



Setting standards to improve women's health

OPERATIVE VAGINAL DELIVERY

This is the second edition of this guideline. The original edition, entitled *Instrumental Vaginal Delivery*, was published in October 2000.

1. Purpose and scope

The aim of this guideline is to provide up to date information on the use of the forceps and vacuum extractor for both rotational and non-rotational operative vaginal deliveries. Obstetricians should be confident and competent in the use of both instruments. The anatomy of the birth canal and the fetal head must be understood as a prerequisite to becoming skilled in the safe use of the forceps or vacuum extractor. The RCOG recommends that obstetricians achieve experience in spontaneous vaginal delivery prior to commencing training in operative vaginal delivery. The goal of operative vaginal delivery is to mimic spontaneous vaginal birth, thereby expediting delivery with a minimum of maternal or neonatal morbidity. The scope of this guideline will include indications for operative vaginal delivery, choice of instrument, aspects of safe clinical practice, risk of physical and psychological complications and a brief review of special circumstances.

2. Background

Operative vaginal delivery rates have remained stable at between 10% and 15%.^{1,2} There has been an increasing awareness of the potential for morbidity for both the mother and the baby. The risk of traumatic delivery in relation to forceps, particularly rotational procedures, has been long established,³ although with careful practice overall rates of morbidity are low.^{4,5} In 1998, the US Food and Drug Administration (FDA) issued a warning about the potential dangers of delivery with the vacuum extractor.⁶ This followed several reports of infant fatality secondary to intracranial haemorrhage. In addition, there has been a growing awareness of the short- and long-term morbidity of pelvic floor injury following operative vaginal delivery.⁷⁻¹² It is not surprising, therefore, that there has been an increase in litigation relating to obstetric delivery. Caesarean section in the second stage of labour, however, also carries significant morbidity and implications for future births. If we are to offer women the option of a safe operative vaginal delivery, we need to improve our approach to clinical care. The goal should be to minimise the risk of morbidity and, where morbidity occurs, to minimise the likelihood of litigation, without limiting maternal choice.

3. Identification and assessment of evidence

A search of Medline and Embase from 1999 to 2004, and of the Cochrane Library, Issue 2, 2004, was undertaken for relevant systematic reviews, meta-analyses, randomised controlled trials (RCTs) and other clinical trials. The date of the last search was July 2004. The main keywords used were: 'extraction, obstetrical', 'vacuum extraction, obstetrical', 'vacuum extraction, instrumental delivery', 'obstetrical forceps', 'forceps delivery', 'forceps', 'ventouse', 'labour, obstetric', 'delivery, obstetric' and 'parturition'.

4. Preparation for operative vaginal delivery

4.1 Can operative vaginal delivery be avoided?

All women should be encouraged to have continuous support during labour. Use of a partogram, use of upright or lateral positions and avoiding epidural analgesia, will reduce the need for operative vaginal delivery. Oxytocin in primiparous women with epidurals will decrease the need for operative vaginal delivery. Delayed pushing in primiparous women with an epidural will reduce the risk of rotational and mid-cavity deliveries.

A

As operative vaginal delivery can be associated with maternal and neonatal morbidity, strategies that reduce the risk of operative vaginal delivery should be used. Continuous support for women during childbirth can reduce the incidence of operative vaginal delivery (14 trials; $n = 12\,757$; RR 0.89; 95% CI 0.83–0.96), particularly when the carer was not a member of staff.¹³ Use of any upright or lateral position, compared with supine or lithotomy positions was associated with a reduction in assisted deliveries (18 trials; $n = 5506$; RR 0.84; 95% CI 0.73–0.98).¹⁴ Epidural analgesia compared with non-epidural methods is associated with an increased incidence of operative vaginal deliveries (12 trials; $n = 3653$; OR = 2.08; 95% CI 1.48–2.93) but provides higher rates of maternal satisfaction with analgesia (6 trials; $n = 1919$; OR = 0.27; 95% CI 0.19–0.38).¹⁵

Evidence level Ia

Using a partogram leads to fewer operative births and less use of oxytocin.¹⁶ In primiparous women with epidural anaesthesia, starting oxytocin in the second stage of labour can reduce the need for non-rotational forceps delivery.¹⁷ Extreme caution should be taken before using oxytocin for the second stage in multiparous women. Each woman should be assessed individually for the management of the second stage.

