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Management of Breech Presentation

Green-top Guideline No. 20b

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Management of Breech Presentation

This is the fourth edition of this guideline originally published in 1999 and revised in 2001 and 2006 under the same title.

Executive summary of recommendations

What information should be given to women with breech presentation at term?

Women with a breech presentation at term should be offered external cephalic version (ECV) unless there is an absolute contraindication. They should be advised on the risks and benefits of ECV and the implications for mode of delivery. [*New 2017*] A

Women who have a breech presentation at term following an unsuccessful or declined offer of ECV should be counselled on the risks and benefits of planned vaginal breech delivery versus planned caesarean section. ✓

What information about the baby should be given to women with breech presentation at term regarding mode of delivery?

Women should be informed that planned caesarean section leads to a small reduction in perinatal mortality compared with planned vaginal breech delivery. Any decision to perform a caesarean section needs to be balanced against the potential adverse consequences that may result from this. A

Women should be informed that the reduced risk is due to three factors: the avoidance of stillbirth after 39 weeks of gestation, the avoidance of intrapartum risks and the risks of vaginal breech birth, and that only the last is unique to a breech baby. [*New 2017*] B

Women should be informed that when planning delivery for a breech baby, the risk of perinatal mortality is approximately 0.5/1000 with caesarean section after 39^{+0} weeks of gestation; and approximately 2.0/1000 with planned vaginal breech birth. This compares to approximately 1.0/1000 with planned cephalic birth. C

Selection of appropriate pregnancies and skilled intrapartum care may allow planned vaginal breech birth to be nearly as safe as planned vaginal cephalic birth. [*New 2017*] C

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Women should be informed that planned vaginal breech birth increases the risk of low Apgar scores and serious short-term complications, but has not been shown to increase the risk of long-term morbidity. [*New 2017*] B

Clinicians should counsel women in an unbiased way that ensures a proper understanding of the absolute as well as relative risks of their different options. [*New 2017*] ✓

What information should women having breech births be given about their own immediate and future health?

Women should be informed that planned caesarean section for breech presentation at term carries a small increase in immediate complications for the mother compared with planned vaginal birth. A

Women should be informed that maternal complications are least with successful vaginal birth; planned caesarean section carries a higher risk, but the risk is highest with emergency caesarean section which is needed in approximately 40% of women planning a vaginal breech birth. [*New 2017*] B

Women should be informed that caesarean section increases the risk of complications in future pregnancy, including the risks of opting for vaginal birth after caesarean section, the increased risk of complications at repeat caesarean section and the risk of an abnormally invasive placenta. [*New 2017*] B

Women should be given an individualised assessment of the long-term risks of caesarean section based on their individual risk profile and reproductive intentions, and counselled accordingly. [*New 2017*] ✓

What information should women having breech births be given about the health of their future babies?

Women should be informed that caesarean section has been associated with a small increase in the risk of stillbirth for subsequent babies although this may not be causal. [*New 2017*] C

What factors affect the safety of vaginal breech delivery?

Antenatal assessment

Following the diagnosis of persistent breech presentation, women should be assessed for risk factors for a poorer outcome in planned vaginal breech birth. If any risk factor is identified, women should be counselled that planned vaginal birth is likely to be associated with increased perinatal risk and that delivery by caesarean section is recommended. [*New 2017*] ✓

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Women should be informed that a higher risk planned vaginal breech birth is expected where there are independent indications for caesarean section and in the following circumstances: C

- **Hyperextended neck on ultrasound.**
- **High estimated fetal weight (more than 3.8 kg).**
- **Low estimated weight (less than tenth centile).**
- **Footling presentation.**
- **Evidence of antenatal fetal compromise. [*New 2017*]**

The role of pelvimetry is unclear. [*New 2017*] C

Skill and experience of birth attendant

The presence of a skilled birth attendant is essential for safe vaginal breech birth. C

Units with limited access to experienced personnel should inform women that vaginal breech birth is likely to be associated with greater risk and offer antenatal referral to a unit where skill levels and experience are greater. [*New 2017*] ✓

Intrapartum assessment and management of women presenting unplanned with breech presentation in labour

Where a woman presents with an unplanned vaginal breech labour, management should depend on the stage of labour, whether factors associated with increased complications are found, availability of appropriate clinical expertise and informed consent. [*New 2017*] C

Women near or in active second stage of labour should not be routinely offered caesarean section. [*New 2017*] ✓

Where time and circumstances permit, the position of the fetal neck and legs, and the fetal weight should be estimated using ultrasound, and the woman counselled as with planned vaginal breech birth. [*New 2017*] ✓

All maternity units must be able to provide skilled supervision for vaginal breech birth where a woman is admitted in advanced labour and protocols for this eventuality should be developed. [*New 2017*] ✓

What is appropriate intrapartum management of the term breech?

Are induction and augmentation appropriate?

Women should be informed that induction of labour is not usually recommended. Augmentation of slow progress with oxytocin should only be considered if the contraction frequency is low in the presence of epidural analgesia. [*New 2017*] D

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What is the role of epidural analgesia?

Women should be informed that the effect of epidural analgesia on the success of vaginal breech birth is unclear, but that it is likely to increase the risk of intervention. [*New 2017*] ✓

What fetal monitoring should be recommended?

Women should be informed that while evidence is lacking, continuous electronic fetal monitoring may lead to improved neonatal outcomes. [*New 2017*] D

Where should vaginal breech birth take place?

Birth in a hospital with facilities for immediate caesarean section should be recommended with planned vaginal breech birth, but birth in an operating theatre is not routinely recommended. D

What guidelines should be in place for the management of breech birth?

Women should be informed that adherence to a protocol for management reduces the chances of early neonatal morbidity. [*New 2017*] C

The essential components of planned vaginal breech birth are appropriate case selection, management according to a strict protocol and the availability of skilled attendants. [*New 2017*] ✓

Management of the first stage and passive second stage

Adequate descent of the breech in the passive second stage is a prerequisite for encouragement of the active second stage. [*New 2017*] D

What position should the woman be in for delivery during a vaginal breech birth?

Either a semirecumbent or an all-fours position may be adopted for delivery and should depend on maternal preference and the experience of the attendant. If the latter position is used, women should be advised that recourse to the semirecumbent position may become necessary. [*New 2017*] ✓

What are the principles for the management of active second stage and vaginal breech birth?

Assistance, without traction, is required if there is delay or evidence of poor fetal condition. [*New 2017*] ✓

All obstetricians and midwives should be familiar with the techniques that can be used to assist vaginal breech birth. The choice of manoeuvres used, if required to assist with delivery of the breech, should depend on the individual experience/preference of the attending doctor or midwife. [*New 2017*] ✓

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Management of the preterm breech

How should preterm singleton babies in breech presentation be delivered?

