

Neonatology Senior House Officer (SHO) Attendance at Newborn Deliveries

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Dear Sir,

Ten percent of term newborns require simple measures to establish effective respirations after birth; 3-5% need basic resuscitation and less than 1% require more extensive resuscitation^{1,2}. Many antenatal and intrapartum risk factors have been identified that variably increase the risk of resuscitation being required^{3,4}. Early identification of risk factors facilitates preparation and appropriate resource mobilisation. At Cork University Maternity Hospital an experienced midwife, competent in delivering basic resuscitation, is present at each delivery. A neonatal senior house officer (SHO) attends all deliveries deemed intermediate risk and a registrar attends all high-risk deliveries. A crash-call system is in place so that when an infant is born in unexpectedly poor condition, the neonatal response team is immediately alerted to attend.

We reviewed SHO attendance at deliveries in May to June 2020 to determine how many births a neonatology SHO is requested to attend in advance of delivery, the indications for SHO attendance, time spent at the delivery, and level of neonatal resuscitation required. Data was collected over a 28-day period.

SHOs were requested to attend 212/553 (38%) births in advance of delivery, i.e., 7-8 deliveries per day. A mean of 19 minutes was spent at each delivery, accounting for approximately 2.5 hours daily of SHO time. In 177/212 (83%) deliveries simple measures sufficed to establish regular respirations. A further 31 (15%) infants received basic resuscitation with either CPAP or IPPV. Four infants (2%) received advanced resuscitation with endotracheal intubation and/or external cardiac compressions.

Foetal distress was the most commonly cited risk factor for SHO attendance. In 15 of 104 such deliveries, the infants received some resuscitation. Additionally, all 9 infants <35 weeks gestation received respiratory support as did two of 17 of infants born prematurely, >35 weeks. Three of 8 infants with an intrapartum complication and one of two infants born by caesarean section under general anaesthesia received resuscitation. Of the remaining 62 deliveries classified as intermediate risk only two infants received resuscitation.

One of 23 infants born by assisted delivery (vacuum or forceps) for failure to progress and one of 22 infants delivered by NICE Category three emergency caesarean section received resuscitation. Zero of 12 infants received resuscitation where the only identified risk factor was meconium-stained amniotic fluid.

Our data shows that a large proportion of a Neonatology SHO's working week is spent at newborn deliveries, where in most cases little or no intervention is required. Given current practice whereby an experienced midwife, fully trained in basic resuscitation to a high standard (Neonatal Resuscitation Program certified), is present, we propose that indications for SHO routine pre attendance should be reviewed and refined. The change in current practice could proceed in a stepwise fashion, first eliminating routine SHO attendance for those deliveries recognised as low risk both in this study and internationally. To effect change safely, it is essential to ensure that there are clear lines of communication between the obstetric and neonatal services and a well-functioning emergency "crash call" system is in place in every maternity hospital. A process of ongoing audit should be initiated to monitor the impact of the change and provide opportunity to more clearly define those deliveries where neonatal SHO attendance is of value. This will permit greater efficiency in utilisation of the limited workforce, more efficient service provision, and enhance learning opportunity for the SHO.

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