Evidence level Ib

A recent meta-analysis demonstrated that primiparous women with epidurals were likely to have fewer rotational or mid-cavity operative interventions when pushing was delayed for 1–2 hours or until they had a strong urge to push.¹⁸

Evidence level Ia

There is insufficient evidence to support the hypothesis that discontinuing epidural analgesia reduces the incidence of operative vaginal delivery (23% versus 28%; RR 0.84; 95% CI 0.61–1.15) but there is evidence that it increases women's pain (22% versus 6%; RR 3.68; 95% CI 1.99–6.80).¹⁹

Evidence level Ib

Table 1 Classification for operative vaginal delivery (adapted from ACOG 2000) ²¹	
Term	Definition
Outlet	Fetal scalp visible without separating the labia Fetal skull has reached the pelvic floor Sagittal suture is in the antero-posterior diameter or right or left occiput anterior or posterior position (rotation does not exceed 45 degrees) Fetal head is at or on the perineum
Low	Leading point of the skull (not caput) is at station plus 2 cm or more and not on the pelvic floor Two subdivisions: (a) rotation of 45 degrees or less (b) rotation more than 45 degrees
Mid	Fetal head is 1/5 palpable per abdomen Leading point of the skull is above station plus 2 cm but not above the ischial spines Two subdivisions (a) rotation of 45 degrees or less (b) rotation more than 45 degrees
High	Not included in classification

There is no difference between the rates of operative vaginal delivery for combined spinal-epidural and epidural techniques. (10 trials; $n = 1722$; OR 0.91; 95% CI 0.72–1.15).²⁰

Evidence level Ia

4.2 How should operative vaginal delivery be defined?

A standard classification of operative vaginal delivery should be used.

C

To enable benchmarking, audit and comparison between studies, a standard definition of the types of operative delivery should be used. The American College of Obstetricians and Gynecologists criteria are adapted in Table 1 and define the delivery by the station and position.²¹

Evidence level IV

4.3 When should operative vaginal delivery be offered?

Operators should be aware that no indication is absolute and should be able to distinguish ‘standard’ from ‘special’ indications.

C

Operative intervention is used to shorten the second stage of labour. It may be indicated for conditions of the fetus or of the mother (Table 2).²² A retrospective cohort study of 15 759 nulliparous women demonstrated that maternal morbidity increased significantly after three hours of the second stage and further increased after four hours. There was no evidence of neonatal morbidity increasing in this retrospective study, where fetal surveillance and timely obstetric intervention were used.²³ The time constraints listed in Table 2 are therefore for guidance. The question of when to intervene should involve balancing the risks and benefits of continuing pushing as against operative delivery. There is no evidence that elective operative delivery for inadvertent dural puncture is of benefit, unless the woman has a headache that worsens with pushing.²⁴

Evidence level III

Table 2 Indications for operative vaginal delivery ²² (no indication is absolute and each case should be considered individually)	
Type	Indication
Fetal	Presumed fetal compromise
Maternal	Medical indications to avoid Valsalva (e.g. cardiac disease Class III or IV, ^a hypertensive crises, cerebral vascular disease, particularly uncorrected cerebral vascular malformations, myasthenia gravis, spinal cord injury)
Inadequate progress	Nulliparous women: lack of continuing progress for three hours (total of active and passive second stage labour) with regional anaesthesia, or two hours without regional anaesthesia Multiparous women: lack of continuing progress for two hours (total of active and passive second stage labour) with regional anaesthesia, or one hour without regional anaesthesia Maternal fatigue/exhaustion

