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Maternal Child Health – MBC, NICU, and NBC (RO, Troy, and Grosse Pointe)	1-2010	12-2016

PART I: QUALITY CONTROL

PART II: TEST PROCEDURE/DOCUMENTATION

GENERAL INFORMATION

1. JM-103 or JM-105 transcutaneous bilirubin (TcB) jaundice meters are available in MBC, NICU, and NBC.
2. The jaundice meter can be used on all infants who appear jaundiced or as directed by clinician or policy in MBC, NICU, or NBC.
3. The jaundice meter is a screening and trending device. In the NICU, once a serum bilirubin (TSB) is obtained and compared with the TcB, this information can be used to allow subsequent TcB bilirubin measurements in place of TSB. Additional TSB will be done if the TcB increases significantly or is within 3mg of the phototherapy level, or at the discretion of the Neonatologist.
4. The jaundice meter should NOT be used as a screening device until 24 hours after phototherapy has been discontinued.
5. If a newborn is transferred from NICU to MBC, the MBC RN is to obtain a TcB upon arrival to the MBC unit and document in the Electronic Medical Record. The newborn will continue to have TcB monitoring according to Nursery guidelines.
6. Newborns in MBC will have a TcB level measured on the midnight shift each day preferably between 0400 and 0600 during hospitalization.
7. Newborns in NBC will have a TcB level measured at twelve (12) hours of age and again at twenty-four (24) hours of age.
8. Trained/in-serviced RN's/NA/CA/NT's obtain and document TcB readings.
9. Always keep the jaundice meter plugged into electric (charging unit) when not in use.
10. Do not depress the measuring probe when it is directed towards the neonate's eyes. Damage to the eyes could occur.
11. Quality control is to be performed once daily on midnight shift by trained personnel on MBC and by the RN performing the emergency checks in the NICU.

PART I: QUALITY CONTROL PROCEDURE

1. Assess usual performance against known standard to ensure accurate results. Identify and resolve significant sources of error.
 - a. **JM-103 device:**
 - Open the checker tab on the top of the charger unit.
 - Wipe sensor probe with alcohol and wipe off with dry cotton ball or 2X2 gauze.
 - Hold the reset button down and then turn on the instrument. "CHE" will appear on the screen and the Ready light will illuminate.
 - Place the measuring probe perpendicular to the checker and gently push down, then pull measuring probe off of checker. The display will interchange between the L-value and the S-value (a "•" will appear in the upper left-hand corner of the display for the L-value and will not be there for the S-value).
 - Document information in quality control book and verify the L-value and S-value obtained as well as the JM-103 meter property tag number.
 - Close the checker cover.
 - Set power switch to off and replace in charger unit.
 - Note: The acceptable ranges for the L-value and S-value are provided on the charger unit and in the control data book provided for each base.

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b. JM-105 device:

- Open the checker tab on the top of the charger unit.
- Wipe sensor probe with alcohol and wipe off with dry cotton ball or 2X2 gauze.
- Turn device on and select "MENU"
- Scroll down and Select "Checker" and then "OK".
- Place the measuring probe perpendicular to the checker and gently push down, then pull measuring probe off of checker. The display will provide a L-value, S-value, and a Δ -value.
- Document information in quality control book and verify the values obtained are within the acceptable ranges for each value along with JM-105 meter property tag number.
- Close the checker cover.
- Turn off power and replace in the charger unit.
- Note: The acceptable ranges for the L-value, S-value, and Δ -value are provided on the charger unit and in the control data book provided for each base.

RECORDING QUALITY CONTROL RESULTS:

2. The results of the quality control test with the TcB jaundice meter are to be recorded on the Quality Control Data Sheet.
 - a. Record the following information daily:
 - i. Date of testing
 - ii. Jaundice Meter Property Tag ID number
 - iii. L-value, S-value on all devices and a Δ value on the JM-105 are obtained
 - iv. Initials and ID Number of personnel performing the test
 - b. The TcB jaundice meter Quality Control Data is kept in the TcB jaundice meter binder.
 - c. Management or designee will maintain data from log books.
3. If Quality Control Readings fail to meet and /or exceeds known standard:
 - a. If the TcB jaundice meter fails to meet above acceptable template readings as indicated on the QC Log book, corrective action must be taken.
 - b. Check ready light. If not on at all or if blinking (not constant light) plug back into the electronic adaptor and let it recharge.
 - c. Review technique. If the technique is correct, call 1-6300. Remove meter from use.

PART II: TEST PROCEDURE/DOCUMENTATION

1. Indications for use
 - a. Physician's order
 - b. Infant appears jaundiced per RN assessment
 - c. Unit protocol for newborn –
2. Equipment
 - a. Transcutaneous Bilirubin jaundice meter (JM-103 or JM-105)
 - b. Alcohol wipe
 - c. Dry cotton ball or 2X2 gauze

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3. Procedure

JM-103:

- a. Ensure the meter accuracy has been verified that day.
If not, perform test as outlined in Part 1.
- b. Prepare the instrument.
 - i. Turn machine on. Ensure battery is charged as indicated by constant red ready light in upper right corner and that the screen displays "n-1". If the screen display is not "n-1" but is "n≥2", hold down the reset button until the numbers begin to scroll through. Release the button when the display reads "n-1"
 - ii. Wipe off sensor probe with alcohol then dry with cotton ball or 2X2 gauze.
- c. Perform test
 - i. Expose infant's mid-sternum area (free from all clothing to minimize reflection/false readings)
 - ii. Position meter perpendicular to sternum.
 - iii. Gently press meter against sternum.
 - iv. Note the numeric value as shown on the LED screen. Press the reset button and wait for the green light to appear. Repeat the test two more times using the same procedure. Record/document the highest value of the three values obtained.

JM-105:

- a. Ensure the meter accuracy has been verified that day.
If not, perform test as outlined in Part I.
- b. Prepare the instrument.
 - i. Turn machine on. Ensure battery is charged as indicated by constant green ready light in upper left corner.
 - ii. Verify the instrument is set to the Measure screen of a single value.
 - iii. Wipe off sensor probe with alcohol then dry with cotton ball or 2X2 gauze.
- c. Perform test
 - i. Expose infant's mid-sternum area (free from all clothing to minimize reflection/false readings)
 - ii. Position meter perpendicular to sternum.
 - iii. Gently press meter against sternum.
 - iv. Note the numeric value as shown on the LED screen. A "Busy" icon will appear. Wait until this disappears and then clear the value. Repeat the test two more times using the same procedure. Record/document the highest value of the three values obtained.

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4. Document

- a. Document the highest of the three TcB values obtained from the JM-103 or JM-105 jaundice meter in the Electronic Medical Record.
- b. RN will obtain a total serum bilirubin (TSB) ***level if infant is jaundiced at ≤ 24 hours of age or the TcB JM-103 or JM-105 reading is $>95\%$ at any age according to the Beaumont Hospital Nomogram as ordered. All subsequent total serum bilirubin require a physician's order.
- c. If the TcB reading is $>95\%$, check mother's blood group. If blood group O, draw a type and Direct Antiglobulin Test (DAT, or Direct Coombs.)
- d. Report the results to the physician.
- e. Once initial bilirubin has been done, the physician can order further bilirubins.

***** A total serum bilirubin (TSB) must be obtained prior to an infant being placed under phototherapy lights.**

Related Policy: Phototherapy 6540

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Disclaimer : User must ensure that any printed copies of this policy/procedure are current by checking the policy/procedure web page before use.