



Gentle for the newborn,
efficient for you.

DRÄGER
JAUNDICE METER
JM-105

Assessing jaundice risk – without the trauma



While neonatal jaundice – or hyperbilirubinemia – occurs in almost all babies, it is a cause of concern for caregivers and anxiety for families. If not treated in time, severe cases of neonatal jaundice can lead to permanent brain damage¹.

Screening for jaundice by visual assessment can lead to an overestimation of risk, which means unnecessary lab tests. This blood draw (total serum bilirubin testing (TsB)) requires a heel stick, which is painful for the baby and costly for the hospital. Visual assessment can also lead to an underestimation of risk, which could result in a failure to obtain necessary lab tests.

That's why transcutaneous bilirubin testing (TcB) has grown rapidly in the past few years as a standard practice in hospitals to identify at-risk infants.

¹ Bhutani VK, Johnson LK, Keren R. Diagnosis and management of hyperbilirubinemia in the term neonate: for a safer first week. *Pediatr Clin North Am* 2004;51(4):843-61.



NEXT GENERATION JAUNDICE SCREENING FROM DRÄGER

Building on more than 30 years of proven technology², the Dräger Jaundice Meter JM-105 is a non-invasive transcutaneous bilirubinometer that measures the yellowness of subcutaneous tissue in newborn infants as young as 35 weeks gestational age³ who have not undergone a transfusion or phototherapy. It provides a visual digital measurement that correlates with serum bilirubin results. Effective on heterogeneous populations, the JM-105 can be used in both hospitals and outpatient settings.

The JM-105 improves the process of jaundice screening in several ways. The risk of infection is reduced since screening with the JM-105 is non-invasive and drawing blood is not necessary. The device also reduces risk of human error because it can scan nurse and baby ID information with a bar code scanner. This feature will automatically measure, save, and transfer data, which eliminates manual transcription which is time-consuming and prone to error. The result is quicker access to more immediate decision making and therapeutic intervention.

Screening with the JM-105 is cost effective because it reduces the frequency of lab tests. In addition, the device has a reusable probe, which eliminates the need for expensive disposables.

Because bilirubin levels peak two to four days after birth, when most babies have gone home, jaundiced babies have to be readmitted for treatment. Since the JM-105 can detect this risk before babies leave the hospital, jaundice can be treated immediately, which can reduce readmissions and lengths of stay⁴.

² Transcutaneous Bilirubinometry; Daniele De Luca, William Engle & Greg Jackson, Published by Nova Science Publishers, Inc. New York. 2013

³ Dr. Jackson & Dr. Engle, Evaluation of transcutaneous bilirubinometry in preterm neonates, 2009, Journal of Perinatology 29

⁴ Peterson JR, Okorodudu AO, Mohammad AA, Fernando A, Shattuck KE. Association of Transcutaneous Bilirubin Testing in Hospital with Decreased Readmission Rate for Hyperbilirubinemia. Clinical Chemistry 2005;51

Introducing a **better** way to deliver care to your newborns

Reusable probe

Just wipe with alcohol and reuse. There are no disposable tips to manipulate, maintain or reorder

Lightweight, ergonomic design

Fits easily in your hand or pocket for easy transport within the hospital or between clinical offices; smooth shape is easy to clean

Integrated light checker

Light checker in docking station helps ensure optimal performance of light source

Patient flagging

Allows you to easily record and identify babies that need special attention

SIMPLE JAUNDICE SCREENING PROCESS



1. Nurse enters ID for nurse and baby with barcode scanner or touch screen alphanumeric keypad



2. Nurse cleans probe and takes TcB measurements; no need to recalibrate for each patient



3. Nurse flags patients who may need immediate attention (!)



D-104476-2013

Bar code scanner
Provides fast, accurate entry of nurse and patient identification information

Touch screen display
Makes it easy to navigate through menu settings; choose to see results in mg/dL or $\mu\text{mol/L}$; adjust contrast and sensitivity of display

Rapid measurement
Saves time because the tip is reusable and calibration is not required for every patient

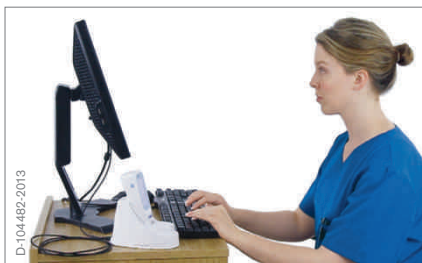
Internal memory
Holds up to 100 patient files

Data transfer via HL7
Enables connectivity with electronic medical record



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4. Nurse docks JM-105 into docking station, which is connected to the hospital network



D-104482-2013

5. Nurse can automatically transfer data for multiple patients to your hospital's data management system to store measurement results in the EMR



MT-3281-2003

6. Physician reviews TcB results to decide on further medical care

Benefits patients, parents and caregivers



The JM-105 gives you consistent quality, cost-effectively delivered over the lifetime of the device. As a result, you can optimize the efficiency of your jaundice monitoring, save time and money, and deliver an exceptional standard of care for your newborns.