Women should be informed that routine caesarean section for breech presentation in spontaneous preterm labour is not recommended. The mode of delivery should be individualised based on the stage of labour, type of breech presentation, fetal wellbeing and availability of an operator skilled in vaginal breech delivery. C

Women should be informed that caesarean section for breech presentation in spontaneous preterm labour at the threshold of viability (22–25^{+6} weeks of gestation) is not routinely recommended. C

Women should be informed that planned caesarean section is recommended for preterm breech presentation where delivery is planned due to maternal and/or fetal compromise. [*New 2017*] ✓

How should labour with a singleton preterm breech be managed?

Labour with a preterm breech should be managed as with a term breech. [*New 2017*] C

Where there is head entrapment, incisions in the cervix (vaginal birth) or vertical uterine incision extension (caesarean section) may be used, with or without tocolysis. D

Management of the twin pregnancy with a breech presentation

How should a first twin in breech presentation be delivered?

Women should be informed that the evidence is limited, but that planned caesarean section for a twin pregnancy where the presenting twin is breech is recommended. [*New 2017*] C

Routine emergency caesarean section for a breech first twin in spontaneous labour, however, is not recommended. The mode of delivery should be individualised based on cervical dilatation, station of the presenting part, type of breech presentation, fetal wellbeing and availability of an operator skilled in vaginal breech delivery. [*New 2017*] C

How should a second twin in breech presentation be delivered?

Routine caesarean section for breech presentation of the second twin is not recommended in either term or preterm deliveries. B

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What organisational and governance arrangements should be in place to support a routine vaginal breech delivery service?

Simulation equipment should be used to rehearse the skills that are needed during vaginal breech birth by all doctors and midwives. ✓

Guidance for the case selection and management of vaginal breech birth should be developed in each department by the healthcare professionals who supervise such births. Adherence to the guidelines is recommended to reduce the risk of intrapartum complications. [*New 2017*] C

Departments should consider developing a checklist to ensure comprehensive counselling of the woman regarding planned mode of delivery for babies presenting by the breech. [*New 2017*] ✓

1. Purpose and scope

The aim of this guideline is to provide up-to-date information on the modes of delivery for women with breech presentation. The scope is confined to decision making regarding the route of delivery and choice of various techniques used during delivery. It does not include antenatal or postnatal care. External cephalic version (ECV) is the topic of the separate Royal College of Obstetricians and Gynaecologists (RCOG) Green-top Guideline No. 20a: *External Cephalic Version and Reducing the Incidence of Term Breech Presentation*.[1]

2. Introduction and background epidemiology

Breech presentation occurs in 3–4% of term deliveries and is more common preterm. It is associated with uterine and congenital abnormalities, has a significant recurrence risk and is more common in nulliparous women.[2] Term babies presenting by the breech have worse outcomes than cephalic ones, irrespective of the mode of delivery.[3]

Publication of the Term Breech Trial (TBT)[4] was followed by a large reduction in the incidence of planned vaginal birth. Nevertheless, vaginal breech births will continue, not merely because of failure to detect breech presentation and the limitations of ECV, but for reasons of maternal choice. Lack of experience has led to a loss of skills essential for these deliveries. Conversely, caesarean section can have serious long-term consequences.

3. Identification and assessment of evidence

This guideline was developed using standard methodology for developing RCOG Green-top Guidelines. The Cochrane Library (including the Cochrane Database of Systematic Reviews, the Database of Abstracts of Reviews of Effects [DARE] and the Cochrane Central Register of Controlled Trials [CENTRAL]), EMBASE, MEDLINE and Trip were searched for relevant papers. The search was inclusive of all relevant articles published between August 2005 and April 2016. The databases were searched using the relevant Medical Subject Headings (MeSH) terms, including all subheadings and synonyms, and this was combined with a keyword search. Search terms included 'breech', 'breech near presentation', 'breech presentation', 'breech near delivery', 'breech delivery', 'breech presentation and delivery', 'breech near extraction', 'breech extraction', 'Mauriceau-Smellie-Veit', 'Burns-Marshall', 'after-coming head' and 'external cephalic version'. The search was limited to studies on humans and papers in the English language. Relevant guidelines were also searched for using the same criteria in the National Guideline Clearinghouse and the National Institute for Health and Care Excellence (NICE) Evidence Search.

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Where possible, recommendations are based on available evidence. Areas lacking evidence are highlighted and annotated as 'good practice points'. Further information about the assessment of evidence and the grading of recommendations may be found in Appendix I.

4. What information should be given to women with breech presentation at term?

Women with a breech presentation at term should be offered ECV unless there is an absolute contraindication. They should be advised on the risks and benefits of ECV and the implications for mode of delivery. A

Women who have a breech presentation at term following an unsuccessful or declined offer of ECV should be counselled on the risks and benefits of planned vaginal breech delivery versus planned caesarean section. ✓

Please refer to the RCOG Green-top Guideline No. 20a: *External Cephalic Version and Reducing the Incidence of Term Breech Presentation*.[1]

4.1 What information about the baby should be given to women with breech presentation at term regarding mode of delivery?

Women should be informed that planned caesarean section leads to a small reduction in perinatal mortality compared with planned vaginal breech delivery. Any decision to perform a caesarean section needs to be balanced against the potential adverse consequences that may result from this. A

Women should be informed that the reduced risk is due to three factors: the avoidance of stillbirth after 39 weeks of gestation, the avoidance of intrapartum risks and the risks of vaginal breech birth, and that only the last is unique to a breech baby. B

Women should be informed that when planning delivery for a breech baby, the risk of perinatal mortality is approximately 0.5/1000 with caesarean section after 39^{+0} weeks of gestation; and approximately 2.0/1000 with planned vaginal breech birth. This compares to approximately 1.0/1000 with planned cephalic birth. C

Selection of appropriate pregnancies and skilled intrapartum care may allow planned vaginal breech birth to be nearly as safe as planned vaginal cephalic birth. C

Women should be informed that planned vaginal breech birth increases the risk of low Apgar scores and serious short-term complications, but has not been shown to increase the risk of long-term morbidity. B

Clinicians should counsel women in an unbiased way that ensures a proper understanding of the absolute as well as relative risks of their different options. ✓