^a New York Heart Association classification

Fetal bleeding disorders (e.g. alloimmune thrombocytopenia) or a predisposition to fracture (e.g. osteogenesis imperfecta) are relative contraindications to operative vaginal delivery. However, there may be considerable fetal risk if the head has to be delivered abdominally from deep in the pelvis.^{25,26} The risk of vertical transmission of hepatitis C virus appears to be related to the level of viraemia in the pregnant mother and not to the route of delivery. However, it is sensible to avoid difficult operative delivery where there is an increased chance of fetal abrasion or scalp trauma, as it is to avoid fetal scalp clips or blood sampling during labour.²⁷

Evidence level IV

The vacuum extractor is contraindicated with a face presentation. It has been suggested that it should not be used at gestations of less than 36 weeks because of the risk of cephalhaematoma and

intracranial haemorrhage.^{28,29} One case-control study suggests that this restriction may be unnecessary but this study was small and was undertaken outside the UK.³⁰ At present, the RCOG recommends avoiding the use of vacuum below 34 weeks because of the susceptibility of the preterm infant to cephalohaematoma, intracranial haemorrhage and neonatal jaundice. There is insufficient evidence to establish the safety of the vacuum at gestations between 34 and 36 weeks.

Evidence level IV

Two observational studies reported a minimal risk of fetal haemorrhage if the extractor is applied following fetal blood sampling or application of a spiral scalp electrode.^{31,32} However, no bleeding was reported in two randomised trials comparing forceps and vacuum extraction.³³⁻³⁵

Evidence level Ib

Forceps and vacuum extractor deliveries before full dilatation of the cervix are contraindicated. There are a few exceptions which include a prolapsed cord at 9 cm in a multiparous woman or a second twin. Forceps are indicated for the aftercoming head of the breech and in situations where maternal effort is impossible or contraindicated.

Evidence level III

4.4 What are the essential conditions for safe operative vaginal delivery?

Safe operative vaginal delivery requires a careful assessment of the clinical situation, clear communication with the mother and healthcare personnel and expertise in the chosen procedure.

C

Like any operative intervention, adequate preparation and planning is important. Be cautious in the urgent situation and at handover periods when time pressures can limit the information given (Table 3).

Preparation	Essential
Full abdominal and vaginal examination	<ul style="list-style-type: none"> Head is \leq 1/5 palpable per abdomen Vertex presentation Cervix is fully dilated and the membranes ruptured Exact position of the head can be determined so proper placement of the instrument can be achieved Pelvis is deemed adequate
Mother	<ul style="list-style-type: none"> Informed consent must be obtained and clear explanation given Appropriate analgesia is in place, for mid-cavity rotational deliveries this will usually be a regional block A pudendal block may be appropriate, particularly in the context of urgent delivery Maternal bladder has been emptied recently Indwelling catheter should be removed or balloon deflated Aseptic techniques
Staff	<ul style="list-style-type: none"> Operator must have the knowledge, experience and skills necessary to use the instruments Adequate facilities and back-up personnel are available Back-up plan in place in case of failure to deliver Anticipation of complications that may arise (e.g. shoulder dystocia, postpartum haemorrhage) Personnel present who are trained in neonatal resuscitation

5. Performing operative vaginal delivery

5.1 Who should perform operative vaginal delivery?

The operator must have the knowledge, experience and skills necessary to use the instruments and manage complications that may arise.

C

Obstetricians should achieve experience in spontaneous vaginal delivery prior to commencing training in operative vaginal delivery.



Obstetric trainees should receive appropriate training in operative vaginal delivery. Competence should be confirmed prior to conducting unsupervised deliveries.



The goal of operative vaginal delivery is to mimic spontaneous vaginal birth, thereby expediting delivery with a minimum of maternal or neonatal morbidity. The complexity of the delivery is related to the type of delivery, as classified in Table 1. Mid-cavity and rotational deliveries, independent of the type of instrument used, demand a high level of clinical and technical skill and the operator must have received adequate training.³⁶

Evidence level IV

System analysis often reveals inadequate training as a key contributor to adverse outcomes and training is central to patient safety initiatives.³⁷ Neonatal trauma is associated with initial unsuccessful attempts at operative vaginal delivery by inexperienced operators.³⁸

