South Australian Perinatal Practice Guidelines

Caesarean Section: Antenatal Preparation and Postnatal Care

Definition

- Caesarean section is the delivery of a baby through an incision into the abdominal wall and uterus (Enkin et al. 2000)

Incidence

- Caesarean section accounted for 32 % of births in South Australia in 2009
- Elective caesarean accounted for 15.9 % of births in South Australia in 2009 (Chan et al. 2011)
- In 2009, caesarean sections in South Australia were primarily performed for:
  - Lack of progress ('failure to progress') or cephalopelvic disproportion (27 %)
  - Previous caesarean section (39 %)
  - Fetal distress (16 %)
  - Malpresentation (12 %)
- In 2009, elective caesareans in South Australia were primarily performed for:
  - Previous caesarean section (67 %)
  - Malpresentation (13 %)
  - Multiple pregnancy (2 %) (Chan et al. 2011)

Antenatal preparation

Obstetric review

- Women who present with a history of previous caesarean section require referral and counselling appropriate to their individual needs. *(For further information, refer to the PPG 'Birth options after caesarean section)*

Education

- Studies have identified the following reasons why women request an elective caesarean section:
  - Anxiety related to a previous birth experience
  - Perceived safety
  - Psychological trauma
  - Sexual abuse
  - Pregnancy complications (Thomas & Paranjothy 2001)
- Approximately one in three women will choose a repeat elective caesarean section in preference to vaginal birth after a previous caesarean section (Turnbull et al.1999; Raheem & Salloum 2003)
- Some surveys have shown that women want more information about caesarean section and other obstetric interventions (Thomas & Paranjothy 2001). Women should receive all information necessary to make an informed choice
- It is important that the woman receives evidence based information that is consistent across medical and midwifery clinicians

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- Explain the indications / risks associated with caesarean section relevant to the woman's individual needs

Anaesthetic consult / review

- Should be arranged for all women who are planning an elective caesarean section
- It is preferable for the majority of caesareans to be performed under regional analgesia (spinal for elective caesarean section) as there is less maternal morbidity than with general anaesthesia (NICE 2003)

Caesarean section considerations

- Elective caesarean sections should be planned to occur after 38 completed weeks unless there are medical indications requiring earlier intervention, because of an approximately 7 % risk of neonatal respiratory complications before 39 weeks
- Antenatal betamethasone (intramuscular 11.4 mg x 2 doses 24 hours apart) for elective caesarean section after 37 weeks and up to 39 weeks results in reduced admissions of the newborn to special care baby units with respiratory distress (Stutchfield et al. 2005)
- Non-particulate antacid prophylaxis (sodium citrate 30 mL administered orally) should be given immediately before transfer to theatre. Mylanta and Gaviscon should not be given
- Alternatively, Ranitidine 150 mg may be administered orally if more than 2 hours pre caesarean section or Ranitidine 50 mg may be administered by slow intravenous injection (diluted in 20 mL of sodium chloride 0.9 % and given over 5 minutes)
- A group and save should be taken before transfer to theatre and on-site cross matching facilities should be available
- Intravenous access
- Thromboprophylaxis according to the established risk factors for venous thromboembolism
- Mechanical devices e.g. graduated compression stockings or intermittent compression devices (calf compressors) may be used
- Single dose prophylactic antibiotic cover should be administered to all women during their caesarean section (Thomas and Paranjothy 2001). First or second generation cephalosporins are recommended

Categorisation of urgency for emergency caesarean section

- Categorisation of emergency caesarean section facilitates communication and reduces misunderstanding between health care professionals (RCOG 2004). The risk level of the woman and the timing of decision making by medical practitioners (general practitioners or specialists) in Level 3-4 hospitals should be taken into account when determining the place for delivery
- South Australian standards have been developed for the management of Category One caesarean section. There are four different emergency caesarean section categories to assist with the prioritisation of theatre cases and utilisation of theatre according to clinical urgency for delivery

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1. Category one – Immediate threat to life of patient or fetus e.g.

- Cord prolapse
- Failed instrumental birth with fetal compromise (Bradycardia, high lactate or low pH i.e. < 7.2
- Maternal cardiac arrest
- Abnormal fetal scalp blood sample / pH (high lactate or pH < 7.2)
- Confirmed fetal blood (Apt's test) indicating ruptured fetal blood vessel, including Vasa Praevia
- Sustained fetal bradycardia (< 70 / min for ≥ 3 minutes)
- Placental abruption
- Placenta praevia with major haemorrhage
- Identified irreversible abnormality on the cardiotocograph that requires delivery within 30 minutes

2. Category two – Maternal or fetal compromise but not immediately life threatening e.g.

- Identified, but irreversible abnormality on the cardiotocograph but safe to deliver within 60 minutes
- Malpresentation of the fetus

3. Category three – Needing early birth but no maternal or fetal compromise

- Failure to progress in labour
- Malpresentation in early labour
- Planned caesarean section presenting in labour
- Maternal condition requiring stabilisation, e.g. preeclampsia

4. Category four – At a time to suit the woman and the caesarean section team

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Auditable standards for booking to birth interval

Category Caesarean Section	Booking to birth interval	Level 6 ORMIS coding	Level 5 ORMIS coding	Level 4 Local data system	Level 3 Local data system	Level 1 & 2
Category 1	> Within 30 minutes	0.5	0.5			N/A No birth facilities to undertake Caesarean section
	> Within 45 minutes			Within 45 mins		
	> Within 60 minutes				Within 60 mins	
Category 2	> Within 1 hour	001	001	Within 60 mins	Within 60 mins	
Category 3	> Within 4 hours	004	004	Within 4 hours	Within 4 hours	
Category 4	> Within 24 hours	024	024	Within 24 hours	Within 24 hours	

- The booking to birth interval for level 5 and 6 hospitals is audited in accordance with a designated IT software system named “Operating Rooms Information Management System (ORMIS)”. Level 3 and 4 hospitals will have a designated local documentation procedure which may be electronic or paper based (SA DoH 2011)
- A RCOG (2004) review of decision to delivery times found maternal and neonatal outcomes do not change for decision to delivery intervals of up to 75 minutes. However, delays to delivery of > 75 minutes were associated with poorer outcomes; the effect greater with pre-existing maternal or fetal compromise

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Postnatal care

Low risk elective / emergency caesarean section

- Ensure adequate analgesia
- Early removal of indwelling catheter (within 24 hours)
- Encourage early mobilisation and hydration
- Encourage deep breathing and coughing (physiotherapy review as indicated)
- Diet as desired
- Observe for postoperative complications e.g. transient ileus, urinary or upper respiratory tract infection, deep venous thrombosis, wound infection
- Offer opportunities to discuss the birth and impact on future pregnancies with the responsible caregiver

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Abbreviations

DoH	Department of Health
et al.	And others (et alii)
mins	Minutes
NICE	National Institute for Clinical Excellance
%	Percent
RCOG	Royal College of Obstetricians and Gynaecologists
VBAC	Vaginal birth after caesarean section

Version control and change history

PDS reference: OCE use only

Version	Date from	Date to	Amendment
1.0	08 Mar 04	20 Mar 12	Original version
2.0	20 Mar 12	current	

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