Assisted Vaginal Birth

(Operative Vaginal Delivery)

Specialty:	Maternity Services
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1. Purpose and scope of the guideline:

This guideline aims to provide an insight and evidence-based recommendations on the use of forceps and vacuum extraction for both rotational and non-rotational assisted vaginal births (AVB).

The scope of this guideline includes prerequisites, indications, procedures, postoperative care and governance issues relating to assisted vaginal birth (AVB).

2. Introduction and background:

In the UK, between 10 - 15% of all women give birth by assisted vaginal birth (AVB).[1]

Almost one in every three nulliparous women will have AVB.[2]

Women who have AVB rather than have a caesarean section with their first child are far more likely to have an uncomplicated vaginal birth in subsequent pregnancies.[6–8] The majority of births by vacuum and forceps, when performed correctly by appropriately trained personnel; result in a safe outcome for the woman and the baby.[5]

There has been a rise in the rate of caesarean sections in the second stage of labour; this may reflect concerns about assisted vaginal birth morbidity or a loss of clinical skills.[4]

Obstetricians, midwives and neonatologists should be aware that serious rare complications, such as subgaleal haemorrhage, intracranial haemorrhage, skull fracture and spinal cord injury, can result in perinatal death and that these complications are more likely to occur with midpelvic, rotational and failed attempts at assisted vaginal birth.[5,9]

The alternative of a caesarean birth late in the second stage of labour can be very challenging and result in significant maternal and perinatal morbidity.

As a result, complex decision making is required when choosing between assisted vaginal birth and second-stage caesarean birth.

In order to provide safe care for the full range of clinical scenarios, obstetricians should develop competency in the use of both vacuum and forceps for non-rotational birth and at least one specialist technique for rotational birth.

The Montgomery ruling has emphasised the importance of informed consent;
A number of high profile manslaughter convictions on the grounds of gross negligence have highlighted the risk of a criminal conviction, where serious shortcomings are identified in medical care provided to a patient who dies.

3. Aims:

- To ensure the right procedure is followed in the right place by the right person.
- To achieve safe outcome for the mother and baby with minimum interference.
- To avoid unnecessary delay.
- To avoid unnecessary interventions.

- To avoid difficult assisted deliveries.

4. Reducing the need for assisted vaginal birth:

- As assisted vaginal birth can be associated with maternal and neonatal morbidity, strategies that reduce the need for intervention should be used.

- Continuous support during labour can reduce the need for assisted vaginal birth. [10]

- Epidural analgesia may increase the need for assisted vaginal birth although this is less likely with newer anaesthetic techniques (use of lower concentrations of local analgesic or patient-controlled epidural analgesia (PCEA)). [2]

- Adopting an upright or lateral position compared with supine or lithotomy positions in the second stage of labour reduces the need for assisted vaginal birth. [12]

- **However, when using epidural analgesia,** adopting lying down lateral positions rather than upright positions in the second stage of labour increases the rate of spontaneous vaginal birth. [13, 14]

- In nulliparous women with epidural analgesia, recommend delayed pushing for up to 2 hours or until they have a strong urge to push as this may reduce the need for rotational and mid-pelvic assisted vaginal birth. [15, 16]

- Epidural analgesia in the latent phase of labour (Early epidural) compared to the active phase of labour ***does not increase the risk*** of assisted vaginal birth. 11

- Discontinuing epidural analgesia during pushing increases the woman's pain with no evidence of a reduction in the incidence of assisted vaginal birth. [17]

- Prophylactic manual rotation early in the second stage of labour to reduce the risk of assisted vaginal birth needs larger studies to evaluate its efficacy and cannot be recommended to be used as a routine strategy yet. [23 - 27]

5. Indications for operative vaginal birth

No indication is absolute and each case should be considered individually.

The decision requires clinical judgment based on the maternal and fetal findings, preferences of the woman and experience of the obstetrician. [29]

The question of when to intervene should involve consideration of the risks and benefits of continued pushing versus those of an assisted vaginal birth versus those of a second stage caesarean birth.

The threshold to intervene may be lower where several factors coexist.

Table 1. Indications for assisted vaginal birth [22, 28]

Fetal	Suspected fetal compromise (Abnormal CTG or FBS, thick meconium, sepsis)
Maternal	Maternal exhaustion or distress.
	Medical indications to avoid the Valsalva manoeuvre (cardiac disease, hypertensive crisis, cerebral vascular disease or malformations, myasthenia gravis and spinal cord injury).
	Inadequate progress: <u>For a nulliparous woman without an epidural:</u> **birth would be expected to take place within 3 hours of the start of the active second stage in most women** after 1 hour of active pushing, reassess the clinical picture, including progress, contractions, and maternal and fetal wellbeing: if there are signs of progress (in terms of rotation or descent of the presenting part), encourage the woman to continue pushing if there are no signs of progress, offer vaginal examination and consider amniotomy if the membranes are intact; if there is still no progress, diagnose delay and escalate for senior review if birth is not imminent after 2 hours of pushing, refer the woman for a senior review and a decision on place and mode of birth. <u>For a multiparous woman without an epidural:</u> **birth would be expected to take place within 2 hours of the start of the active second stage in most women** after 30 minutes of active pushing, reassess clinical picture, including progress, contractions, and maternal and fetal wellbeing: if there are signs of progress (in terms of rotation or descent of the presenting part), encourage the woman to continue pushing if there are no signs of progress, offer vaginal examination and consider amniotomy if the membranes are intact; if there is still no progress, diagnose delay and escalate for senior review if birth is not imminent after 1 hour of pushing, refer the woman for senior review and decision on place and mode of birth. <u>For a nulliparous woman with an epidural:</u> **birth would be expected to take place within 3 hours of the start of the active second stage in most women, but be aware that these women may have had a passive stage of up to 2 hours after full dilatation before commencing active pushing** after 1 hour of active pushing, reassess the clinical picture, including progress, contractions, and maternal and fetal wellbeing: if there are signs of progress (in terms of rotation or descent of the presenting part), encourage the woman to continue pushing if there are no signs of progress, offer vaginal examination and consider amniotomy if the membranes are intact; if there is still no progress, diagnose delay and escalate for senior review. If birth is not imminent

	after 2 hours of pushing, refer the woman for a senior review and decision on place and mode of birth. <u>For a multiparous woman with an epidural:</u> **birth would be expected to take place within 2 hours of the start of the active second stage in most women, but be aware that these women may have had a passive stage of up to 1 hour after full dilatation before commencing active pushing** after 30 minutes of active pushing, reassess clinical picture, including progress, contractions, and maternal and fetal wellbeing: if there are signs of progress (in terms of rotation or descent of the presenting part), encourage the woman to continue pushing if there are no signs of progress, offer vaginal examination and consider amniotomy if the membranes are intact; if there is still no progress, diagnose delay and escalate for senior review if birth is not imminent after 1 hour of pushing, refer the woman for a senior review and decision on place and mode of birth.
Combined	Fetal and maternal indications for assisted vaginal birth often coexist.