Evidence level IIb

Dedicated consultant sessions on the labour ward should facilitate better training and supervision of trainees and a higher proportion of operative deliveries being performed by experienced obstetricians. Assessment of clinical competence is a key element of core training. No data exist on the number of supervised procedures necessary before competence is gained. Individual centres should agree a training and assessment process with a clearly responsible trainer. Local and specialist courses in labour ward management can contribute to the development and maintenance of operative delivery expertise. The operator should be aware of the manufacturer's recommendations for the instrument that is being used.³

Evidence level III

5.2 Where should operative vaginal delivery take place?

Operative vaginal births that have a higher rate of failure should be considered a trial and conducted in a place where immediate recourse to caesarean section can be undertaken.



An experienced operator should be present from the outset for all attempts at rotational or mid-cavity operative vaginal delivery.



Higher rates of failure are associated with:

- maternal body mass index greater than 30
- estimated fetal weight greater than 4000 g or clinically big baby
- occipito-posterior position
- mid-cavity delivery or when 1/5 head palpable per abdomen.

At mid-cavity, the biparietal diameter is still above the level of the ischial spines. Failure rates are higher at this station. High maternal body mass index (greater than 30), neonatal birth weight greater than 4000 g, and occipito-posterior positions are also indicators of increased failure.³⁹ Fetal injuries have been attributed to delay between a failed operative vaginal delivery and a caesarean section.⁴⁰ Operative deliveries that are anticipated to have a higher rate of failure, therefore, should be considered a trial of labour and conducted in a place where immediate recourse to caesarean can be undertaken. There is little evidence of increased maternal or neonatal morbidity following failed operative vaginal delivery compared with immediate caesarean section where immediate recourse to caesarean section is available.⁴¹

Evidence level III

There has been one small study reviewing the use of midwifery ventouse practitioners in stand-alone units and consultant units. This showed a very low rate of obstetric intervention and

prevented ambulance transfers. However the study is small and retrospective.⁴² There is insufficient evidence to assess the benefits and risks of conducting operative vaginal birth in midwifery led units. There is a need for further studies in this area.

Evidence level III

5.3 What instruments should be used for operative vaginal delivery?

The operator should choose the instrument most appropriate to the clinical circumstances and their level of skill. Forceps and vacuum extraction are associated with different benefits and risks.

A

The options available for rotational delivery include Kielland forceps, manual rotation followed by direct traction forceps or rotational vacuum extraction. Rotational deliveries should be performed by experienced operators, the choice depending upon the expertise of the individual operator.

✓

There are over 700 different makes of forceps.⁵ There have been no RCTs comparing different forceps types and it is recognised that the choice is often subjective. Rotational delivery with the Kielland forceps carries additional risks and requires specific expertise and training.^{3,4} Alternatives to Kielland forceps include manual rotation followed by direct traction forceps or rotational vacuum extractor.³⁶ There have been no RCTs comparing these approaches and the operator should choose an appropriate approach within their expertise. Maintenance of skills in this area may reduce the need for second-stage caesarean section and training should be encouraged for some trainees, particularly those embarking on the labour ward leadership special skills module.

Evidence level III

A Cochrane systematic review of nine RCTs involving 1368 primiparous and multiparous women showed that soft vacuum extractor cups compared with rigid cups were associated with a significant increase in the rate of failure (OR 1.6; 95% CI 1.2–2.3) but a significant reduction in scalp trauma (OR 0.4; 95% CI 0.3–0.6).⁴³

Evidence level Ia

There are several types of disposable vacuum extractors now available. Their place in clinical practice awaits formal review. The newer Kiwi OmniCup® (Clinical Innovations, Murray, UT) vacuum device has been reported to be both safe and effective for rotational and non-rotational operative vaginal delivery in non-trial settings.^{44,45} Evaluation in a trial setting is eagerly awaited.

