

# South Australian Perinatal Practice Guidelines

# Breech Presentation

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## Literature review

- > Breech presentation becomes less frequent with advancing gestational age and accounts for 3-4 % of pregnancies at term (RCOG 2006b)
- > Breech presentation is associated with increased mortality and morbidity, largely due to:
  - > Preterm gestation
  - > Congenital malformations
  - > Birth asphyxia or trauma
- > Planned caesarean section carries a reduced perinatal mortality and early neonatal morbidity for babies with a breech presentation at term compared with planned vaginal birth (RCOG 2006b)
- > External cephalic version significantly reduces the frequency of breech presentation and of caesarean section for term (> 37 weeks) breech presentations (Hofmeyr & Kulier 1996)

## Definition

- > The buttocks, foot or feet (instead of the head) are presenting in the birth canal

### Three classifications:

#### Frank breech

- > Hips flexed, legs extended at the knee

#### Complete breech

- > Hips and knees flexed and feet not below the fetal buttocks

#### Footling breech

- > One or both feet presenting (as the lowest part)

## Contributing factors

- > Nulliparity
- > Previous breech birth
- > Uterine (anatomical) anomaly
- > Oligohydramnios
- > Polyhydramnios
- > Extended fetal legs
- > Multiple pregnancy
- > Short umbilical cord
- > Early gestation
- > Fetal abnormality
- > Poor fetal growth

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## Antenatal examination

- > Abdominal examination in late pregnancy to assess fetal presentation

## Clinical examination

- > Suspect breech presentation if:
  - > On abdominal examination, the presenting part feels irregular and is not ballotable and a hard round ballotable head is found in the fundus
  - > Fetal heart sounds are heard high in abdomen (usually above the umbilicus)
  - > On pelvic examination the head is not felt in the pelvis (buttocks and / or feet may be felt)
- > Thick, formed meconium may be present once the membranes are ruptured

## Suspected breech presentation at or beyond 37 weeks:

- > Ultrasound (USS):
  - > Confirm type of breech presentation (frank, complete or footling breech)
  - > Estimate fetal weight
  - > Exclude hyperextension of the fetal head
  - > Exclude placenta praevia
  - > Assess fetal morphology
- > Hyperextension of the fetal head greater than 90 degrees warrants caesarean delivery because of the risk of spinal (cervical) cord damage during vaginal delivery
- > The chance of spontaneous version from breech to cephalic diminishes with advancing gestation although this may still occur in up to 25 % after 36 weeks gestation

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### External cephalic version (ECV)

- > All women with uncomplicated breech presentation at or near term should be offered ECV unless contraindications exist (see contraindications below)
- > Studies have shown no effect from the use of postural techniques such as the knee-chest Elkins procedure to correct the position of the baby from breech to cephalic (Hofmeyr & Kulier 2000)
- > The use of tocolysis with salbutamol has been shown to increase the success rate of ECV. Salbutamol may be routinely used for ECV or if an initial ECV attempt has failed (RCOG 2006a)
- > Women should be counselled that, with a trained operator, an overall ECV success rate of 40 % for nulliparous and 60 % for multiparous women can usually be achieved (RCOG 2006a)
- > With ECV, appropriate selection of women and adequate surveillance are necessary to ensure a low complication rate
- > The highest ECV success rates are seen with multiparous non-white women with a relaxed uterus, where the breech is not engaged and the head is easily palpable (RCOG 2006a)

### Contraindications to ECV

- > Antepartum haemorrhage in current pregnancy
- > Ruptured membranes
- > Multiple pregnancy
- > Severe fetal abnormality
- > Caesarean section necessary for other indications
- > Previous caesarean section (relative contraindication)
- > Poor fetal growth
- > Significant hypertension or preeclampsia
- > Uterine anomaly
- > Cord around fetal neck (nuchal cord)
- > Abnormal cardiotocograph (CTG)
- > The risks to the mother of ECV are exceedingly small and relate to possible effects from tocolysis and the rare complication of placental abruption
- > For the fetus at term the risks are small if carried out with adequate surveillance by skilled personnel and with theatre facilities for immediate intervention in the event of a complication

