New jaundice meter for the tiniest of patients

JM-105 helps protect the development of premature babies

Lübeck – Now with the Dräger Jaundice meter JM-105, caregivers can non-invasively measure bilirubin levels in newborns as young as 24 weeks gestational age. Screening with the medical device can reduce painful blood draws with possible long-term consequences in these young patients. JM-105 can store up to 100 measurement results and transmit them via a docking station to the clinic's patient data management system.

Different factors determine whether infants develop jaundice and this is true for preterm and full term infants. More than half of healthy newborn infants have bilirubin levels that are too high after birth. In order to diagnose jaundice, nurses often draw blood from the heel for total serum bilirubin (TSB) testing. While this is a routine procedure, the blood draws may leave trace effects, particularly in neonates, and the repeated pain experiences in this early stage of development may have a negative impact during childhood.

A study of early preemies from the 24th week proves that multiple pain stimuli can affect the maturation of neuronal structures. According to the scientists, this may affect the brain development of babies. With the help of transcutaneous bilirubin screening (TcB), however, jaundice can be determined reliably and painlessly. Studies have shown that non-invasive measurement results correlate with bilirubin levels collected by venipuncture. Study results have also shown that TcB measurements were comparable with TSB values for premature babies from the 24th week gestational age. “Until now, jaundice screening as early as the 24th week gestational age was not yet approved for use in many countries. The JM-105 contributes to reducing painful examinations for these tiny patients, thereby supporting their development,” said Inken Schroeter, product manager at Dräger.

Simplified measuring without consumables

The Jaundice Meter JM-105 allows nurses to non-invasively measure a value that correlates with the total serum bilirubin level. The device configuration setting can be adjusted so it is possible to take a single measurement or up to five measurements for an average value. This means the meter can identify...
newborns at an increased risk for hyperbilirubinemia with high accuracy. All device functions can be controlled using a color touch screen. The measurement is taken by gently pressing the sensor on the baby's forehead or sternum. The sensor is easily cleaned with rubbing alcohol before every screening process. Since the measuring unit is reusable, nurses need no further disposable products, therefore reducing additional costs.

The JM-105 stores up to 100 readings in its patient history. A nurse can identify abnormal values by attaching a flag symbol to a patient’s measurement. Thus, the clinical team can later locate the patient more quickly for further assessment.

Managing without paper
Entering or transferring measured values by hand is a thing of the past with the JM-105. All readings and data stored in the device can be transferred electronically by placing the device in the docking station and using a USB connection to a laptop or PC to the clinic’s PDMS (Patient Data Management System). The JM-105 enables data transfer via the interface standard HL 7 (Health Level 7).

The JM-105 is manufactured for Draeger Medical Systems, Inc., located in Telford, PA, USA.

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2 Kurdahi Badr, L. et al.: Determinants of Premature Infant Pain Responses to Heel Sticks, Pediatric Nursing/May-June 2010, Vol. 36, No.3; p.129; 135