# Guideline for Assisted Vaginal Birth

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| **Distribution** | Barnsley Hospital NHS Foundation Trust – intranet<br><br>Please note that the intranet version of this document is the only version that is maintained.<br><br>Any printed copies must therefore be viewed as "uncontrolled" and as such, may not necessarily contain the latest updates and amendments | |

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## 1.0 Introduction

The majority of births by vacuum and forceps, when performed correctly by appropriately trained personnel, result in a safe outcome for the woman and baby. Women who achieve an assisted vaginal birth rather than have a caesarean birth with their first child are far more likely to have an uncomplicated vaginal birth in subsequent pregnancies (RCOG 2020). However, obstetricians, midwives and neonatologists must be aware that serious rare complications, such as subgaleal haemorrhage, intracranial haemorrhage, skull fracture and spinal cord injury, can result in perinatal morbidity or death and that these complications are more likely to occur with midpelvic, rotational and failed attempts at assisted vaginal birth. The alternative choice 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.

## 2.0 Objective

To provide guidance for staff on how to care for a woman undergoing assisted vaginal delivery.

## 3.0 Scope

The aim of this guideline is to provide evidence-based recommendations on the use of forceps and vacuum extraction for both rotational and non-rotational assisted vaginal births. In order to provide safe care for the full range of clinical scenarios, obstetricians must develop competency in the use of both vacuum and forceps for non-rotational birth and at least one specialist technique for rotational birth. The scope of this guideline includes indications, procedures and governance issues relating to assisted vaginal birth.

## 4.0 Main body of the document

### 4.1 Indications for Instrumental delivery

- Fetal distress
- Maternal distress, fatigue or exhaustion
- Maternal medical conditions - to shorten and reduce the effects of the second stage of labour for medical conditions such as:
    - Cardiac disease (Class III or IV according to the New York Heart Association Classification
    - Hypertensive crisis
    - Myasthenia gravis
    - Spinal cord injury
    - Proliferative retinopathy
- Delay in second stage

The following instructions in the Guideline for Normal Labour with regard to management of a delay in second stage and the use of oxytocin must be adhered to:

'*Obstetric review will be undertaken when a delay in the second stage is diagnosed and ongoing review by an obstetrician will be performed every 15-30 minutes. Commencing oxytocin at this stage must not be undertaken without full assessment by an obstetrician. Use oxytocin with extreme caution in multiparous women*.'

- Dural tap- only if the woman has a headache which worsens with pushing

### 4.2 Classification for assisted vaginal birth

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| Outlet | Fetal scalp visible without separating the labia<br>Fetal skull has reached the perineum<br>Rotation does not exceed 45° |
| Low | Fetal skull is at station + 2 cm, but not on the perineum<br>Two subdivisions:<br>1. Non-rotational ≤ 45°<br>2. Rotational > 45° |
| Mid | Fetal head is no more than one-fifth palpable per abdomen<br>Leading point of the skull is at station 0 or + 1 cm<br>Two subdivisions:<br>1. Non-rotational ≤ 45°<br>2. Rotational > 45° |

### 4.3 Who can perform the procedure?

Only healthcare professionals who have undertaken formal training in the procedure and have been assessed as competent may undertake an instrumental delivery. Healthcare professionals who are undergoing training must be supervised by a competent person.

### 4.4 Preparation and assessment for Instrumental delivery

#### 4.4.1 Assessment prior to undertaking instrumental delivery:

- Perform an abdominal palpation:
  - Instrumental delivery must not be attempted if more than 1/5$^{th}$ of the fetal head is palpable abdominally
- Perform a vaginal examination. Instrumental delivery will only be attempted if:
  - The cervix is fully dilated with ruptured membranes
  - It is a vertex presentation
  - The vertex (not caput) is at or below the ischial spines
  - The exact position of the fetal head is established
  - The pelvis appears adequate
- Ultrasound assessment of the fetal head position prior to assisted vaginal birth is recommended where uncertainty exists following clinical examination
- Consider the degree of urgency and inform the multi-disciplinary team

- Determine the place of delivery. If the delivery is going to be straight forward it can be performed in the delivery room.
  - 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 will be considered a trial of instrumental delivery and must be attempted in a theatre where immediate recourse to caesarean birth can be undertaken.

