

## Breech presentations

Breech presentation occurs when the the fetus presents 'bottom-down' in the uterus. There are three types:

- Breech with extended legs (frank) is the most common presentation.
- Breech with fully flexed legs (complete).
- Footling (incomplete) with one or both thighs extended.

The significance of breech presentation is its association with higher perinatal mortality and morbidity when compared to cephalic presentations. This is due to pre-existing congenital malformation, increased incidence of breech in premature deliveries and increased risk of intrapartum trauma or asphyxia.

Caesarean section has been adopted as the 'normal' mode of delivery for term breech presentations in Europe and the USA, as the consensus is that this reduces the risk of birth-related complications . In the USA, over 85% of all breech births are now by caesarean section (up from 14% in 1970) . Intrapartum and neonatal deaths associated with breech presentation appear to have been declining: one study based on Scottish births between 1985 and 2004 showed a 75% decrease in deaths but the increased use of planned caesarean section only partially explained the decrease . Elective vaginal breech delivery continues to be debated.

### **NICE guidance on caesarean section**

The National Institute for Health and Care Excellence (NICE) has produced new guidance on caesarean section.<sup>[1]</sup>

# Epidemiology

The proportion of babies in the breech position declines with gestation: 20% at 28 weeks and 3–4% at term.<sup>[2]</sup> The majority of fetuses turn spontaneously by 36 weeks, adopting the 'best fit' position that a normal gravid uterus provides.

## Risk factors for breech presentation<sup>[2]</sup>

- Lax uterus (usually associated with high maternal parity).
- Uterine anomalies (eg, bicornuate or septate uterus) or tumour.
- Placenta praevia.
- Abnormal pelvic brim.
- Maternal smoking.
- Maternal diabetes.
- Fetal malformation (eg, hydrocephalus).
- Multiple pregnancy.
- Polyhydramnios or oligohydramnios.
- Low birth weight (preterm delivery or intrauterine growth restriction).
- Previous breech delivery.

Maternal or fetal mechanical risk factors are only found in 7–15% of breech deliveries. Recurrence of breech delivery in successive siblings is high and there appears to be an increased risk of intergenerational recurrence, equally high transmitted via fathers or mothers.<sup>[3]</sup>

## Presentation

Prior to 32–35 weeks, the diagnosis is of no clinical significance. Thereafter, the following symptoms and signs are suggestive of a breech presentation:

- Subcostal tenderness.
- Ballottable head in the fundal area.
- Softer irregular mass in the pelvis.

- Fetal heartbeat loudest above the umbilicus.
- On VE in labour, the sacrum, anus or foot can be palpated through the fornix.

## Investigations

Diagnosis is confirmed by ultrasound which can also reveal any fetal or uterine abnormalities predisposing to breech presentation.

**Refer any suspected breech persisting at 35–36 weeks for scan and specialist opinion**

## Management

### Reducing the incidence of breech presentation at term

The Royal College of Obstetricians and Gynaecologists (RCOG) recommends that all women in the UK with an uncomplicated breech pregnancy at term should be offered external cephalic version (ECV), provided there are no contra-indications. ECV involves the lifting of the fetal bottom with one hand whilst the fetal head is pushed down with the other, moving the fetus in the direction that allows the head to be the presenting part .

Women should be counselled that: <sup>[4]</sup>

- Attempting ECV at term reduces the risk of a non-cephalic birth and caesarean section. <sup>[5]</sup>
- Labour with a cephalic presentation after a successful ECV has a higher rate of obstetric intervention than labour with a spontaneous cephalic presentation.
- Success rates of ECV range between 30–80%. Factors contributing to successful ECV include: multiparity, non-white race, relaxed uterine tone, adequate liquor volume and a station above the pelvic brim.
- ECV is a safe procedure that has been shown not to increase the risk of intrauterine death within and after 24 hours of the procedure, irrespective of the outcome of ECV. <sup>[6]</sup>

- Complications associated with ECV are uncommon but include placental abruption, uterine rupture and fetomaternal haemorrhage.
- ECV is offered from 36 weeks in nulliparous women and 37 weeks in multiparous women. ECV can be attempted in post-date women and can even be performed in early labour provided membranes are intact.
- Attempting ECV between 34 and 36 weeks of gestation compared with after 37 weeks of gestation is more likely to be successful and considerably reduces the risk of a breech presentation at term but may be more likely to lead to a late preterm birth.<sup>[7]</sup>
- Contra-indications (such as having another indication for caesarean delivery, antepartum haemorrhage in the last week, abnormal cardiotocography (CTG) trace, major uterine anomaly, ruptured membranes) occur in only 4% of women with breech presentation at term.
- Spontaneous reversion to breech presentation after a successful ECV occurs in fewer than 5%.
- It should only be carried out by appropriately trained practitioners where facilities for continuous fetal monitoring, ultrasound and emergency caesarean delivery are available.
- Women should be advised that ECV can be painful (high pain levels reported in 5%) and the procedure will be stopped if they wish.
- Beta stimulants (when used to facilitate external cephalic version by reducing the force required) increase cephalic presentation in labour and birth and reduce the caesarean section rate in both nulliparous and multiparous women; however, there are insufficient data on adverse effects.<sup>[8]</sup>
- Insufficient evidence exists to support the use of postural techniques (such as knee to chest), or moxibustion (the burning of Chinese herbal medicine on acupuncture points) as alternatives to ECV.<sup>[9]</sup>  
<sup>[10]</sup>

## Mode of delivery

The main decision is whether to attempt vaginal delivery or plan an elective caesarean section. RCOG guidelines suggest women should be counselled fully regarding the planned mode of delivery and that advice should be based on currently available evidence :

The National Institute for Health and Care Excellence (NICE) guidance on caesarean section is: <sup>[11]</sup>

