STAT STRIP
GLUCOSE METER

MAINTENANCE & USE
Reminders To Trainers

• Introduce self and other trainers to attendees.
• Length of presentation: 20 to 30 minutes maximum.
• Ask attendees to record attendance by signing in.
• Ensure each attendee has following equipment:
  Meter
  Vial of Stat Strips
  Vials QC Level 1 and 3 solutions
  Paper towel
• Hand out Competency test to attendees.
  Ask to date and sign
  Inform that Return Demo must be observed by tester and signed off.
  Remind attendees to retain and use for CRNM Competency
Historical Background

• StatStrip meter first introduced in May 2006, by Nova Biomedical.

• StatStrip Glucose Meter rapidly becoming standard in accurate hospital glucose testing throughout USA and now Canada.

• New Stat Strip Glucose Meter and Strips chosen for province wide implementation.
Advantages of New Meter

• Increased speed, accuracy, precision and patient safety for bedside glucose monitoring. Results are on par with central laboratory testing.

• Eliminates glucose errors due to:

  hematocrit interference (hematocrit errors of 20 to 50% reported on every glucose meter system except for Nova’s StatStrip)

  electrochemical interferences by:

  1. Maltose, Galactose, Xylose
  2. Oxygen
  3. Acetaminophen (Paracetamol)
  4. Ascorbic acid
  5. Uric acid
Advantages of New Meter

• User friendly (simple, color touch screen operation) and simple operation.

• Fast results: 6 second analysis time

• Small 1.2 microliter sample (arterial, venous, capillary) results in easy sample acquisition and minimal pain for patient

• Requires no calibration codes thereby eliminating input errors.

• Linearity range of 0.56 to 33.3 mmol/L.
Overview of Meter

• Strip port (well) at top of meter.

• Built-in barcode scanner at bottom of meter.

• “Welcome” or “Home” screen indicates:
   name of Facility and Unit
   Icons for Battery and Memory

• Options at bottom of screen for:
  > Review
  > Log in
  > View Setup

• Meter provides linearity range: 0.56 to 33.3 mmol/L. (superior to other meters)
Color Touch Screen Operation

• Turn on: touch screen or press power button.

• Goes into “sleep mode” after 90 seconds if no data entered. Touch screen to wake up. Will retain your last data entry.

• Buttons and touch screen are interchangeable.

• Do not touch screen with end of pen or hard nails, use soft pad of finger tips. (prevents damage to screen).

• Blue dialogue box at top of screen will prompt user on next step.
Data Storage (Memory)

- Patient tests: 1000
- QC tests: 200
- Users: 4,000

In future, will be able to connect directly to EPR for transmission of result data and related patient information ADT.
Battery Information

• Rechargeable/replaceable lithium battery.

• Life: 6 to 8 hours in use (approximately 40 tests).

• Accessible at back of meter.

• Return meter to docking station when not using to maintain life of battery.

• To minimize danger of theft, this battery can ONLY be used in StatStrip Glucose meters.
Changing Battery

- If you have a spare fully charged battery, it can be changed to allow for continuous operation. Press the Power Button to place the meter into **Sleep Mode**. This allows the operator approximately **20 seconds** to change the battery without losing the Date/Time settings.

- Push down on the two cover latches to release the cover. Take the battery cover off the back of the meter.

- Push up on the battery latch. Remove the drained battery.

- Replace with a fully charged battery. Replace the battery cover.

- Place the drained battery into the Charging Station.

- Dock the meter.
Docking Station

• When the meter is not in use, place it into the Docking/Charging Station. This enables the meter to remain fully charged. In the future, it will connect the meter to the computer network. (future plans).

• The left light is **green** if the station is connected to the network. (future plans).

• The middle light flashes **green** if data is transferring. (future plans).

• The right light is **green** when the battery is fully charged or **amber** when charging.
STAT STRIP (50 strips/vial)

• 24 month stability from date of manufacture. Expire in 180 days or 6 months when opened. Date vials with date opened and 6 month expiration date. Initial vial.

• Keep vial closed, strips affected by heat, light and humidity. Listen for SNAP that lid is closed.
Features of Strip:

• Gold colored side is bottom surface of strip.
• Blue colored side is top surface.
• Gold metal end is inserted into meter well.
• White tip is end of strip. Sample placed to tip of strip (front fill). Multi-well technology.
TESTING BLOOD GLUCOSE

- Turn meter on/wake meter up. Touch screen.
- Go to “Welcome or Home Screen”.
  Press “LOGIN”.

- Go to “Enter Operator ID” screen.
  Enter “1” for the Operator ID.
  Press ACCEPT.

- Go to “Patient Test” screen.
  Press ACCEPT.
TESTING BLOOD GLUCOSE

• Go to “Enter Strip Lot” screen.

  Scan the test strip lot bar code.
  Press and quickly release scan icon or OK button.
  (do NOT hold button/icon as meter may skip screens).

• Go to “Enter Patient ID” screen.