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Observational, usually retrospective, series have consistently favoured elective caesarean birth over vaginal breech delivery. A meta-analysis of 27 studies examining term breech birth,[5] which included 258 953 births between 1993 and 2014, suggested that elective caesarean section was associated with a two- to five-fold reduction in perinatal mortality when compared with vaginal breech delivery although the absolute risk of perinatal mortality with vaginal delivery was 3/1000. This meta-analysis is limited by the retrospective nature of many of the studies and the absence of complete intention to treat analysis. The increased practice of caesarean section accounts for only a small proportion (16%) of the decline in delivery-related perinatal death.[6]

Evidence level 2++

The TBT[4] randomised 2088 women to either planned caesarean section or planned vaginal birth at 121 centres in 26 countries. This trial was by far the major contributor to the Cochrane Review[7] which demonstrated a reduction in perinatal mortality with planned caesarean section (RR 0.29, 95% CI 0.10–0.86) from 1.3 to 0.3%. This trial also reported a reduction in the composite outcome of serious neonatal morbidity (RR 0.36, 95% CI 0.19–0.65). A number of subanalyses examining operator experience, prolonged labour or augmentation, and national (high or low) perinatal mortality rates failed to identify a group for whom morbidity was not increased with planned vaginal delivery although they were underpowered to assess mortality rates.

A 2-year follow-up of 923 out of 1159 children from the TBT[8] showed no difference in 'death or neurodevelopmental delay' (RR 1.09, 95% CI 0.52–2.30). This renders the morbidity, but not mortality, findings (and therefore the 'intention to treat' analysis in the original trial paper) less important.

Evidence level 1+

The TBT led to wide-scale elective caesarean section for breech presentation, with a corresponding reduction in perinatal mortality.[9] However, criticism of the trial followed,[10–12] particularly regarding case selection and intrapartum management. For instance, 31% had no ultrasound (to exclude an extended neck), growth-restricted babies were included and a few women were randomised in violation of the protocol and included in the 'intention to treat' analysis. A senior obstetrician was absent from 31.9% of births and any obstetrician was absent from 13% of births in the planned vaginal delivery group. Electronic fetal monitoring (EFM) was not used in most and prolonged active second stage was not prohibited which, when it occurred, was associated with increased morbidity.[13] 'Serious' neonatal morbidity encompassed some frequently benign outcomes and was twice as common in countries with a low perinatal mortality rate (5.1% versus 2.5%). Both short-term morbidity and mortality (1.3%) in the planned vaginal delivery group were higher than subsequent series have reported.[14,15] Glezerman,[10] commenting on analysis by Su et al.,[13] argued that in only 16 of the 69 neonates with the primary composite outcome could this be related to mode of delivery. However, while some of the deaths may not be attributable to the vaginal breech birth, it is still reasonable to assume some would not have happened if a caesarean section had been performed at 39 weeks of gestation. This highlights a fundamental issue: by eliminating the last 1–3 weeks of pregnancy and labour, the perinatal death of at least 1/1000 babies,[16] cephalic or breech, could be prevented.

Evidence level 2+

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The limitations of the TBT meant planned vaginal breech birth continued, notably in Scandinavia, France and the Netherlands. As a result, further mortality and short-term morbidity data have become available. Vlemmix et al.[15] published a population-based cohort study of 58 320 nonanomalous term babies presenting by the breech delivered between 1997 and 2007 from the Netherlands Perinatal Registry, evaluating the effect of increased elective caesarean following the TBT. The perinatal mortality of babies presenting by the breech halved from 0.13 to 0.07% (OR 0.51, 95% CI 0.28–0.93). For planned vaginal breech birth, however, it remained stable (OR 0.96, 95% CI 0.52–1.76). More importantly, the perinatal mortality was 0.16% in the planned vaginal birth group and 0% in the elective caesarean section group ($P < 0.0001$) post publication of the TBT report although this mortality rate with vaginal delivery was notably lower than that reported in the TBT (0.16% versus 1.3%). Elective caesarean also reduced the risk of low Apgar scores (less than 7 at 5 minutes; OR 0.12, 95% CI 0.09–0.16) and neonatal 'trauma' (OR 0.24, 95% CI 0.15–0.37) compared with planned vaginal birth. The differences in mortality and morbidity persisted among different birth weights, with parity and with type of breech. The authors estimated that 338 additional caesarean sections were performed for each perinatal death prevented.

Evidence level 2++

More strict selection and management protocols than those employed in the TBT have been employed in smaller retrospective studies from individual institutions. These have limited statistical power to detect an effect on mortality, but most report reassuring results.[17–21] Indeed, the lower rates of short-term morbidity compared with those reported in either the TBT or the Dutch study[4,15] suggest that although evidence for the individual components is poor, the selection and management criteria employed were beneficial. They might, therefore, reasonably be expected to improve mortality.

Evidence level 3

Examining the effect of more strict selection and management was the intention of the much larger PREMODA study.[14] The outcomes of 2526 planned vaginal breech deliveries were compared with 5579 planned caesarean deliveries in 174 units in France and Belgium over a 12-month period. The strict criteria included 'normal' (definition unstated) radiological pelvimetry which was performed in 82.5% of planned vaginal births, continuous EFM and routine ultrasound. As with the TBT,[4] induction or augmentation with oxytocin was allowed. Only 0.2% had an active second stage of more than 60 minutes, while 18.1% had a passive second stage (60 minutes or longer) compared with 5 and 3.1%, respectively, in the TBT.[4] Only 3.8% of vaginal deliveries had 'failed to progress' for more than 2 hours. Outcomes were analysed for neonates with no lethal congenital abnormality. In the planned vaginal delivery group, of whom 79% delivered vaginally, there were two deaths (0.08%); in the planned caesarean group, of whom 0.16% delivered vaginally, there were seven deaths (0.12%) (OR 0.64, 95% CI 0.13–3.06). Planned vaginal birth showed significant increases in Apgar scores of less than 7 at 5 minutes (OR 3.20, 95% CI 1.93–5.3) and total injuries, most of which were clavicular fractures or haematomata (OR 3.90, 95% CI 2.40–6.34). However, there was no difference in neonatal unit admissions (OR 1.33, 95% CI 0.94–1.86), or a composite measure of mortality or serious neonatal morbidity (OR 1.10, 95% CI 0.75–0.61). This remained after adjustment for other factors associated with this outcome (adjusted OR 1.40, 95% CI 0.89–2.23). The absolute risks for a 5-minute Apgar score of less than 7 (1.3%) and for perinatal mortality (0.08%) compared favourably to both the TBT and the Dutch cohort study.[4,15]

Evidence level 2++

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Although data were collected prospectively in each centre, participants were not registered at inclusion, potentially enabling accusations of bias; furthermore, classification regarding the intended mode of delivery was made retrospectively. In addition, demographic differences existed between the two groups: notably, the planned vaginal birth babies were smaller. The study does not enable an accurate comparison of planned caesarean with breech birth; with a later gestation at planned vaginal birth but all babies alive at inclusion, it examines the effect of strictly managed labour more than the effect of planned elective caesarean delivery after 39^{+0} weeks of gestation.

