

Archived Recommendations and Key Learning Points

Recommendations from previous years made by the Subcommittees of the Maternal and Perinatal Mortality Committee are listed below, along with the link to the relevant Perinatal Practice Guideline, Standard or policy.

Maternal Subcommittee

Antenatal

Acute Fatty Liver of Pregnancy is a rare disease of the third trimester which constitutes an obstetric emergency and is associated with maternal mortality. Women who present to their care provider with non-specific abdominal issues such as nausea, vomiting, malaise or a change in stool colour, should be assessed with a high degree of suspicion and be reviewed by an experienced clinician as a matter of urgency (2019).

Cardiovascular disease is one of the leading causes of maternal death in Australia. The 2018 review of maternal deaths highlighted the importance of early identification and judicious antenatal and postnatal management of women who are experiencing cardiac conditions. Clinicians caring for affected women should consider the need for birth to occur in an intensive care setting; assess women carefully prior to considering early discharge; and facilitate regular postnatal review by a physician (2018).

[SA Perinatal Practice Guideline – Cardiac Disease in Pregnancy](#)

It is recommended that pregnancy does not proceed beyond 39⁺⁰ weeks in women with uncomplicated essential hypertension (2017).

Clinicians are reminded that tachypnoea may be an important indicator of a deteriorating patient (2012).

[SA Rapid Detection and Response Chart](#)

[SA Health Safety & Quality Unit Rapid Detection and Response Information](#)

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Pregnant women travelling in motor vehicles need to wear seat belts at all times for safety (1991). The South Australian Department of Transport, Energy and Infrastructure recommends that the lap part of the seat belt should be worn as low as possible, below the unborn child. It should be over the upper thighs and across the pelvis. The sash part of the seat belt passes above the stomach and between the breasts. The seat belt should be worn at all times when the vehicle is in motion (updated 2001).

<http://www.myllicence.sa.gov.au/road-rules/seatbelts-and-child-restraints>

In cases of pulseless maternal collapse at 20 or more weeks gestation, consideration should be given to early emptying of the pregnant uterus by caesarean section to facilitate resuscitation, in accordance with the International Liaison Committee on Resuscitation (ILCOR) 2011 guidelines for resuscitation of the pregnant woman (2011).¹

[SA Perinatal Practice Guideline - Collapse \(Maternal\)](#)

Pregnant women with current or previous serious medical conditions should be reviewed by a physician early in the pregnancy (2003).

[SA Perinatal Practice Guideline - Antenatal Care](#)

Clinicians are reminded that asthma is a serious condition, which is potentially fatal (2015).

[SA Perinatal Practice Guideline - Asthma in pregnancy](#)

Labour and birth

All maternity birthing services must have protocols for massive transfusion, which incorporate site specific recommendations for the use of other transfusion products in addition to red blood cells. All sites must have intravenous tranexamic acid readily available. As soon as major blood loss is recognised, blood should be cross matched, and the blood and platelets be made readily available to theatre and recovery (2012).

[SA Perinatal Practice Guideline - Blood transfusion and massive blood transfusion \(perinatal\)](#)

[SA Perinatal Practice Guideline - Postpartum haemorrhage \(PPH\)](#)

To reduce the risk of confusion about the urgency of caesarean section, all hospitals must use the terminology in the 'Standards for the Management of Category One Caesarean Section in South Australia 2011' (2012).

[SA Standards for management of Category 1 caesarean section](#)

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Postpartum

Consultation with an obstetric provider should be sought for any woman presenting with hypertension and/or headache in the two weeks following birth (2016).

[SA Perinatal Practice Guideline - Hypertensive Disorders in Pregnancy](#)

Where a woman presents with serious medical complications early in the postpartum period, she should be reviewed by an obstetric physician, if available, as well as by a consultant obstetrician, together with other medical specialists as appropriate (2009).

Individual circumstances under relevant sections of SA Perinatal Practice Guidelines

Non-steroidal anti-inflammatory drugs should be avoided post-partum and post-operatively in women with pre-eclampsia (2007).

[SA Perinatal Practice Guideline - Hypertensive Disorders in Pregnancy](#)

If a diagnosis of pre-eclampsia has been made, blood pressure must be monitored after birth until it has settled and any abnormalities of renal or liver function or blood counts have been appropriately managed (2007).

[SA Perinatal Practice Guideline - Hypertensive Disorders in Pregnancy](#)

Perinatal Subcommittee

Antenatal

In some cases pregnant women who do not have access to Medicare cover have chosen a model of care that they can afford rather than the most appropriate model of care. All pregnant women accessing care in South Australia, including those not recognised by Medicare, should have access to fully funded obstetric services (2019).

