Point of Care (POC) Glucose Testing

Dated: December 2017
Reference: Policy LAB 23-A; Point of Care Nova Stat Strip Glucose Meter

- The Nova Stat Strip Blood Glucose meter is UHB’s approved Glucometer for patient testing
- Operator certification status must be kept current
- Use **Universal Precautions** when testing as per hospital policy
- Follow **patient identification procedures** when testing as per hospital policy
- Run two level of **Quality Control** on every 24 hours
- **Clean and Disinfect** meter after every patient testing
• Nova StatStrip Meters **are assigned** to nursing units by the Point of Care Lab

• Staff should **NOT move** meters from their assigned units

• If a meter is needed in a particular unit, contact the Point of Care Lab immediately
Nova StatStrip Test: Strip Vials

**STATSTRIP VIALS:**

- Contain a desiccant to **protect against humidity**
- Must be **CLOSED** with its lid when not in use
- **Store at room temperature** between 15 to 40 degrees Centigrade (59 to 104 degrees Fahrenheit)
- **When opening a new vial** of strips, **write** on vial:
  - Date **Opened AND Date Expired**
  - Expiration date is **180 days from opening** or label expiration date, whichever is first
  - Initials **do not need** to be written on vial
When To Perform Quality Control Testing?

- Every **24 hours** for each Meter (2 levels of Control – Level 1 and Level 3)
- When a **NEW VIAL** of test strips is **OPENED**
- After major maintenance or repair of the meter, i.e. **battery change**.
- When the **meter is dropped**
- When a **new meter** is used
- When **results are questionable** based on clinical signs & symptoms
- Whenever **problems** (storage, operator, instrument) are identified or anytime there is a concern
Control Solutions and Testing

- **Store at room temperature**, 15-30°C (59-86°F)
- Control vials **must be covered** with their lids when not in use
- When opening a new Control Solution **write on bottle:**
  - **Date Opened AND Date Expired**
  - Expiration Date is 90 days from opening or label expiration date - whichever is first
  - Initials do **NOT** need to be written on vial
- Run **Level 1 and Level 3** controls each 24 hour period on each meter
- To test **Gently Mix** control solution vial before using
  - **Discard 1st drop** of Control Solution
  - **Use 2nd drop** of solution for testing
- After Control Testing select “**Meter Cleaned**” comment
Control Test Troubleshooting

• If a control level test is out of range:
  ➢ **REPEAT CONTROL** level test

• If control level test results are **AGAIN** out of range:
  ➢ **OPEN** a **New Control vial** and run test

• If control test results **CONTINUE** to be **out of range**:
  ➢ **Open** a **New Strip vial** and run test

• If control test results are **STILL** out of range:
  • **Call Point of Care** at ext. 1679 or the Bay Ridge Laboratory at 718 567-1158 for assistance **during the day**
  • **Off hours:** Go to Lab (2nd floor) and obtain a new meter
Patient Testing

• Starting a Test
  • Enter patient 7 digit identifier (Financial #)
  • Identify specimen source (capillary, venous or arterial)

• Applying Blood Sample to Strip
  Maintain meter in a horizontal position to keep blood out of the meter
  • Discard 1st drop of blood. Use 2nd drop of blood.
  • Allow blood drop to touch the tip of the strip. Fill strip completely
  • Do not move finger from strip until meter countdown begins
  • NO re-application of blood once the testing has started

• Enter Comments After Each Patient Test
  • Can choose up to 3 comments
  • Highlight ALL desired comments AT ONCE and ‘Accept’
  • MUST select ‘Clean / Disinfect Meter’ as a comment
  • Always verify comments display on patient result screen and Accept again.
Patient Testing

• If Results Are Outside Unit Specific Action Range
  • Select Comment “Repeat test”
  • Test **MUST** be repeated to confirm results.
  • **After confirmed repeat** select needed comment(s) such as:
    - Clean/Disinfected
    - Initiate Hypoglycemia Protocol
    - Caregiver Notified
    - Send to lab
  • **Follow appropriate protocol**
Unit Specific Action Ranges