6. Contraindications for operative vaginal birth:

- Forceps and vacuum extraction are contraindicated when:

- Before full dilatation of the cervix.
- Uncertain fetal head position. (Request senior input, think of USS as an aid)
- Fetal head station above ischial spines.
- **Mid-cavity Rotational / Instrumental birth where some difficulty is anticipated is not recommended in presence of suspected fetal compromise**

6.1 Relative contraindications:

(Check antenatal care plan and discuss with Consultant)

a. **Suspected fetal bleeding disorders** (alloimmune thrombocytopenia) is relative contraindications to assisted vaginal birth. [31]

   However, there may be considerable risks if the fetal head has to be delivered abdominally from deep in the pelvis at a second stage caesarean section. Experienced obstetricians should be involved in the decision-making for exceptional indication and, ideally, a discussion will have taken place and be documented in advance of labour. A low forceps may be acceptable for assisted vaginal birth with suspected fetal bleeding disorders, but vacuum extraction should be avoided.

b. Haemophillia (male infants)

c. **Fetal predisposition to fracture** (osteogenesis imperfect) is relative contraindications to assisted vaginal birth.

d. **Blood borne viral infections** in the mother are not an absolute contraindication to assisted vaginal birth. [32,33]

However, it is sensible to avoid difficult assisted vaginal birth where there is an increased chance of fetal abrasion or scalp trauma, as it is to avoid fetal scalp electrodes or blood sampling during labour.[33]

6.2 Contraindications specific to Ventouse (Vacuum extraction):

- The vacuum extractor is contraindicated with a face presentation.
- Vacuum birth should be avoided **below 32^{+0}** weeks of gestation.

The use of vacuum extraction is not recommended because of the susceptibility of the preterm infant to cephalohematomas, intracranial haemorrhage, subgaleal haemorrhage and neonatal jaundice. It also should be **used with caution between 32^{+0} and 36^{+0}** weeks of gestation. [38 - 40]

- Suspected fetal bleeding disorders (alloimmune thrombocytopenia). [31]
- Vacuum extraction is ***not contraindicated*** following a fetal blood sampling procedure or application of a fetal scalp electrode. [34 - 37]

7. Classification for assisted vaginal birth 28:

Outlet	Fetal scalp visible without separating the labia Fetal skull has reached the perineum Rotation does not exceed 45°	
Low	Fetal skull is at station + 2 cm, but not on the perineum	Two subdivisions: 1. Non-rotational ≤ 45° 2. Rotational > 45°
Mid-Cavity	Fetal head is ≤ $1/5^{th}$ palpable per abdomen Leading point of the skull is at station 0 or + 1 cm	Two subdivisions: 1. Non-rotational ≤ 45° 2. Rotational > 45°

8. Pre-requisites for operative vaginal birth: (Adapted from SOGC, 2004 RANZOG 2002)

Preparation	Essential
Full abdominal and vaginal examination	• Head is ≤ 1/5 palpable per abdomen. • Cervix is fully dilated and the membranes ruptured. • Station at level of ischial spines or below. • Position of the head can be determined so proper placement of the instrument can be achieved (see USS role below) *[1]. • Pelvis is deemed adequate. • Caput and moulding is no more than moderate (or +2). +3 indicate cephalopelvic disproportion. • Vertex presentation (most senior operator if face presentation or the after coming head of a breech).
Mother	• Informed consent must be obtained and clear explanation given. • Written consent if for trial of instrumental deliveries in theatre if possible. • Appropriate analgesia is in place: For midpelvic or rotational birth, this will usually be a regional block; a pudendal block*[2] may be acceptable depending on urgency; and a perineal block*[2] may be sufficient for low or outlet birth. • Maternal bladder has been emptied recently. Indwelling catheter should be removed or balloon deflated. • Aseptic techniques. • Single dose of iv antibiotics. • Warm Compress.*[3]
Staff	• Operator must have the necessary knowledge, experience and skills to use the intended instruments. • Adequate facilities are available (equipment, bed, lighting) and access to an operating theatre. • Back-up plan in place in case of failure to deliver and back-up personnel are available to allow a caesarean birth to be performed without delay. * • Anticipation of complications that may arise (e.g. shoulder dystocia, PPH) • Neonatal team to be present. • Anaesthetist and theatre team to be aware if performed in birthing room.*[5] • Consultant present if operator is not signed off for independent practice.*[6]

*[1] There are known errors in diagnosing the fetal head position at all levels of experience.[43] Therefore, use of ultrasound to define the fetal head position prior to assisted vaginal birth may be a valuable assessment tool, particularly where there is uncertainty about the clinical findings. The operator should be trained in determining the fetal head position using abdominal ultrasound.[44]

*[2] Use Lidocaine 1% for perineal and / or pudendal block for assisted birth performed in birthing room in women without effective analgesia. Lidocaine 1% is available in every birthing room. The maximum dose of Lidocaine is 3mg/kg or 200mg whichever is less. every ml of the above will contain 10mg of Lidocaine, i.e. 10ml = 100mg, 20ml = 200mg, in a 50kg patient the maximum dose= 150mg (15ml of 1%) while its 200mg (21ml) for an average 70kg patient. **Beware of the risks, clinical signs and management of Local Anaesthetic Systemic Toxicity (LAST).**[45]

*[3] Warm compressors should be applied when possible at each vaginal birth including assisted birth both in rooms and theatre (A surgical pad applied to the perineum when traction is applied with forceps / ventouse, the pad is non-sterile and is soaked in warm water that is provided ready by the MW/HCA from the hub). These compressors have shown to reduce significant perineal tears. Adequate perineal support should be applied during birth of the head to reduce risk of 3rd / 4th degree perineal tears.

*[4] For trial of assisted birth in theatre +/- Caesarean section - anaesthesia should be adequate for caesarean section or the woman must agree to proceed to a general anaesthetic if the trial fails.

*[5] If epidural anaesthesia in-situ – inform anaesthetist to check sacral block is adequate prior to the procedure.

*[6] For a trial of assisted vaginal birth in theatre, an experienced operator should attend in person or should be immediately available if the trainee on duty has not been assessed and signed-off as competent.[72]

8.1 Consent for assisted vaginal birth:

By the very nature of assisted vaginal birth, consent will need to be obtained at the end of labour in an emergency setting. The situation is not always favourable to the accommodation of detailed information by the woman to make an informed choice.[50]

Therefore, women should be informed about assisted vaginal birth as part of routine antenatal education, particularly when having their first baby where the chance of requiring a forceps or vacuum birth is highest.