Evidence level III

The relative merits of vacuum extraction and forceps have been evaluated in a Cochrane systematic review of nine RCTs, involving 2849 primiparous and multiparous women.³⁵

Evidence level Ia

Vacuum extractor compared with forceps is:

- more likely to fail at achieving vaginal delivery OR 1.7; 95% CI 1.3–2.2
- more likely to be associated with cephalhaematoma OR 2.4; 95% CI 1.7–3.4
- more likely to be associated with retinal haemorrhage OR 2.0; 95% CI 1.3–3.0
- more likely to be associated with maternal worries about baby OR 2.2; 95% CI 1.2–3.9
- less likely to be associated with significant maternal perineal and vaginal trauma OR 0.4; 95% CI 0.3–0.5
- no more likely to be associated with delivery by caesarean section OR 0.6; 95% CI 0.3–1.0
- no more likely to be associated with low 5-minute Apgar scores OR 1.7; 95% CI 1.0–2.8
- no more likely to be associated with the need for phototherapy OR 1.1; 95% CI 0.7–1.8.

In view of the reduction of maternal pelvic floor injuries, the vacuum extractor has been advocated as the instrument of first choice.⁴⁶ The downside of this approach is the increased risk of failed operative delivery and of sequential use of instruments (vacuum followed by forceps), with inherent additional risks to the mother and infant. The careful well-trained operator will select the instrument best suited to the individual circumstances.

One RCT has reported that symptoms of altered faecal continence are significantly more common following forceps delivery compared with vacuum extraction.¹¹ However, a five-year follow-up of women enrolled in one of the RCTs above did not show any significant differences in long-term outcome between the two instruments for either the mother or the child.⁴⁷ The data available from the published controlled trials cannot be analysed separately to compare vacuum and forceps in their use for rotational deliveries.

Evidence
level Ib

5.4 When should operative vaginal delivery be abandoned?

Operative vaginal delivery should not be attempted unless the criteria for safe delivery have been met (see Table 3).

Operative vaginal delivery should be abandoned where there is no evidence of progressive descent with each pull or where delivery is not imminent following three pulls of a correctly applied instrument by an experienced operator.

B

Adverse outcomes, including unsuccessful forceps or vacuum delivery, should trigger an incident report as part of effective risk management processes.



Paired cord blood samples should be processed and recorded following all attempts at operative vaginal delivery.



Vacuum and forceps delivery can be associated with significant complications, both maternal and fetal. Two maternal deaths have been described in association with tearing of the cervix at vacuum delivery and a further maternal death recorded following uterine rupture in association with forceps delivery.^{48,49} Neonatal intracranial and subgaleal haemorrhage are life-threatening complications of particular concern.^{6,49} In a review of 583 340 liveborn singleton infants born to nulliparous women, the rate of subdural or cerebral haemorrhage in vacuum deliveries did not differ significantly from that associated with forceps use or caesarean section during labour.⁵⁰ However, risks increased significantly among babies exposed to attempts at both vacuum and forceps delivery.⁵¹

Evidence
level IIa

A prospective cohort study of 393 women experiencing operative delivery in the second stage of labour reported an increased risk of neonatal trauma and admission to the special care baby unit (SCBU) following excessive pulls (more than three pulls) and sequential use of instruments. The risk was further increased where delivery was completed by caesarean section following a protracted attempt at operative vaginal delivery.³⁷

Evidence
level IIb

The bulk of malpractice litigation results from failure to abandon the procedure at the appropriate time, particularly the failure to eschew prolonged, repeated or excessive traction efforts in the presence of poor progress.⁵ Adverse events, including unsuccessful forceps or vacuum extraction, birth trauma, term baby admitted to the neonatal unit, low Apgar scores (Apgar less than 7 at 5 minutes) and cord arterial pH less than 7.1 should trigger an incident report and review, if necessary, as part of effective risk management processes.⁵²

5.5 Is there a place for sequential use of instruments?

The use of sequential instruments is associated with an increased risk of trauma to the infant. However, the operator must balance the risks of a caesarean section following failed vacuum extraction with the risks of forceps delivery following failed vacuum extraction.

