HACKETTSTOWN REGIONAL MEDICAL CENTER
LABORATORY – POINT OF CARE POLICY MANUAL

ACCUCHEK INFORM II (Patient and QC Test)

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Authority: Dr. Jun Li M.D. PhD
Laboratory Medical Director
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SCOPE; All trained staff in inpatient and outpatient departments.

PURPOSE: To quantitatively measure the blood glucose utilizing the Accu-chek Inform II meter from a venous, arterial, neonatal heelstick and capillary whole blood from the finger at the patient's bedside. The system is not for testing neonate cord blood samples.

DEFINITIONS:
mg/dl = milligrams per deciliter
CR LO = below the Critical Range threshold
CR HI = above the Critical Range threshold
LO = below the System Measurement Range
HI = above the System Measurement Range
QC = quality control
SOP = standard of operating procedure
POCC = Point of Care Coordinator (Lab personnel)

STORAGE:
♦ Store the meter, test strips and controls at room temperature. Do not freeze. Store unused test strips in the original container with the cap closed. Close the container tightly immediately after removing a test strip to protect them from humidity. The Accu-chek Inform II test strips have been developed such that there is no interference with maltose.
♦ Do not store the meter in direct sunlight or under extreme temperature conditions. Potential sources of heat can be but are not limited to: under a bilirubin light or photo therapy light, on a bed warmer, or in an isolette.

POLICY:
● Physician must order the Accu-chek test on a patient and the frequency of the test.
● Standard precautions are followed when performing this test.
● Only a current certified operator may perform the blood glucose on the Accucheck Inform II meters.
● Any patient result that falls below or above the critical values < 6**0mg/dl and >400mg/dl (CR HI and CR LO)** and result that says "**HI" or "LO**" must be repeated. A proper comment code must follow every critical or incorrect result.
● Repeat any QC result that falls outside of acceptable range.
● The critical values for neonatal is <**40mg/dl or >150mg/dl**. Follow the recommendations for follow up care set by the department protocols on critical values in neonates or per physician order.
● Normal ranges for non-diabetic adult is 74 -99mg/dl (it maybe necessary to enter a comment code outside of these values; choose "Disinfect meter" or "No Action Required".)
● If the patient has no MD guidelines and the result is critical, a lab back up must be ordered immediately followed by notifying the physician. The operator then enters the appropriate comment(s) in the meter.

● When an emergency situation occurs and it maybe necessary to perform glucose test prior to registering the patient or when the patient's armband doesn't scan follow these steps to get into the glucose meters…

1. Take one of the Accu-chek forms
2. Scan the lower right (just like the armband)
3. Fill in the Fin #, Result, Date & Time, and Operator ID.
4. Fax to the lab 6805
5. Shred when fax is successful.

● Follow the above steps for all neonate patient.
● Sufficient sample size is required to ensure accurate results. **"Test Strip Bad Dose"** will appear if there's not enough sample in the strip.
● Quality Controls must be run **every 24 hrs** and when using a new test strip vial with a new test strip code (lock out time is 0300; 1930 for OB; 01:00 for ED and only STAT tests is configured in the ED meter - it allows the meter to perform two STAT tests despite the meter being in QC lockout.
● Glucose control solutions are stable for **3 months** after opening. The expiration date **must be written** on the vial. Any outdated glucose control solutions will be discarded. Accu-chek test strips expire on the **USE BY** date printed on the vial.
● Disinfect meter after each patient use.
● It is on a physician discretion to diagnose their patient as critically ill therefore,d the use of capillary sample for glucose will not be appropriate.

PATIENT PROCEDURES:

1. The following items should be gathered and taken to the patient's bedside:
   - Accu-chek Inform II meter
   - Single-use and auto-disabling lancing device (Safe-T pro lancets)
   - Alcohol swabs
   - Cotton ball or gauze
   - Accucheck Comfort Curve test strips
   - Disposable gloves
2. Wash hands and don personal protective equipment as required by infection control and isolation policies and procedures.
3. Explain the purpose of the test and the steps of the testing procedure to reassure the patient and if they're able, help them wash their hands with warm water.
4. Press the power **ON/OFF** button located below the center of the touchscreen.
5. Meter will do self check. If QC is required, the message "**QC Due Immediately**" is displayed on the screen. Run QC first following the SOP.
6. Press ► to proceed. The Operator ID screen appears. Press the barcode icon and scan the employee badge. Position the scanning beam approximately four to eight inches above your employee barcode. A beep indicates a successful scan of the badge.
7. From the **Main Menu** screen touch **PATIENT TEST.**