This information should include strategies known to be effective in reducing the need for assisted vaginal birth and an explanation of the comparative morbidities for assisted vaginal birth and second stage caesarean birth.

The role of the obstetrician is to have a dialogue to ensure that the patient understands the risks and benefits, and can make an informed choice.

Care needs to be taken as women may be exhausted, in pain or affected by drugs. The principles of obtaining valid consent during labour should be followed.[51, 52]

Information provided to women in labour should be given between contractions. The ability to present risk-based information in a time-sensitive manner appropriate to the clinical circumstances is essential in order to achieve informed consent. Obstetricians must document their assessment findings, reasons for proceeding to an assisted vaginal birth and that consent has been given.

For birth room procedures verbal consent should be obtained prior to assisted vaginal birth and the discussion should be documented in the notes.

When midpelvic or rotational birth is indicated, the risks and benefits of assisted vaginal birth should be compared with the risks and benefits of second stage caesarean birth for the given circumstances and skills of the operator. Written consent should be obtained for a trial of assisted vaginal birth in an operating theatre.

8.2 Place of assisted vaginal birth:

The place where to perform assisted vaginal birth rely heavily on the operator experience.

Non-rotational low-pelvic and lift out assisted vaginal births have a low probability of failure and most procedures can be conducted safely in a birth room.

Assisted vaginal births that have a higher risk of failure should be considered a trial and be attempted in the operating theatre where immediate recourse to caesarean birth can be undertaken.

Higher rates of failure are associated with: [6, 53, 76–80]

- Maternal BMI greater than 30
- Short maternal stature
- Estimated fetal weight of greater than 4 kg or a clinically big baby
- Head circumference above the 95th percentile
- Occipito–posterior position
- Midpelvic birth or when one-fifth of the head is palpable per abdomen.

The decision to transfer a woman to an operating theatre needs to take account of the time associated with transfer which may affect the neonatal outcome.

The risks of unsuccessful assisted vaginal birth in the labour room should be balanced with the risks associated with the transfer time for birth in an operating theatre.

Studies of operative births showed that a Decision to birth Interval of 15-20 minutes is an achievable target in the labour room, whereas 30-59 minutes is the average DDI in theatre.[6, 83]

8.3 Choice of instruments for assisted vaginal birth:

The operator should choose the best approach using the instrument most appropriate to the clinical circumstances and their expertise.

Operators should be aware that forceps and vacuum extraction are associated with different benefits and risks; failure to complete the birth with a single instrument is more likely with vacuum extraction, but maternal perineal trauma is more likely with forceps.

Rotational births should be performed by experienced operators; the choice of instrument depending on the clinical circumstances and expertise of the individual. The options include Kielland's rotational forceps, manual rotation followed by direct traction forceps or vacuum and rotational vacuum extraction.

Rotational birth with the Kielland's forceps carries additional risks, such as cervical spine injury, and requires specific expertise and training.
Kielland's forceps are less likely to fail (RR 0.32, 95% CI 0.14–0.76) and less likely to cause neonatal trauma (RR 0.62, 95% CI 0.46–0.85) when compared with rotational vacuum birth.[105]

Table 2. Vacuum extraction as compared with forceps assisted birth

More likely to fail at achieving vaginal birth	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 birth by caesarean birth	OR 0.6; 95% CI 0.3–1.0
No more likely to be associated with low 5 min 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

Risk-based information can be summarised as follows: [61]

Maternal outcomes:	
Episiotomy;	vacuum, 50–60%; and forceps, ≥90%.
Significant vulvo–vaginal tear;	vacuum, 10%; and forceps, 20%.
OASI;	vacuum, 1–4%; and forceps, 8–12%.
Postpartum haemorrhage;	vacuum and forceps, 10–40%.
Urinary or bowel incontinence;	common at 6 weeks, improves over time.

Perinatal outcomes:	
Cephalhaematoma;	predominantly vacuum, 1–12%.
Facial or scalp lacerations;	vacuum and forceps, 10%.
Retinal haemorrhage;	more common with vacuum than forceps, 17–38%.
Jaundice or hyperbilirubinaemia;	vacuum and forceps, 5–15%.
Subgaleal haemorrhage;	predominantly vacuum, 3 to 6 in 1000.
Intracranial haemorrhage;	vacuum and forceps, 5 to 15 in 10 000.
Cervical spine injury;	mainly Kiellands rotational forceps, rare.
Skull fracture;	mainly forceps, rare.
Facial nerve palsy;	mainly forceps, rare.

Fetal death;	very rare.

Birth by vacuum and forceps can be associated with significant perinatal complications. Neonatal intracranial and subgaleal haemorrhage are life-threatening complications of particular concern.[9, 103]

In a review of 583 340 live born singleton infants born to nulliparous women, the rate of subdural or cerebral haemorrhage in vacuum births (1 in 860) did not differ significantly from that associated with forceps use (1 in 664) or caesarean birth during labour (1 in 954). However, risks increased significantly among babies exposed to ***sequential instrument use*** with both vacuum and forceps (1 in 256).[9]

8.4 Vacuum-assisted birth, when to discontinue and how to manage after:

Accurate instrument placement will influence the probability of success and the risk of maternal and neonatal trauma. Suboptimal instrument placement is associated with an increased risk of neonatal trauma, use of sequential instruments and caesarean birth for failed assisted vaginal birth.[115]

Discontinue vacuum-assisted birth where there is no evidence of progressive descent with moderate traction during each pull of a correctly applied instrument by an experienced operator.

Complete vacuum-assisted birth in the majority of cases with a maximum of three pulls to bring the fetal head on to the perineum. Three additional gentle pulls can be used to ease the head out of the perineum.

If there is minimal descent with the first two pulls of a vacuum, the operator should consider whether the application is suboptimal, the fetal position has been incorrectly diagnosed or there is cephalopelvic disproportion. Less experienced operators should stop and seek a second opinion. Experienced operators should re-evaluate the clinical findings and either change approach or discontinue the procedure.

Discontinue vacuum-assisted birth if there have been two ‘pop-offs’ of the instrument. Less experienced operators should seek senior support after one ‘pop-off’ to ensure the woman has the best chance of a successful assisted vaginal birth.

The ’pop-off’ is not to be considered a safety feature of the device, there is danger of a fetal vascular injury if a ‘pop off’ occurs at full traction during descent of the head.[66,114]

Duration of application is associated with an increased risk of neonatal adverse outcome (more than 12 minutes). [116]

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

The use of outlet or low-cavity forceps following failed vacuum extraction may be judicious in avoiding a potentially complex caesarean birth. Caesarean birth in the second stage of labour is associated with an increased risk of major obstetric haemorrhage, prolonged hospital stay and admission of the baby to the neonatal unit compared with completed assisted vaginal birth.[53, 57]

This must be balanced with the increased risk of neonatal trauma associated with sequential use of Instruments.

