

Methods: Retrospective review of moderately LBW infants admitted to the SCBU in the Rotunda with birth weights >1800g and < 2500g. Patients were identified using the unit database; further information obtained from chart review where necessary. All infants had temperature recorded on admission.

Results: 340 infants fulfilled the weight criteria. 44% of these were hypothermic on admission: 27% had mild hypothermia (36-36.4°C); 17% had moderate hypothermia (32-35.9°C). No patients had severe hypothermia. The lowest recorded temperature was 34° C. Overall rate of hypothermia in this group: 44% versus 32.4% in infants >2.5kg.

Conclusion: A significant number (44%) of LBW infants weighing 1.8 to 2.5kg admitted to the SCBU had mild to moderate hypothermia. The rate of hypothermia in larger infants (>2.5kg) was 32%. This indicates the need for improving practices to prevent hypothermia in the delivery room and during transfer of LBW infants.

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HEARTLIGHT - DELIVERY ROOM ACQUISITION TIME FOR A NOVEL FOREHEAD HEART RATE SENSOR FOR NEWBORN RESUSCITATION

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Background: Approximately 10% of newborn babies require some form of resuscitation at birth. Heart rate (HR) is one of the best indicators of effective resuscitation and is currently assessed with a stethoscope. However, this is not continuous, can interrupt resuscitation and is calculated incorrectly in 20-30% of cases. Pulse oximeters, attached to limbs, are not designed for monitoring HR and are unreliable in low perfusion states frequently observed in sick newborn infants. Use of a forehead HR sensor would be advantageous allowing quick placement, continuous monitoring and improved reliability in low perfusion states.

Aims: Develop a user friendly, quick and reliable forehead HR sensor for use in newborn infants requiring delivery room resuscitation.

Methods: We have developed a forehead HR sensor (HeartLight), utilising patented reflectance

photoplethysmography technology, to detect changes in pulse volume with a rapid acquisition time. The HeartLight can be sited within ten seconds. Following development in the NICU, we examined the acquisition time of the HeartLight sensor in the delivery room in term newborn babies (birth weight 3263±486g, n=16). Time to acquire a reliable signal was measured from the time the sensor was activated.

Results: Median time to obtain the first two consecutive pulsations was 1.8 seconds (IQR 1.4-8.0s) and first ten consecutive pulsations was 13.2 seconds (IQR 4.4-50.8s).

Conclusion: The HeartLight sensor may offer a simple, quick and continuous way to monitor the newborn HR during delivery room resuscitation. HeartLight is currently undergoing further development and clinical trials in preterm deliveries.

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VARIATION OF DELIVERY ROOM RESUSCITATION PRACTICE IN THE UK

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Background: Advances in neonatal intensive care have improved outcomes for term and preterm infants. Delivery room (DR) management of newborn infants remains basic although recent advances include the use of air for resuscitation, plastic wraps/bags for temperature preservation, DR CPAP and pulse oximetry. No data exist on DR management of newborns in the UK.

Aim: Establish current DR management of newborn infants in the UK.

Methods: A telephone/email/postal survey of DR management in UK neonatal units during 2009. 192 units were surveyed and 171 (89%) responded (65 Level III and 106 Level II/I units). Comparisons were made between level III (intensive care) and level II/I units (high dependency/special care).