

Transcutaneous Jaundice Meter



Kinder for the newborn, more efficient for you.

Supporting best developmental care practice for your tiny patients

Measuring Bilirubin Levels

Neonatal jaundice occurs frequently in newborn babies¹ and has long been a concern for health professionals. If left untreated, high bilirubin levels can result in permanent brain damage for the child, so early detection is vital for all babies.

The use of visual inspection alone is widely considered as unacceptable as this can lead to false estimates² with babies being put at risk of hyperbilirubinemia due to under estimation. Conversely, visual examination may also lead to an over-estimation of babies at risk, resulting in unnecessary invasive blood testing of total serum bilirubin (TsB).

It is well established that the transcutaneous measurement of bilirubin level is well correlated with serum concentration^{2,3,4}. The advantages to the healthcare professional and the patient of being able to determine bilirubin levels instantly and non-invasively are obvious.

Delta Medical International offer a portable transcutaneous jaundice meter (TcB), which can be used quickly and easily in the dynamic and ongoing clinical examination of neonatal jaundice. The portable nature of the device means that it can be used in a variety of situations such as neonatal units, maternity settings and paediatric wards; this can extend to use in the community.



It is recognised that the bilirubin levels of newborn infants often peak two to four days from delivery, after most term babies have gone home⁴. This can lead to a need for them to be readmitted to hospital for treatment; the Delta Medical jaundice meter can be used to lower this risk by screening for signs of elevated serum bilirubin before the infant leaves. Simply put, babies can be quickly and easily tested for hyperbilirubinemia and if required treated accordingly. This efficient and effective measuring device can help to reduce the length of stay in hospital and the readmission rate.

Supporting Developmental Care

It is well documented that neonates undergo numerous invasive procedures on a daily basis⁵; this not only causes unnecessary stress on the infant, but can also impact their long-term developmental outcome. Using the transcutaneous jaundice meter from Delta Medical dramatically reduces the need to take blood samples for hyperbilirubinemia testing; no painful needles means your patients will not experience the associated discomfort.



The simplicity of operation and speed of obtaining readings make repeated testing possible, to measure efficacy of treatment, with minimal impact on the patient. It is therefore practical to determine whether further intervention needs to be considered and to optimise patient care whilst following best developmental care principles.

Simple, reliable and cost-effective

This advanced and reliable measuring instrument increases working efficiency for healthcare professionals. Instantaneous results confirm whether the child's blood levels indicate treatment for hyperbilirubinemia, allowing the appropriate care to be commenced immediately.

The Delta Medical device also reduces the costs associated with frequent blood sampling for jaundice management. Test results are instantaneously displayed on the easy-to-read LCD display; the reusable monitor eliminates the need for costly disposables.

Features & Benefits

Efficacy

- Advanced optics and processing for highest accuracy
- Suitable for screening infants from 35 weeks' gestation
- Supports latest clinical guidance (NICE 2010)¹

Convenience

- Simple to apply and operate
- Easy to clean and maintain
- Result storage and memory function
- Simple self-calibration for accuracy and efficacy

Advantages

- Reduces the need for painful, invasive heel sticks
- Supports Developmental Care - reduced neonatal stress and parental anxiety
- Eliminates most of the costs of invasive blood sampling
- Reduces infection control risks associated with blood sampling
- Ergonomic design - compact and easy to hold
- Easy to read, with instant results of Serum Bilirubin levels
- No consumable parts

Specifications:

Parameter	Specification
Power Input	3Vdc (2 x AA alkaline batteries)
Power Consumption	5W max; 0.3W typ.
Measurement Range	0 - 32mg/dL (0 - 540µmol/L)
Measurement Accuracy	±1.5mg/dL (±25.5µmol/L)
Size	17.6 x 5.9 x 3.6cm (L x W x D)
Weight	0.22kg (including batteries)
Operating Temperature	+10°C to +40°C
Storage Temperature	-20°C to +55°C
Compliance	EN 60601-1, EN 60601-1-2, MDD 93/42/EEC

Notes:

These specifications may change without notice due to continuous product improvement.
This product is manufactured and marketed by Beijing M&B Electronic Instruments Co Ltd.

References:

- 1 **National Institute for Health & Care Excellence (NICE)**. Clinical Guidance CG98: Jaundice in newborn babies under 28 days. www.nice.org.uk, 2010
- 2 **American Academy of Pediatrics Subcommittee on hyperbilirubinemia**. Management of hyperbilirubinemia in the newborn infant 35 or more weeks of gestation. Pediatrics, 2004
- 3 **Najundaswamy, S, Petrova, A., et al.** The accuracy of transcutaneous bilirubin measurements in neonates: a correlation study. Biol. Neonate, 2004
- 4 **Holland, L., & Blick, K.** Implementing and validating transcutaneous bilirubinometry for neonates. AJCP, 2009.
- 5 **Carbajal, R., Rousset, A., Danan, C., et al.** Epidemiology and treatment of painful procedures in neonates in intensive care units. JAMA, 2008

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