8.5 Forceps birth, when to discontinue and how to manage after:

The bulk of malpractice litigation results from failure to discontinue the procedure at the appropriate time, particularly the failure to stop prolonged, repeated or excessive traction efforts in the presence of poor progress.

Failed forceps birth is associated with excessive pulls (more than three) and prolonged application of the instrument (greater than 12 minutes), which in turn is associated with an increased risk of serious neonatal traumatic injury.[71, 116]

Discontinue attempted forceps birth where the forceps cannot be applied easily, the handles do not approximate easily or if there is a lack of progressive descent with moderate traction.

Discontinue rotational forceps birth if rotation is not easily achieved with gentle pressure.

Discontinue attempted forceps birth if birth is not imminent following three pulls of a correctly applied instrument by an experienced operator.

If there is minimal descent with the first one or two pulls of the forceps, the operator should consider whether the application is suboptimal, the position has been incorrectly diagnosed or there is cephalopelvic disproportion. Less experienced operators should stop and seek a second opinion. Experienced operators should re-evaluate the clinical findings and either change approach or discontinue the procedure.

Obstetricians should be aware of the potential neonatal morbidity following a failed attempt at forceps birth and should inform the neonatologist when this occurs to ensure appropriate care of the baby.

Obstetricians should be aware of the increased risk of fetal head impaction at caesarean birth following a failed attempt at forceps birth and should be prepared to disimpact the fetal head using recognised manoeuvres.

8.6 Failed or Sequential use of instruments:

Obstetricians should be aware of the increased neonatal morbidity following failed vacuum assisted birth and/or sequential use of instruments and should inform the neonatologist when this occurs to ensure appropriate management of the baby.

Neonatologists and midwives assessing the neonate following a failed attempt at vacuum or forceps birth, particularly where there have been multiple pulls, 'pop-offs' or use of more than one instrument, need to monitor for signs of traumatic injury which may not be immediately apparent at the time of birth.[5,9]

Obstetricians should be aware of the increased risk of OASI following sequential use of instruments.[120]

The sequential use of instruments is associated with increased risk of injury to the fetus and will need senior input.
The risk of using a forceps for birth after failed ventouse birth should be weighed against the risks of birth by caesarean section.

If the second instrument is used document the reasons for second instrument.

Unsuccessful instrumental birth should trigger an incident form as a part of effective risk management process.

8.7 Role of episiotomy in preventing maternal pelvic floor morbidity:
Mediolateral episiotomy should be discussed with the woman as part of the preparation for assisted vaginal birth. (It should also be part of the consent)

The decision should be tailored to the circumstances at the time and the preferences of the woman.

The evidence to support use of mediolateral episiotomy at assisted vaginal birth in terms of preventing OASI is stronger for nulliparous women and for birth via forceps.

When performing a mediolateral episiotomy the cut should be at a 60 degree angle initiated when the head is distending the perineum.

9. Aftercare following assisted vaginal birth:

- Good standards of hygiene and aseptic techniques are recommended.

- A RCT showed that a single prophylactic dose of intravenous antibiotic should be recommended following assisted vaginal birth as it significantly reduces confirmed or suspected maternal infection compared to placebo. [133]

  There are ongoing restrictions within our health board regarding the use of Co- Amoxiclav (Augmentin®) therefore our local Antimicrobial Advisory Group (AAG) recommend the use of IV Cefuroxime 1.5gm + Metronidazole 500mg (or Clindamycin 600mg + Gentamicin 1.5 mg/kg IV if allergic) to be given within 6 hours of birth.

- Women should be reassessed after assisted vaginal birth for risk factors for venous thromboembolism and prescribed thromboprophylaxis accordingly. **Mid-cavity (0, +1 stations) or rotational forceps will add 1 point on the scoring for VTE**. If the woman score any other point then 10 days of LMWH is recommended.

- In the absence of contraindications, women should be offered regular nonsteroidal anti-inflammatory drugs (NSAIDs) and paracetamol routinely. Oral NSAIDs, such as diclofenac or ibuprofen, have been shown to be beneficial for perineal pain and provide better analgesia than paracetamol or placebo. [135]

9.1 Bladder care after birth:

- Assisted vaginal birth, prolonged labour and epidural analgesia are associated with an increased risk of postpartum urinary retention (PUR), which can be associated with long-term bladder dysfunction.136

- Women should be educated about the risk of urinary retention so that they are aware of the importance of bladder emptying in the postpartum period.

- The timing and volume of the first void urine should be monitored and documented and if retention is a possibility, a post void residual should be measured to ensure that retention does not go unrecognised.138

- Women who have had regional analgesia for a trial of assisted vaginal birth should be offered an indwelling catheter for **12 hours after birth** to prevent asymptomatic bladder overfilling, followed by fluid balance charts to ensure good voiding volumes.

- Urinary incontinence is common in late pregnancy and after birth. Pelvic floor exercise should be encouraged and written information provided

9.2 Reducing psychological morbidity for the woman:

The key associations with a traumatic birth are lack of control and lack of choice for pain relief. This highlights the importance of shared decision making, consideration for pain relief, and the value of non-technical skills in conducting an operative birth and in reducing the impact of the birth on the psychological wellbeing of the woman and her family.[146]

Shared decision making, good communication, and positive continuous support during labour and birth have the potential to reduce psychological morbidity following birth.

Review women before hospital discharge to discuss the indication for assisted vaginal birth, management of any complications and advice for future births. Best practice is where the woman is reviewed by the obstetrician who performed the procedure.

Offer advice and support to women who have had a traumatic birth and wish to talk about their experience. **The effect on the birth partner should also be considered**.

Offer women with persistent post-traumatic stress disorder (PTSD) symptoms at 1 month referral to skilled professionals as per the NICE guidance on PTSD.

9.3 Information for future births:

Women who have experienced an uncomplicated assisted vaginal birth should be encouraged to aim for a spontaneous vaginal birth in a subsequent pregnancy as there is a high chance of success.

In a study, 90% of women who had a ventouse-assisted birth with their first baby had an unassisted birth with their second baby.[7]

Although the risk of a further operative birth is higher than for women who had an unassisted birth in their first pregnancy, the absolute risk is low.

The likelihood of achieving a spontaneous vaginal birth in a subsequent pregnancy is approximately 80% for women who have required more complex assisted vaginal births in theatre.[8]

This discussion should take place at the earliest opportunity as there is evidence to suggest that women decide soon after birth.[148]

Individualise care for women who have sustained a third- or fourth-degree perineal tear, or who have ongoing pelvic floor morbidity.