High quality morphology ultrasound is an essential component of antenatal care and allows health care providers and women access to critical information to inform decision making. The review of 2018 perinatal deaths demonstrated that, in a very small number of cases, ultrasonography was not high quality, contributing to delays in diagnosis and subsequent suboptimal outcomes for women and their families. The Subcommittee would like to highlight the role that appropriately timed morphology ultrasound, along with thorough assessment of the placenta and the fetus for structural anomalies, contribute to improved perinatal outcomes (2018).

Women who live in rural and remote areas face additional barriers to care in comparison to women living in metropolitan areas. The 2018 perinatal mortality review highlighted that a small proportion of women in regional areas were deterred from accessing antenatal care due to increased out of pocket expenses for care. Women in rural and remote areas will benefit from contemporary approaches to maternity care, including increased access to fully bulk-billed models of care such as caseload midwifery care as well as telemedicine (2018).

A woman with a history of preterm birth should be assessed for recurrent risk of preterm birth by a specialist obstetrician, prior to 16 weeks gestation (2017).

Pregnant women who contact the hospital with atypical abdominal pain and/or repeatedly with complaints of worsening abdominal pain should be assessed in person, not by telephone (2016).

Where severe fetal growth restriction (estimated fetal weight <3rd percentile) is suspected in the second trimester, the case should be discussed with a Maternal Fetal Medicine Specialist (2015).

[SA Perinatal Practice Guideline - Fetal Growth \(Restricted\)](#)

The care of women with current or previous serious conditions during pregnancy should only be undertaken in settings which are equipped to deal appropriately with such situations (2002). Women with serious maternal conditions should be cared for in hospitals with adequate comprehensive adult services. It is important to care for pregnant women in a setting that is appropriate for the level of risk the pregnancy presents for the mother and/or the baby (2006).

[Standards for Maternal and Neonatal Services in South Australia](#)

There should be further development and evaluation of culturally appropriate programs to enhance access to, and uptake of antenatal, birthing and postnatal care in Aboriginal communities (2009).

[Ngangkita Ngartu \(Aboriginal Family Birthing Program\)](#)

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Pregnant women with suspected obstetric cholestasis should have appropriate investigations, including serum bile acids. If the diagnosis is confirmed, ongoing care should be conducted in consultation with an obstetrician (2009).

[SA Perinatal Practice Guideline – Intrahepatic Cholestasis of Pregnancy](#)

When fetal macrosomia (large for gestational age) is suspected, the place, mode and timing of birth should be carefully considered (2009).

[SA Perinatal Practice Guideline - Fetal Growth \(Accelerated\)](#)

Women at increased risk of pre-eclampsia should be treated from early in pregnancy (< 16 week's gestation) with aspirin 100 mg daily to reduce the risk of early-onset pre-eclampsia and intra-uterine growth restriction (2012, 2009).²

[SA Perinatal Practice Guideline - Hypertensive Disorders in Pregnancy](#)

Pregnant women with a Body Mass Index (BMI) greater than 35 kg/m² are at higher risk from anaesthesia. A timely referral for an anaesthetic consultation should be considered for women with a high BMI (2005).

[Obese Obstetric Woman - Management in South Australia 2019 Clinical Directive](#)

Twin pregnancies should have early ultrasound determination, followed by further surveillance, for twin-twin transfusion in monochorionic pregnancies (2005).

[SA Perinatal Practice Guideline - Multiple Pregnancy](#)

Continued support of strategies to reduce smoking in pregnancy remains important (2002), *with a focus on culturally appropriate smoking cessation interventions for Aboriginal women* (2004).

[SA Perinatal Practice Guideline - Substance Use in Pregnancy](#)

<http://www.quitnow.gov.au/internet/quitnow/publishing.nsf/Content/home>

<https://ahcsa.org.au/programs/tackling-indigenous-smoking/>

The Subcommittee recommends the use of the birth weight for gestational age percentile charts for singletons³ and twins⁴ prepared using national perinatal data, which are available on the PSANZ website with the PSANZ perinatal death classifications (www.psanz.org.au) (1998, updated 2012).

[SA Perinatal Practice Guideline - Fetal Growth \(Accelerated\)](#)

[SA Perinatal Practice Guideline - Fetal Growth \(Restricted\)](#)

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Missed diagnosis of fetal growth restriction requires vigilance by clinicians during the antenatal period (2002). The use of customised growth charts and plotting during all antenatal visits from 24 weeks onwards improves the antenatal detection of growth restriction⁵ (updated 2012).

