

Instrumental vaginal birth

Clinical Guideline Presentation v1.0



45 minutes

Towards CPD Hours

References:

Queensland Clinical Guideline: Instrumental vaginal birth is the primary reference for this package.

Recommended citation:

Queensland Clinical Guidelines. Instrumental vaginal birth clinical guideline education presentation E18.49-1-V1-R23. Queensland Health. 2018.

Disclaimer:

This presentation is an implementation tool and should be used in conjunction with the published guideline. This information does not supersede or replace the guideline. Consult the guideline for further information and references.

Feedback and contact details:

M: GPO Box 48 Brisbane QLD 4001 | **E:** guidelines@health.qld.gov.au | **URL:** www.health.qld.gov.au/qcg

Funding:

Queensland Clinical Guidelines is supported by the Queensland Health, Healthcare Improvement Unit.

Copyright: UPDATE

© State of Queensland (Queensland Health) 2018



This work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives V4.0 International licence. In essence, you are free to copy and communicate the work in its current form for non-commercial purposes, as long as you attribute Queensland Clinical Guidelines, Queensland Health and abide by the licence terms. You may not alter or adapt the work in any way. To view a copy of this licence, visit <https://creativecommons.org/licenses/by-nc-nd/4.0/deed.en>

For further information, contact Queensland Clinical Guidelines, RBWH Post Office, Herston Qld 4029, email Guidelines@health.qld.gov.au, phone (07) 3131 6777. For permissions beyond the scope of this licence, contact: Intellectual Property Officer, Queensland Health, GPO Box 48, Brisbane Qld 4001, email ip_officer@health.qld.gov.au, phone (07) 3234 1479.

Images are property of State of Queensland (Queensland Health) unless otherwise cited.

Objectives

- Identify when instrumental vaginal birth may be indicated
- Identify risks and benefits of vacuum compared to forceps
- Identify best practice management before during and after instrumental birth

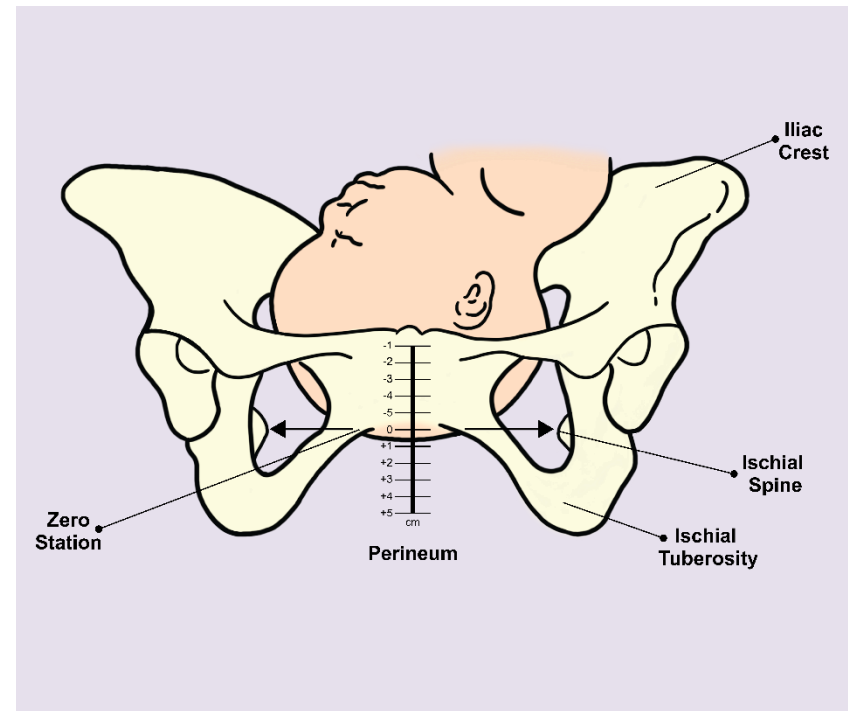


Classification

How are instrumental births classified?

Instrumental vaginal births are classified according to the station of the vertex and the degree of rotation of the sagittal suture from the midline

- Mid cavity
- Low cavity
- Outlet



Indications

What are the indications for an instrumental vaginal birth?

- Women with a live, cephalic fetus in second stage labour where:
 - There is inadequate progress in active second stage in the presence of adequate uterine activity
 - Maternal effort is contraindicated (e.g. cardiac conditions, hypertensive crisis)
- Fetal compromise is suspected

Other indications

Instrumental vaginal birth may also be appropriate in other circumstances (e.g. after-coming head of a breech, deceased fetus)

Contraindications

- Head is above the ischial spines or 2/5th or more palpable
- Position of vertex not determined
- Fetal bone demineralising or bleeding conditions

Risk factors



Amina is in active second stage with her second baby. She has been pushing for 35 minutes. There has been no significant fetal descent during this time.

What factors are associated with unsuccessful instrumental vaginal birth?