10. Governance issues

10.1 How should serious adverse events be dealt with?

Adverse outcomes, including failed assisted vaginal birth, major obstetric haemorrhage (>1500ml), OASI, shoulder dystocia, birth trauma, term baby admitted to the neonatal unit, low Apgar scores (less than 7 at 5 minutes) and cord arterial pH less than 7.10 should trigger an incident report as part of effective risk management processes.

Obstetricians have a duty of candour; a professional responsibility to be honest with patients when things go wrong.

Obstetricians should contribute to adverse event reporting, confidential enquiries, and take part in regular reviews and audits. They should respond constructively to outcomes of reviews, taking necessary steps to address any problems and carry out further retraining where needed.

Adverse events, including unsuccessful forceps or vacuum should trigger an incident report and review if necessary, as part of effective risk management processes.[122]

Maternity units should provide a safe and supportive framework to support women, their families and staff when serious adverse events occur.

Maternity units should provide a safe and supportive environment to staff in which learning can take place from serious adverse events.

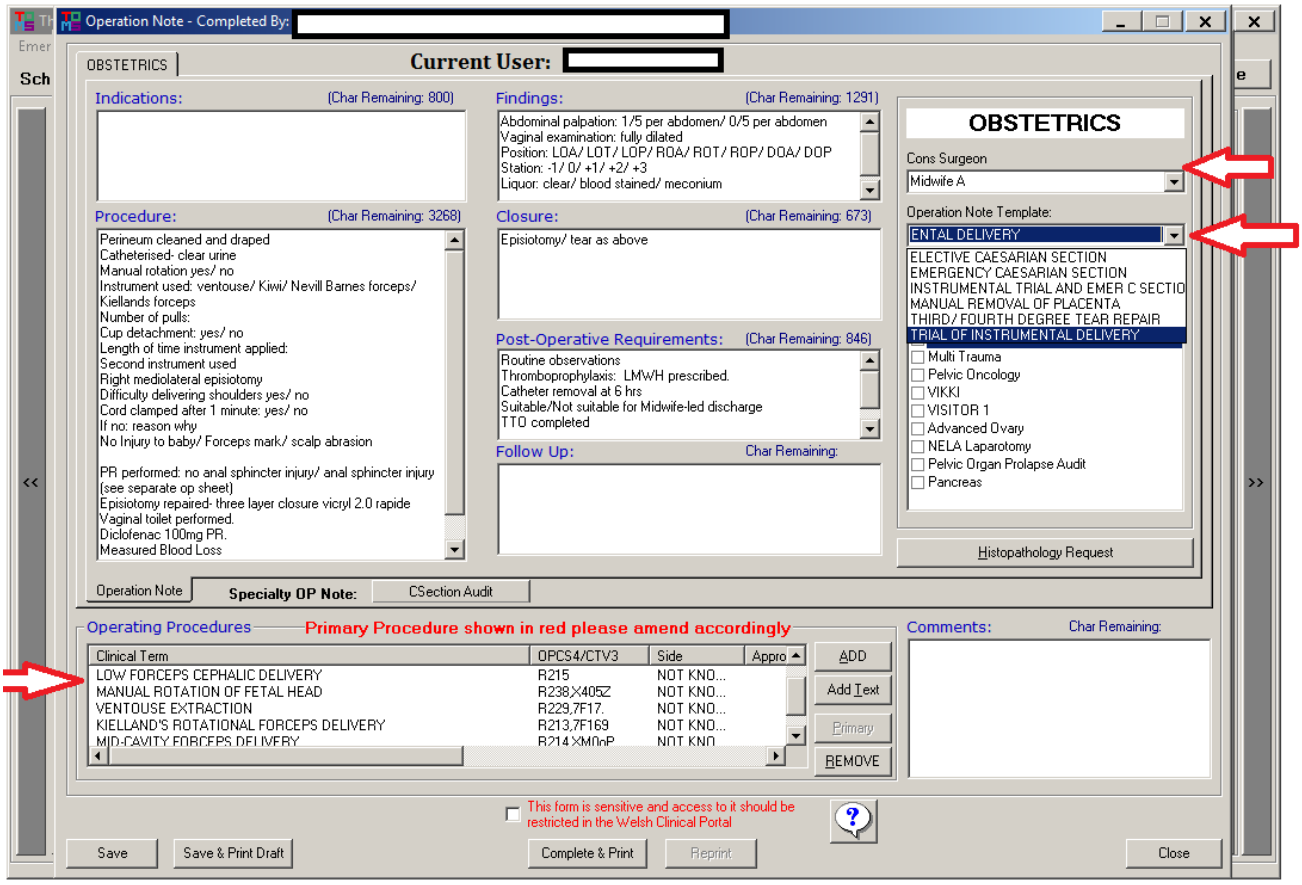
It is important to remember that not all serious adverse events are caused by failures in care.

10.2 Documentation for assisted vaginal birth:

Paired cord blood samples should be processed and recorded following all attempts at assisted vaginal birth.

Documentation for assisted vaginal birth should include detailed information on the assessment, decision making and conduct of the procedure, a plan for postnatal care and sufficient information for counselling in relation to subsequent pregnancies.

When performing the procedure in theatre, the documentation should be on the theatre system (TOMS). Please use the appropriate name of procedure when adding the title of the operation and include all manoeuvres used (including manual rotation, episiotomy, tears etc.).

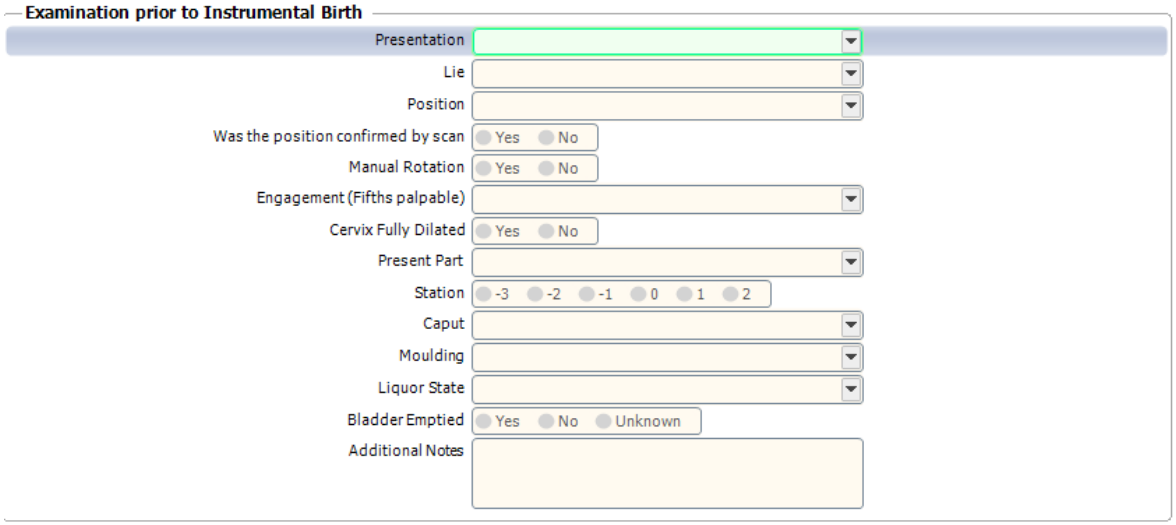


When performing in the labour room please complete all relevant BadgerNet documentation including:

