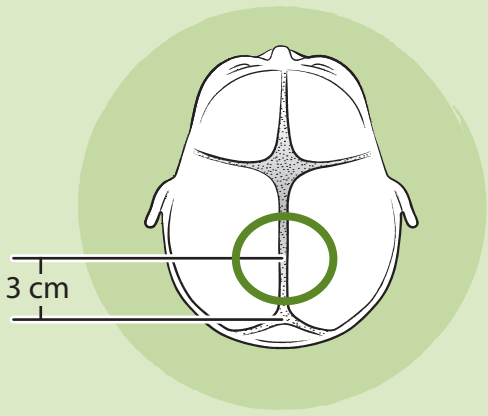
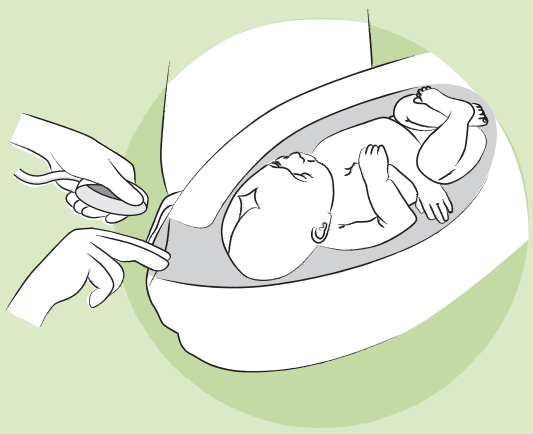
Procedure for Use of Vacuum Extractor in Assisted Vaginal Delivery

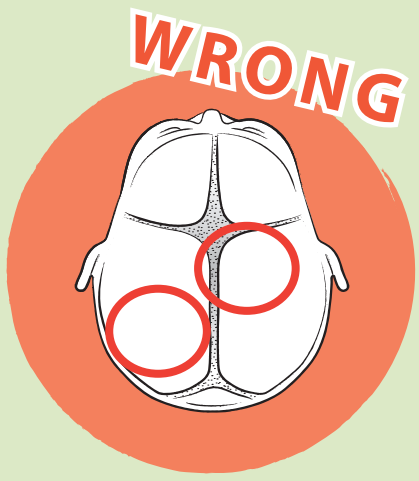
1 Placement of the cup



Locate the flexion point over the sagittal suture 3 cm anterior to the posterior fontanelle. The cup should be centered over the flexion point.

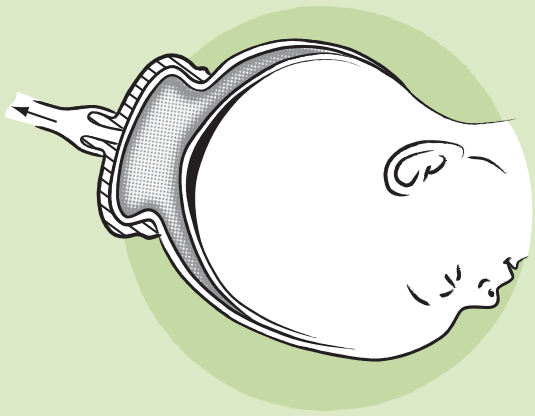


Choose largest cup possible, and introduce sideways into the vagina by pressing down against the perineum.

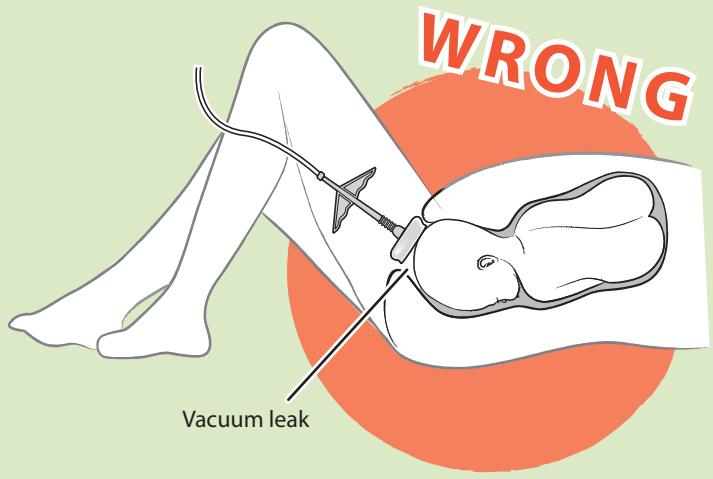


Incorrect locations for cup placement.

