



## Service Priorities and Programmes Electronic Presentations

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### **Resuscitate High Risk Neonates At Birth by a Specialist Team Optimize Neonatal Outcome of Premature Neonates**

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#### **Introduction**

Around 10% newborns require some resuscitative interventions at birth during transition to extrauterine life. These newborns necessitate prompt and effective resuscitation. Resuscitation initiated by a team of trained healthcare providers not only reduces mortality and morbidity but also improves long-term neonatal outcomes. Historically, resuscitation of the high-risk neonates at birth was carried out by paediatricians and midwives in Delivery Suite. Since 2013, a neonatal resuscitation team (NRT) with members including neonatologists and neonatal nurses, with more than 5 years of NICU experience and had completed Post Registration Certificate Course in NICU training, was set up. Key areas of focus of the team are resuscitation, thermoregulation, optimize oxygenation, preventing hypoglycemia and ensure patient safety

#### **Objectives**

1. To prevent hypothermia at birth
2. To achieve appropriate oxygenation during resuscitation and stabilization
3. To maintain euglycemia of the high-risk neonates
4. To prevent accidental dislodgement of endotracheal tube (ETT)

#### **Methodology**

Though the NRT takes care of high-risk neonates of all gestations at birth, resuscitation of premature neonates contributed to 90% of the service. Thus, a retrospective review from 2011 to 2015 on premature neonates who were born less than 32 weeks of gestation was carried out. Medical records of 187 neonates were reviewed in which 96 of them were resuscitated prior NRT establishment. Admission temperature, time specific oxygen saturation, blood glucose on admission and incidence of accidental ETT dislodgement before and after establishment of NRT was compared using independent t-test.

## **Result**

1. Statistical significant improvement was found: a. Normal admission body temperature (59% pre-NRT vs 87% post-NRT,  $P < 0.01$ ) b. Achieve appropriate time specific oxygen saturation (52% pre-NRT vs 97% post-NRT,  $P < 0.01$ ) Normal blood glucose level on admission (45% pre-NRT vs 93% post-NRT,  $P < 0.01$ ) 2. There was four incidence and zero occurrence of accidental dislodgement of ETT in the pre-NRT group and post-NRT group respectively. Conclusion Resuscitation of high-risk neonates at birth by a well-organized and skilled resuscitation team at birth improves patient safety and prevents complications of hypothermia, hyperoxia, hypoxia and hypoglycemia. This retrospective review highlights the fact that the NRT optimize neonatal physiological status of high-risk neonates during resuscitation at birth.