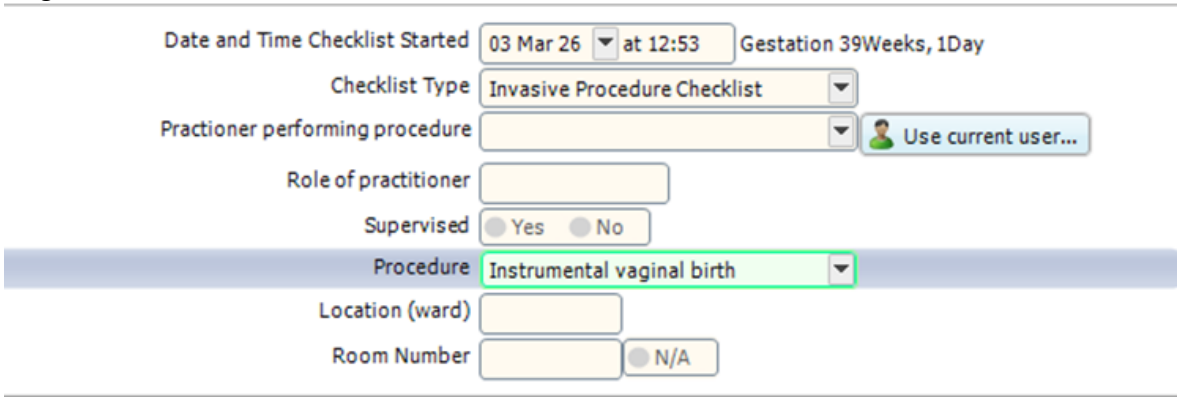
- Examination prior to instrumental birth
- Surgical/invasive procedure safety checklist – Complete invasive procure checklist only (Confirmation of verbal sign in/sign out in room)
- Analgesia/Anaesthesia
- Instrumental or operative delivery
- Episiotomy, tears and perineal trauma
- Swab and needle check

