

# Episiotomy

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- Episiotomy is a surgically planned incision on the perineum and posterior vaginal wall during the second stage of labour

# Anatomy of perineum

- Comprises the less hairy skin & subcutaneous tissue
- B/t vaginal orifice & the anus
- Cover the perineal body which is fibromuscular node b/t anus & vagina with attachment of m/s
  - 2 S. ani, 1 bulbospongiosus, 2 superficial & 2 deep transverse perineal m/s, 2 L- ani m/s

# Indication

- When the perineum threatens to tear extensively
  - A. Primip when the head is about to crown
  - B. Multip with excessive scarring, previous operation for complete tear or prolapsed
  - C. Face to pubes, face delivery, big baby, narrow pubic arch.
- Delay in delivery with head pressing on the perineum
- Forceps delivery
- Breech delivery
- Shoulder distosia

# Types

- Median
- Medio- lateral
- Lateral
- J shaped

# Method

- **Timing**-when the head is crowning
- **Anaesthesia**- L. A. with 10 ml of 1% lignocaine
- **Technique**
  - 2 fingers are placed in the vagina b/t the presenting part & posterior vx. wall .
  - The incision is made by a episiotomy scissor blunt pointed blade of which is placed inside b/t the fingers and posterior vx. wall & other in the skin
  - The incision s/b made at the height of uterine contraction

- **Repair** – is done in 3 layers

- **Principles**

1. perfect haemostasis
2. obliterate dead space
3. suture without tension

- **Repair is done in following order**

1. Vx mucosa and submucosal t/s – continuous suture with 2/0
2. Perineal m/s – interrupted suture with 0
3. Perineal skin – interrupted or continuous suture

# Complications

## ■ Immediate complications

- 1) Extension to involve the rectum in case of median or small mediolateral episiotomy or O.P position
- 2) Vulva haematoma
- 3) Infection
- 4) Wound dehiscence

## ■ Remote complications

- 1) dyspareunia
- 2) chance of perineal lacerations in subsequent labour if not manage properly
- 3) scar endometriosis

## ■ Sutures cut are

1. Posterior vx wall
2. Superficial & deep transverse perineal m/s bulbospongiosus, part of levator ani
3. Fascia covering those m/s
4. Transverse perineal branches of pudendal v/s and n/s
5. Subcutaneous t/s & skin

# FORCEPS DELIVERY

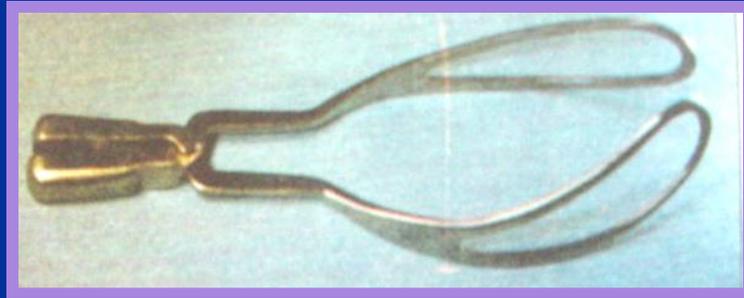
# Obstetric forceps

- Pair of instruments specially designed to assist extraction of the head and thereby accomplishing delivery of the fetus



# TYPES

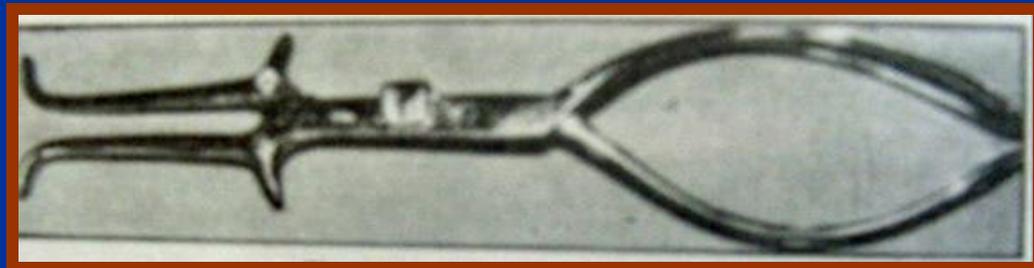
- Short curved (Wrigley's)