2 Create a vacuum



Hold cup in place and increase negative pressure to 0.2 kg/cm2 and check application. Increase vacuum to 0.8 kg/cm2 and recheck application again.

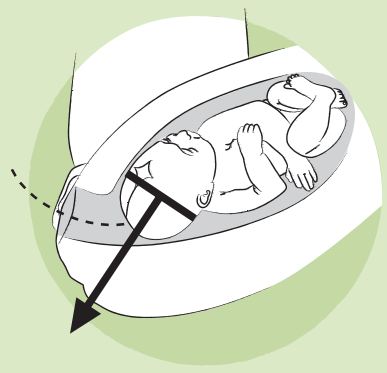


Ensure that no maternal tissue is in the cup causing a leak.

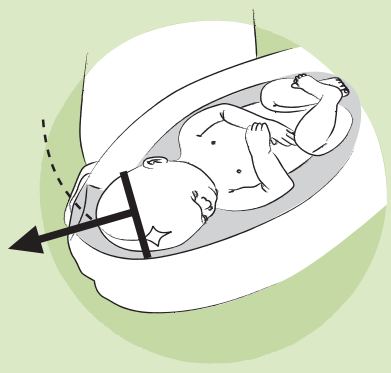
3 Apply traction. Do not start pulling until there is a contraction.

Apply traction ONLY during contractions. Traction should be applied on the handle perpendicular to the cup.
1st pull: to find the right direction
2nd pull: to begin progression

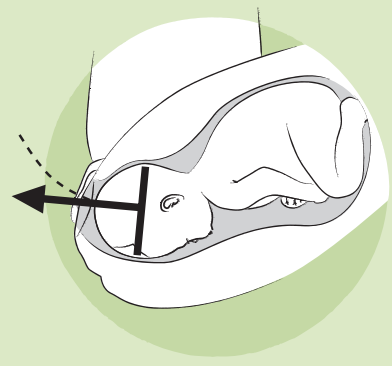
Angle of traction depends on the position of the fetal head.



Mid-pelvis – downward direction



Low-pelvis – at 45 degree angle



Outlet – parallel

Remember:

- **Only apply traction during the contractions.**
- **Never use the cup to actively rotate the baby's head.**
- **Delivery of the head should be slow and conducted as for a normal birth.**
- **Place a gloved finger on the scalp next to the cup during traction to assess potential slippage and to monitor head progression.**
- **Frequently check fetal heart rate.**
- **When the head is delivered, the vacuum must be reduced as slowly as it was created. Use the screw to diminish risk of scalp damage.**
- **Should a pop off occur, carefully recheck application.**

Adapted by PATH from: World Health Organization (WHO)/Department of Reproductive Health and Research. *Managing Complications in Pregnancy and Childbirth: a Guide for Midwives and Doctors.* Geneva: WHO; 2007. Available at: http://whqlibdoc.who.int/publications/2007/9241545879_eng.pdf.

Use of Vacuum Extractor in Assisted Vaginal Delivery

Indications

Fetal

- Fetal distress in 2nd stage of labor

Maternal

- Failure to deliver following the appropriate management of 2nd stage labor
- Need to shorten the 2nd stage or pushing is contraindicated
- Inadequate maternal expulsion efforts

Contraindications

Absolute

- Non-vertex presentation
- Face or brow presentation
- Unengaged vertex
- Incompletely dilated cervix
- Clinical evidence of cephalo-pelvic disproportion (CPD)
- Preterm less than 37 weeks

Relative

- Mid-pelvic station
- Unfavorable attitude of the fetal head

When to halt – FAILURE!

3 pulls over 3 contractions, no progress

Cup slips off the head twice at maximum negative pressure.

After 30 minutes of application with no progress

Abandon procedure and reassess further options for delivery

Clinical Prerequisites

- Vertex presentation
- Engaged vertex
- Term fetus (≥37 weeks)
- Cervix fully dilated
- Ruptured membrane
- Adequate maternal pelvis
- Empty maternal bladder
- Appropriate analgesia, if available
- No known fetal bleeding diathesis (disorder)

Potential Complications

Maternal

- Tears to the cervix and/or vagina

Fetal

- Localized scalp oedema disappears in 2-3 hours
- Cephalohaematoma: usually clears in 3-4 weeks
- Scalp abrasions and lacerations: **clean and suture if necessary**
- Intracranial bleeding (rare): **requires immediate intensive care**

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