Evidence level 2++

Elective caesarean section exerts a protective effect on perinatal mortality, as well as short-term, but probably not long-term, morbidity[8] although the effect is smaller than suggested by the TBT. Some of the risk is due to the earlier gestation at which elective caesarean section is performed, while some is due to the elimination of labour which, even for a cephalic baby, can lead to mortality. The excess risk of breech compared with cephalic labour is relatively small (1/1000), and implementation of strict selection and intrapartum management criteria, together with skilled support, may reduce it further.[14] Perinatal mortality is also slightly increased by vaginal birth after caesarean section (VBAC), which nevertheless remains a common option.[22] Any benefit from elective caesarean section must be viewed in the light of the small increase in complications associated with subsequent pregnancies. Furthermore, caesarean birth has been associated with long-term health issues in the offspring.[23]

Evidence level 2+

4.2 *What information should women having breech births be given about their own immediate and future health?*

Women should be informed that planned caesarean section for breech presentation at term carries a small increase in immediate complications for the mother compared with planned vaginal birth.

A

Women should be informed that maternal complications are least with successful vaginal birth; planned caesarean section carries a higher risk, but the risk is highest with emergency caesarean section which is needed in approximately 40% of women planning a vaginal breech birth.

B

Women should be informed that caesarean section increases the risk of complications in future pregnancy, including the risks of opting for VBAC, the increased risk of complications at repeat caesarean section and the risk of an abnormally invasive placenta.

B

Women should be given an individualised assessment of the long-term risks of caesarean section based on their individual risk profile and reproductive intentions, and counselled accordingly.

✓

Maternal outcomes, particularly short term, depend on the category of lower segment caesarean section, with emergency carrying a higher risk than elective. Emergency caesarean section rates with planned vaginal birth vary from 29%[14] to 45%.[15]

Evidence level 2+

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A modest short-term increase in maternal morbidity (RR 1.29, 95% CI 1.03–1.61) is reported with planned caesarean section in a meta-analysis of randomised controlled trials.[7] Longer term morbidity in the TBT was similar[24] although other risks have been documented. The risks associated with caesarean section are documented in the RCOG patient information leaflet: *Choosing to have a caesarean section*.[23]

Evidence level 1+

For subsequent pregnancies, having had a planned caesarean (compared with planned vaginal) birth causes a three-fold increase in uterine scarring; more than half of all women with at least one prior caesarean section have another.[25] The risks of blood transfusion, endometritis, hysterectomy and death are increased in women with a previous caesarean section (irrespective of whether they attempt a VBAC) when compared with those who have previously delivered vaginally.[22] The risk of scar rupture during attempted vaginal birth after one caesarean section is approximately 0.5%.[22,26,27] In developing countries, particularly where birth outside hospital is usual and access to healthcare is poor, the effect on maternal outcomes is likely to be considerably greater.[28]

Evidence level 2+

A further maternal issue is that of placenta praevia and placenta accreta,[29] or abnormally invasive placentation, for which prior caesarean delivery is the principal risk factor. The risk of abnormally invasive placentation increases from 0.31% with one prior caesarean section to 2.33% with four[30] and the incidence is rising. The risk is higher after elective compared with emergency caesarean section.[31] This complication can lead to massive haemorrhage, hysterectomy, urinary tract injury and maternal death.

4.3 What information should women having breech births be given about the health of their future babies?

Women should be informed that caesarean section has been associated with a small increase in the risk of stillbirth for subsequent babies although this may not be causal.

C

In a systematic review and meta-analysis, O'Neill et al.[32] compared the risk of stillbirth and miscarriage in a subsequent pregnancy with a previous caesarean or vaginal delivery. Examining data from 1 961 829 pregnancies and 7308 events, they reported an increase in the risk of all stillbirths and unexplained stillbirths (OR 1.47, 95% CI 1.20–1.80). These findings have been disputed:[33] the indication for the caesarean may account for the increase.

Evidence level 2++

Future pregnancies are also at risk of uterine rupture when VBAC is attempted; the risk of delivery-related perinatal mortality after one caesarean is up to 12.9/10 000, much of which is attributable to uterine rupture. Please refer to the RCOG Green-top Guideline No. 45: *Birth after previous caesarean birth*.[22]

5. What factors affect the safety of vaginal breech delivery?

5.1 Antenatal assessment

Following the diagnosis of persistent breech presentation, women should be assessed for risk factors for a poorer outcome in planned vaginal breech birth. If any risk factor is identified, women should be counselled that planned vaginal birth is likely to be associated with increased perinatal risk and that delivery by caesarean section is recommended.

✓

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Women should be informed that a higher risk planned vaginal breech birth is expected where there are independent indications for caesarean section and in the following circumstances: C

- **Hyperextended neck on ultrasound.**
- **High estimated fetal weight (more than 3.8 kg).**
- **Low estimated weight (less than tenth centile).**
- **Footling presentation.**
- **Evidence of antenatal fetal compromise.**

The role of pelvimetry is unclear. C

The safety of planned vaginal breech birth is dependent on case selection, operator skill and intrapartum management. There is, however, a paucity of good evidence regarding factors that increase the risks of vaginal breech birth. Traditional contraindications and those which caused women to be ineligible for the TBT included an estimated fetal weight greater than 4 kg, footling breech presentation, an extended neck, 'obstructing' fetal abnormalities and an existing indication for caesarean birth. The lower perinatal mortality and morbidity in the PREMODA study[14] and in the post TBT population-based cohorts[15] are partly attributable to stricter case selection and management. The findings of these studies, therefore, have limited applicability where their inclusion criteria were not met or their management protocols were not followed. Indeed, in a French cohort, composite morbidity and mortality were lower (OR 0.27, 95% CI 0.09–0.85) among units that applied the consensus guidelines.[34] Evidence level 2+

Factors associated with increased perinatal morbidity at vaginal breech birth in the PREMODA cohort included non-European or African origin, gestational age of less than 39 weeks at birth, birthweight less than the tenth centile and annual number of maternity unit births less than 1500.[35] Molkenboer et al.[36] assessed 183 children, born by vaginal breech delivery, at 2 years of age and, from multiple logistic regression, concluded that there was an increased risk of neurodevelopmental delay when the birthweight had been more than 3.5 kg. As the PREMODA study[14] used an estimated weight upper limit of 3.8 kg, the reassuring outcomes of the study cannot be extrapolated for larger babies.

