

**OLIVE VIEW-UCLA MEDICAL CENTER
3C: NEONATAL INTENSIVE CARE UNIT
POLICY & PROCEDURE**

**NUMBER: 3179
VERSION: 2**

SUBJECT/TITLE: BILICHECK USAGE PROTOCOL

PURPOSE:	To outline and define the use of the Dräger Jaundice Meter JM-105
DEPARTMENTS:	NURSING
PROCEDURE:	<p>Description and Use The Dräger Jaundice Meter JM-105 is intended for use as a screening device for jaundice in the newborn. The jaundice meter JM-105 provides a transcutaneous measurement of bilirubin in mg/dl or umol/L, identifying neonates who require a serum bilirubin measurement.</p> <p>Screening for hyperbilirubinemia When combined with a systematic assessment of the risk factors for hyperbilirubinemia, the Dräger Jaundice Meter JM-105 can identify neonates who are at increased risk for more severe hyperbilirubinemia in the first week of life, and who might require closer monitoring.</p> <p>Two protocols are suggested for using the Dräger Jaundice Meter JM-105 as a screening device for hyperbilirubinemia. One is based on risk factors, the other is universal screening.</p> <p>1. Risk Factors Neonates with the following risk factors should be screened for hyperbilirubinemia with the Jaundice Meter JM-105</p> <ul style="list-style-type: none"> <input type="checkbox"/> Jaundice within 1st 24 hours (also send TSB to laboratory) <input type="checkbox"/> Blood group incompatibility/+DAT (also send TSB to laboratory) <input type="checkbox"/> Visible jaundice after 24 hours of age <input type="checkbox"/> ≤ 38 weeks gestation <input type="checkbox"/> Bruising/vacuum extraction/cephalohematoma <input type="checkbox"/> Breastfeeding <input type="checkbox"/> Inadequate feeding/excessive weight loss <input type="checkbox"/> Sibling with jaundice <input type="checkbox"/> East Asian race <input type="checkbox"/> Ethnic group at risk for G6PD deficiency (African-American male, Greek/Mediterranean, Italian, Middle Eastern)

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When risk factors are used, the neonate with risk factors should be screened with the Dräger Jaundice Meter JM-105 prior to discharge, or earlier if jaundice is noted.

2. Universal Screening

Screen all neonates with the Jaundice Meter JM-105 prior to discharge.

Note: neonates with jaundice in the first 24 hours of life should be screened immediately and also have a serum bilirubin sent to the laboratory.

Testing Procedure

Prepare the Jaundice Meter JM 105 for Use – Perform the Daily Operational Checkout Procedure.

1. Remove the Jaundice Meter JM-105 from the docking station.
2. Press the power switch on.
3. Select CHECKER and touch OK to save selection.
4. Open the checker lid on the charging unit.
5. When the green READY light illuminates, place the tip of the Jaundice Meter perpendicular on the reading checker circle. Press down until you hear a click.
6. The display screen shows the “L” (long), “S” (short), and Delta values. The meter must read within the reference values posted under the checker lid. If so, the unit is ready to use. If not, clean the tip and repeat. If values are still out of range, do not use the unit (contact the Dräger service department).

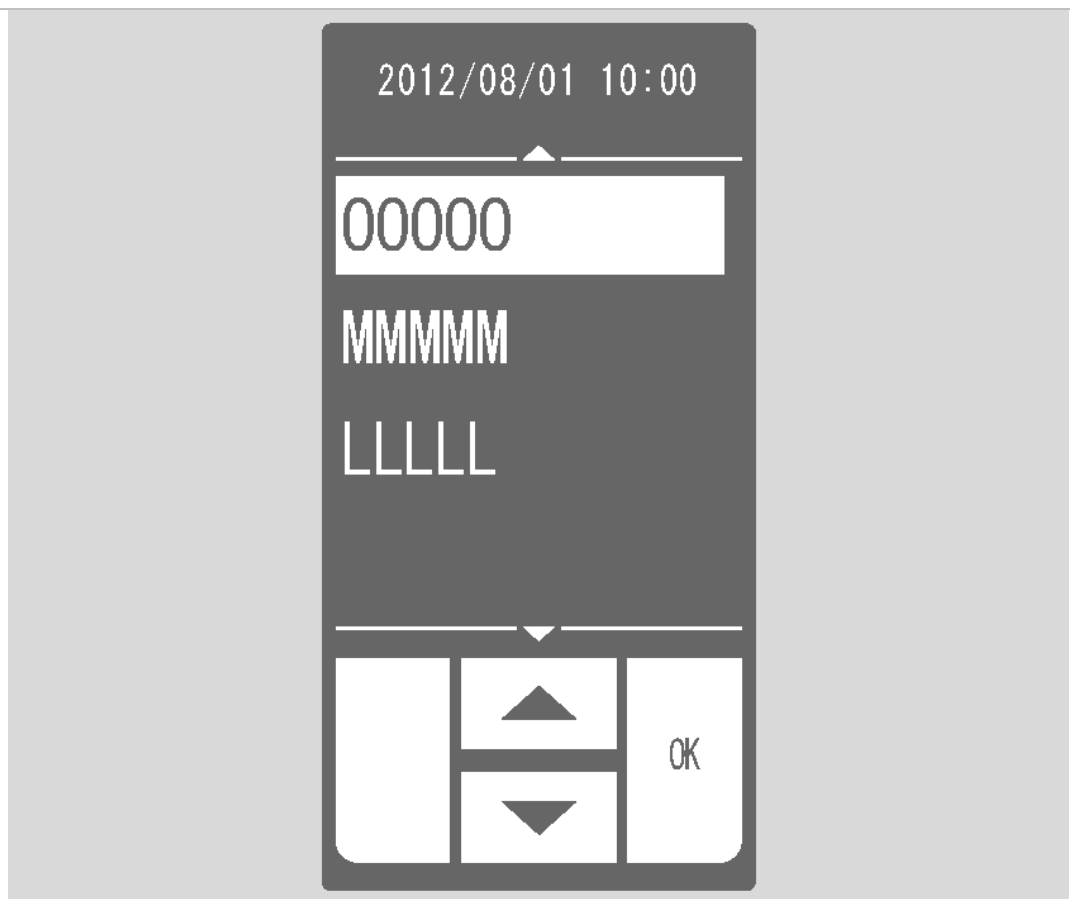
Configure the Jaundice Meter JM-105.