B

The use of outlet forceps following failed vacuum extraction may be judicious in avoiding a potentially complex caesarean section. Caesarean section in the second stage of labour is

Evidence
level IIa

associated with an increased risk of major obstetric haemorrhage, prolonged hospital stay and admission of the baby to SCBU compared to completed instrumental delivery.³⁹

Evidence level IIa

This must be balanced with the increased risk of neonatal trauma associated with sequential use of instruments (risk of intracranial haemorrhage is one in 256 deliveries for two instruments as against one in 334 for failed forceps proceeding to caesarean section).^{51,53-55}

Evidence level IIa - III

The sequential use of instruments should not be attempted by an inexperienced operator without direct supervision and should be avoided wherever possible.

5.6 *What is the role of episiotomy for operative vaginal delivery?*

The role of routine episiotomy for operative vaginal delivery is poorly evaluated and warrants further research.



A review of 323 consecutive operative vaginal deliveries in a US setting evaluated the relationship between episiotomy and significant perineal trauma (third- and fourth-degree tears).⁵⁶ The use of episiotomy did not influence the risk of significant perineal trauma for forceps delivery but was associated with an increased risk of significant perineal trauma when vacuum delivery was performed. These data are difficult to interpret in the UK context, as midline episiotomy is preferred in the USA and mediolateral episiotomy in the UK setting. A further study reported a lower frequency and severity of perineal tears in forceps delivery when an episiotomy was performed, particularly for mediolateral episiotomy.⁵⁷

Evidence level III

Operative vaginal delivery with and without the use of episiotomy has crept into clinical practice without formal evaluation. Further research is required.

5.7 *Should prophylactic antibiotics be given?*

There is insufficient data to make recommendations regarding prophylactic antibiotics in operative vaginal delivery.



Good standards of hygiene and aseptic techniques are recommended.



A Cochrane review included only one randomised trial of 393 participants. There were seven women with endomyometritis in the group given no antibiotics and none in the prophylactic antibiotic group. This difference did not reach statistical significance but the relative risk reduction was 93% (RR 0.07; 95% CI 0.00-1.21).^{58,59}

Evidence level Ib

6. **Aftercare following operative vaginal delivery**

6.1 *Should thromboprophylaxis be given?*

Women should be reassessed after an operative delivery for risk factors for venous thromboembolism.



Mid-cavity delivery, prolonged labour and immobility are risk factors for thromboembolism. Women should be reassessed after delivery for risk factors for venous thromboembolism and considered for thromboprophylaxis if necessary.⁶⁰

6.2 What analgesia should be given after delivery?

Regular paracetamol and diclofenac should be considered after an operative vaginal delivery in the absence of contraindications.



Regular paracetamol and diclofenac has been shown to be beneficial after caesarean section and for perineal pain.⁶¹ They should be considered (in the absence of contraindications) after an operative vaginal delivery.

6.3 What precautions should be taken for care of the bladder after delivery?

The timing and volume of the first void urine should be monitored.



All women undergoing an operative vaginal delivery should have monitoring, such as a fluid balance chart, for at least 24 hours, to detect postpartum urinary retention. A post-void residual should be measured if retention is suspected.



Women who have had spinal anaesthesia or epidural anaesthesia that has been topped up for a trial of labour may be at increased risk of retention and should be offered an indwelling catheter, to be kept in place for at least 12 hours following delivery to prevent asymptomatic bladder overfilling.



Women should be offered physiotherapy-directed strategies to prevent urinary incontinence.



Urine retention with bladder overdistension should be avoided, particularly in women who have had spinal or dense epidural blocks. Operative delivery, prolonged labour and epidural analgesia may predispose to postpartum urinary retention, which can be associated with long-term bladder dysfunction.⁶²⁻⁶⁴ There is considerable variation in practice in postpartum bladder management in the UK.⁶⁵ Further research is needed to develop evidence-based guidelines. However, at a minimum, the first void should be measured and, if retention is a possibility, a post-void residual should be measured to ensure that retention does not go unrecognised. Women who have had spinal anaesthesia or epidural anaesthesia that has been topped up for a trial of labour should be offered an indwelling catheter for at least 12 hours following delivery to prevent asymptomatic bladder overfilling. This should be followed by completion of fluid balance charts to ensure good voiding volumes.