The role of pelvimetry is unclear. Largely abandoned in the UK, it was employed in 82.5% of planned vaginal births in the PREMODA study[14] and van Loon et al.[37] reported that the use of pelvimetry reduced the emergency caesarean section rate. Further evidence is required to more clearly delineate the role of pelvimetry in breech presentation. Evidence level 2–

5.2 *Skill and experience of birth attendant*

The presence of a skilled birth attendant is essential for safe vaginal breech birth. C

Units with limited access to experienced personnel should inform women that vaginal breech birth is likely to be associated with greater risk and offer antenatal referral to a unit where skill levels and experience are greater. ✓

Although largely unproven, the availability of skilled personnel is likely to strongly influence perinatal outcomes. A senior obstetrician was present at 92.3% of all vaginal deliveries in the PREMODA series;[14] similar figures apply to the smaller consecutive case series describing successful vaginal breech birth.[17–21,38] Evidence level 2+

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The decline in vaginal breech delivery in the UK has led to a widespread lack of experience which itself threatens the safety of planned, and the unplanned but inevitable, vaginal breech birth. An inability of a unit to reliably provide experienced personnel for the delivery is a contraindication to a recommendation of planned vaginal birth.

5.3 Intrapartum assessment and management of women presenting unplanned with breech presentation in labour

Where a woman presents with an unplanned vaginal breech labour, management should depend on the stage of labour, whether factors associated with increased complications are found, availability of appropriate clinical expertise and informed consent. C

Women near or in active second stage of labour should not be routinely offered caesarean section. ✓

Where time and circumstances permit, the position of the fetal neck and legs, and the fetal weight should be estimated using ultrasound, and the woman counselled as with planned vaginal breech birth. ✓

All maternity units must be able to provide skilled supervision for vaginal breech birth where a woman is admitted in advanced labour and protocols for this eventuality should be developed. ✓

UK data reported that breech presentation at term is not diagnosed until labour in about 25% of women.[39] In some women, labour will be so quick that vaginal breech birth is inevitable and assessment using ultrasound is impossible. Unplanned vaginal breech birth is associated with increased risk,[13] but the data on planned vaginal birth cannot be simply extrapolated to support routine late labour caesarean section.

Evidence level 2+

Where labour is progressing rapidly, there is a balance of risks: attempting caesarean section where the breech is very low is likely to be associated with increased perinatal and maternal risk; assessment should include what is feasible. Attempts at vaginal delivery in theatre with spinal anaesthesia or caesarean section with the breech on the perineum are likely to be associated with both increased perinatal and maternal risk.

6. What is appropriate intrapartum management of the term breech?

There is a paucity of evidence regarding the best management of the breech fetus in labour. Recommendations are based on physiology, best practice experience and the management protocols of series with low complication rates. The limited evidence and expert opinion broadly divides into two groups: a more interventionist approach supported by data from the large PREMODA study[14] and a less medicalised approach[21,40] which is more traditional in the UK. Both strategies advocate close supervision and the not infrequent need for caesarean section or intervention during breech birth.

Evidence level 4

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6.1 *Are induction and augmentation appropriate?*

Women should be informed that induction of labour is not usually recommended. Augmentation of slow progress with oxytocin should only be considered if the contraction frequency is low in the presence of epidural analgesia. D

Both induction and augmentation of labour were used in the PREMODA study[14] in 8.9 and 74.1% of vaginal breech births, respectively. This very high rate of augmentation, coupled with a very low incidence of 'slow dilatation', suggests a more prophylactic than a therapeutic role. As a means to treat dystocia, augmentation should usually be avoided as adequate progress may be the best evidence for adequate fetopelvic proportions. However, if epidural analgesia has been used and the contraction frequency is low, its use should not be excluded. Notably, labour augmentation is not supported by many experienced advocates of vaginal breech birth[40] who favour a less interventionist approach. Continuous support is known to reduce labour length and operative delivery with a cephalic presentation.[41]

Evidence level 2–

6.2 *What is the role of epidural analgesia?*

Women should be informed that the effect of epidural analgesia on the success of vaginal breech birth is unclear, but that it is likely to increase the risk of intervention. ✓

There is limited evidence addressing this. However, with a cephalic presentation, a Cochrane meta-analysis[42] concluded that epidural anaesthesia increases the risk of assisted vaginal delivery. As vaginal breech delivery cannot be expedited until its final stages, epidural anaesthesia might increase the risk of caesarean section. Vaginal breech birth is usually easier if a mother is able to bear down effectively and an epidural may interfere with this. A less interventionist approach advocates a calm atmosphere with continuous support as a means to avoid epidural analgesia.[41] With a more interventionist approach,[14] seldom used in the UK, epidural analgesia is less likely to have a detrimental effect.

Evidence level 2–

6.3 *What fetal monitoring should be recommended?*

Women should be informed that while evidence is lacking, continuous EFM may lead to improved neonatal outcomes. D

EFM was employed in the PREMODA study,[14] where excellent results of planned vaginal breech birth are documented. Breech presentation is associated with an increased risk of cord prolapse. During delivery, cord compression as the head enters the pelvis is common; this is likely to be better tolerated by a fetus that is not hypoxic. Equally, good fetal tone enables easier breech birth and is more likely in a nonhypoxic fetus. While good evidence is lacking and higher intrapartum caesarean section rates should be expected, EFM is likely to improve neonatal outcomes.

Evidence level 3

Where EFM is declined, intermittent auscultation should be performed as for a cephalic fetus, with conversion to EFM if any abnormality is detected.

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Where EFM is considered abnormal before the active second stage, caesarean delivery is recommended unless the buttocks are visible or progress is rapid. Fetal blood sampling of the buttocks although technically possible, is not recommended.

Evidence level 4

6.4 *Where should vaginal breech birth take place?*

Birth in a hospital with facilities for immediate caesarean section should be recommended with planned vaginal breech birth, but birth in an operating theatre is not routinely recommended.

D

Labour complications, including the need for caesarean section in up to 45% of women, are more common with breech presentation.[4,14]

Evidence level 2–

No studies have looked at the effect of delivery in theatre versus delivery in a labour room on the outcome of labour. However, transfer from the relative familiarity of the labour room to theatre is likely to increase stress in the mother. Birth in water is not recommended due to the lack of gravity and difficulty anticipated if intervention during breech delivery is required.

Evidence level 4

6.5 *What guidelines should be in place for the management of breech birth?*

Women should be informed that adherence to a protocol for management reduces the chances of early neonatal morbidity.

