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

Clinicians referring patients for radiology must ensure they receive and review the final report. If a report is amended, the person amending should contact the referring clinician to ensure they are aware of the final results (2022).

At the first presentation during pregnancy, clinicians should review all recent investigations performed (2022).

Aortic dissection should be considered in the differential diagnosis of women, with or without pre-existing aneurysmal dilatation/connective tissue disorder, presenting with chest pain (2022).

Consideration should be given to whether pregnancy is in the best medical interests of the patient prior to commencing or continuing IVF (2022).

Where clinically appropriate in pregnancy, a chest x-ray should be performed, irrespective of gestation (2022).

A diagnosis of asthma should not be underestimated (2022).

All prescribers should be aware of the risks and potential harms of polypharmacy, and should consider risk reducing in their prescribing including the use of script checking programs (ScriptCheck SA) and clear communication with GPs and other members of the health care team (2022).

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

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.mylicence.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

Postpartum

All services involved in the care of postnatal women should be aware of the potential of postnatal depression in any pregnancy and make appropriate referral (2022).

Consideration should be given to psychiatric referral in cases of severe postnatal depression (2022).

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

Reminder: the Clinical Practice Guideline for Care Around Stillbirth and Neonatal Death produced by the Stillbirth CRE and PSANZ was updated in 2019 with new recommendations regarding the recommended stillbirth investigations. This has been incorporated into the SA PPG (2022).

Review of maternal medication and supplementation use, particularly in early pregnancy, is advised to ensure prompt identification of teratogenic substances and timely cessation or referral to appropriate specialists for counselling (2022).

Patients presenting with significant abdominal pain, particularly non-responsive to opioids, should have a timely review by the most senior available clinician (2022).

Monochorionic pregnancies are associated with significant perinatal morbidity and mortality. Early US to confirm choronicity, good quality US surveillance including MCA Dopplers, senior obstetric care and consideration of MFM is recommended (2022).

All patients should be counselled and offered aneuploidy screening in the first trimester (NIPT or combined first trimester screening), including information regarding gestational cutoffs for cFTS screening. High probability aneuploidy screening results should be promptly referred to a centre or clinician capable of arranging diagnostic testing (2022).

All patients should be counselled and offered screening for autosomal recessive conditions, ideally pre-pregnancy or in the early first trimester. This includes screening for haemoglobinopathies (2022).

Diagnosis of ruptured membranes using ferning on microscopy, AmniSure and ActimPROM is best practice. The use of Amnistix should be abandoned (2021).

If there is a history of preterm birth, cervical monitoring should commence at 14 weeks gestation (2021).

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)

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/m^2 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 singletons[3] and twins[4] 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)

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 restriction[5] (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

An induction of labour (or Caesarean section if indicated) should be offered no later than 41 weeks gestation in any ongoing pregnancy (2021).

All those providing care during the perinatal period are recommended to undertake the free Stillbirth Investigations and Bereavement Care course (2021).

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

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) ≥ 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

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

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 children[6].

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

[1] Grady K, Howell C, Cox C, editors. Managing Obstetric Emergencies and Trauma. Chapter 4 Cardiopulmonary resuscitation in the non-pregnant and pregnant patient. ILCOR update January 2011. The MOET Course Manual. 2nd edition. London: RCOG Press; 2007.

[2] Bujold E, Morency A, Roberge S. Acetylsalicylic Acid for the Prevention of Preeclampsia and Intra-uterine Growth Restriction in Women with Abnormal Uterine Artery Doppler: A Systematic Review and Meta-analysis. JOGC, September 2009.

[3] Dobbins T, Sullivan E, Roberts C & Simpson J. Australian national birthweight percentiles by sex and gestational age, 1998-2007. MJA 2012; 197: 291-294.18.

[4] Roberts C, Lancaster P. National birthweight percentiles by gestational age for twins born in Australia. J Paediatr Child Health 1999; 35:278-282.

[5] Roex A, Nikpoor P, van Eerd P, Hodyl N, Dekker G. Serial plotting on customised fundal height charts results in doubling of the antenatal detection of small for gestational age fetuses in nulliparous women. ANZJOG 2012:52(1);78-82

[6] Mitchell EA, Stewart AW, Clements M, Ford RPK, on behalf the New Zealand Cot Death Study Group. Immunisation and the sudden infant death syndrome. Arch Dis Child 1995;73:498-50