- **Pediatrics**: Less than 70 mg/dL – more than 200 mg/dL
- **NICU**: Less than 45 mg/dL – more than 150 mg/dL
- **Newborns on L&D and Mother/Baby Unit**
  - Less than 25 mg/dL: birth to the 1st 4 hours of age
  - Less than 35 mg/dL: 4 to 24 hours of age
- **Ambulatory**: Less than 70 mg/dL – more than 450 mg/dL
- **CTICU**: Less than 60 mg/dL – more than 120 mg/dL
- **Adult Medical/Surgical**: Less than 70 mg/dL – 450 mg/dL

<table>
<thead>
<tr>
<th>Action Range</th>
<th>Comment Code</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Out of Instrument Reportable Range &lt; 10 or &gt; 600 mg/dL</td>
<td>Repeat Test</td>
<td>Repeat test to confirm result</td>
</tr>
<tr>
<td>Confirmed Result</td>
<td>Caregiver Notified and Send to Lab</td>
<td>Send specimen to Laboratory</td>
</tr>
</tbody>
</table>
# Use of Common Codes For Action Ranges

<table>
<thead>
<tr>
<th>Unit</th>
<th>Action Range</th>
<th>Comment Code</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult – Inpatient</td>
<td>&lt; 70 or &gt; 450mg/dL</td>
<td>Repeat Test</td>
<td>Repeat test to confirm result</td>
</tr>
<tr>
<td></td>
<td>Confirmed Result</td>
<td>Caregiver Notified</td>
<td>Initiate Inpatient Hypo/Hyperglycemia Protocol</td>
</tr>
<tr>
<td>NICU</td>
<td>&lt; 45 or &gt; 150mg/dL</td>
<td>Repeat Test</td>
<td>Repeat test to confirm result</td>
</tr>
<tr>
<td></td>
<td>Confirmed Result</td>
<td>Caregiver Notified</td>
<td>Initiate NICU Hypo/Hyperglycemia Protocol</td>
</tr>
<tr>
<td>Newborn</td>
<td>&lt; 25 or &gt; 150mg/dL 0 - 4 hrs</td>
<td>Repeat Test</td>
<td>Repeat test to confirm result</td>
</tr>
<tr>
<td></td>
<td>&lt; 35 or &gt; 150 mg/dL 4-24 hrs</td>
<td></td>
<td>Initiate Newborn Hypo/Hyperglycemia Protocol</td>
</tr>
<tr>
<td></td>
<td>Confirmed Result</td>
<td>Caregiver Notified</td>
<td></td>
</tr>
<tr>
<td>Pediatric</td>
<td>&lt; 70 or &gt; 200mg/dL</td>
<td>Repeat Test</td>
<td>Repeat test to confirm result</td>
</tr>
<tr>
<td></td>
<td>Confirmed Result</td>
<td>Caregiver Notified</td>
<td>Initiate Pediatric Hypo/Hyperglycemia Protocol</td>
</tr>
<tr>
<td>CTICU</td>
<td>&lt; 60 or &gt; 120mg/dL</td>
<td>Repeat Test</td>
<td>Repeat test to confirm result</td>
</tr>
<tr>
<td></td>
<td>Confirmed Result</td>
<td>Caregiver Notified</td>
<td>Initiate CTICU Intensive Insulin Infusion Protocol</td>
</tr>
</tbody>
</table>
## Clean & Disinfect Meter

**Clean & Disinfect Meter With Hospital Approved Disinfectant  After Each Patient Test A 2-Step Process**

<table>
<thead>
<tr>
<th>Clean Meter</th>
<th>Disinfect Meter</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Wear protective gloves</td>
<td>• Use fresh Clorox bleach germicidal wipe, thoroughly wipe surface of the meter (top, bottom, left &amp; right sides)</td>
</tr>
<tr>
<td>• Make sure test strip is removed from meter</td>
<td>• Avoid the bar code scanner &amp; electrical connector when wiping</td>
</tr>
<tr>
<td>• Lay meter on flat surface</td>
<td>• Ensure meter surfaces stay wet for a minimum of 3 minutes and is allowed surfaces to air dry for an additional 1 minute</td>
</tr>
<tr>
<td>• Obtain a fresh germicidal wipe or Clorox Bleach (hospital approved)</td>
<td>• Dispose gloves into appropriate container</td>
</tr>
<tr>
<td>• Wipe external surface of meter thoroughly with the fresh wipe</td>
<td></td>
</tr>
<tr>
<td>• Discard used wipe &amp; gloves into appropriate container</td>
<td></td>
</tr>
</tbody>
</table>
Isolation Precautions

