The Royal Australian and New Zealand College of Obstetricians and Gynaecologists
Excellence in Women's Health

Responsibility for neonatal resuscitation at birth

This statement has been developed and reviewed by the Women's Health Committee and approved by the RANZCOG Board and Council.

A list of Women's Health Committee Members can be found in Appendix A.

Disclosure statements have been received from all members of this committee.

Disclaimer This information is intended to provide general advice to practitioners. This information should not be relied on as a substitute for proper assessment with respect to the particular circumstances of each case and the needs of any patient. This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. The document has been prepared having regard to general circumstances.

First endorsed by RANZCOG: July 2009
Current: November 2018
Review due: November 2021

Objectives: To provide health professionals and health care facilities providing intrapartum maternity care with information and recommendations regarding the roles of health professionals in neonatal resuscitation.

Target audience: Health professionals and hospitals providing maternity and perinatal care, and patients.

Values: The evidence was reviewed by the Women's Health Committee (RANZCOG), and applied to local factors relating to Australia and New Zealand.

Validation: This statement was compared with Australian and New Zealand and Australian Resuscitation Council guidance on this topic.

Background: This statement was first developed by Women's Health Committee in July 2009.

Funding: The development and review of this statement was funded by RANZCOG.

1. An appropriately trained practitioner, skilled in neonatal resuscitation, should be present at all births. This includes suitably qualified obstetricians, general practitioners, midwives, neonatal nurses, anaesthetists, paediatricians, or neonatologists.

   a. More specifically at low risk births

      i. A staff member trained in basic neonatal resuscitation should be in attendance and responsible only for the care of the newborn.

      ii. The Australian Resuscitation Council recommends a clinician trained in advanced neonatal resuscitation should also be available but not in attendance.

   b. More specifically at high risk births

      i. A clinician trained in advanced neonatal resuscitation should be in attendance and responsible only for the care of the newborn.

      ii. More than one experienced person should be present to care for the newborn.[1]

2. Health care facilities must ensure that all staff attending births with the responsibility for neonatal resuscitation have adequate and appropriate training in accord with national guidelines.[1, 2]

   Basic neonatal resuscitation:

   a. Airway support, ventilation via face mask and chest compressions

   Advanced neonatal resuscitation:

   a. Endotracheal intubation
   b. Vascular cannulation
   c. The use of drugs and fluids

3. Neonatal resuscitation should be anticipated by medical staff based on a maternal, fetal and intrapartum risk factors.

Factors to consider in risk assessment	
Maternal[1]	• Prolonged rupture of membranes (greater than 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 prenatal care
Fetal[1]	• Multiple gestation (e.g. twins, triplets) • Preterm gestation (especially less than 35 weeks) • Post term gestation (greater than 41 weeks) • Large for dates • Fetal growth restriction • Alloimmune haemolytic disease (e.g. anti-D, anti-Kell, especially if fetal anaemia or hydrops fetalis present) • Polyhydramnios and 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[1]	• Non reassuring fetal heart rate patterns on cardiotocograph (CTG) • Abnormal presentation • Prolapsed cord • Prolonged labour (or prolonged second stage of labour) • Precipitate labour • Antepartum haemorrhage (e.g. abruption, placenta praevia, vasa praevia) • Meconium in the amniotic fluid • Narcotic administration to mother within 4 hours of birth • Forceps birth • Vacuum-assisted (ventouse) birth • Maternal general anaesthesia

4. A requirement for the attendance of a clinician skilled in advanced neonatal resuscitation should be at the discretion of the accoucheur responsible for managing the birth, taking into consideration the following:

   a) The presence of specific additional risk factors and the number of risk factors for neonatal compromise including (but not limited to):

      - significant fetal compromise;

- Known and anticipated neonatal medical problems including:
    a. multiple birth;
    b. preterm birth;
    c. breech presentation;[3]
    d. general anaesthesia.[4, 5]
- Where transfer to neonatal or transitional care units is anticipated

b) The availability / proximity of a paediatrician for urgent attendance, should such assistance become necessary. Factors affecting this would include (but not be limited to):

- The presence of an immediately adjacent NICU, staffed with neonatologists capable of reliably attending within seconds. This may raise the threshold for paediatrician attendance at birth.

- A situation where the most available paediatrician is a considerable time away this would lower that threshold.

References

1. Australian Resuscitation Council (ARC). Neonatal Guidelines. Section 13. 2010. Available from: http://www.resus.org.au/.
2. New Zealand Resuscitation Council (NZRC). Newborn Life Support. Available from: http://www.nzrc.org.nz/.
3. Gordon A, McKechnie EJ, Jeffery H. Pediatric presence at cesarean section: justified or not?, Am J Obstet Gynecol. 2005;193(3 Pt 1):599-605.
4. Ng PC, Wong MY, Nelson EA. Paediatrician attendance at caesarean section, Eur J Pediatr. 1995;154(8):672-5.
5. Parsons SJ, Sonneveld S, Nolan T. Is a paediatrician needed at all Caesarean sections?, J Paediatr Child Health. 1998;34(3):241-4.