- Any trial of instrumental delivery must be performed in theatre with an experienced Obstetrician. Theatre must be ready for caesarean section and consent signed. This decision must be authorised by the consultant on call.

**NB – if the registrar is otherwise engaged with another case and the consultant is not available in the unit – the consultant must be asked to attend. Do not wait until the procedure has failed to request consultant presence as this could result in a delay in further management.**

**An experienced/competent practitioner must be present from the outset for all attempts at rotational or mid cavity instrumental deliveries.**

### 4.4.2 Analgesia

Epidural

- May increase the need for assisted vaginal birth although this is less likely with newer analgesic techniques
- Adopt lying down lateral positions rather than upright positions in the second stage of labour as this increases the rate of spontaneous vaginal birth.
- Consider delaying pushing for one to two hours in nulliparous women with epidural analgesia as this may reduce the need for rotational and midpelvic assisted vaginal birth.
- Do not routinely discontinue epidural analgesia during pushing as this increases the woman's pain with no evidence of a reduction in the incidence of assisted vaginal birth.

### 4.4.3 Prepare the woman

Discuss the procedure with the woman. A clear explanation must be given regarding the need to expedite the birth and the options available.

For birth room procedures, verbal consent must be obtained prior to assisted vaginal birth and the discussion must be documented in the notes. Written consent must be obtained for a trial of assisted vaginal birth in an operating theatre.

Ensure that adequate analgesia is in place.

For mid-cavity rotational forceps deliveries, epidural / spinal analgesia is recommended but a pudendal block may be appropriate if the delivery is urgent. Analgesia for a trial of instrumental delivery must always be adequate for an immediate caesarean section.

Empty bladder prior to instrumental delivery. Any in dwelling catheters must either be removed or have the balloon deflated.

the woman will be placed in lithotomy position.

- Ensure an adequate environment for the procedure – consider space, lighting, neonatal resuscitaire, specialist support
- Ask for help and summon additional staff as required
- Be prepared for other emergencies such as postpartum haemorrhage, shoulder dystocia, and have emergency equipment available
- Ensure the Paediatrician is present
- Ensure all equipment is ready- resuscitaire, forceps trolley, normal delivery trolley, ventouse
- When midpelvic or rotational birth is indicated, the risks and benefits of assisted vaginal birth must be compared with the risks and benefits of second stage caesarean birth for the given circumstances and skills of the operator
- Obstetricians must be aware of the increased neonatal morbidity following failed assisted birth and/or sequential use of instruments, and must inform the neonatologist when this occurs to ensure appropriate care of the baby
- Operators must 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
- 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
- There is increased risk of Obstetric Anal Sphincter Injury (OASI) following sequential use of instruments
- Obstetricians must be aware of the increased risk of fetal head impaction at caesarean birth following a failed attempt at birth via forceps and must be prepared to disimpact the fetal head using recognised manoeuvres

### 4.5 Choice of instrument

The healthcare professional conducting the delivery will choose the most appropriate instrument following risk assessment of the woman's circumstances

#### 4.5.1 Ventouse

The use of Ventouse is preferable in the following circumstances:

  - Low lift out delivery, especially if there has been no previous analgesia
  - Rotational delivery if the operator has inadequate experience with Kielland forceps
  - Operator or maternal preference when either Ventouse or forceps would be equally suitable
- Ventouse must not be used below 32+0 weeks and must be used with caution between 32+0 and 36+0 weeks
- Vacuum and difficult instrumental deliveries are contraindicated in women with blood born viruses or at risk of coagulation defects or if there is a risk of bleeding in the fetus
- The use of a vacuum is not contraindicated following a fetal blood sampling procedure or application of a fetal scalp electrode.
- There is a higher risk of subgaleal haemorrhage and scalp trauma with vacuum extraction compared with forceps at preterm gestational ages.

