

SESLHD GUIDELINE COVER SHEET



Health
South Eastern Sydney
Local Health District

NAME OF DOCUMENT	Assisted Vaginal Birth
TYPE OF DOCUMENT	GUIDELINE
DOCUMENT NUMBER	SESLHDGL/050
DATE OF PUBLICATION	October 2023
RISK RATING	Medium
LEVEL OF EVIDENCE	National Safety and Quality Health Service Standards: Standard 1 – Clinical Governance Standard 5 – Comprehensive Care RCOG (2020) Assisted Vaginal Birth (Green top-Guideline No. 26) RANZCOG (2020) Instrumental vaginal birth Clinical Guideline
REVIEW DATE	October 2026
FORMER REFERENCE(S)	This document replaces: SESLHDPD/241 Instrumental Vaginal Delivery Policy PD 279 Instrumental Vaginal Delivery Policy SGSHHS CBR 2015 Instrumental (assisted) vaginal birth RHW LOP Instrumental Vaginal Delivery Guide 2009
EXECUTIVE SPONSOR or EXECUTIVE CLINICAL SPONSOR	Clinical Stream Director, Women’s and Children’s Health
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POSITION RESPONSIBLE FOR DOCUMENT	CMC Women’s & Children’s Clinical Stream
FUNCTIONAL GROUP(S)	Women and Babies Health
KEY TERMS	Assisted vaginal birth, vacuum, forceps, adequately credentialed clinician, supervision
SUMMARY	This guideline outlines the procedure and the key safety aspects of an assisted vaginal birth, with an emphasis on adequate credentialing and supervision of operators to enhance safety for women and their babies.

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Assisted Vaginal Birth

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Section 1 – Background

Instrumental assisted vaginal birth is required in approximately 15-20% of births. The aim is to achieve a successful assisted vaginal birth with a single instrument and minimal/no maternal or fetal trauma.

Section 2 – Principles

2.1 Indications for assisted birth

The indication for assisted birth should be individualised, but may include:

- Inadequate progress in the second stage of labour in the presence of adequate contractions
- Abnormal fetal heart rate (FHR) pattern or abnormal fetal scalp sample in the second stage of labour
- To reduce the effects of the second stage of labour on maternal medical conditions, or other conditions resulting in the woman's inability to actively push
- Malposition of the fetal head

2.2 Contraindications to assisted birth

- Fetal bleeding disorders (relative)
- Fetal tendency to bone fracture (relative)
- <34 weeks gestation for vacuum extractors. Use vacuum extractor with caution between 34 and 36 weeks
- Maternal blood-borne viral infection if difficult assisted vaginal births anticipated
- Fetal malpresentation (breech, and face) with vacuum extractor
- Cervical dilation <10cm
- > 1/5 of the fetal head palpable abdominally

2.3 Attendance and supervision

- All instrumental births should be undertaken or supervised by an obstetric specialist or appropriately credentialed medical officer
- Obstetric consultant to be in attendance with an obstetric registrar who has not yet completed their FRANZCOG written and oral examinations for mid-cavity non occipito-anterior (OA) position instrumental birth and trial of assisted vaginal births in operating theatre
- St George Hospital and The Sutherland Hospital staff refer credentialing business rule for site specific guidance [SGH TSH WCH BR137 - Obstetric and Gynaecology Consultant Supervision & Attendance](#)
- Royal Hospital for Women: [Specialist Obstetrician – conditions and procedures requiring attendance](#)
- SESLHD procedure [SESLHDPR/399 - Credentialing in Obstetric Procedures for Junior Medical Officers/Fellows](#)
- All trials of assisted birth in operating theatre must be discussed with the on-call obstetric consultant