[SA Perinatal Practice Guideline - Fetal Growth \(Restricted\)](#)

Rhesus D negative women must have antibody status tested before the administration of Anti-D. A measurable titre of Anti-D antibodies is an indicator of potential alloimmunisation and always requires investigation and a specialist opinion (2006).

[SA Perinatal Practice Guideline – Anti-D Prophylaxis](#)

When feto-maternal haemorrhage is suspected, flow cytometry should be considered to estimate the volume as it is more precise than the Kleihauer test (2007).

[SA Perinatal Practice Guideline – Anti-D Prophylaxis](#)

Clinicians should refer to the South Australian Perinatal Practice Guidelines (www.health.sa.gov.au/PPG). Hospitals should provide easy access to the South Australian Perinatal Practice Guidelines for their staff (2011).

[SA Health Perinatal Practice Guidelines](#)

[Standards for Maternal and Neonatal Services in South Australia](#)

Labour and birth

Planned home birth for twins, breech presentations and post-term infants is associated with unacceptably high risks (2004). A previous caesarean section is a contraindication for home birth (2007).

[SA Health Planned Birth at Home](#)

Operative vaginal deliveries with an anticipated increased risk of failure should be conducted in an operating theatre with the capacity to proceed to a caesarean section as soon as possible, if required (2011).

[SA Perinatal Practice Guideline - Operative Vaginal Deliveries](#)

Once a decision to perform an emergency caesarean section has been made, fetal heart rate monitoring should continue until the commencement of surgery (2007).

[SA Perinatal Practice Guideline - Caesarean Section](#)

When induction of labour is deemed necessary in the presence of uterine scar and unripe cervix, careful consideration should be given to alternative options, such as postponing the induction or caesarean section (2005).

[SA Perinatal Practice Guideline - Birth After Caesarean Section](#)

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Carriers of group B streptococcus and women with risk factors, such as prolonged rupture of membranes, should be provided appropriate antibiotic treatment (2004).

[SA Health Perinatal Practice Guideline - Early Onset Neonatal Sepsis](#)

[SA Health Perinatal Practice Guideline - Prelabour Rupture of Membranes \(PROM\) \$\geq\$ 37 weeks](#)

[SA Health Perinatal Practice Guideline - Preterm Labour and Birth](#)

Appropriate training and maintenance of competence in cardiotocograph (CTG) interpretation for all levels of medical and midwifery staff (2000).

[SA Health Perinatal Practice Guideline – Fetal Surveillance \(Cardiotocography\)](#)

[SA Health Perinatal Emergency Education: Fetal Surveillance](#)

Postpartum

All neonates who are drowsy, irritable and feeding poorly should be considered seriously ill until proven otherwise as they may not be showing classical signs of infection. Please seek specialist medical advice urgently (2015).

[SA Health Perinatal Practice Guideline - Neonatal Sepsis](#)

Autopsy is strongly recommended (1992), and the clinical appearance should always be documented (2004). If parents decline autopsy, photographic and X-ray documentation should be obtained (2003). The State Perinatal Autopsy Service is available at no cost to parents, including parents in country areas and may be contacted on (08) 8161 7333 (2006).

[SA Health Perinatal Practice Guideline - Perinatal Loss](#)

[Stillbirth CRE IMPROVE Workshops](#)

The South Australian protocol for investigating stillbirths, including a systematic approach to investigate the potential involvement of thrombophilia's should be followed (2002).

[Stillbirth CRE IMPROVE Workshops](#)

[SA Perinatal Practice Guideline - Stillbirth Investigations](#)

All placentas associated with perinatal deaths should be examined by the Department of Surgical Pathology, Women's and Children's Hospital (2003)(P). They should be accompanied with all relevant clinical information. (2006)(P). Placentas that are not sent for pathological examination should be refrigerated for one week in individually labelled plastic bags (2011).

[SA Perinatal Practice Guideline - Perinatal Loss](#)

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All clinicians involved with clinical care for perinatal deaths or mortality review should attend an 'IMPROVE' workshop. 'IMPROVE' (Improving Perinatal Mortality Review and Outcomes via Education) workshops were designed by the Perinatal Society of Australia and New Zealand (PSANZ) and The Australian and New Zealand Stillbirth Alliance (ANZSA).

[Stillbirth CRE IMPROVE Workshops](#)

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Post Neonatal Subcommittee

The section of recommendations below is no longer updated following the disbandment of the Subcommittee. For further information please visit the Child Death and Serious Injury Review Committee (CDSIRC)

<http://www.cdsirc.sa.gov.au/> or the Department of Child Protection

<https://www.childprotection.sa.gov.au/>

Community nurses require a system to facilitate referral of high risk children to paediatricians or tertiary hospitals for urgent appointments (2006).

