

## Policy

# Clinical Guideline

## South Australian Perinatal Practice Guidelines – breech presentation

**Policy developed by:** SA Maternal & Neonatal Clinical Network

**Approved SA Health Safety & Quality Strategic Governance Committee on:**

10 June 2014

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**Summary** Clinical practice guideline for the management of breech presentation

**Keywords** lithotomy, lovset's manoeuvre, Mauriceau-Smellie-Veit manoeuvre, hyperextension, Burns-Marshall technique, flexion nuchal cord, CTG, abnormal palpation, cord presentation, pulmonary oedema, hypoxia, hyperglycaemia, vaginal examination, pelvimetry, undiagnosed breech, twin, intrauterine growth restriction, hyperextended head, epidural, fetal compromise, preterm gestation, congenital malformations, birth asphyxia, caesarean section, external cephalic version, nulliparity, breech birth, oligohydramnios, polyhydramnios, frank, footing breech, postural techniques, tocolysis, salbutamol, ECV, uterus, breech, Perinatal Practice Guidelines, breech presentation, clinical guideline

**Policy history** Is this a new policy? **N**  
Does this policy amend or update an existing policy? **Y**  
Does this policy replace an existing policy? **Y**  
If so, which policies?

### **Management of breech presentation**

**Applies to** All SA Health Portfolio  
All Department for Health and Ageing Divisions  
All Health Networks  
CALHN, SALHN, NALHN, CHSALHN, WCHN, SAAS  
Other

**Staff impact** N/A, All Staff, Management, Admin, Students, Volunteers  
All Clinical, Medical, Nursing, Allied Health, Emergency, Dental, Mental Health, Pathology

**PDS reference** CG137

### Version control and change history

Version	Date from	Date to	Amendment
1.0	09 Apr 04	17 Jun 08	Original version
2.0	17 Jun 08	20 Sep 11	Reviewed
3.0	20 Sep 11	20 May 14	Reviewed
4.0	20 May 14	Current	

# South Australian Perinatal Practice Guidelines

# breech presentation

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## Note

This guideline provides advice of a general nature. This statewide guideline has been prepared to promote and facilitate standardisation and consistency of practice, using a multidisciplinary approach. The guideline is based on a review of published evidence and expert opinion.

Information in this statewide guideline is current at the time of publication.

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Health practitioners in the South Australian public health sector are expected to review specific details of each patient and professionally assess the applicability of the relevant guideline to that clinical situation.

If for good clinical reasons, a decision is made to depart from the guideline, the responsible clinician must document in the patient's medical record, the decision made, by whom, and detailed reasons for the departure from the guideline.

This statewide guideline does not address all the elements of clinical practice and assumes that the individual clinicians are responsible for discussing care with consumers in an environment that is culturally appropriate and which enables respectful confidential discussion. This includes:

- The use of interpreter services where necessary,
- Advising consumers of their choice and ensuring informed consent is obtained,
- Providing care within scope of practice, meeting all legislative requirements and maintaining standards of professional conduct, and
- Documenting all care in accordance with mandatory and local requirements

## Literature review

- > Breech presentation becomes less frequent with advancing gestational age and accounts for 3-4 % of pregnancies at term<sup>1,2</sup>
- > 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<sup>1</sup>
- > External cephalic version significantly reduces the frequency of breech presentation and of caesarean section for term (> 37 weeks) breech presentations<sup>3</sup>

## 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)

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cywhs.perinatalprotocol@health.sa.gov.au

## Contributing factors

### Maternal

- > Nulliparity
- > Previous breech birth
- > Uterine (anatomical) anomaly
- > Placental abnormalities (praevia, cornual)
- > Oligohydramnios
- > Polyhydramnios
- > Multiple pregnancy
- > Grand multiparity

### Fetal

- > Extended fetal legs
- > Short umbilical cord
- > Early gestation
- > Fetal abnormality
- > Poor fetal growth

## 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

## External cephalic version (ECV)

- > All women with uncomplicated breech presentation at or near term should be offered unless contraindications exist (see contraindications below)

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- > 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<sup>7</sup>
- > 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<sup>8</sup>
- > 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<sup>8</sup>
- > 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<sup>8</sup>

### 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)
- > Hyperextension of the head
- > 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

### 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

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**ECV unsuccessful**

- > Consider salbutamol tocolysis if due to uterine tone
- > If ECV still unsuccessful with tocolysis, book elective LSCS

**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 (follow link to [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

