. Call RO chemistry at 248-551-8065/248-551-8068 whenever a courier has left Troy for RO.

5. All other analyzers inoperable:

- A. If both methods of performing a test are inoperable, send samples to RO.
 1. A packing list will be created to send specimens to RO.
 2. After scanning the tube onto the packing list, the test being sent to RO will need to be selected.
 - a. Highlight the line you just scanned.
 - b. In the "Tests to Ship" box, check the box associated with the test(s) being sent to RO.
 3. Repeat for any additional specimens.
 4. Specimens should be divided between STAT, Inpatient and Outpatient samples and bagged separately. The specimens should be transported in a STAT cooler.
 5. STAT couriers should be called to transport samples every 60 minutes. Call RO chemistry at 248-551-8065/ 248-551-8068 whenever a courier has left Troy for RO.

6. Testing Recovered

All team members contacted at Troy or Royal Oak regarding the inoperable instrumentation should be notified as soon as the analyzers are back in service. This includes those contacted by Mobile Heartbeat and by telephone, email or teams.

7. Revisions

Corewell Health reserves the right to alter, amend, modify or eliminate this document at any time without prior written notice.

8. Procedure Development and Approval

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9. Keywords

Not Set