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## Guideline for ECV

### On admission

- > Ensure verbal consent obtained
- > Abdominal palpation
- > Review blood group

### Maternal / fetal observations

- > Record pulse and blood pressure.
- > Record a CTG

### Senior medical review:

- > Confirm breech presentation and absence of a nuchal cord by ultrasound
- > Consider intravenous access if salbutamol tocolysis is required (see salbutamol tocolysis below)

### Breech confirmed and CTG normal

- > ECV should be conducted by an experienced person
- > CTG for 30 minutes after the attempt
- > Ultrasound to confirm success / exclude cord presentation

### ECV unsuccessful

- > Consider salbutamol tocolysis if due to uterine tone

### Anti D

- > A dose of 625 IU CSL Rh D immunoglobulin should be administered to all Rhesus negative women with no pre-existent endogenous anti-D (*for further information refer to the PPG 'Anti-D Prophylaxis'*)

### Discharge

- > When the CTG after ECV has been reviewed as normal, the woman may be discharged

## Salbutamol tocolysis

- > Continuous CTG during procedure

### Preparation

- > Exclude a history of maternal cardiac disease or arrhythmia / untreated thyrotoxicosis

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### Dosage and administration

- > **Obstetric salbutamol: 5 mL ampoule 5 mg / 5 mL**
  - > Using a 1 mL syringe, draw up 0.25 mL (250 micrograms) of salbutamol
    - > Add to a 10 mL syringe and make up to 10 mL with sodium chloride 0.9 % (25 micrograms per mL)
    - > Give intravenous salbutamol **slowly** in 50 microgram boluses up to 250 micrograms in total (often 100 micrograms will be sufficient)
    - > **Ensure monitoring of maternal pulse whilst bolus doses are administered**
    - > **Stop IV administration if maternal pulse > 140**

### Side effects

- > Fetal and maternal tachycardia, maternal hypotension, ventricular ectopics, supra-ventricular tachycardia, ventricular fibrillation, pulmonary oedema, hypoxia – secondary to increased oxygen demands + / - fluid shift in lungs, hyperglycaemia

### Breech delivery management

- > The management of term breech delivery should include:
  - > Discuss and plan mode of delivery for breech presentation in partnership with the woman
  - > Women should be informed about the higher perinatal risks associated with breech birth and with vaginal breech birth in particular (relative risk = 3:1)
  - > Consider the size of previous babies born vaginally relative to the current estimation of fetal weight
  - > Clinical assessment of pelvic capacity by vaginal examination
  - > Pelvimetry need not be used routinely

### Elective caesarean management

- > Book not earlier than 38.5 weeks

### Vaginal breech birth

- > It is important that clinicians and labour and delivery units are prepared for the occurrence of vaginal breech birth
- > Vaginal breech birth should take place in a hospital with facilities for emergency caesarean section

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### Vaginal breech birth may occur in the following situations:

- > Precipitate labour that does not allow time for caesarean section
- > Undiagnosed breech presentation
- > Delivery of the second twin in breech position
- > The woman chooses to deliver vaginally and has an agreed management plan including conditions for abandonment of vaginal birth with a registrar or consultant who is experienced in vaginal breech birth

### Considerations:

- > Exclude intrauterine growth restriction
- > Presentation should be either complete or frank breech
- > Exclude hyperextended head
- > Aim for spontaneous onset of labour
- > Group and save
- > Ensure caregiver is appropriately experienced
- > Intrapartum continuous electronic fetal monitoring is advised. Fetal blood sampling from the buttocks during labour is not advised
- > Epidural analgesia should not be routinely advised; offer women a choice of analgesia during breech labour and birth (RCOG 2006)
- > Regular assessment to confirm adequate progress
- > Induction or augmentation ONLY in selected cases. Decision to be made by consultant
- > Anaesthetist and paediatrician present at birth
- > Aim for an assisted breech birth
- > Prompt evaluation and recourse to immediate caesarean section in the presence of significant fetal compromise