• Use Universal Precautions

• Clean and Disinfect Statstrip Glucometer **AFTER EACH PATIENT** use

• Use a separate Statstrip meter based on clinical situations (e.g. Hemodialysis)
Results & interventions are documented in HealthBridge Flowsheet /Point of Care Testing
For the Purposes of Glucose Point of Care Testing:

“Critically Ill” patients are those with:

- **Unstable hemodynamics** — low perfusion index, use of vasopressor, presence of edema and low mean arterial pressure
- **Decompensated heart failure** New York Heart Association Class IV
- **Severe Dehydration** as a result of diabetic ketoacidosis or hyperglycemic hyperosmolar non-ketotic syndrome
- **Arterial occlusive disease**

*CAPILLARY sample testing (finger stick blood) may **NOT** be used*
Using the Nova Stat Strip Meter

• Collect **Arterial or Venous** blood sample
• Perform glucose on the Nova Stat Strip

Procedure:

➤ Collect blood in a **lithium heparin collection device** (ABG syringe)
➤ Draw **appropriate discard sample** to clear the arterial or venous line before drawing a blood sample for testing.
➤ Sample must be tested **within 30 minutes** from collection.
➤ **Identify specimen source** as Arterial or Venous
➤ Place blood sample on Nova Stat Strip and follow testing procedure
Procedure:

• Collect blood in a **grey top tube** or **add on a glucose** test to an arterial or venous **blood gas** sent to lab.

• Draw **appropriate discard sample** to **clear the arterial or venous line** before drawing a blood sample.
Fingerstick Glucose: When to Check?

- Morning fingerstick glucose is checked at or after 7:00 a.m., unless clinically indicated or per unit policy or prescriber’s order (Rehabilitation, OB, Critical Care, etc.).

- **Finger stick glucose must be checked:**
  - Within 1 hour prior to administering prandial or correction insulin.
  - If it is more than 1 hour since the time of the test and insulin administration, test again.
Care of Visitors and Employees

- **Use of the Glucose Meter is Not** for Screening

- **Do NOT** use the Glucose Meter to check a visitor’s or employee’s blood glucose

  - Employees or visitors who are **ill MUST be Referred** to the **ED immediately**
All Operators must follow the re-certification schedule and recertification test performance requirements:

1. Initial Certification
2. Renew in 6 months, and then again in 6 months, then....
3. Annually

Re-certification Steps - Go to:  [http://www.downstate.edu/ogm/](http://www.downstate.edu/ogm/)

**Step 1:** Review the Re-certification presentation

**Step 2:** Complete the Post Test

**Step 3:** Upon successfully completion of the Post test, print your Certificate of Completion for your records.

**Step 4:** Complete two levels of controls and one patient test on your unit immediately after completing the exam
## Troubleshooting Meters and Patient Identification

<table>
<thead>
<tr>
<th>Possible Problem</th>
<th>Recommended Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scanning of barcode or manual entry of strip lot number, QC lot number or Operator ID number in error</td>
<td>Check and re-scan or manually re-enter Patient Financial Number</td>
</tr>
<tr>
<td>Scanning or manual entry of Patient Medical Record Number instead of Patient Financial Number</td>
<td>Check and re-scan or manually re-enter Patient Financial Number</td>
</tr>
<tr>
<td>Glucometer did not obtain patient registration information from Hospital Registration System because meter was not docked (wired) or battery low preventing communication (wireless).</td>
<td>Dock meter to allow glucometer to obtain updated patient registration and financial identifier information.</td>
</tr>
<tr>
<td>Error in manual entry of Patient Financial Number</td>
<td>Check and re-scan or manually re-enter Patient Financial Number</td>
</tr>
<tr>
<td>Use of an unreadable or damaged Patient Financial Number barcode</td>
<td>Check, reprint Patient ID barcode and re-scan or manually re-enter Patient Financial Number</td>
</tr>
</tbody>
</table>
| Glucometer testing must be performed prior to patient registration because of an **Emergency situation** | **Applies ONLY to ED, NICU, L&D and CATH Lab areas.** Non-Registered Patient Procedure to be followed.  
**ALL other units may NOT perform testing with INVALID, NEW or NOT IN SYSTEM patient financial numbers.** **Operator MUST investigate and correct before testing.** |
Thank you for viewing the POC Glucose Training presentation

Click here to take the Post-Test