BadgerNet documentation

Examination prior to Instrumental birth

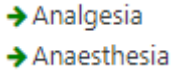


Surgical/Invasive Procedure checklist

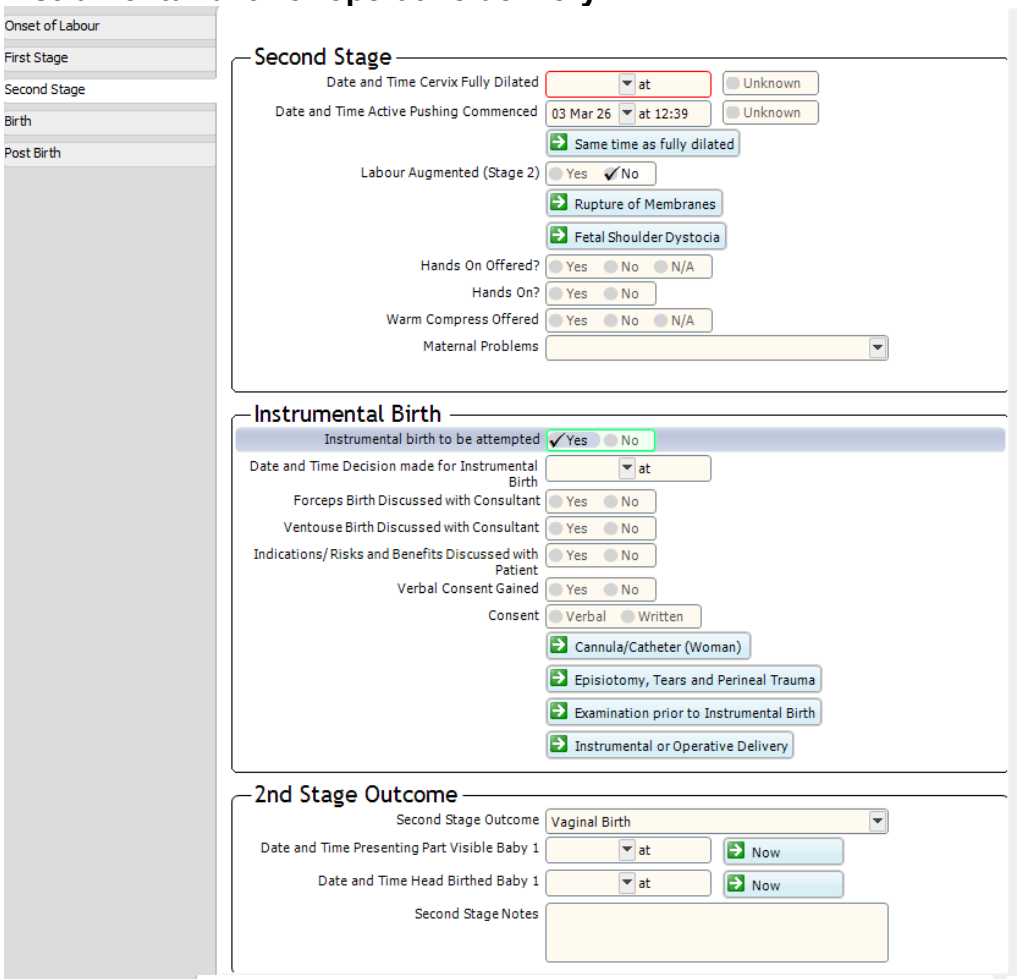


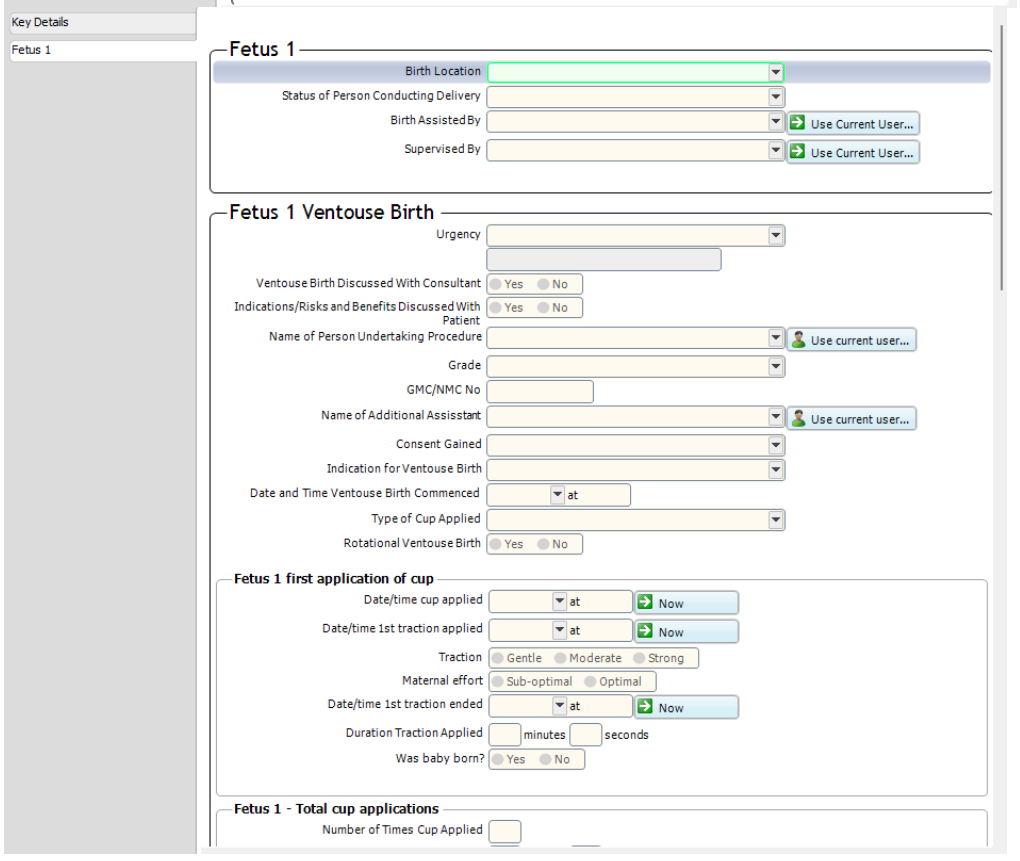
Analgesia/Anaesthesia

In list of documentation prompts on right side

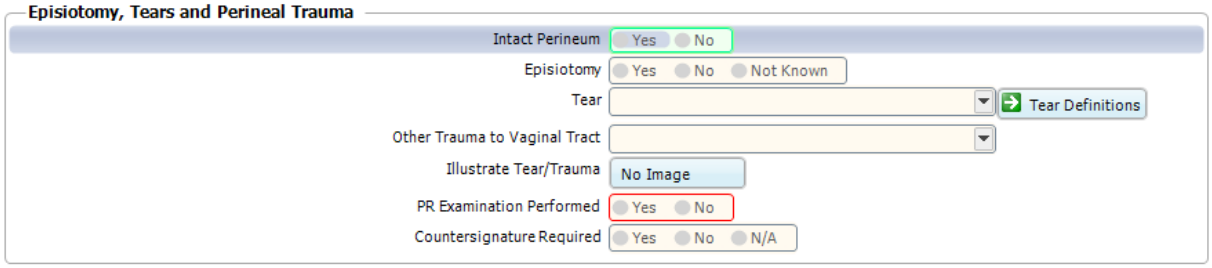


Instrumental birth or operative delivery

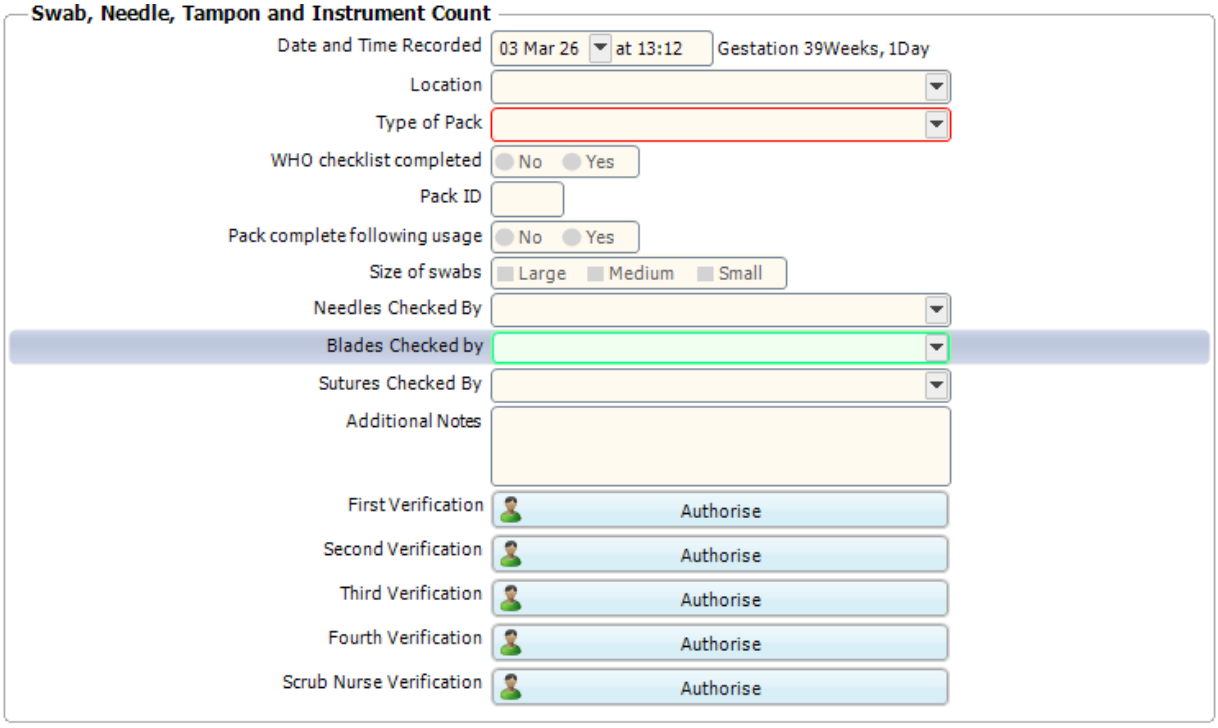




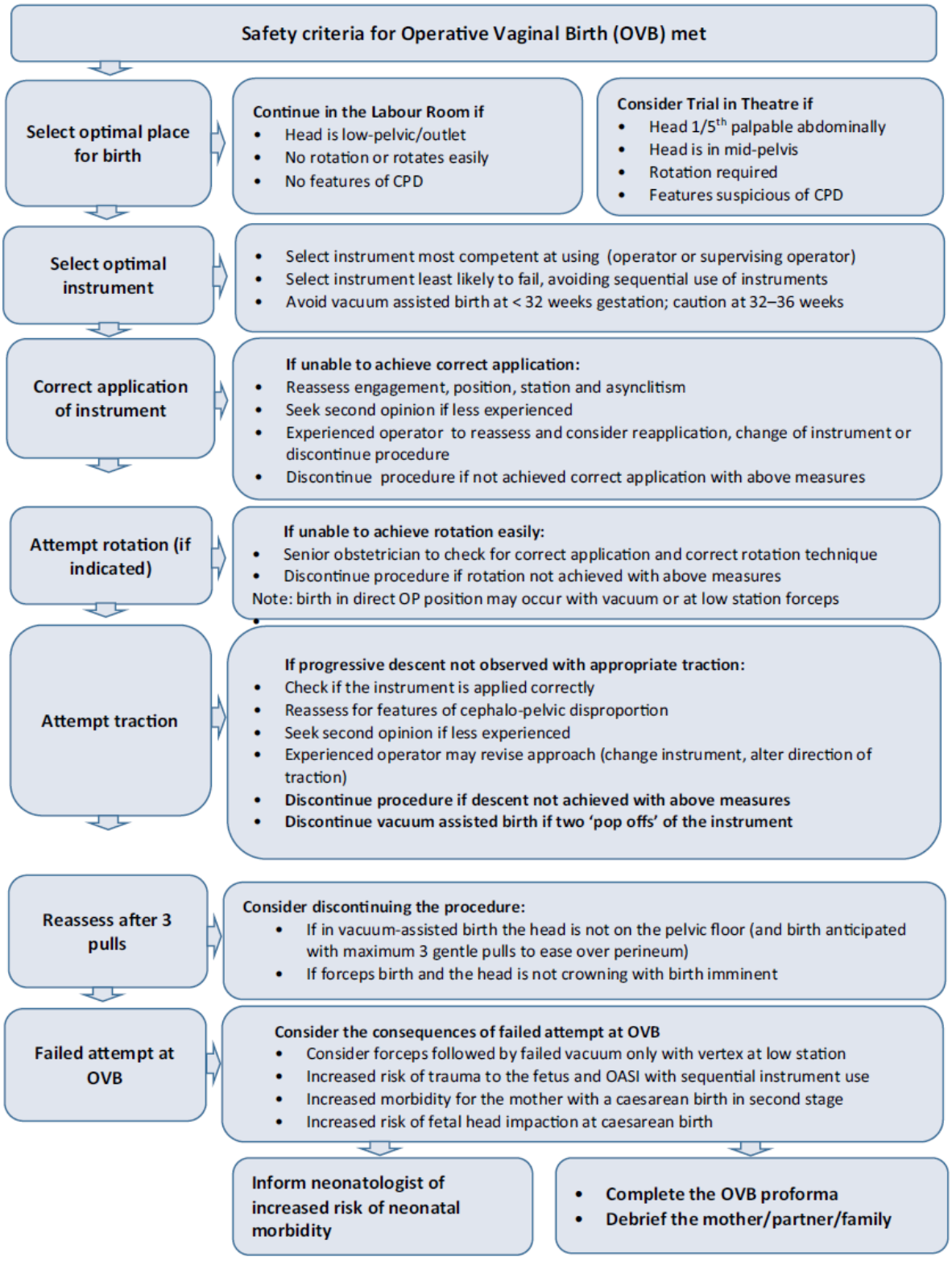
Episiotomy, tears and perineal trauma



Swabs and Needle check



Decision making for assisted vaginal birth



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Appendix one

Addressograph

Trial of Assisted Vaginal Birth / Caesarean Birth at full dilatation

Assisted Vaginal Birth

Risks to mother: need for episiotomy, bleeding, infection, vaginal tears, tears of the muscles of the rectum (10%), difficulty in urinating, urinary or bowel incontinence (common at 6 weeks, improves over time)

Risk to baby (usually mild and temporary): surface wounds to face and scalp, bruise on baby's head, temporary facial nerve palsy, bleeding in baby's brain (1 in 700), skull fracture (usually small and heal on their own with no long-term damage), Cephalohaematoma with ventouse birth, admission to SCBU

Caesarean Birth (at full dilatation)

Risks to mother: bleeding, infection, extension of uterine incision, injury to pelvic organs (bladder, ureters, bowel), wound dehiscence, return to theatre, hysterectomy, preterm birth in future pregnancy (3-fold increase)

Risk to baby: impacted head leading to difficulty in delivering head, skull fracture, surface wounds to face and scalp, admission to SCBU

Clinician's name: _____ Patient's name: _____

Clinician's signature: _____ Patient's signature: _____

Date: _____ Date: _____

** Please attach to consent form

LOCSSIP for Assisted Birth (In labour room)