EFFECTIVE

- Helps identify at-risk infants and eliminates guesswork
- Screens infants as young as 35 weeks gestational age
- Helps you establish effective protocols and comply with the latest clinical guidelines and recommendations



EFFICIENT

- Reduces manual documentation via electronic data transfer
- Provides immediate access to information for timely and informed decision making
- Reduces the cost of jaundice screening over lifetime of device by eliminating disposables
- Helps decrease unnecessary heel sticks, infection risk, and parent anxiety

EASY TO USE

- Makes screening fast and simple with an intuitive user interface
- Provides faster measurement since no calibration is needed for each new patient
- Offers bar code reader to enter nurse and patient ID
- Supportive training tools to reduce in-service costs

Simply put, the Dräger Jaundice Meter JM-105 is gentle for the newborn and efficient for you.



Neonatal competence



D-22387-2010

NEONATAL CARE

Dräger offers a comprehensive range of products to meet the complex needs of infants, families and caregivers – from innovative neonatal ventilation systems and specialized incubators to mobile monitors and state-of-the-art IT systems. Additionally, Dräger design and planning service help NICUs create an ideal ergonomic workplace where caregivers can work efficiently. Parents can nurture, families can bond, and infants can thrive.

Education and training



D-94388-2013

TRAINING RESOURCES

As part of our ongoing commitment to effective training, Dräger offers a comprehensive training video and training manual that deliver clear, concise instruction that enables you to become proficient in routine use of the Dräger Jaundice Meter JM-105. These resources allow you to train at your convenience, while helping you build confidence in using your equipment.

Service



D-32136-2011

DRÄGERSERVICE

At Dräger, we believe that quality devices deserve quality service. It is good to know that you have a partner at your side you can rely on for a wide range of service needs. We know your devices and learn your processes. We use the same quality standards for service that apply to our development of devices. As a result, your biomedical engineering department receives outstanding support.

BabyFirst™



D-84244-2013

BABYFIRST

BabyFirst is a preeminent online neonatal community for clinicians and parents. Materials are provided by key clinicians with content populated by clinicians and renowned experts. This website offers families a trusted resource for gaining a better understanding of what they can expect in the Neonatal Intensive Care Unit – giving insight to common terms, procedures, equipment, post-hospital care, and more. Visit www.babyfirst.com.

Technical Data

SPECIFICATIONS

DEVICE CLASSIFICATION

| | |
|----------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Protection class per IEC 60601-1 (Jaundice Meter) | Internally powered ME equipment, Type BF, continuous operation, not AP |
| Protection class per IEC 60601-1 (AC adapter) | Class I ME equipment, externally powered, Type BF, continuous operation, not AP |
| Ingress of liquids and particulate matter (IEC60601-1) | IPX0 |
| Classification in accordance with EU Directive 93/42/EEC Appendix IX | Ila |
| UMDNS code/GMDN code | 16-166/35475 |

ELECTRICAL SPECIFICATIONS

| | |
|---------------------------------------------|----------------------------------------------|
| Battery | Internal NiMH |
| Number of measurements (when fully charged) | 250 |
| AC adapter | |
| Input | 9 VDC, 500 mA |
| Output | 100 V ~ to 240 V ~, 50/60 Hz, 11 VA to 18 VA |
| Light source | Pulse xenon arc lamp |
| Light source life | 150,000 measurements |
| Sensors | Silicon photodiodes |

PHYSICAL SPECIFICATION

| | |
|--------|--------------|
| Width | 56 mm |
| Depth | 45 mm |
| Height | 168 mm |
| Weight | 203 g ± 10 % |

PERFORMANCE SPECIFICATIONS

| | |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Measurement range | 0.0 mg/dL to 20.0 mg/dL (0 µmol/L to 340 µmol/L) |
| Clinical Data Standard Error of Estimate (SEE) | ± 1.5 mg/dL or ± 25.5 µmol/L (> 35 weeks gestation) ± 1.6 mg/dL or ± 27.4 µmol/L (24 – 34 weeks gestation) |

DATA TRANSMISSION

| | |
|----------|-------------|
| USB port | HL-7 or CSV |
|----------|-------------|

AMBIENT CONDITIONS

DURING OPERATION

| | |
|-------------------|-------------------------------------|
| Temperature | 10 °C to 40 °C (50 °F to 104 °F) |
| Air pressure | 700 hPa to 1,060 hPa |
| Altitude range | -400 m to 3,000 m |
| Relative humidity | 30 % to 95 % (without condensation) |

DURING STORAGE AND TRANSPORT

| | |
|-------------------|-------------------------------------|
| Temperature | - 10 °C to 50 °C (14 °F to 122 °F) |
| Air pressure | 700 hPa to 1,060 hPa |
| Altitude range | -400 m to 3,000 m |
| Relative humidity | 30 % to 95 % (without condensation) |