1. Press the power switch on.
2. If you want to change your file storage option, configure the device as desired by selecting CONFIG > MEMORY > OK > your desired setting (OFF, MEM ONLY, or LINK ON) > OK. If not, go to step 4.

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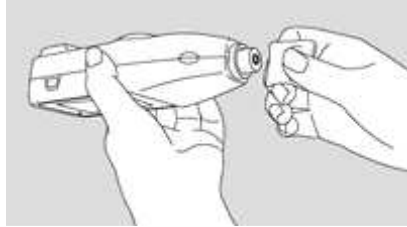


3. Press the MENU button to exit the CONFIG screen.
4. Determine whether or not you want to average your measurements and how many measurements you want to take. Configure the device as desired by selecting CONFIG > AVERAGE > OK > your desired setting (SINGLE through 5TIMES) > OK.



Take a Transcutaneous Bilirubin (TcB) Measurement.

1. Clean the tip of the probe with an alcohol swab.



2. Press the power switch on.
3. Select MENU, select MEASURE, and press OK. The letters AVE with the number of measurements selected will appear in the display.



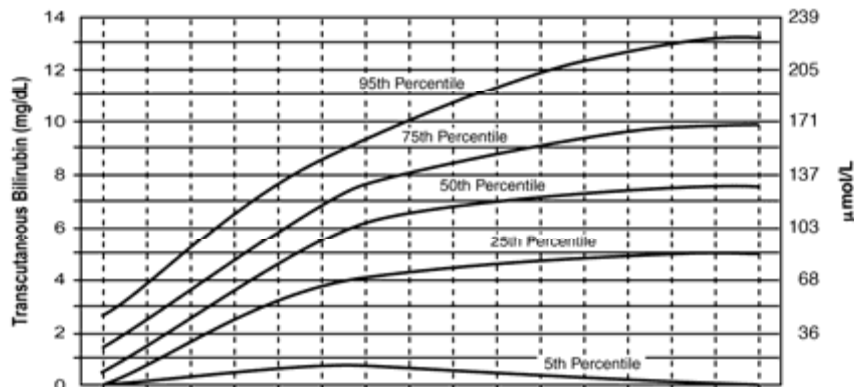
5. Select measurement site:
The neonate's midsternum is preferred but the forehead can be used.



6. Place the Jaundice Meter JM-105 probe tip flat against the baby's skin, **not at an angle**, and press lightly until you hear a click. Lift the Jaundice Meter JM-105 from the skin between measurements and pause until the green READY light illuminates again. Repeat the testing procedure until the required number of measurements has been taken.

Plot the Result on the Transcutaneous Bilirubin Nomogram

**(Neonates Up to 96 Hours of Age Only)*4
(≥35 weeks of gestation)**



On the horizontal axis, find the baby's age in hours. Follow this line up along the vertical axis to the point where it meets the transcutaneous bilirubin meter reading you just obtained. Make a small circle where these two values intersect. You can now see which percentile range the baby's TcB value falls into.

In the example above, the baby's TcB is 10 mg/dL at 50 hours of age. This places the baby just at the edge of the 95th percentile. [A TSB should be obtained on this baby.]

Subsequent TcB measurements should also be plotted on the graph to allow detection of an unusual trend such as a rapidly rising TcB.

Staff Competency Validation

All clinical personnel responsible for performing Jaundice Meter JM-105 testing must be properly trained prior to using the device in a clinical setting. Training will be completed as follows:

1. Staff responsible for using the Jaundice Meter JM-105 will receive a demonstration of the JM-105 by an experienced Jaundice Meter JM-105 operator OR will view the Jaundice Meter JM-105 training video. Learners are also responsible for reading the information provided in the Operating Instructions Manual.
2. Learners will perform a return demonstration on three infants in the presence of an experienced Jaundice Meter JM-105 operator and complete the attached Skills Checklist.
3. Successful completion of training will be documented in the employee's education record.

Note:

Measurements from unprotected sites are not reliable.

Newborns placed near a window with high exposure to sunlight may

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	<p>experience “natural phototherapy” which may alter the BiliChek results.</p> <p>All parents will receive a copy of “Frequently Asked Questions” Jaundice and Your Newborn from the AAP.</p>
REFERENCES	<p>1. Dräger Jaundice Meter Model JM-105 Instructions for Use.</p> <p>2. E T Schmidt, C A Wheeler, G L Jackson and W D Engle, Evaluation of transcutaneous bilirubinometry in preterm neonates, <i>Journal of Perinatology</i> 29 : 564-569 March 2009.</p> <p>3. Management of Hyperbilirubinemia in the Newborn Infant 35 or More Weeks of Gestation. <i>Pediatrics</i> Vol. 114 No. 1 July 2004</p> <p>4. Maisels MJ, Kring E. Transcutaneous bilirubin levels in the first 96 hours in a normal newborn population of ≥ 35 weeks' gestation. <i>Pediatrics</i>. 106;117(4):1169-117.</p>

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