C

The essential components of planned vaginal breech birth are appropriate case selection, management according to a strict protocol and the availability of skilled attendants.

✓

Evidence from a number of retrospective studies shows that vaginal breech birth is more successful in women where strict guidelines for selection are used.[34,43]

Evidence level 2–

A Cochrane review of expedited versus conservative approaches to breech delivery found no studies that address this issue.[44] Accepted principles, however, are established. These include assisted breech delivery rather than breech extraction and continuous support for and communication with the mother.

Evidence level 3

6.6 *Management of the first stage and passive second stage*

Adequate descent of the breech in the passive second stage is a prerequisite for encouragement of the active second stage.

D

The first stage of labour should be managed according to the same principles as with a cephalic presentation. To reduce the risk of cord compression, amniotomy is reserved for definite clinical indications. Where the progress is slow, caesarean section should be considered. In the presence of epidural analgesia and a contraction frequency of fewer than four in ten, however, oxytocin may be considered. A passive second stage to allow the descent of the breech to the perineum prior to active pushing is recommended.[14] If the breech is not visible within 2 hours of the passive second stage, caesarean section should normally be recommended.

Evidence level 2–

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6.7 *What position should the woman be in for delivery during a vaginal breech birth?*

Either a semirecumbent or an all-fours position may be adopted for delivery and should depend on maternal preference and the experience of the attendant. If the latter position is used, women should be advised that recourse to the semirecumbent position may become necessary. ✓

There are limited data in relation to position and outcome of delivery in vaginal breech birth. Comparison of an upright position with historical data is favourable,[45] with the rate of maternal perineal injuries being lower. In a cephalic presentation, an upright position is associated with a shorter second stage.[46] Compared with the dorsal supine position, the all-fours position considerably increases pelvic dimensions on magnetic resonance imaging.[47] Delivery with the woman in a forward-facing position (squatting or all fours) is the position favoured by many experienced operators[40] claiming, particularly, that it is easier to observe for signs that the delivery will be more difficult.

Evidence level 3

The principal difficulty with an all-fours position is when manoeuvres are required. Most obstetricians are more familiar with performing these in a difficult breech birth with the woman in the dorsal position. If a woman chooses a forward-facing position, they should be made aware that if interventions are required, they may be given assistance to move into a dorsal recumbent position. Manoeuvres in an all-fours position can be performed, however,[40] and if the operator has the skills of undertaking the manoeuvres with the mother in a forward position these should be performed without delay.

Evidence level 4

6.8 *What are the principles for the management of active second stage and vaginal breech birth?*

Assistance, without traction, is required if there is delay or evidence of poor fetal condition. ✓

All obstetricians and midwives should be familiar with the techniques that can be used to assist vaginal breech birth. The choice of manoeuvres used, if required to assist with delivery of the breech, should depend on the individual experience/preference of the attending doctor or midwife. ✓

While involuntary pushing may occur earlier, encouragement of maternal effort should not start until the breech is visible. Once the buttocks have passed the perineum, significant cord compression is common. Traction should also be avoided; a 'hands-off' approach is required, but with appropriate and timely intervention if progress is not made once the umbilicus has delivered or there is poor tone, extended arms or an extended neck. Tactile stimulation of the fetus may result in reflex extension of the arms or head, and should be minimised. Care must be taken in all manoeuvres to avoid fetal trauma: the fetus should be grasped around the pelvic girdle (not soft tissues) and the neck should never be hyperextended. Selective rather than routine episiotomy is recommended.

Signs that delivery should be assisted include lack of tone or colour, or delay, commonly due to extended arms or an extended neck. In general, intervention to expedite breech birth is required if there is evidence of poor fetal condition or if there is a delay of more than 5 minutes from delivery of the buttocks to the head, or of more than 3 minutes from the umbilicus to the head.

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The semirecumbent position

There is little comparative evidence regarding techniques of assisted breech delivery. If the back starts to rotate posteriorly, gentle rotation without traction should be used to ensure that it remains anterior. Once the scapula is visible, the arms can be hooked down by inserting a finger in the elbow and flexing the arms across the chest or, if nuchal, Lovset's manoeuvre is advised. Delivery is achieved either with the Mauriceau-Smellie-Veit manoeuvre or with forceps. Suprapubic pressure will aid flexion if there is delay due to an extended neck. Delivery using the Burns-Marshall technique is not advised due to concern of over extension of the fetal neck.

An alternative is the routine use of the Bracht manoeuvre, a mode of delivery favoured in Europe and in the PREMODA study.[14] Following spontaneous delivery to the level of the umbilicus, the body is grasped in both hands keeping the legs flexed against the baby's abdomen and, without traction, is brought up against the symphysis pubis, frequently accompanied by suprapubic pressure.

Evidence level 3

The all-fours position

The limited evidence suggests[21,45] that spontaneous delivery without assistance will occur more often. The technique and manoeuvres, if required, are described in detail in an article by Evans.[40]

Evidence level 4

7 Management of the preterm breech

7.1 How should preterm singleton babies in breech presentation be delivered?

Women should be informed that routine caesarean section for breech presentation in spontaneous preterm labour is not recommended. The mode of delivery should be individualised based on the stage of labour, type of breech presentation, fetal wellbeing and availability of an operator skilled in vaginal breech delivery.

C

Women should be informed that caesarean section for breech presentation in spontaneous preterm labour at the threshold of viability (22–25^{+6} weeks of gestation) is not routinely recommended.

C

Women should be informed that planned caesarean section is recommended for preterm breech presentation where delivery is planned due to maternal and/or fetal compromise.

✓

Breech presentation is more common preterm and most preterm deliveries are unplanned as a result of spontaneous preterm labour. Adequate high-quality evidence in relation to the management of preterm breech birth has proved impossible[48] and the evidence regarding term breech should not be extrapolated directly to preterm breech delivery. Rates of perinatal morbidity and mortality are higher following preterm delivery, irrespective of the mode of delivery.

Evidence level 3

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A Cochrane systematic review assessed the effects of planned immediate caesarean section versus planned vaginal birth for women thought to be in preterm labour with a singleton (cephalic or breech presentation).[49] Data were very limited on clinically relevant outcomes and confidence intervals were wide, but there were no significant differences with respect to immediate outcomes and no significant differences between the two groups for abnormal follow-up in childhood. Maternal puerperal pyrexia was significantly more likely in the caesarean section group (RR 2.98, 95% CI 1.18–7.53), but there were no other significant differences in maternal morbidity outcomes.