- Rapid negative pressure application for vacuum-assisted birth is recommended as it reduces the duration of the procedure with no difference in maternal and neonatal outcomes.
- Soft cup vacuum extractors have a higher rate of failure but a lower incidence of neonatal scalp trauma.
- 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.
- 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.
- Maintain an aseptic technique
- Ensure no cervix or vaginal wall is trapped beneath the rim of the cup
- When using the disposable Kiwi Ventouse cup, pump to yellow zone, followed by a further safety check, then increase pressure to green zone
- Discontinue vacuum-assisted birth if there have been
    - Two ‘pop-offs’ of the instrument by experienced operators
    - One ‘pop-off’ of the instrument by less experienced operator and seek a second opinion to optimise chance of success.
    - The application of suction to the fetal head is ≥12 minutes
    - It is more than 30 minutes from the decision for instrumental delivery being made

### 4.5.2 Forceps

The use of forceps is preferable in the following circumstances:

- Face presentation
- After coming head of the breech
- Marked active bleeding from a fetal blood sampling site
- Contra indication to ventouse delivery in the absence of contraindications for forceps delivery
- Large caput noted
- The mother is unable or unwilling to push with contractions
- Operator or maternal preference when either instrument would be equally suitable

Check that the forceps are a pair before starting the procedure:

- Lock them together and make sure they are a symmetrical neat fit
- The maximum diameter between the blades must be at least 9cm

If there is minimal descent with the first two pulls, the operator must consider whether:

- The application is suboptimal
- The fetal position has been incorrectly diagnosed

- There is cephalopelvic disproportion.

Re-evaluate the clinical findings and either change approach or discontinue the procedure.

Discontinue attempted forceps birth where:

- The forceps cannot be applied easily
- The handles do not approximate easily
- There is a lack of progressive descent with moderate traction
- Rotation is not easily achieved with gentle pressure in rotational forceps
- Birth is not imminent following three pulls of a correctly applied instrument.

### 4.6 Episiotomy and Obstetric anal sphincter injuries (OASI)

Mediolateral episiotomy will be discussed with the woman as part of the preparation for assisted vaginal birth (RCOG 2020). “In the absence of robust evidence to support either routine or restrictive use of episiotomy at assisted vaginal birth, 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” (RCOG 2020).

When performing a mediolateral episiotomy, the cut must be at a 60-degree angle initiated when the head is distending the perineum.
Delivery complicated by third or fourth degree tear must be managed according to the Third – Fourth degree tear guideline.

### 4.7 Antibiotics prescription

Prescribe antibiotics for every instrumental delivery following Barnsley and Rotherham NHS Trust Antimicrobial policy for adults:

**First line treatment**:

Intravenous Cefuroxime 1.5g single dose and Metronidazole 500mg single dose
(Women with a BMI > 35 will require additional antibiotic cover).

**Women with allergies to penicillin:**

Non-life threatening allergy – Intravenous Cefuroxime 1.5g single dose and Metronidazole 500mg single dose.

Life threatening allergy – Intravenous Gentamicin 120mg single dose and Clindamycin 600mg single dose.

**Women with a history of MRSA:**

Intravenous Teicoplanin 600mg single dose, plus Gentamicin 2mg/kg single dose and Metronidazole 500mg single dose.