2.4 Preparation for instrumental birth

- Plan mode of birth, location of birth and need for supervision
- Provide appropriate explanation, including the possible need for an episiotomy, to the woman and obtain verbal consent. Use healthcare interpreter if time permits
- Consider undertaking the procedure in the operating theatre if:
 - Maternal BMI > 35
 - Estimated fetal weight over 4000 g or a clinically macrosomic fetus
 - Occipito-transverse or posterior position, especially for nulliparous woman
 - Likelihood of a successful vaginal birth is uncertain
- The choice of instrument should be appropriate to the clinical circumstances and the operator's level of skill
- Request the attendance of paediatric/neonatal staff
- Perform abdominal and vaginal examinations and document lie, presentation, engagement and position, contraction characteristics, dilation of cervix, station and position of fetal head, presence of caput and/or moulding and the colour of the liquor
- Confirm full cervical dilation and ensure the membranes are ruptured
- Confirm fetal position with ultrasound for:
 - Mid cavity births if time allows
 - Low cavity/outlet births if clinical doubt about position
- Arrange adequate analgesia as appropriate
- Recommend insertion of indwelling catheter however if not considered necessary or declined by woman, monitor post birth
- Place the woman in the lithotomy position
- Assess the fetal heart rate (FHR) after every contraction or continuously if clinically indicated
- Document clinical events in electronic medical records

2.5 Vacuum assisted birth

- Recommend application of warm packs to the perineum during procedure (Women's Health Australasia, (WHA), 2019)
- Apply the vacuum cup to the flexion point. The flexion point is 3cm anterior to the posterior fontanelle in the mid line
- Sweep a finger around the cup to ensure no maternal tissue is trapped beneath the cup
- Increase pressure of the vacuum device to between 40 and 60 mms of Hg
- Apply traction during contractions at right angles to the plane of the cup
- Recommend an episiotomy for nulliparous woman when the fetal head distends the perineum, and the woman has given consent. In some situations the clinicians may decide this is not required
- When an episiotomy is performed, it should be at 60 degrees from the fourchette. An episiotomy may not be required for a multiparous woman (Australian Safety and Quality Health Commission, 2021)
- Consider abandoning the procedure:
 - When the cup is detached three times
 - When no bony descent is occurring with each traction
 - When birth is not imminent after three contractions or within 15 minutes of the initial application of the cup
- Seek advice from obstetric consultant when procedure needs to be abandoned
- If instrumental birth fails, consider gentle elevation of the head back up into the vagina and consider tocolysis if fetal compromise suspected or present
- Organise a caesarean section appropriate to the fetal condition and individual clinical urgency, using site specific classification systems

- Document clinical events in electronic medical records

2.6 Forceps birth (occipito-anterior)

- Recommend application of warm packs to the perineum during procedure (WHA,2019)
- Lubricate the blades
- Apply blades between contractions
- Ensure midline location of the sagittal suture
- Horizontal plane of the forceps no more than one centimetre below the fontanelle
- No more than one finger can be inserted into the fenestrations on either side
- Apply steady traction in the axis of the pelvis
- Halt traction in between contractions (except where immediate birth is required)
- Recommend and perform episiotomy, at 60 degrees from fourchette, as the fetal head distends the perineum, and the woman has given consent
- Consider abandoning the procedure:
 - When no bony descent is occurring with each traction
 - When birth is not imminent after three tractions or within 15 minutes of the initial application of the forceps
- Seek advice from obstetric consultant when procedure needs to be abandoned
- If instrumental birth fails:
 - consider gentle elevation of the head back up into the vagina and consider tocolysis if fetal compromise suspected or present
 - attempt to elevate the head in the case of deep impaction only with the use of a cupped hand exerting an upward flexing action. Avoid using one or two fingers to exert upward pressure on the fetal head
 - organise an urgent caesarean section within a suitable timeframe, depending on the fetal condition and individual clinical urgency
- Avoid forceps after vacuum cup detachment, unless fetal head can confidently be birthed with the next contraction
- Document clinical events in electronic medical records

2.7 Post-birth

- Paired umbilical cord blood samples should be collected for fetal blood gas analysis
- Examine cervix, vagina and perineum for trauma post-procedure and repair as required. This should be completed by an experienced clinician with a second experienced clinician as a witness and include a PR inspection prior to repair
- Strong evidence from the ANODE trial recommends intravenous (IV) antibiotics post-delivery. The preferred option is a single dose of Amoxicillin-Clavulanate IV 1 + 0.2 g within 6 hours of birth (RCOG, 2020). For a woman with immediate non-severe or delayed non-severe hypersensitivity to penicillins, cefazolin 2 g IV PLUS metronidazole 500 mg IV as a single dose as soon as possible after assisted vaginal delivery (administered within 6 hours of birth). For a woman with immediate severe or delayed severe hypersensitivity to penicillins, seek expert advice (eTG, Antibiotics 2021)
- The ANODE trial did not address alternative antibiotic regimens, but for women without IV access, a single dose of oral antibiotics (Amoxicillin-Clavulanate 875/125 oral tablet) may be considered
- Prescribe analgesia (paracetamol and non-steroidal anti-inflammatory drug e.g. diclofenac or ibuprofen, unless contraindicated)
- If an indwelling catheter is not insitu, monitor for and document the time, amount and sensation, of the first maternal void of urine after the birth
- Examine baby for birth trauma
- Complete SEI 060.425 form – *Assisted Vaginal Birth Report To Be Completed By Operator*

