



# ANZCOR Guideline 13.2 – Planning for Neonatal Resuscitation and Identification of the Newborn at Risk

## Guideline

### 1 Training and improving resuscitation team performance

All those who may need to provide resuscitation of the newborn should undertake training that specifically includes the necessary individual and teamwork skills.

Simulation is a methodology in resuscitation education that allows multiple participants to practice and be assessed in these skills without risk to vulnerable patients. Use of simulation as an adjunct to traditional education methodologies may enhance performance of healthcare professionals in actual clinical settings. The most effective interventions and evaluation methodologies for training, and for training of resuscitation instructors remain to be defined. <sup>1</sup> ANZCOR suggests that training of resuscitation instructors should incorporate timely, objective, structured, individually targeted, verbal and/or written feedback. (CoSTR 2015, weak recommendation, low quality evidence).<sup>2</sup>

Training requires regular reinforcement in clinical practice, and/or refresher courses. We suggest that training should occur more frequently than annually. This retraining may consist of specific tasks and/or behavioural skills depending on the needs of the trainee. (CoSTR 2015, weak recommendation, low quality evidence).<sup>2</sup>

Briefings and debriefings during learning activities while caring for simulated patients, and during clinical activities may also be helpful in improving individual and team skills.

### 2 Anticipation

A person trained in neonatal resuscitation should be available for normal, low-risk births and someone trained in advanced resuscitation should attend all births considered at high risk for neonatal resuscitation. If it is anticipated that the infant is at high risk of requiring advanced resuscitation more than one experienced person should be present at the birth. Local guidelines should be developed specifying who should attend which births. [Class A, expert consensus opinion].

The list below contains examples of maternal, fetal, and intrapartum circumstances that place the newborn infant at risk of needing resuscitation.

The list is not exhaustive, and the magnitudes of these risks vary considerably, but the list is included to encourage planning. The need for an advanced resuscitation expert at the birth will depend on the number and severity of problems.

Whenever the need for resuscitation is anticipated, there should be a consistent and coordinated approach from the obstetric and paediatric/neonatal teams in applying these guidelines and when possible, communicating with the parents to develop a management plan [Class A, expert consensus opinion].

### **Maternal Risk Factors**

- Prolonged rupture of membranes (> 18 hours)
- Bleeding in second or third trimester
- Pregnancy-induced hypertension
- Chronic hypertension
- Substance abuse
- Drug therapy (e.g. lithium, magnesium, adrenergic blocking agents, narcotics)
- Diabetes mellitus
- Chronic illness (e.g. anaemia, cyanotic congenital heart disease)
- Maternal pyrexia
- Maternal infection
- Chorioamnionitis
- Heavy sedation
- Previous fetal or neonatal death
- No antenatal care

### **Fetal Risk Factors**

- Multiple gestation (e.g. twins, triplets, etc.)
- Preterm gestation (especially <35 weeks)
- Post-term gestation (>41 weeks)
- Large for dates
- Fetal growth restriction
- Alloimmune haemolytic disease (e.g. anti-D, anti-Kell, or other antibody known to cause haemolytic disease of the fetus and newborn, especially if fetal anaemia or hydrops fetalis is present)
- Polyhydramnios, oligohydramnios
- Reduced fetal movement before onset of labour
- Congenital abnormalities which may affect breathing, cardiovascular function or other aspects of perinatal transition
- Intrauterine infection
- Hydrops fetalis

### **Intrapartum Risk Factors**

- Non-reassuring fetal heart rate patterns on CTG
- Abnormal presentation
- Prolapsed cord
- Prolonged labour (or prolonged second stage of labour)
- Precipitate labour
- Antepartum haemorrhage (abruption, placenta praevia, vasa praevia)

- Meconium in the amniotic fluid
- Narcotic administration to mother within 4 hours of delivery
- Forceps delivery
- Vacuum-assisted (Ventouse) delivery
- Maternal general anaesthesia

## References

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1. Perlman JM, Wyllie J, Kattwinkel J, et al. Special Report--Neonatal Resuscitation: 2010 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science With Treatment Recommendations. *Pediatrics* 2010;126(5):e1319-44.
2. Wyllie J, Perlman JM, Kattwinkel J, et al. Part 7: Neonatal resuscitation: 2015 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science with Treatment Recommendations. *Resuscitation*. 2015;95:e169-201