### 4.8 Immediate Care following operative vaginal delivery

- Obtain paired Cord pH samples and record results
- A vaginal and rectal assessment is necessary to identify trauma
- Conduct any perineal repair as necessary
- Prescribe/administer analgesia – consider Voltarol suppository 100mg and routine prescription of paracetamol and Non-Steroidal Anti-Inflammatory Drugs (NSAID) as pain relief unless contraindicated
- Allow the woman to hold her baby as soon as possible following delivery and encourage 'skin to skin'
- Appropriate debrief must be offered to the woman in the postnatal period
- Reassess the woman after assisted vaginal birth for venous thromboembolism risk
- Inform the woman that there is a high probability of a spontaneous vaginal birth in subsequent labours following assisted vaginal birth

#### 4.8.1 Postnatal care

**Observations:**

Following a ventouse or forceps delivery in the birthing room, clinical observations should be recorded on the MEOWS chart.
In addition, the risk of significant clinical deterioration must be determined.
Women with a high MEOWS score *or* at high risk of deterioration will have more frequent observations (minimum four hourly).

Following a forceps delivery in theatre where the woman has had regional anaesthesia, she will be classed as high risk for deterioration and the midwife must perform observations in line with the postnatal observations guidance for caesarean section.

**Bladder Care**

Women who have received regional analgesia for a trial of assisted vaginal birth in theatre should be offered an indwelling catheter for up to twelve hours or until they are mobile.
The timing and volume of the first void urine should be monitored and documented.
Women must be educated about the risk of urinary retention. If urine retention is suspected, confirm by measuring post voiding residual volume using a bladder scanner and manage as per Postpartum Bladder Care guideline
Offer women physiotherapy-directed strategies to reduce the risk of urinary incontinence at three months.

**Psychological Care to reduce morbidity**

- Shared decision making, good communication and positive continuous support during labour and birth are all essential to reducing psychological morbidity
- Review women before hospital discharge to discuss the indication for assisted vaginal birth, management of any complications and advice for future births.

- Where possible, the woman will be reviewed by the obstetrician who performed the procedure
- Offer women and their partners who have had a traumatic birth and wish to talk about their experience a referral to the birth thoughts clinic for advice and support
- Offer women with persistent Post-Traumatic Stress Disorder (PTSD) symptoms at one month referral to the mental health team as per the NICE guidance on PTSD
- Do not offer single session, high-intensity psychological interventions with an explicit focus on 'reliving' the trauma

### 4.9 Documentation Requirements on the Operative Vaginal Delivery Record

Please ensure the following are recorded:

- Assessment, decision making, time of decision and conduct of the procedure, ensure completion of the standardised proforma adding relevant documentation.
- Adverse outcome, which must trigger an incident report as part of an effective risk management process. These include:
  - Failed assisted vaginal birth
  - Major obstetric haemorrhage
  - OASI
  - Shoulder dystocia
  - Significant neonatal complications
- Individual plan of care for postnatal care and sufficient information for counselling in relation to subsequent pregnancies

## 5.0 Roles and responsibilities

### 5.1 Midwives

To assist the obstetrician as required and provide support, reassurance and be an advocate for the woman.

### 5.2 Obstetricians

To provide the best evidence-based care in line with local and National guidance for women and their babies to ensure the most appropriate and safe mode of delivery.

### 5.3 Paediatricians

To attend delivery when their presence is requested.

### 5.4 Anaesthetists

To attend when their presence is requested and provide anaesthesia/ analgesia to the woman for operations and procedures as appropriate.

## 6.0 Associated documents and references

RCOG (Royal College of Obstetricians and Gynaecologists) Assisted Vaginal Birth Green-top Guideline No. 26. April 2020
https://obgyn.onlinelibrary.wiley.com/doi/pdf/10.1111/1471-0528.16092

## 7.0 Training and resources

Training will be delivered as outlined in the Maternity Training Needs Analysis. This is updated on an annual basis.

## 8.0 Monitoring and audit

Any adverse incidents relating to the management of assisted vaginal delivery will be monitored via the incident reporting system. Any problems will be actioned via the case review and root cause analysis action plans. The action plans are monitored by the governance midwife to ensure that improvements in care are made. The trends and any root cause analysis are discussed at the monthly risk meetings to ensure that appropriate action has been taken to maintain safety.

