HAYDOM LUTHERAN HOSPITAL | DEPARTMENT OF OB/GY

Standard operating procedure for safe vacuum extraction (VE) births

Purpose

The purpose of this document is to ensure safe VE births at HLH. The document will enable its users to adhere to best practices and consistency during VE.

Roles and Responsibilities

VE at HLH is conducted by **trained doctors** (obstetricians and registrars) and **senior midwives** and supported by junior midwives and medical attendants working in the labor ward. **Teamwork is essential for the success of VE**

Resources

- Functioning VE equipment should always be ready
- The theatre team should be kept alert for possible C/Section if VE fails
- A newborn resuscitation kit should be prepared
- Suturing kit should be ready for possible tears/ episiotomy
- Infection prevention and control guidelines should be followed

Indications

- Prolonged second stage: >3hrs for prime and 2hrs for multipara
- Fetal distress in second stage
- Maternal exhaustion in second stage
- Mothers with medical conditions in pregnancy at the second stage: heart failure, severe anemia, asthma

Prerequisites

These are the minimum criteria that need to be fulfilled in order to perform VE:

- Cervix fully dilated
- Descent: 2/5, 1/5, 0/5 or stations 0, +1, +2
- Empty bladder
- Contractions: 3 or more in 10 minutes, if not, augment with oxytocin
- Gestational age: > 34 weeks
- Estimated fetal weight: >2.5kg to < 4.0kg

Precautions

The team needs to weigh the risks and benefits associated with VE before embarking on the procedure

Procedure

a) Getting ready

1. Prepare the necessary equipment and make sure assistants are available – **preferably 4 people**.
2. Obtain oral consent and provide continual emotional support and reassurance, as feasible.
3. Review to ensure that the indications and prerequisites for vacuum extraction are present, and any contraindication is excluded.
4. Put on personal protective gears.

b) Pre-procedure tasks

1. Wash hands thoroughly with soap and water and dry.
2. Put sterile surgical gloves on both hands.
3. Clean the vulva with an antiseptic solution (non-alcoholic) and place a drape under the woman's buttocks and over her abdomen.
4. Catheterize the bladder, if necessary.
5. Check all connections on the vacuum extractor and test the vacuum on a gloved hand

c) Vacuum extraction steps

1. Assess the station and position of the fetal head by feeling the sagittal suture line and fontanelles.
2. Identify the posterior fontanelle.
3. Apply the chosen cup often 50mm size (medium), with the center of the cup over the flexion point, 3 cm anterior to the posterior fontanelle if possible.
4. Check the application and ensure that there is no maternal soft tissue (cervix or vagina) within the rim of the cup.
5. Have the assistant create a vacuum of 0.2 kg/ cm2 negative pressure with the pump and check the application of the cup if any tissue is trapped, release the pressure and restart.
6. Increase the vacuum to 0.8 kg/cm2 negative pressure and check the application of the cup.
7. After maximum negative pressure has been applied, start traction in the line of the pelvic axis and perpendicular to the cup.

8. With each contraction, apply traction in a line perpendicular to the plane of the cup rim: Place a gloved finger on the scalp next to the cup during traction to assess potential slippage and descent of the vertex.
9. Between each contraction have an assistant check: Fetal heart rate.
10. With progress, continue the “guiding” pulls for a maximum of 15 minutes.
11. When the head stretches the perineum, assess whether an episiotomy might be indicated, especially in a nulliparous woman.
12. If the cap pops off 3 times during the procedure stop the procedure and move on to c-section to deliver the baby.
13. When the head has been delivered, release the vacuum, remove the cup and complete the delivery as in assisting a normal birth including active management of the third stage of labor.
14. Carefully check the birth canal for any tears following delivery.
15. Repair any episiotomy or tears as per guidelines.
16. Provide immediate postpartum and newborn care.

d) Post-procedure tasks

1. Before removing gloves, dispose of waste materials in a leak-proof container or plastic bag.
2. Place instruments in 0.5% chlorine solution for 10 minutes for decontamination.
3. Remove gloves by turning them inside out and placing them in a leak-proof container or plastic bag.
4. Wash hands thoroughly with soap and water and dry.
5. Document the procedure – descent, position, numbers of pulls, no. pop-offs, episiotomy, oxytocin dose used.
6. If the vacuum failed, write down the possible reason.
7. Have a short debrief talk with all the team members after VE.

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