HEALTH HOLDING
HAFER ALBATIN HEALTH CLUSTER
MATERNITY AND CHILDREN HOSPITAL

Department:	Obstetrics and Gynecology		
Document:	Multidisciplinary Policy and Procedure		
Title:	Instrumental Vaginal Delivery		
Applies To:	All Obstetrics and Gynecology Staff		
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1. PURPOSE:

1.1 To standardize the method of performing an instrumental vaginal delivery.

2. DEFINITIONS:

2.1 Instrumental vaginal delivery refers to a delivery in which the operator uses forceps, a vacuum, or other devices to extract the fetus from the vagina, with or without the assistance of maternal pushing.

3. POLICY:

3.1 The aim of this policy is to put control on the use of the vacuum extractor and forceps for instrumental deliveries.

3.2 Indications and contraindications for operative vaginal delivery:

3.2.1 No indication for operative vaginal delivery is absolute. The following indications apply when the fetal head is engaged and the cervix is fully dilated.

3.2.1.1 Prolonged second stage.

3.2.1.2 Nulliparous women: lack of continuing progress for 3 hours with regional anesthesia or 2 hours without regional anesthesia.

3.1.2.3 Multiparous women: lack of continuing progress for 2 hours with regional anesthesia or 1 hour without regional anesthesia.

3.1.2.4 Suspicion of immediate or potential fetal compromise.

3.1.2.5 Shortening of the second stage for maternal benefit.

3.2.2 Contraindications:

3.2.2.1 Inexperienced operator.

3.2.2.2 Face presentation.

3.2.2.3 Gestations of less than 34 weeks.

3.3 Types of instrument:

3.3.1 Forceps: classification of forceps deliveries.

3.3.1.1 Outlet forceps: the scalp is visible at the introitus, fetal scalp reached the pelvic floor, and rotation cannot exceed 45°.

3.3.1.2 Low forceps: the skull at station +2, rotation to 45° or less rotation, more than 45°.

3.3.1.3 Mid forceps: the skull above station +2 under very unusual circumstances.

3.3.2 Vacuum.

3.4 Precaution:

3.4.1 Exercise adequate and informed medical judgement in selection and training of procedures.

3.4.2 Understand or accept the limitations of the procedure and to arrange for an alternative in the event of failure.

3.4.3 Abandon the procedure at the appropriate time, particularly if excessive traction efforts in the presence of poor progress.

3.4.4 Properly assess the position of the fetal head in relationship to the pelvic outlet.

3.4.5 For occipito–posterior position or if difficult delivery is anticipated instrumental delivery must be carried out in OR.

3.4.6 Always ensure pediatrician is present at time of delivery.

3.5 Sequential instrument use: sequential instrument use (forceps operations followed by vacuum extraction or vice versa) is problematic. When one type of instrument fails, unless after vacuum extraction if the fetal head is +2 however such applications must be restricted to highly experienced physicians who have a clear understanding that the risk of birth injury can be increased in such operations.

4. PROCEDURE:

4.1 Precautions needed before application:

4.1.1 Patient agreement with consent sign.

4.1.2 Wash hands and put on sterile gloves.

4.1.3 Note appearance of external genitalia–labia, perineum, and vaginal orifice and state their findings.

4.1.4 Swab vulva area (where appropriate) with antiseptic solution and cotton balls, using the non-examining hands.

4.1.5 Empty the bladder via in and out catheter.

4.1.6 Digitally obtain the following relevant information and state findings:

4.1.6.1 Cervix must be fully dilated.

4.1.6.2 Membranes must be ruptured.

4.1.6.3 Presenting part must be well applied to the cervix.

4.1.6.4 The fetus must be in a vertex presentation (unless the purpose is to use forceps to assist in delivery of an after coming head).

4.1.6.5 The leading point of the fetal skull is 1 cm or more beyond the ischial spines (at least +1cm station).

4.1.6.6 Correct determination of the position of the occipit is most important step prior to forceps application.

4.1.7 In the presence of significant moulding or caput re-evaluates the possibility of cephalopelvic dis proportion.

4.2 Forceps Delivery:

4.2.1 The forceps instrument should be lubricated.

4.2.2 Presence of the sagittal suture in the anteroposterior position of the pelvic outlet or with minimal degree of tilt (≤45°) should be confirmed.

4.2.3 Two or more fingers of the right hand are introduced inside the left, posterior portion of the vulva and into the vagina besides the fetal head.

4.2.4 The handle of the left blade is then grasped between the thumb and two fingers of the left hand, as in holding a pen.

4.2.5 The blade should be held perpendicular to the patient or parallel to contralateral inguinal ligament before insertion.