The guideline for assisted vaginal birth will be audited in line with the annual audit programme, as agreed by the CBU. The audit action plan will be reviewed at the monthly risk management meetings on a quarterly basis and monitored by the risk midwife to ensure that improvements in care are made.

## 9.0 Equality and Diversity

This section is mandatory for all Trust Approved Documents and must include the statement below:

The Trust is committed to an environment that promotes equality and embraces diversity in its performance as an employer and service provider.

It will adhere to legal and performance requirements and will mainstream equality, diversity and inclusion principles through its policies, procedures and processes. This guideline should be implemented with due regard to this commitment.

To ensure that the implementation of this guideline does not have an adverse impact in response to the requirements of the Equality Act 2010 this policy has been screened for relevance during the policy development process and a full equality impact assessment is conducted where necessary prior to consultation. The Trust will take remedial action when necessary to address any unexpected or unwarranted disparities and monitor practice to ensure that this policy is fairly implemented.

This guideline can be made available in alternative formats on request including large print, Braille, moon, audio, and different languages. To arrange this please refer to the Trust translation and interpretation policy in the first instance.

The Trust will endeavor to make reasonable adjustments to accommodate any employee/patient with particular equality, diversity and inclusion requirements in implementing this guideline. This may include accessibility of meeting/appointment venues, providing translation, arranging an interpreter to attend appointments/meetings, extending policy timeframes to enable translation to be undertaken, or assistance with formulating any written statements.

## 9.1 Recording and Monitoring of Equality & Diversity

This section is mandatory for all Trust Approved Documents and must include the statement below:

The Trust understands the business case for equality, diversity and inclusion and will make sure that this is translated into practice. Accordingly, all guidelines will be monitored to ensure their effectiveness.

Monitoring information will be collated, analysed and published on an annual basis as part of Equality Delivery System. The monitoring will cover the nine protected characteristics and will meet statutory employment duties under the Equality Act 2010. Where adverse impact is identified through the monitoring process the Trust will investigate and take corrective action to mitigate and prevent any negative impact.