**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

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## Vaginal breech birth

- > It is important that clinicians and labour and delivery units are prepared for the occurrence of vaginal breech birth
  - > Theoretical and hands-on breech birth training simulation should be part of basic obstetrical skills programs to prepare clinicians for unexpected vaginal breech births
- > Vaginal breech birth should take place in a hospital with facilities for emergency caesarean section

### 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. Verbal consent is documented

### Considerations:

- > Exclude intrauterine growth restriction
- > Fetal weight is greater than 2,500 g and less than 4,000 g
- > Presentation should be either complete or frank breech
- > Exclude hyperextended head
- > No previous caesarean section

### Intrapartum considerations

- > Aim for spontaneous onset of labour
- > Group and save
- > Ensure caregiver is appropriately experienced
- > Continuous electronic fetal monitoring is advised
- > Regular assessment to confirm adequate progress
- > 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<sup>2</sup>
- > Induction or augmentation ONLY in selected cases. Decision to be made by consultant
- > Maternal co-operation with pushing
- > Aim for an assisted breech birth
- > Anaesthetist and paediatrician present at birth
- > Prompt evaluation and recourse to immediate caesarean section in the presence of significant fetal compromise

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### Good practice points

- > Active pushing should not be encouraged until the breech has descended to the pelvic floor
- > Some women may request to birth on all fours, standing, or on a birth stool; however, attending clinicians often have the most experience supporting birth in the dorsal or lithotomy position and therefore may recommend this position for birth
- > A passive second stage, defined as full dilatation without spontaneous urge to push, may last up to 90 minutes, allowing the breech to descend well into the pelvis. Once active pushing commences, if delivery is not imminent after 60 minutes, caesarean section is recommended
- > 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)

### 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, 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
- > This manoeuvre is repeated in reverse to deliver the other arm
- > The fetal body 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 (flexes the head to allow descent). An assistant may also apply suprapubic pressure to encourage head flexion and descent (Bracht manoeuvre) into the pelvis. Once the fetal occiput has descended underneath the symphysis, the head may be delivered

- > Delivery of the after coming 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 after-coming 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. **NB:** The baby's body must not be elevated until the fetal occiput has descended underneath the symphysis (avoids risk of damage to the baby's cervical spine)
- > Avoid traction on the cervical spine during delivery of the head

### 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 (Bracht manoeuvre)

### Head entrapment-unable to deliver after coming head (ACH)

- > Head entrapment is an obstetric emergency. The preterm fetus is at high risk because of a larger fetal head to abdominal circumference ratio than a term fetus

#### Causes

- > Occasionally the ACH will not engage in the pelvis
- > This may be due to:
  - > Bony disproportion (pushing in the presence of a high presenting part)
  - > deflexed fetal head
  - > Nuchal arms
  - > full bladder
  - > partially dilated cervix (particularly with pre term or IUGR infants)
  - > baby delivers sacro posterior (back down)

#### Immediate management

- > Vaginal examination to determine if a rim of cervix remains and if present, attempt to push over the head
- > If the fetal head is well engaged, perform Mauriceau-Smellie-Veit manoeuvre combined with suprapubic pressure from an assistant in a direction that maintains descent and flexion of the head
- > Rotate the fetal body to a lateral position and apply suprapubic pressure to flex the fetal head
- > Apply traction then rotate the fetal back to sacroanterior position and deliver after c

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head with forceps (e.g. Neville Barnes or clinicians preference)

- > If unable to apply forceps, apply firm pressure to the fetal head above the mother's pubic bone to flex the baby's head and push it into the pelvis
- > An assistant may also apply suprapubic pressure to encourage head flexion and descent (Bracht manoeuvre)
- > Attempt to flex the head by applying pressure on the occiput and malar eminences
- > Avoid excess traction on the baby's shoulders and trunk
- > If the head is trapped in a partially dilated cervix attempt to:
  - > Stretch the cervix over the head
  - > Incise the cervix using Mayo scissors. The safest position is at 2 and 10 o'clock. These incisions often do not require suturing as usually they will not bleed significantly
  - > Apply the forceps to the fetal head inside the cervix
- > Consider administering a uterine relaxant (e.g. terbutaline 0.25 mg SC, OR salbutamol 250 micrograms in 10 mL 0.9% sodium chloride IV, OR nitroglycerin 50 to 200 micrograms IV)

### Management of nuchal arms

- > Empty the bladder
- > If there are nuchal arms attempt Lovset's manoeuvre. This may bring the posterior arm down far enough to flex it and effect delivery
- > Attempt to sweep the arm over the head and across the face and chest
- > Symphysiotomy may be life saving for the baby, but has the potential for significant morbidity for the mother

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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
sc	Subcutaneous
USS	Ultrasound

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