### Good practice points

- > Active pushing should not be encouraged until the breech has descended to the pelvic floor
- > The woman is usually positioned in lithotomy
- > An episiotomy is generally advised (especially if forceps required)
- > In assisted vaginal breech birth, allow as much spontaneous delivery by uterine action and maternal effort as possible
  - > Intervention should be limited to manoeuvres designed to correct any deviation from the normal mechanism of spontaneous delivery
- > During delivery, and only if necessary, grasp baby by the bony pelvis with the thumbs along the sacrum (a towel may be used to improve the grip without too much squeezing and keep the baby warm)

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### Delivery to scapula

- > The breech, legs, and abdomen should be allowed to deliver spontaneously to the level of the umbilicus; the only intervention would be to correct the position to sacro-anterior if not already in this orientation (usually occurs over one contraction and maternal expulsive effort)
- > Deliver the legs, if they are extended, by abduction of the thigh and flexion of the fetal knee (using finger pressure in the popliteal fossa)
- > Once the legs and abdomen have emerged, the fetus should be allowed to hang from the vulva until the tip of the scapula is seen
- > After delivery of the legs and abdomen, encourage the woman to push again with contractions and the shoulders should present in the anterior-posterior plane and deliver spontaneously, one at a time, along with the arms which are usually crossed in front of the chest
- > Delivery of the rest of the body, to delivery of the mouth, should be achieved over the next one or two contractions

### Lovset's manoeuvre

- > If the arms do not deliver spontaneously, or the baby's arms are alongside the head, Lovset's manoeuvre may be used to free each arm. The success of this manoeuvre depends on the posterior shoulder being below the sacral promontory while the anterior shoulder is above the symphysis pubis
- > The accoucher grasps the baby's thighs with their thumbs over the sacrum and with the back uppermost gently pulls downward and turns the baby through 180 degrees until the posterior arm comes to lie anteriorly and is released under the symphysis pubis (A), while at the same time, the other shoulder is brought into the pelvic cavity
- > The elbow will appear below the symphysis pubis, and that arm and hand can be delivered by sweeping it across the fetal body (B)
- > This manoeuvre is repeated in reverse to deliver the other arm
- > The fetus should then be allowed to hang from the vulva for a few seconds again until the nape of the neck (hairline) is visible at the anterior vulva. This allows descent of the head into the pelvis, and once this point is reached, the head may be delivered
- > Delivery of the aftercoming head may be via forceps or the so-called Mauriceau-Smellie-Veit manoeuvre
- > The fetal body may:
  - > be supported on the right forearm of the operator and not be raised above the horizontal in order to minimise the chance of hyperextension of the fetal head before delivery of the aftercoming head using the Mauriceau-Smellie-Veit Manoeuvre (see below)

OR

- > the operator's assistant may grasp the ankles of the fetus and raise the body vertically above the mother's abdomen before any attempt to deliver the fetal head using the Burns-Marshall technique and / or forceps
- > Avoid traction on the cervical spine during delivery of the head



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### Mauriceau-Smellie-Veit manoeuvre

- > With the fetus supported on the right forearm, the middle finger of the right hand is pressed onto the fetal chin with the index finger and ring finger placed on either side on the malar eminences to promote flexion and descent while counter pressure is applied with the left hand posteriorly on the fetal occiput to encourage flexion
- > An assistant may also apply suprapubic pressure to encourage head flexion and descent

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### Abbreviations

|      |   |
|------|---|
| CSL  | Commonwealth Serum Laboratory                     |
| CTG  | Cardiotocograph                                   |
| ECV  | External cephalic version                         |
| IU   | International units                               |
| IV   | Intravenous                                       |
| mg   | Milligram(s)                                      |
| mL   | Millilitre(s)                                     |
| RCOG | Royal College of Obstetricians and Gynaecologists |
| Rh   | Rhesus  |
| USS  | Ultrasound  |

### Version control and change history

**PDS reference:** OCE use only

| Version | Date from   | Date to    | Amendment        |
|---------|-------------|------------|------------------|
| 1.0     | 09 April 04 | 12 June 08 | Original version |
| 2.0     | 12 June 08  | 20 Sept 11 | Reviewed         |
| 3.0     | 20 Sept 11  | current    |                  |
|         |             |            |                  |