Please complete invasive procedure checklist on BadgerNet

Sign in

Indication? ☐
Delay in second stage
CTG concerns

Birth by time? ☐
Patient details confirmed? ☐
ID band in situ? ☐
Consent for procedure (including episiotomy) obtained? ☐
Verbal / Written
Analgesia agreed and effective? ☐
Allergies? ☐
Essential staff present? ☐
(Coordinator/HCSW/Neonates)

Consultant Obstetrician aware? ☐
Anaesthetist aware? ☐
Theatre Team aware? ☐
OBS CYMRU stage 0 complete? ☐
Resuscitaire checked?

Before procedure starts

In/out catheter: ☐
FSE removed and complete? ☐

Swabs and instruments checked? ☐

Continuous fetal monitoring continues? ☐

Warm compress? ☐

Sign out

Swabs/Instruments/needles checked and disposed of safely? ☐

Haemostasis achieved? ☐

Intravenous Antibiotics prescribed and administered? ☐

All Medication administered has been prescribed? ☐

Intentionally retained objects:
Bakri balloon ☐
Vaginal pack ☐

Green band/bands applied ☐
Final MBL ☐
Post birth plan documented? ☐
Women debriefed ☐
Cord gases taken? ☐

Maternity Services

Checklist for Clinical Guidelines being submitted for Approval

Title of Guideline:	Assisted Vaginal Birth (Operative Vaginal Delivery)
Name(s) of Author:	Intrapartum Forum
Chair of Group or Committee approving submission:	Intrapartum Forum
Brief outline giving reasons for document being submitted for ratification	Update existing policy
Details of persons included in consultation process:	
Name of Pharmacist (mandatory if drugs involved):	
Issue / Version No:	7
Please list any policies/guidelines this document will supersede:	Operative Vaginal Delivery, 15th November 2018
Date approved by Group:	March 2026
Next Review / Guideline Expiry:	March 2029
Please indicate key words you wish to be linked to document	Instrumental, Assisted vaginal birth, Operative vaginal birth, Forceps, Ventouse