  Enter “1” for the patient ID.
  Press ACCEPT.
TESTING BLOOD GLUCOSE

- Go to “Insert Strip” screen.
  Insert test strip into meter.

- Wash patient’s hand thoroughly and
  massage finger to stimulate blood flow.
  If using alcohol, ensure finger is dry
  before puncture.

- Use safety lancet to puncture finger/squeeze
  finger to form blood drop.
TESTING BLOOD GLUCOSE

• Go to “Apply Blood Sample” Screen.
  Apply blood sample from patient to end of test strip.
  Place meter horizontal on bedside table or
  hold meter with wet test strip slanted downward.

• Go to “Testing Sample” screen.
  Wait 6 seconds for analysis. Do not touch blood droplet
  a second time if test strip does not fill completely.
  Discard strip and repeat.
  Meter allows 3 attempts to obtain sample if needed.
TESTING BLOOD GLUCOSE

• Go to “Patient Result” screen.

• After result displays, remove and dispose of test strip. View result and document on appropriate record.

To accept result, press ACCEPT.

To reject result, press REJECT.

Blood Glucose Results Appear:

• Normal range in BLUE.

• Low or High in RED with one arrow.

• Critical low or high in RED with two arrows.

• Log out. Clean meter and return to docking station.
Viewing Other Test Results

• Go to “Patient Test” screen.

• Select REVIEW.

• Touch screen to highlight test result that you wish to view.
  (Ensure correct time and date sample was selected to view).

• Select VIEW.

• Use up or down arrows to view previous or next result.
WARNING

• Test strip must fill completely upon touching blood droplet.

• If test strip does not fill completely, do NOT touch the test strip to the blood droplet a SECOND time.

• Discard the test strip and repeat the test with a new test strip.
Points to Remember

• Hold meter 4 to 5 inches away from barcode when scanning.

• Do NOT hold meter upright when blood sample or QC sample is wet.

• Always pay attention to blue dialogue box at top of each screen to ensure you are on correct screen.
Quality Control (QC) Every 24 Hours

- QC prompting 2 hours prior to scheduled time for QC.

- QC lockout if QC not performed every 24 hours. Meter will not allow patient testing until QC done.

- Must do QC with both Level 1 (low) and Level 3 (high) glucose solutions.

- QC vial has 24 month stability from date of manufacture. Date QC vials when opened: 90 day or 3 month expiration after opened.

- Mix QC solutions vial prior to performing QC testing.

- QC result displayed as PASS or FAIL.
PERFORMING QC

• Turn meter on/Wake meter up.
  From Welcome or Home screen,.
  Press LOGIN.

• Enter “1” for the Operator ID.
  Press ACCEPT.
PERFORMING QC

- Go to “Patient Test” screen, press QC icon.

- Go to “Enter Strip Lot” screen.
- Press “Scan” or press OK if Lot # is correct.
- Scan test strip lot bar code.
PERFORMING QC

- Go to “Enter QC Lot” screen.
  Scan QC lot bar code.

- Go to “Insert Strip” screen.
  Insert strip in meter.

- Go to “Apply Sample” screen. Mix QC solution and place one drop from QC bottle to strip.
  “Let tip of strip sip the drip.”
  Keep meter horizontal.
PERFORMING QC

• Go to “Testing Sample” screen.
  Wait 6 seconds for result.
  When result displays, remove and discard strip.

• Go to “QC Result” screen. QC result will display as:
  PASS result appears in BLUE.
  FAIL result appears in RED.

To accept result, press ACCEPT.
Repeat process with second QC solution.

Note: If QC result is FAIL, check quality of QC solution used. Repeat QC test. If second FAIL result obtained, do NOT use meter. Send meter for maintenance.
Glucose Monitoring System
Quick Troubleshooting Guide

1 Low Battery
Change battery and place meter into charging/docking station.

2 Test Strip Removed
Text has been cancelled.

3 Temperature
Meter will only work in a temperature range of 59°F-104°F (15°C-40°C).

4 Bad Sample
Insert new strip and repeat test.

5 Strip Rejected
Occurs after test strip insertion or during analysis. Insert another strip and repeat the test.

6 Flow Error
Either insufficient sample or the sample was applied incorrectly. Repeat test with a new strip.

7 Transfer Failed
Meter is unable to connect to the transfer computer. Check network settings, network status, or contact your administrator for assistance.

8 Transfer Failed
Meter was removed before data transfer was complete. Re-dock the meter.

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Cleaning the Meter (modified to meet WRHA Policy 90.00.040)

- Clean the meter with your Facility Approved Cleaner in a wipe format (eg. Oxivir TB) for a cleaning contact time of 1 minute and allow to air dry after each patient use
- When a monitor becomes visibly soiled it must be cleaned to remove all foreign matter, allowing contact with the cleaner for 1 minute. Once visible soiling has been removed repeat the above process with an approved wipe extending the contact time to the manufacturer’s recommendation (eg Oxivir TB requires 5 minute contact time)

**CAUTION:**
*DO NOT* immerse the meter or hold the meter under running water.
*DO NOT* spray the meter with a disinfectant solution