**Appendix 1**
**Glossary of terms**

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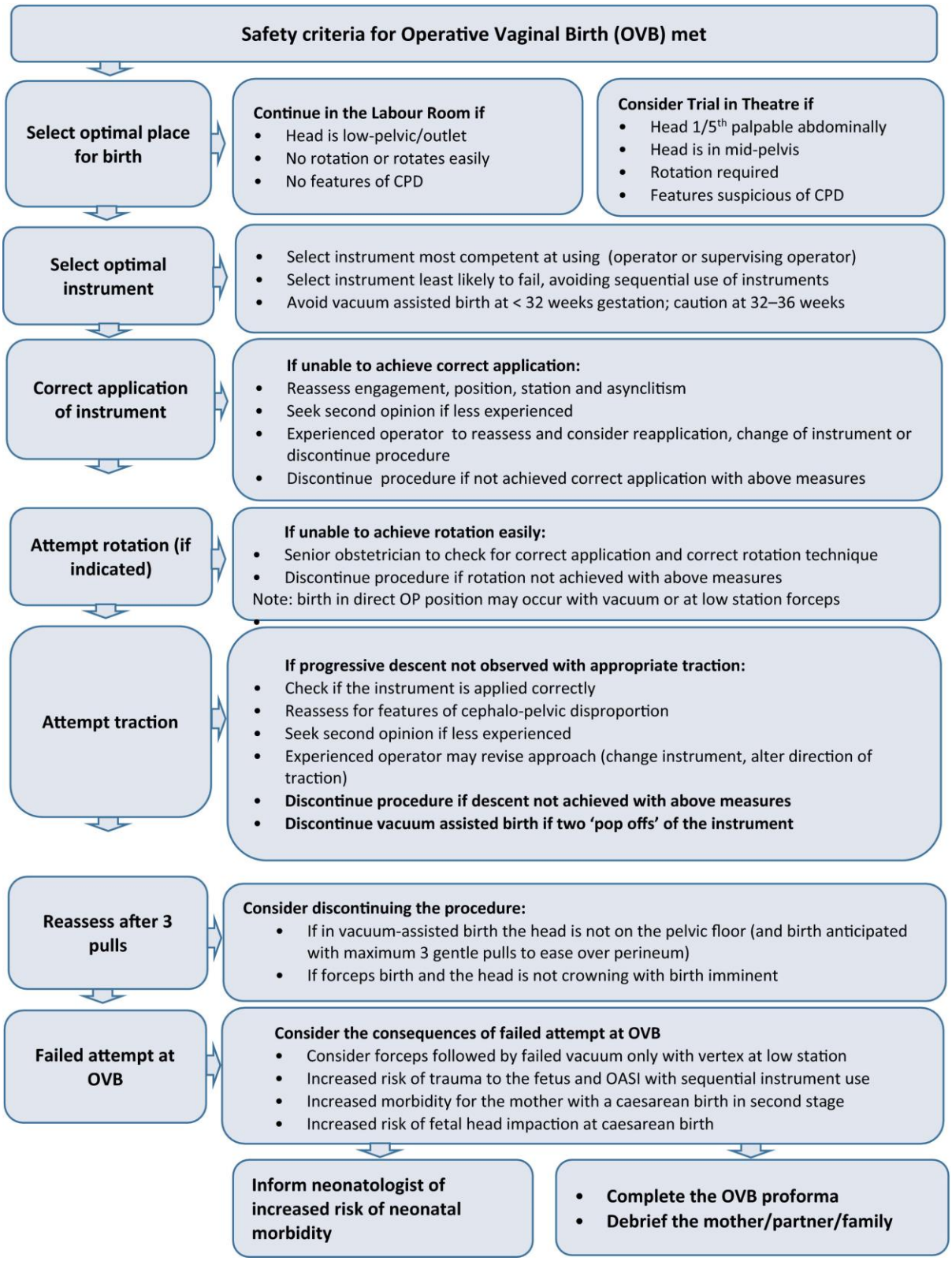
|---|---|
| NSAID | Non-Steroidal Anti-inflammatory Drug |
| PTSD | Post-Traumatic Stress Disorder |
| OASI | Obstetric Anal Sphincter Injury |

**Appendix 2**
**RCOG Decision making for assisted vaginal birth**



**Appendix 3**
Maintain a record of the document history, reviews and key changes made (including versions and dates)

| Version | Date | Comments | Author |
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**Review Process Prior to Ratification:**

| Name of Group/Department/Committee | Date |
|---|---|
| Reviewed by Maternity Guideline Group | 10/11/2020 |
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| Approved by CBU 3 Overarching Governance Meeting | 24/03/2021 |
| Approved at Trust Clinical Guidelines Group | 13/05/2021 |
| Approved at Medicines Management Committee (if document relates to medicines) | N/A |

**Trust Approved Documents (policies, clinical guidelines and procedures)**

**Approval Form**

Please complete the following information and attach to your document when submitting a policy, clinical guideline or procedure for approval.

| | |
|---|---|
| **Document type (policy, clinical guideline or procedure)** | Guideline |
| **Document title** | Guideline for Assisted Vaginal Birth |
| **Document author**<br>(Job title and team) | Labour ward lead Consultant obstetrician and Specialist Registrar |
| **New or reviewed document** | Reviewed |
| **List staff groups/departments consulted with during document development** | Senior midwives, consultant obstetricians, specialist registrar, obstetric anaesthetists |
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| **Key messages for staff (consider changes from previous versions and any impact on patient safety)** | |
| **I confirm that this is the FINAL version of this document** | **Name: Charlotte Cole**<br>**Designation: Practice Educator Midwife** |

**FOR COMPLETION BY THE CLINICAL GOVERNANCE TEAM**

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| **Approved by (group/committee): CBU3 Overarching Governance Meeting** |
| **Date approved: 24/03/2021** |
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