- Estimated fetal weight over 4000 g or a clinically 'big baby'
- OP position at application of instrument
- Higher station at the time of application (compared to outlet)
- Longer duration in second stage
- Higher BMI

Evidence alert!

There is limited and low-level evidence to differentiate risk factors for instrumental birth from factors that influence failure of the attempt

Setting

If difficulty is anticipated, perform in operating theatre to facilitate access to immediate caesarean section birth

Forceps versus vacuum

After further assessment you recommend vacuum assisted birth to Amina.

What can you tell Amina about the outcomes of forceps v vacuum?

With vacuum decreased risk of:

- Perineal trauma (3rd/4th degree tears, vaginal trauma, levator avulsion)
- Incontinence/flatus

With vacuum increased risk of:

- Failure of attempt
- Subgaleal haemorrhage in baby

Maternal outcomes: no difference

in blood loss, pain on day four, caesarean section, vulval trauma, episiotomy or perineal tear requiring suturing with or without pudendal analgesia

Neonatal outcomes: no difference

in any neonatal injury, Apgar score at 5 minutes, intubation, mean umbilical artery pH, scalp injury, facial injury, intracranial injury, cephalohematoma, retinal haemorrhage, jaundice, admission to neonatal intensive care unit

Principles of safe birth

Amina's partner asks you if the staff member performing the vacuum is competent because they look very young. You reassure Amina and her partner.

What factors would give you confidence to reassure Amina?

- The clinician performing the instrumental birth (or the clinician's supervisor in attendance) has the knowledge, experience and skill to:
 - Safely perform the procedure
 - Manage complications that may arise

Communication for safety

- Provide clear explanation to woman and support people
- Inform other members of the health care team
- Organise a clinician trained in neonatal resuscitation to be present for the birth
- Use standard documentation to record indications, assessments and details of the procedure

Pre-intervention care

Amina consents to the use of vacuum. She asks what will happen next

What will you discuss with Amina?

- Need to empty bladder
- Performance of an abdominal and vaginal assessment
- Adequate analgesia
- If episiotomy is indicated
- Maternal and fetal observations

Procedural considerations

- Apply steady traction only during a contraction and with maternal effort
- Minimise shearing forces on scalp
- Ensure no maternal tissue trapped under cup



Pre-requisites

Following an abdominal and vaginal assessment, you are uncertain about the position and station of the fetal head.

Why is it important to know this?

- Essential for correct placement of the instrument

What can you do in this circumstance?

- Seek expert advice from a more experienced practitioner
- A transperineal or transabdominal ultrasound may assist in determining station and position

Confirm all of the following:

- Vertex presentation
- Head is 1/5th or less palpable
- Estimated fetal weight
- Pelvis considered adequate for vaginal birth
- Cervix fully dilated and membranes ruptured
- Assessment of caput and moulding
- Head position

Procedure

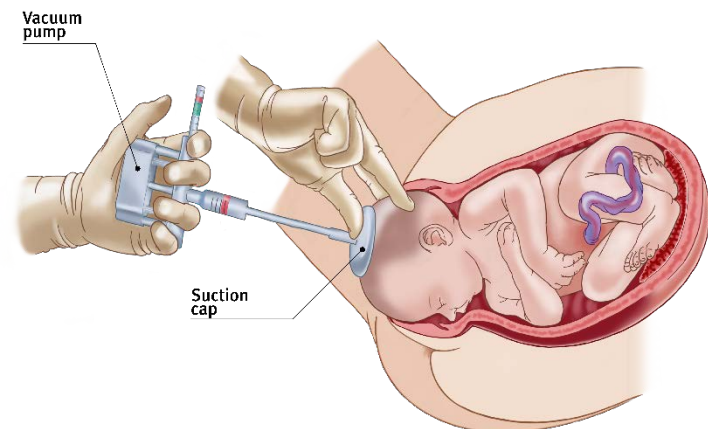
After three contractions, the head has descended and the full diameter of the cup is visible at the perineum. Amina and baby are both doing well.

As the head is not delivered should you try forceps now?

- No, progressive descent has occurred. The head should be delivered within three more pulls
- Sequential instrumentation is associated with increased maternal and neonatal morbidity

With a correctly applied vacuum cup consider discontinuation:

- After two detachments
- If full diameter of the cup is not visible at the perineum with three contractions



Post-intervention care

Amina gives birth to a healthy baby girl and is transferred to the postnatal ward. You assess her care needs. She says her birth experience wasn't what she wanted and she feels quite traumatised.

What do you discuss with Amina?

- Offer an opportunity to discuss:
 - Indications for her instrumental birth
 - Management of complications
 - Implications for future births
- Talk with Amina about feelings she may experience in the coming days
- Advise referral is available for psychological support

Postnatal care:

Urinary retention: increased risk with instrumental birth

Perineal care: perform comprehensive assessment; discuss perineal hygiene, recovery, healing

Analgesia: offer regular NSAID

VTE: risk assess and consider prophylactic measures

Maternal observations

Baby care: monitor for subgaleal haemorrhage