Links to other College statements

Evidence-based Medicine, Obstetrics and Gynaecology (C-Gen 15)
https://www.ranzcog.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical%20-%20General/Evidence-based-medicine,-Obstetrics-and-Gynaecology-(C-Gen-15)-Review-March-2016.pdf?ext=.pdf

Patient information

A range of RANZCOG Patient Information Pamphlets can be ordered via:
https://www.ranzcog.edu.au/Womens-Health/Patient-Information-Guides/Patient-Information-Pamphlets

Appendices

Appendix A Women's Health Committee Membership

Name	Position on Committee
Professor Yee Leung	Chair
Dr Joseph Sgroi	Deputy Chair, Gynaecology
Associate Professor Lisa Hui	Member
Associate Professor Ian Pettigrew	EAC Representative
Dr Tal Jacobson	Member
Dr Ian Page	Member
Dr John Regan	Member
Dr Craig Skidmore	Member
Associate Professor Janet Vaughan	Member
Dr Bernadette White	Member
Dr Scott White	Member
Associate Professor Kirsten Black	Member
Dr Greg Fox	College Medical Officer
Dr Marilyn Clarke	Chair of the ATSI WHC
Dr Martin Byrne	GPOAC Representative
Ms Catherine Whitby	Community Representative
Ms Sherryn Elworthy	Midwifery Representative
Dr Amelia Ryan	Trainee Representative

Appendix B Overview of the development and review process for this statement

i. Steps in developing and updating this statement

This statement was originally developed in July 2009 and the most recent version approved by Council in November 2018. The Women's Health Committee carried out the following steps in reviewing this statement:

- Declarations of interest were sought from all members prior to reviewing this statement.
- Structured clinical questions were developed and agreed upon.
- An updated literature search to answer the clinical questions was undertaken.
- At the July 2018 face-to-face committee meeting, the existing consensus-based recommendations were reviewed and updated (where appropriate) based on the available body of evidence and clinical expertise. Recommendations were graded as set out below in Appendix B part iii)

ii. Declaration of interest process and management

Declaring interests is essential in order to prevent any potential conflict between the private interests of members, and their duties as part of the Women's Health Committee.

A declaration of interest form specific to guidelines and statements was developed by RANZCOG and approved by the RANZCOG Board in September 2012. The Women's Health Committee members

were required to declare their relevant interests in writing on this form prior to participating in the review of this statement.

Members were required to update their information as soon as they become aware of any changes to their interests and there was also a standing agenda item at each meeting where declarations of interest were called for and recorded as part of the meeting minutes.

There were no significant real or perceived conflicts of interest that required management during the process of updating this statement.

iii. Grading of recommendations

Each recommendation in this College statement is given an overall grade as per the table below, based on the National Health and Medical Research Council (NHMRC) Levels of Evidence and Grades of Recommendations for Developers of Guidelines. Where no robust evidence was available but there was sufficient consensus within the Women's Health Committee, consensus-based recommendations were developed or existing ones updated and are identifiable as such. Consensus-based recommendations were agreed to by the entire committee. Good Practice Notes are highlighted throughout and provide practical guidance to facilitate implementation. These were also developed through consensus of the entire committee.

Recommendation category		Description
Evidence-based	A	Body of evidence can be trusted to guide practice
	B	Body of evidence can be trusted to guide practice in most situations
	C	Body of evidence provides some support for recommendation(s) but care should be taken in its application
	D	The body of evidence is weak and the recommendation must be applied with caution
Consensus-based		Recommendation based on clinical opinion and expertise as insufficient evidence available
Good Practice Note		Practical advice and information based on clinical opinion and expertise

Appendix C Full Disclaimer

This information is intended to provide general advice to practitioners, and should not be relied on as a substitute for proper assessment with respect to the particular circumstances of each case and the needs of any patient.

This information has been prepared having regard to general circumstances. It is the responsibility of each practitioner to have regard to the particular circumstances of each case. Clinical management should be responsive to the needs of the individual patient and the particular circumstances of each case.

This information has been prepared having regard to the information available at the time of its preparation, and each practitioner should have regard to relevant information, research or material which may have been published or become available subsequently.

Whilst the College endeavours to ensure that information is accurate and current at the time of preparation, it takes no responsibility for matters arising from changed circumstances or information or material that may have become subsequently available.