8. Press and release the **barcode icon and SCAN** the patient's armband (refer to the policy above if a patient is unregistered at the time of testing or armband doesn't scan).
9. Verify the patient ID displayed on top of the screen.
10. Press and Release the **barcode icon and SCAN** the strip vial.
11. Touch to confirm. To use a different lot number than the one displayed, touch to display a list of stored lot numbers. Select the desired lot number from the list. Touch to confirm the selected test strip lot number.
12. Remove the test strip from the vial and close the vial immediately.
13. Hold the test strip so the lettering "ACCU-CHEK" is facing upward. Slide the test strip into the test strip port as far as it goes in the direction indicated by the arrows on the test strip. The meter beeps. **Wait until the flashing drop appears** in the display before applying the blood. The meter beeps again.
14. Cleanse finger with alcohol and allow it to thoroughly dry. (Alcohol at the puncture site must be dry or an error code/inaccurate result may occur).
15. Prick finger with lancet. Squeeze the finger and **wipe off the first drop of blood with a dry cotton ball or gauze.** Squeeze finger again, touch and hold drop of blood to the front edge (yellow dosing area) of the test strip and the blood will be pulled into the strip by capillary action. Do not smear the blood on top of the yellow target area. Meter will beep after a sample is recognized and the measurement begins.
16. The hourglass icon indicates the test is running. When the result is displayed, a message or warning may also appear.
17. Enter comment code/s and **REPEAT** any result with the following messages: **CR LO, CR HI, LO** and **HI**.
18. Add comments to these results by touching the icon. Select up to three predefined comments from the display list. Once you have selected the desired comments touch to return to the results screen. Touch again to return to the Main Menu.
19. Touch to return to the **Main Menu**. Press **PATIENT TEST** to repeat same patient or do another patient.
20. Discard all sample collection (sharps) and testing materials according to the Infection Control policy.
21. Document the blood glucose result according to departmental policy. All patient tests are documented in the electronic medical record.
22. Wash hands before leaving the patient room.
23. Cleanse the meter after each patient use with the approved cleansing wipes. Avoid wiping the back of the meter due to the battery compartment and other electronic sensors.(See Maintenance below)
24. Turn meter off and return to the base unit for battery charging.

QUALITY CONTROL PROCEDURES:

1. Follow PATIENT PROCEDURES steps 4-6
2. From the ***Main Menu*** screen touch ***Control test***.

3. Press and release the **barcode icon and scan *Level 1 (Lo)* or *Level 2 (Hi)*** control vial. Compare the number displayed by the meter to the number on the label of the control solution bottle.
4. Press and Release the **barcode icon and SCAN** the strip vial.
5. Touch ✔ to confirm.
6. Remove the test strip from the vial and close the vial immediately.
7. Hold the test strip so the lettering "ACCU-CHEK" is facing upward. Slide the test strip into the test strip port as far as it goes in the direction indicated by the arrows on the test strip. The meter beeps. Wait until the flashing drop appears in the display before applying the blood. The meter beeps again.
8. Apply a drop of glucose control solution to the **front edge of the test strip**. Do not apply the control solution to the top of the strip.
9. The results are displayed as **PASS or FAIL** only. Add comments to each **FAILED result and repeat the test.** If consistent FAIL, check to make sure the control solutions aren't expired and/or the test strips vials were not left opened for a period of time. If problem persists, call the lab and pick up a back up meter. Both levels of controls must pass in order to do patient test.

MAINTENANCE AND CARE:

1. Place the meter on a level surface prior to cleaning.
2. Power off the meter.
3. When using pre-moistened cleaning cloths, **squeeze off excess cleaning solution before** cleaning the surface of the mere.
4. Use hospital-approved cleaning solution to wipe clean the meter by gently wiping the outside of the meter and carefully wipe around the test strip port area, making sure that no liquid enters the test strip port area.
5. Avoid wiping the back area of the meter due to the battery compartment and other electronic sensors.
6. Allow the surface of the meter to remain damp with the disinfecting wipe for 1 minute.
7. Dry the meter thoroughly with a dry cloth or gauze.
8. Disinfect and clean the meter after every patient use.

TROUBLESHOOTING:

1. If the meter fails to function at any point in the procedure or if you get an error message associated with the result, make a note of the malfunction or error message and attempt to repeat the test. If the error persists, send the meter involved and deliver them to the lab for advanced troubleshooting and pick up a back up meter.
2. If the error message "**Strip Defect Error**" appears on the display, the test strip may be defective or the blood glucose result may be extremely low and below the meter's measurement range. Review proper testing procedure and repeat the blood glucose test.
3. If the meter displays "**Type Bad Dose**" there may be insufficient amount of blood on the test strip. Repeat the test using a new test strip, ensuring proper sample application.

LIMITATIONS OF THE METHOD:

1. Hematocrit should be between 10-65%.

2. Lipemic samples (triglycerides) in excess of 1800 mg/dl may produce elevated results.
3. Blood concentrations of galactose >15 mg/dl will cause overestimation of blood glucose results.
4. Intravenous administration of ascorbic acid which results in blood concentrations of ascorbic acid >3 mg/dl will cause overestimation of blood glucose results.
5. If peripheral circulation is impaired, collection of capillary blood from the approved sample sites is not advised as the results might not be a true reflection of the physiological blood glucose level. This may apply in the following circumstances: severe dehydration as a result of diabetic ketoacidosis or due to hyperglycemic hypersomolar non-ketonic syndrome, hypotension, shock, decompensated heart failure NYHA Class IV, or peripheral arterial occlusive disease.

REFERENCED:

1. Roche Operator's Manual Accu-chek Inform II.
2. Accu-chek Inform II test strips and code key package insert.
3. Accu-chek Inform II Quality Control package insert.