- Arrange neonatal observations for subgaleal haemorrhage as per: [SESLHDPR/414 - Neonatal Observations for Subgaleal Haemorrhage following vaginal application of vacuum or forceps](#)
- Debrief the woman about the birth and implications for next birth, ideally by the accoucheur. For assisted vaginal births, the accoucheur (clinician directly assisting with birth of the baby), is the medical officer.

Section 3 – Definitions

- **Accoucheur** –The clinician directly assisting with the birth of the baby ([Queensland Clinical Guidelines Perineal care, 2020](#))

Classification of Instrumental Delivery:

- **Mid-cavity** - The head is no more than 1/5 palpable abdominally and the leading edge of the skull is between the level of the ischial spines and 2cm below the ischial spines
- **Low-cavity** - The leading edge of the fetal skull is at least 2cm below the ischial spines (station +2) but not on the pelvic floor
- **Outlet forceps or Vacuum** - The fetal scalp has reached the pelvic floor and is visible at the introitus without separating the labia
- **Rotational delivery** - The fetal head is rotated at more than 45% from the occipito-anterior position. This includes the occipito-posterior position

Section 4 – Responsibilities

Employees and Medical Staff:

- Ensure familiarity with the procedures and any related local business rules
- Hold appropriate hospital credentialing/supervision prior to commencing the procedure
- Ensure junior medical officers (JMOs) are responsible for informing the on-call specialist obstetrician of their supervision requirements when relevant, and for the specialist obstetrician to comply with that minimum level of supervision

Network Managers/Service Managers and Line Managers:

- Ensure that staff are familiar with SESLHD policies and procedures and are aware of the requirement to adhere to these
- Undertake periodic review of governance and compliance

4.1 Cultural Support

When clinical risks are identified for an Aboriginal woman, she may require additional supports. This may include Aboriginal health professionals such as Aboriginal liaison officers, health workers or other culturally specific services.

Non-English speaking culturally and linguistically diverse (CALD) women can be supported by offering appropriate interpreters using the Interpreter service

[NSW Health PD2017 044 Interpreters - Standard Procedures for Working with Health Care Interpreters](#)

Section 5 – Educational Notes

- Assisted vaginal birth is associated with higher maternal and neonatal morbidity than spontaneous vaginal birth. Measures to reduce the rate of instrumental birth may include:
 - continuous intrapartum midwifery support
 - lateral or upright positions in the second stage of labour
 - use of oxytocin in the second stage of labour in a nulliparous woman
 - allowing a passive second stage of labour in the presence of epidural anaesthesia
- Compared to forceps, the use of a vacuum extractor is associated with a higher risk of failure, more cephalohaematoma, subgaleal haemorrhage and retinal haemorrhages but less use of regional anaesthesia and less maternal genital tract trauma
- Correct application of the vacuum cup promotes flexion of the fetal head when traction is being applied and allows the smallest diameter of the fetal head to present
- Generally, the vacuum cup (soft and rigid) places less force to the fetal head, teaches the operator to follow the pelvic curve and requires less anaesthesia. Cup detachment may occur in up to 4% of cases for a variety of reasons
- Fetal injury increases significantly between 11-20 minutes duration as compared to < 10 minutes
- The use of an axis traction handle during forceps delivery facilitates traction in the direction of the pelvic curve. Pajot's manoeuvre consists of applying traction in the same direction that the forceps handles extend, outward and away from the woman, whilst the other hand applies downward traction on the shanks of the forceps. These opposing forces will bring the head down under the symphysis pubis following the pelvic curve
- Caution should be used in attempting a forceps birth after an unsuccessful vacuum extraction, although in some circumstances this may be preferable and safer than proceeding to an emergency caesarean section with an impacted fetal head

