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.

**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