A systematic review and meta-analysis of nonrandomised studies assessing vaginal delivery versus caesarean section in preterm breech delivery included seven studies involving a total of 3557 women.[50] The primary outcome was neonatal mortality. Preterm birth was defined as a gestational age of 25^{+0} up to 36^{+6} weeks, and studies published before 1980 or defined by low birthweight rather than gestational age were excluded. The weighted risk of neonatal mortality was 3.8% in the caesarean section group and 11.5% in the vaginal delivery group (pooled RR 0.63, 95% CI 0.48–0.81). Mortality differences varied according to study setting with the largest study of 2674 women in Sweden demonstrating a halving of neonatal mortality with caesarean section.[51]

Evidence level 2–

Several retrospective cohort studies have evaluated the relationship between low birthweight and breech delivery. Muhuri et al.[52] reported that very low birthweight breech or malpresenting fetuses delivered by a primary caesarean section had significantly lower adjusted relative risks of neonatal death compared with those delivered vaginally. Demirci et al.[53] reported no difference in neonatal complications between vaginal delivery and caesarean section for babies with birthweights of less than 1000 g or more than 1500 g, but reported an increased mortality associated with vaginal delivery for babies with birthweights of 1000–1500 g. A population-based study of preterm low birthweight (less than 2500 g) newborns in California reported significantly increased neonatal mortality with vaginal delivery compared with caesarean section in all birthweight groups and increased birth trauma in babies with birthweights of 1500–2500 g.[54] However, the caesarean section rate was 86%, suggesting that few vaginal breech deliveries are conducted and experience may be limited. A further study of survival and morbidity for the breech fetus at the threshold of viability (23^{+0} to 24^{+6} weeks of gestation and 400–750 g birthweight) had similar proportions of vaginal and caesarean deliveries.[55] Caesarean delivery was associated with a survival benefit across all birthweights, but morbidity was higher in the caesarean section group. It has been suggested that the lower gestational age of breech babies in a preterm cohort may account for the apparently increased mortality and morbidity.[56]

Up to 25% of all preterm deliveries are iatrogenic due to antenatal complications, such as pre-eclampsia, fetal growth restriction and antepartum haemorrhage.[57] For women requiring planned delivery for maternal and/or fetal compromise with a viable fetus in breech presentation, elective caesarean section is recommended.

Evidence level 4

Although the majority of obstetricians use caesarean section for the uncomplicated preterm breech, only a minority believe that there is sufficient evidence to justify this policy.[48] There is general acknowledgement that the retrospective studies cited above which suggest that caesarean section confers a better outcome in this situation have been subject to selection bias.[58,59] The poor outcome for very low birthweight infants is mainly related to complications of prematurity and not the mode of delivery.[60]

Evidence level 2–

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In the absence of robust evidence that a preterm baby presenting by the breech needs to be delivered routinely by immediate caesarean section, the decision about mode of delivery should be made by an experienced obstetrician following a thorough clinical evaluation, and in consultation with the woman and partner.[61] The stage of labour is critical: the course of preterm labour may be protracted and unpredictable, immediate caesarean section may lead to earlier delivery than vaginal and might hinder the effect of steroids or prevent the use of magnesium. Likewise, it is prudent to reassess the patient in theatre immediately prior to caesarean section in order to avoid the unfortunate situation where the uterus is found to be empty with the fetus already delivered vaginally.[62]

Evidence level 4

7.2 *How should labour with a singleton preterm breech be managed?*

Labour with a preterm breech should be managed as with a term breech. C

Where there is head entrapment, incisions in the cervix (vaginal birth) or vertical uterine incision extension (caesarean section) may be used, with or without tocolysis. D

Evidence concerning the management of preterm labour with a breech presentation is lacking. Routine amniotomy should be avoided. A specific problem encountered during preterm breech delivery is delivery of the trunk through an incompletely dilated cervix; this occurs in up to 14% of vaginal deliveries.[63] In this situation, lateral cervical incisions have been used to release the after-coming head. The RCOG StratOG programme recommends incisions at 2, 6 and 10 o'clock. Similar rates of head entrapment have been described for vaginal and abdominal delivery.[64] For head entrapment at caesarean delivery, it may be necessary to extend the uterine incision to a J shape or inverted T.

Evidence level 3

8. Management of the twin pregnancy with a breech presentation

8.1 *How should a first twin in breech presentation be delivered?*

Women should be informed that the evidence is limited, but that planned caesarean section for a twin pregnancy where the presenting twin is breech is recommended. C

Routine emergency caesarean section for a breech first twin in spontaneous labour, however, is not recommended. The mode of delivery should be individualised based on cervical dilatation, station of the presenting part, type of breech presentation, fetal wellbeing and availability of an operator skilled in vaginal breech delivery. C

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Almost half of all twin pregnancies will deliver preterm and decisions regarding mode of delivery need to be made in that context. If preterm delivery has not occurred, delivery from 37 weeks of gestation is now recommended.[65] Similar to preterm breech presentation, high-quality evidence is lacking in relation to the management of twin birth and breech presentation. In a systematic review of three cohort studies (1812 women) and one randomised controlled trial (120 women), twins with the first twin presenting as breech were less likely to have a low 5-minute Apgar score if they had a planned caesarean section (OR 0.33, 95% CI 0.17–0.65).[66] A further study[67] compared the outcomes of breech presenting first twins over two time periods, where the caesarean section rate increased from 21% to almost 95%. No significant differences in neonatal morbidity or mortality were reported, but there was an increase in maternal morbidity in association with caesarean delivery. In a retrospective cohort study of 195 term twin pregnancies where the presenting twin was breech, Sentilhes et al.[68] compared the outcomes of the 124 attempts at vaginal delivery (48% vaginal delivery rate) with elective caesarean. There was no difference in the composite primary outcome. Steins Bisschop et al.[69] in a 2012 review concluded that there was no benefit to the near routine practice of caesarean section if the first twin was breech. One common concern is the interlocking of twins. Although Cohen et al.[70] reported an incidence of 1 in 817, this is probably an underestimate.

Evidence level 2+

Given the uncertain risks, the quality of the evidence, the continuing controversy with singletons and the exclusion of a nonvertex twin in the 2013 twin trial,[71] a change to the current practice of planned caesarean section is not recommended.