- Forceps can allow a more rapid delivery than the vacuum extractor. This may be important when birth needs to occur quickly
- Women who have a successful assisted vaginal delivery should be encouraged to aim for a spontaneous vaginal birth during future pregnancies as there is a high incidence of success (over 80%)
- The ANODE trial revealed, women who received a single prophylactic dose of IV amoxicillin and clavulanic acid *within six hours of assisted vaginal birth* were significantly less likely to have a confirmed or suspected maternal infection than women who received placebo (RCOG, 2020)

Section 6 – Documentation

- Medical Records – paper/electronic
 - SEI 060.425 form - Assisted Vaginal Birth Report to be completed by the operator
 - K2Guardian
 - Obstetric database e.g. eMaternity.

Section 7 – References

- Australian Commission on Safety and Quality in Health Care, Third and Fourth Degree Perineal Tears, Clinical Care Standards (April 2021) www.safetyandquality.gov.au
- Bahl R, Strachan B, Murphy DJ. Outcome of subsequent pregnancy three years after previous operative delivery in the second stage of labour: cohort study. BMJ 2004; 328:311–4
- [NSW Health PD2017_044 Interpreters - Standard Procedures for Working with Health Care Interpreters](#)
- [NSW Health Safety Notice - 016/09 Safe Instrumental Birth](#)
- [Queensland Clinical Guidelines Perineal care. Guideline No. MN18.30-V4R23. Queensland Health. 2020.](#)
- RANZCOG (April, 2020) Instrumental Vaginal Birth. Clinical Guideline
- RCOG (April 2020) Assisted Vaginal Birth Green-top Guideline No.26, <https://doi.org/10.1111/1471-0528.16092>
- [Royal Hospital for Women Escalation for Birthing Services \(2020\) Escalation for Birthing Services](#)
- [Royal Hospital for Women \(June, 2018\) Specialist Obstetrician – conditions and procedures requiring attendance](#)
- [SESLH DPR/414 - Neonatal Observations for Subgaleal Haemorrhage following vaginal application of vacuum or forceps](#)
- [SESLH DPR/399 - Credentialing in Obstetric Procedures for Junior Medical Officers/Fellows](#)
- Women’s Healthcare Australasia Collaborative, 2019. Improving outcomes for Women through reducing avoidable third and fourth degree tears, Collaborative Final Report

Section 8 – Revision and Approval History

This document replaces: SESLHD PD/141 Instrumental Vaginal Delivery Policy, SGSHHS LBRs Instrumental (Assisted) vaginal birth, RHW LOP Instrumental Vaginal Delivery Guideline 2009.

Date	Version	Version and approval notes
November 2016	Draft	Director Women and Children’s Stream
February 2017	0	Approved by Clinical and Quality Council
May 2019	1	Minor review. Further information added to 2.5, 2.6 and 2.7 in line with WHA Guideline on 3rd and 4th degree tears. Approved by Director of Women’s and Children’s Clinical Stream. Formatted by Executive Services prior to publishing.
September 2019	2	Minor review conducted by Sarah Clements, Rahul Sen, Wendy Hawke, Trent Miller, Andrew Bisits, Andrew Zuschmann Daniel Challis. Information added regarding application of hot packs to perineum during assisted birth procedures. Angle of episiotomy and extra

Date	Version	Version and approval notes
		detail to clinical practice post birth. Approved by Director of Women's and Children's Clinical Stream. Formatted by Executive Services prior to publishing.
December 2021	3	Minor Review by Naomi Ford, Alison Brown Dr Trent Miller, Dr Sarah Clements, Dr Andrew Zuschmann, Associate Professor Andrew Bisits – Evidence based guidance on antibiotics post delivery added. To be tabled at Quality Use of Medicines.
February 2022	4	Approved at Quality Use of Medicines Committee.
12 October 2023	4.1	Minor review. Minor word edits to 2.4. Preparation for instrumental birth now in sequential order. 2.5 and 2.6 perform episiotomy is now recommend and perform. Cultural support included. Approved at the October 2023 SESLHD Drug and Therapeutics Committee.