

Section: Division of Nursing
Approval: _____

*** Protocol & Procedure ***

Index: 6170.076a
Page: 1
Issue Date: June 08, 2007
Review Date: Jan. 2008

Originator: P. Swanson, RN, BSN
HACKETTSTOWN COMMUNITY HOSPITAL

MATERNAL SERVICES
(Scope)

TITLE: Bilimeter

PURPOSE: To outline procedure to screen infants with the *Bilichek* Noninvasive Bilirubin Analyzer. This screen is to be performed on the second day of life, and recorded on the Nomogram in each infant's chart.

KEY POINTS

SUPPORTIVE DATA:

Jaundice is a condition characterized by yellowing of the skin and eyes that is caused by an excess of bilirubin in the blood. Bilirubin is a normal waste product resulting from the breakdown of red blood cells and is removed from the body by the liver. Prior to birth, bilirubin in an infant is processed by the mother's liver and excreted. After birth, an infant must eliminate bilirubin without the mother's help. It may take the infant's system several days to begin elimination bilirubin from the blood faster than it is produced. Bilirubin levels normally peak in full-term infants 4-5 days after birth and may peak later in premature infants.

Infants who are born prematurely, who are underfed, or who belong to certain ethnic groups are at increased risk of developing jaundice.

The initial screening of jaundice is the observation of yellow skin. This is a subjective determination prone to errors due to differing skin colors and gestational ages.

If the infant's serum bilirubin levels continue to rise the infant is at risk for kernicterus (the deposit of bilirubin in the brain at toxic levels which can cause permanent neurological impairment).

EQUIPMENT LIST:
1. *BiliChek* Noninvasive Bilirubin Analyzer.
2. *Bilical* Individual Calibration Tip

CONTENT:

PROCEDURE STEPS:

KEY POINTS:

1. Press top white button to turn the unit on.
2. Apply a new *BiliCal* Individual Calibration Tip to the unit. Press Trigger button to begin calibration.
3. Press the trigger button again.

Unit is in a 'sleep' mode, this will activate unit. The unit will perform a self-test, momentarily displaying all LCD indicators, Measurement Status Indicator, software revision, configuration screen and end at the home screen.

3 dashes (---) will flash in the display window indicating the unit is ready to calibrate.

The dashed lines will stop flashing indicating that the system is calibrating. When calibration is complete the MSI (dot under display window) will be amber, you will hear a beep, and the

4. Peel away the tab from the disposable Tip. Press and release the trigger button, the window will continue to read "005" indicating that 5 measurements need to be made.
display window will read "005".
5. Press and release the trigger button.
The unit is now activated and ready to take a measurement.
6. Gently press the BiliCa/ Tip against the infant's forehead or sternum. The Measurement Status Indicator (MSI) on the display will change from Amber to green when proper pressure is applied.
When doing repeated tests on any one infant, always use the same spot, either the forehead or sternum, to ensure consistent measurements.
7. The display will read "005" and will stop blinking when proper pressure is applied. The measurement should take less than 2 seconds. At the end of the measurement, a beep will sound and the display will change to "004". Lift the BiliCa/ tip off the infant's forehead or sternum between each measurement.
Do not continue to increase pressure once green light appears, or an E0a4 error message will appear in the display window.
8. Press and release the trigger button before Reapplying the BiliCa/ Tip to the infant.
The current measurement being taken will be indicated on the display (005...003...001) and the unit will beep one time for each measurement successfully completed.
9. Upon completion of the 5 measurements, a Beep sounds and the test results are displayed With the current time and date.
10. Remove and dispose of the BiliCa/ Tip.
11. Place the meter back in it's holder.
This will ensure battery charging.
12. Record information including date, time, and results on Nomogram in infant's chart. Plot results on graph in RED.
Order serum bilirubin for screening result of 8 or greater.

References:

(1) Rho(D) Immune Globulin (human) Rhogam TM

Index: 6160.076a
Page: 3 of 3
Revised Date: Jan. 2008

Package insert ORTHO Diagnostic Systems, Inc.
Johnson & Johnson Company
Raritan, NJ 08869

(2) Core Curriculum, Maternal Newborn Nursing
Edited by Susan Mattson and Judy E, Smith, NAACOG, WB SAUNDERS Co., 1993