Evidence level 1+

8.2 *How should a second twin in breech presentation be delivered?*

Routine caesarean section for breech presentation of the second twin is not recommended in either term or preterm deliveries. **B**

The second twin is nonvertex at the time of delivery in about 40% of twin pregnancies. One randomised study has been conducted of twin deliveries where the presentation of the second twin was nonvertex.[72] The results showed no difference in 5-minute Apgar scores or in any other indices of neonatal morbidity between the two groups, but the power to detect differences was low as the study only included 60 women with twins. Barrett et al.[71] randomised 1398 women with a twin pregnancy at 32 to 38^{+6} weeks of gestation to planned caesarean section or planned vaginal birth. Outcomes of planned vaginal delivery included 507 women (36% of all planned vaginal births) whose second twin was presenting as nonvertex. This trial concluded there was no difference in the composite primary outcome of mortality or serious morbidity. However, the caesarean section rate was almost 44% among planned vaginal births and a subgroup analysis of the second twins presenting nonvertex was not available.

Evidence level 1+

The observational studies report conflicting results. Ginsberg and Levine[73] reported that with second twin deliveries, low Apgar scores were less frequent when delivery was by caesarean section. A population-based cohort study[74] of twin deliveries in the USA, using birth certificates and reporting on infants weighing 1500–4000 g, found a significantly higher frequency of neonatal death, injury and perinatal morbidity when both twins of a vertex/nonvertex presentation were delivered vaginally than when both twins were delivered by caesarean section.

Evidence level 2–

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In contrast, a study in France of 614 twins showed no significant morbidity differences and concluded that the type of presentation should not influence the choice of mode of delivery.[75] In a retrospective cohort study[76] of 1038 twins in the UK, neonatal morbidity after vaginal delivery was similar for nonvertex-presenting and vertex second twins, particularly at lower gestational ages.

Evidence level 2–

The presentation of the second twin at delivery is not always predictable. The chance of cephalic delivery may be improved by routinely guiding the head of the second twin towards the pelvis during and immediately after delivery of the first twin. On the other hand, some attendants prefer to routinely expedite delivery of the second twin by internal version and breech extraction irrespective of the presentation. There is no evidence as to which is safest.

9. What organisational and governance arrangements should be in place to support a routine vaginal breech delivery service?

Simulation equipment should be used to rehearse the skills that are needed during vaginal breech birth by all doctors and midwives. ✓

Guidance for the case selection and management of vaginal breech birth should be developed in each department by the healthcare professionals who supervise such births. Adherence to the guidelines is recommended to reduce the risk of intrapartum complications. C

Departments should consider developing a checklist to ensure comprehensive counselling of the woman regarding planned mode of delivery for babies presenting by the breech. ✓

The evidence discussed on vaginal breech birth supports the adherence to a strict management protocol[14,34,43] and the presence of skilled birth attendants.[14]

Evidence level 3

10. Recommendations for future research

- Evaluation of all-fours position for vaginal breech birth.
- Evaluation of the role of pelvimetry in planning of vaginal breech delivery.
- Evaluation of the effect of epidural analgesia on vaginal breech birth.

11. Auditable topics

- Documentation of discussion regarding mode of delivery (100%).
- Vaginal delivery rates in women planning vaginal breech delivery.
- Rate of adverse neonatal and maternal outcomes following planned and actual breech birth.
- Percentage of staff who have undergone training in vaginal breech delivery (100%).

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12. Useful links and support groups

- NHS Choices. *Baby positions in the womb.* [http://www.nhs.uk/conditions/pregnancy-and-baby/pages/breech-birth.aspx].
- Royal College of Midwives. *Vaginal or caesarean delivery? How research has turned breech birth around.* [https://www.rcm.org.uk/learning-and-career/learning-and-research/ebm-articles/vaginal-or-caesarean-delivery-how-research].
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Appendix I: Explanation of guidelines and evidence levels

Clinical guidelines are: 'systematically developed statements which assist clinicians and patients in making decisions about appropriate treatment for specific conditions'. Each guideline is systematically developed using a standardised methodology. Exact details of this process can be found in Clinical Governance Advice No.1 *Development of RCOG Green-top Guidelines* (available on the RCOG website at http://www.rcog.org.uk/green-top-development). These recommendations are not intended to dictate an exclusive course of management or treatment. They must be evaluated with reference to individual patient needs, resources and limitations unique to the institution and variations in local populations. It is hoped that this process of local ownership will help to incorporate these guidelines into routine practice. Attention is drawn to areas of clinical uncertainty where further research may be indicated.

The evidence used in this guideline was graded using the scheme below and the recommendations formulated in a similar fashion with a standardised grading scheme.

Classification of evidence levels

1++	High-quality meta-analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a very low risk of bias
1+	Well-conducted meta-analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a low risk of bias
1–	Meta-analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a high risk of bias
2++	High-quality systematic reviews of case–control or cohort studies or high-quality case–control or cohort studies with a very low risk of confounding, bias or chance and a high probability that the relationship is causal
2+	Well-conducted case–control or cohort studies with a low risk of confounding, bias or chance and a moderate probability that the relationship is causal
2–	Case–control or cohort studies with a high risk of confounding, bias or chance and a significant risk that the relationship is not causal
3	Non-analytical studies, e.g. case reports, case series
4	Expert opinion

Grades of recommendations

A	At least one meta-analysis, systematic reviews or RCT rated as 1++, and directly applicable to the target population; or A systematic review of RCTs or a body of evidence consisting principally of studies rated as 1+, directly applicable to the target population and demonstrating overall consistency of results
B	A body of evidence including studies rated as 2++ directly applicable to the target population, and demonstrating overall consistency of results; or Extrapolated evidence from studies rated as 1++ or 1+
C	A body of evidence including studies rated as 2+ directly applicable to the target population, and demonstrating overall consistency of results; or Extrapolated evidence from studies rated as 2++
D	Evidence level 3 or 4; or Extrapolated evidence from studies rated as 2+

Good practice point

✓	Recommended best practice based on the clinical experience of the guideline development group

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All RCOG guidance developers are asked to declare any conflicts of interest. A statement summarising any conflicts of interest for this guideline is available from: https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg20b/

The final version is the responsibility of the Guidelines Committee of the RCOG.

The review process will commence in 2020, unless otherwise indicated.

DISCLAIMER

The Royal College of Obstetricians and Gynaecologists produces guidelines as an educational aid to good clinical practice. They present recognised methods and techniques of clinical practice, based on published evidence, for consideration by obstetricians and gynaecologists and other relevant health professionals. The ultimate judgement regarding a particular clinical procedure or treatment plan must be made by the doctor or other attendant in the light of clinical data presented by the patient and the diagnostic and treatment options available.

This means that RCOG Guidelines are unlike protocols or guidelines issued by employers, as they are not intended to be prescriptive directions defining a single course of management. Departure from the local prescriptive protocols or guidelines should be fully documented in the patient's case notes at the time the relevant decision is taken.

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