Evidence level III

Urinary incontinence is common after operative vaginal delivery. A physiotherapist-delivered intervention designed to prevent urinary incontinence reduced incontinence from 38.4% to 31% in a group of women who had experienced operative vaginal birth and/or a baby over 4000 g.⁶⁶

Evidence level Ib

6.4 How can we reduce psychological morbidity for the mother?

There is no evidence to support the use of midwife-led debriefing in reducing maternal depression following operative vaginal delivery.



Obstetricians should review the woman prior to hospital discharge and discuss the indication for operative delivery, management of any complications and the prognosis for future deliveries.



Operative vaginal delivery can be associated with fear of subsequent childbirth and in a severe form may manifest as a post-traumatic stress type syndrome termed 'tokophobia'.⁶⁷⁻⁷¹ Follow-up of a cohort at three years following operative delivery reported that 50% of women did not plan on having a further child and almost half of these women reported fear of childbirth as the main reason for avoiding pregnancy.⁷²

Evidence level IIa

Several studies have looked at debriefing approaches to reducing psychological morbidity following childbirth.^{73,74} There is no evidence to support the use of formal debriefing in reducing the risk of subsequent postnatal depression for women who have experienced operative vaginal delivery.

Evidence level Ib

Nonetheless, women report the need for a review following delivery to discuss the indication for delivery, the management of any complications and the implications for future deliveries.⁶⁷

Evidence qualitative

The optimal timing, setting and healthcare professional for post-delivery review require further evaluation.

6.5 How should we advise women for future deliveries?

Women should be encouraged to aim for a spontaneous vaginal delivery in a subsequent pregnancy, as there is a high probability of success.

B

Women who have experienced an operative vaginal delivery should be encouraged to aim for spontaneous vaginal delivery in a subsequent pregnancy. The likelihood of achieving a spontaneous vaginal delivery is approximately 80%, even for women who have required more complex operative vaginal deliveries in theatre.^{71,75,76}

Evidence level IIa - III

This discussion should take place at the earliest opportunity, as there is evidence to suggest that women decide on future mode of delivery soon after delivery.⁷⁷ The future plan of care should be reviewed carefully with women who have experienced a third- or fourth-degree tear, particularly if they are symptomatic, as they may be at increased risk of further anorectal damage with a subsequent delivery.⁷⁸

Evidence level IIa

7. Auditable standards

- Rate of operative vaginal delivery.
- Rate of failed operative vaginal delivery.
- Rate of sequential instrument use.
- Rate of third- and fourth-degree perineal tears.
- Rate of neonatal morbidity to composite trauma (cephalhaematoma, brachial plexus injury, fracture, facial nerve palsy, cerebral haemorrhage), low Apgar (less than 7 at 5 minutes) and cord arterial pH less than 7.1.
- Standard of documentation.

Audit should be performed on an individual operator basis as well as for the unit as a whole.

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APPENDIX

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: *Guidance for the Development of RCOG Green-top Guidelines* (available on the RCOG website at www.rcog.org.uk). 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		Grades of recommendations	
Ia	Evidence obtained from meta-analysis of randomised controlled trials.	A	Requires at least one randomised controlled trial as part of a body of literature of overall good quality and consistency addressing the specific recommendation. (Evidence levels Ia, Ib)
Ib	Evidence obtained from at least one randomised controlled trial.		
IIa	Evidence obtained from at least one well-designed controlled study without randomisation.	B	Requires the availability of well controlled clinical studies but no randomised clinical trials on the topic of recommendations. (Evidence levels IIa, IIb, III)
IIb	Evidence obtained from at least one other type of well-designed quasi-experimental study.		
III	Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies and case studies.	C	Requires evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities. Indicates an absence of directly applicable clinical studies of good quality. (Evidence level IV)
IV	Evidence obtained from expert committee reports or opinions and/or clinical experience of respected authorities.		Good practice point Recommended best practice based on the clinical experience of the guideline development group.

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

Valid until October 2008
unless otherwise indicated