[Department for Child Protection](#)

Hospitals with high levels of paediatric throughput need provision of 24-hour paediatric expertise. Appropriate protocols regarding detection and management of potentially life-threatening paediatric conditions need to be developed, reviewed, distributed to and supported by all hospitals treating children (2004).

Urgent medical advice should be sought for all infants who are excessively drowsy, irritable and/or are feeding poorly. These infants, who may not be showing the classical signs of infection, should be considered seriously ill until proven otherwise (2011). Small infants also become dehydrated very rapidly (1992). Health professionals are reminded that intravenous fluids are lifesaving for any sick infant. Infants with cyanotic heart disease are more prone to the complications of dehydration and specialist advice should be sought (2004). Urgent retrieval may be necessary for any infant who is thought to be suffering from a significant bacterial infection (2003).

Families with known risk factors for adverse child outcome, such as parental substance abuse, parental psychiatric illness, household violence, maternal age less than 20 years and poor social circumstances, need ongoing support, supervision and referral as identified. This should be continued at least throughout the first year of life, if not for a longer period of time (1997).

[Child and Youth Health - Universal Contact Visit](#)

The nine recommendations below regarding infant sleep are all addressed by the infant sleep standards found at [SA Health Safe Infant Sleeping Standards](#)

1. Infants in all-in-one fitted baby sleeping bags do not require additional bed clothes covering the infant (2011).
2. Parents with infants and young children should take the opportunity to sleep when their children are asleep and should be aware of the risk of sleep deprivation associated with prolonged use of small screen entertainment. Extreme parental fatigue is a recognised risk factor for sudden unexpected deaths in infancy associated with co-sleeping. In some cases this fatigue is avoidable (2010).
3. Care should be taken when placing infants to sleep on mattresses on the floor as infants may roll off and become wedged (2006).
4. Health professionals providing care both in the antenatal and postnatal period should ensure that all parents and carers are provided with information about safe infant sleeping practices and prevention of sudden unexpected deaths in infancy (1996).
5. Babies should be placed on their backs to sleep. Sleeping supine is not contraindicated in babies with gastro-oesophageal reflux (1998).
6. Falling asleep with the infant at the breast may be hazardous (1996). Other forms of co-sleeping or bed sharing may be hazardous, particularly if the adults are intoxicated or sedated (see Appendix 11) (1993).
7. Potential hazards must be removed from the infant's sleeping environment. Babies must not be placed in cots with pillows, U-pillows, cot bumpers, large soft toys, thick blankets or quilts or any other items which may overheat or suffocate the infant (1993).
8. Infants should not be left to sleep unattended in stroller-prams or bouncinettes (1993).
9. Ensure that all new cots meet Australian Standards and only use old ones which do. Mattresses which do not fit cots properly should not be used, especially in cots that have unsupported webbing. Do not use very soft mattresses or inflatable mattresses which may vary in their firmness and present spaces in which an infant's head or face may be trapped (1993).

To record the child's weight and chart the weight on the percentile growth charts to identify children who are not thriving. It is important to investigate why a child is not thriving (2001). Any child who is not thriving should be referred to a medical practitioner (2003).

[Child Health Record](#)

To record and monitor immunisation. Immunisation is important to prevent infectious disease in children (2001). There is some evidence that there is a reduced rate of SIDS in immunised compared with non-immunised children⁶.

[Child Health Record](#)

To provide essential information to remove potential hazards in the home from the infant's environment. These include long hanging curtain cords, which may catch around the neck, and water in containers or baths in which an infant may drown (1998). Infants should never be left unattended in a bath or near water, even for a minute (1993). This applies also to water features in gardens (2005). Parents should not be reassured by the presence of an older sibling in the bath with the infant (2004). This warning also applies to infants placed in devices such as ring bath seats (2002). These devices have been banned in some Australian states due to deaths from drowning associated with their use.

Children with serious illnesses need to be easily identifiable to clinicians with a Medic Alert bracelet (2005).

The Subcommittee recommends that further research be undertaken on the incidence of community acquired Methicillin Resistant *Staphylococcus aureus* (MRSA) infections to help guide clinical practice in terms of antibiotic choice in sick children. This may include setting up systems to make hospital and community acquired MRSA infection a notifiable communicable disease (2005).

[NHMRC - Control of Infection in Healthcare](#)

References

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