4.2.6 The tip of the blade is gently passed into the vagina between the fetal head and the palmar surface of the fingers of the right hand, which serves as a guide.

4.2.7 Two or more fingers of the left hand are then introduced into the right, posterior portion of the vagina to serve as a guide for the right blade, which is held in the right hand and introduced into the vagina in the same way of left blade insertion.

4.2.8 These guiding fingers are then withdrawn and the horizontally positioned blades are articulated.

4.2.9 The forceps should lock without pressure and stand parallel to the plane of the floor. If the forceps don't lock easily, this indicates improper application of the blades.

4.2.10 Traction always should be applied intermittently and only with contractions. To minimize risk of trauma to newborn and maternal soft tissue.

4.2.11 The head should be allowed to recede between contractions. To avoid sustained pressure to fetal head.

4.2.12 Traction starts parallel to the plane of horizon and then is elevated to an almost vertical position as the fetal head prepares for its extension. To guide the head along the pelvic curvature.

4.2.13 An episiotomy is to be performed when the perineum is distended properly (not all cases need episiotomy). The surgeon judges the necessity of performing the episiotomy depending on the clinical situation (P&P performing a medio-lateral episiotomy).

4.2.14 Detailed examination of the maternal pelvis and a rectal examination after delivery of the newborn. To detect any episiotomy extensions, lacerations, cervical tears or periurethral tears that need repair.

4.2.15 Remove the blades and complete fetal delivery.

4.2.16 Newborn should be carefully examined by the attending pediatrician to detect any injury in the neonate.

4.3 Vacuum Extraction.

4.3.1 The cup is lubricated with sterile lubricant.

4.3.2 If a soft cup is employed, it is partially collapsed by the hand of the operator and then introduced through the labia.

4.3.3 Rigid cups are turned sideways, the labia are gently spread and the device is slipped into the vagina.

4.3.4 Check the application: when correctly applied, the cup is positioned centrally over the sagittal suture and about 2 cm in front of the posterior fontanel. To promote head flexion and assist with the cardinal movements of fetal descent. It should not cover the anterior fontanels.

4.3.5 The full circumference of the cup, should be palpated both prior to as well as after the vacuum has been created and prior to traction. To ensure no entrapment of maternal tissue.

4.3.6 Once the surgeon is convinced of an appropriate placement, negative pressure is applied. The maximum vacuum pressure applied should not exceed 0.8kg/cm² of atmospheric pressure.

4.3.7 The surgeon is to place the non-dominant hand within the vagina, placing thumb on the extractor cup and 2 or more fingers on the fetal scalp. The surgeon follows the descent of the presenting part and can better judge the appropriate angle for traction while gauging the relative position of the cup edge to the scalp, helping to detect cup separation while limiting unnecessary rocking motions or torque.

4.3.8 The pull on the traction handle must follow a specific vector of force, causing the fetal head to transverse the normal pelvic curve (horizontal then vertical).

4.3.9 Traction should be intermittent and coordinated with maternal expulsive efforts. To avoid excessive traction face.

4.3.10 Using continuous vacuum throughout the procedure versus intermittent vacuum, with the vacuum released between contractions, becomes the discretion of the surgeon.

4.3.11 Operative vaginal delivery should be abandoned where there is no evidence of progressive descent with each pull or where delivery is not imminent following three pulls of a correctly applied instrument by an experienced operator.

4.3.12 Suction should not be applied for more than 20 minutes, maximum 2 cup detachments, three sets of pulls and the duration of application should be documented in the chart.

4.3.13 Ensure progress in descent accompanying each traction attempt. The procedure should be abandoned if descent does not occur with appropriate application and traction.

4.3.14 Remove the cup once the fetal head is delivered. By releasing suction pressure.

4.3.15 Carry out the rest of the delivery as in a normal vaginal delivery.

4.3.16 Suture episiotomy or tear if present by the same physician.

4.3.17 Examine fetal's head. To detect any scalp injuries and confirm correct application of the cup.

4.3.18 Document the process at the file, inform patient about the outcome.

5. MATERIAL AND EQUIPMENT:

5.1 Forceps.
5.2 Vacuum suction.
5.3 Vacuum cups.
5.4 Sterile gloves.
5.5 Gown.
5.6 Antiseptic solution.

6. RESPONSIBILITIES:

6.1 Physician
6.2 Nurse
6.3 Midwife

7. APPENDICES:

N/A

8. REFERENCES:

8.1 MOH, Guidelines for Obstetrics and Gynecology, Clinical Policies and Procedures.
8.2 ACOG Practice Bulletin 17, Operative Vaginal Delivery, June 2000.
8.3 CBAHI Standard 3rd Edition 2016.

9. APPROVALS:

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