- Discussing with women the benefits and risks of planned vaginal birth versus planned caesarean birth for breech presentation, and the option of external cephalic version.
- Offer women who have an uncomplicated singleton breech pregnancy after 36+0 weeks, external cephalic version, unless:
  - The woman is in established labour.
  - There is fetal compromise.
  - The woman has ruptured membranes or vaginal bleeding.
  - The woman has any other medical conditions (for example, severe hypertension) that would make external cephalic version inadvisable.
- Before caesarean birth for an uncomplicated singleton breech pregnancy, an ultrasound scan should be carried out to check that the baby is in the breech position. This should be done as late as possible before the caesarean birth procedure.
- Planned [caesarean section](#) reduces the risk of perinatal death and early neonatal morbidity in breech babies at term, compared to those born by planned vaginal delivery.
- The results of a meta-analysis of studies, including observational studies, of 258,953 women, showed overall perinatal mortality in the elective caesarean group to be 0.05% compared with 0.3% for the elective vaginal delivery group. <sup>[12]</sup>
- Delivery mode does not appear to alter the longer-term health of these babies.

- Planned caesarean section carries a small increased risk of serious intrapartum complications for the mother compared to planned vaginal delivery but does not carry any additional risk to their long-term health outside of pregnancy.
- The long-term effects on future pregnancy outcomes (for both women and their babies) of planned caesarean section for breech presentation are not certain. Previous caesarean section carries an increased risk of scar dehiscence in any subsequent pregnancy, of repeat caesarean section and placenta accreta.
- Women with unfavourable clinical features should be advised of the increased risk of planned vaginal delivery to them and their baby.

#### Unfavourable factors for vaginal breech birth:

- Other contra-indications to vaginal delivery, such as placenta praevia.
  - Contracted pelvis.
  - Footling breech.
  - Large baby (>3800 g).
  - Growth restricted baby (<2000 g).
  - Hyperextended fetal neck in labour.
  - Lack of suitably trained clinician.
  - Previous caesarean section.
- Vaginal breech birth should take place in hospital where rapid access to caesarean section can occur in the event of poor progress in the second stage of labour.
  - Routine caesarean section for preterm breech presentation is not justified by current evidence and mode of delivery should be decided on an individual basis. The very poor outcome for very low birth weight infants with a breech presentation is mainly due to the multiple complications of prematurity rather than method of delivery.
  - A Cochrane review found that planned caesarean section compared with planned vaginal birth reduced perinatal or neonatal death and serious neonatal morbidity for the singleton breech baby at term, but at the expense of increased maternal morbidity.<sup>[13]</sup>

## Vaginal breech delivery<sup>[14]</sup>

Vaginal delivery of a breech presentation requires great skill if the fetus is not to be damaged. With the low rate of vaginal breech deliveries in the developed world, experience is being lost. However 6% of women with breech presentation still have a vaginal breech delivery as they present too late - so units need to retain a high level of preparedness.

- **Induction of labour** may be considered (given favourable circumstances and informed maternal consent) but augmentation of labour is **not** recommended.
- **Continuous fetal monitoring** should be offered to all women with a breech presentation in labour. Fetal blood sampling from the buttocks is not advised.
- Epidural anaesthetic avoids pushing before full dilation and permits emergency operative intervention. However, RCOG guidelines suggest that it should not be routinely advised and that women should have a choice of analgesia..
- RCOG guidelines suggest delivery in the lithotomy position, as experience is greatest with this.
- The maxim is "hands off the breech". Avoid beginning extraction of the fetus prior to complete descent - the cervix must be fully dilated and effaced with the infant's umbilicus at the vaginal introitus.
- Legs deliver and a towel is wrapped around the legs and pelvis.
- As the scapulae are delivered, the fetus' back rotates laterally. Avoid traction. Delayed delivery of the arms should be managed by sweeping them across the baby's face and downwards or by the Lovset manoeuvre (rotating the baby to aid delivery of the arms).

- Once the shoulders are delivered, the head rotates typically to the fetal chin posteriorly. Controlled, slow delivery of the after-coming head is essential. The fetal head should be maintained in a flexed position to allow delivery of its smallest diameter. This can be accomplished by:
  - Mauriceau–Smellie–Veit manoeuvre (with fetus resting on hand and forearm, the operator's index and middle fingers lift up the fetal maxillary prominences and an assistant applies suprapubic pressure).
  - The Burns–Marshall method (feet are grasped and with gentle traction swept in a slow arc over the maternal abdomen).
  - Forceps delivery.
- Avoid extreme elevation of the body, as this may cause hyperextension of the cervical spine.
- If conservative methods fail to deliver the after-coming head, symphysiotomy or rapid caesarean section is advised.

## Complications<sup>[15]</sup>

- [Premature rupture of membranes](#) and [premature labour](#).
- [Cord prolapse](#) (higher risk with footling or complete breech – highest risk with incomplete or footling breech (15–18%).
- Fetal head entrapment.
- Overly rapid descent of after-coming head, leading to rapid compression/decompression causing intracranial haemorrhage.
- Cervical spine injuries associated with hyperextension.
- Delay in delivery, leading to asphyxia due to cord compression and placental separation.
- Traumatic injuries including fractures of the humerus, femur or clavicle, brachial plexus injury ([Erb-Duchenne palsy](#)).



## Prognosis

- Perinatal mortality is increased with breech presentation by a factor of between 2 and 4 regardless of the mode of delivery. Deaths are most often associated with malformations, which are more common in breech presentation, prematurity and intrauterine fetal demise.
- Breech presentation is associated with an increased risk of [developmental dysplasia of the hip](#); an ultrasound of the hips should be performed in all babies who were breech at 36 weeks irrespective of their presentation at delivery or the mode of delivery.

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## Further reading

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