- Long curved

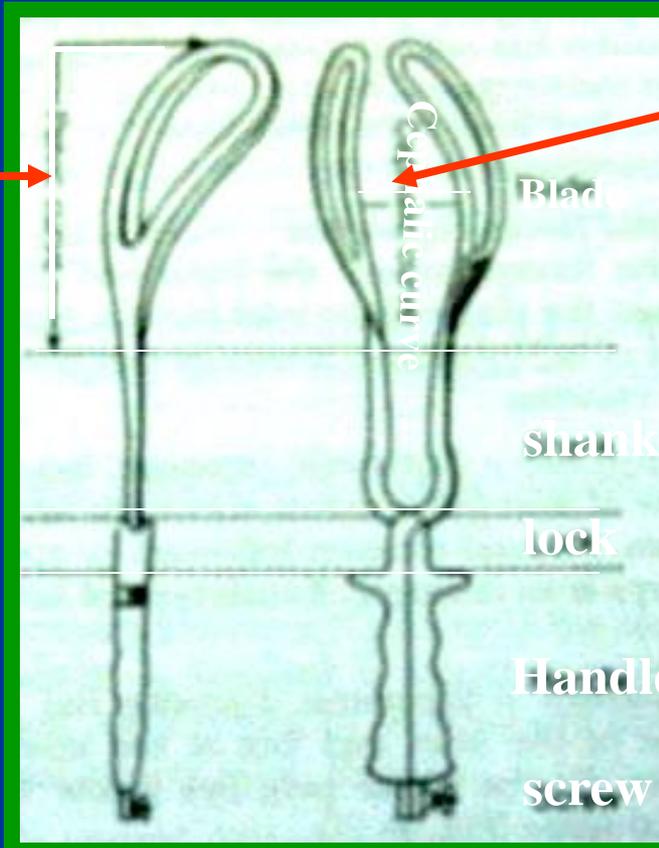


- Kielland's forceps



# DESCRIPTION

Pelvic curve



Cephalic curve

Cephalic curve

Blade

shank

lock

Handle

screw

# INDICATIONS

## 2<sup>nd</sup> stage of labor

- Delayed
- Maternal distress
- Fetal distress
- After coming head of the Breech
- Pre-term delivery
- Maternal diseases (to shorten)

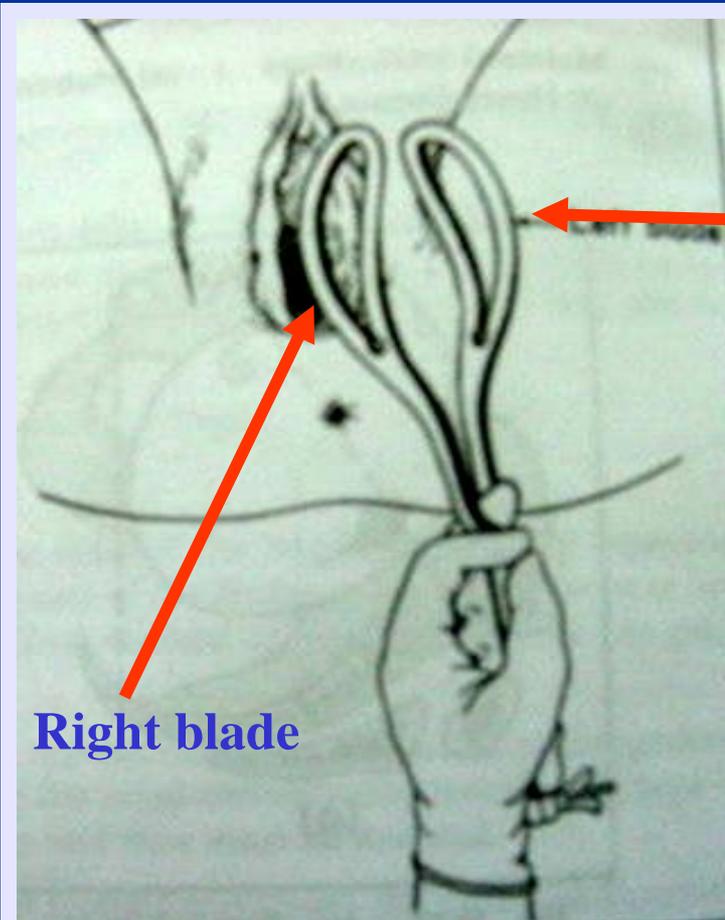
## CONDITIONS REQUIRED FOR APPLICATION

- Suitable **presentation** (Vertex, face – MA)
- Suitable **position** (sagittal suture-midline OA,OP)
- Head must be **engaged** (2/5 above the brim)
- Adequate **pelvic outlet**
- Fully dilated **cervix**
- **Membranes** must be ruptured
- **Bladder** should be emptied
- **Uterine contraction** must be present

# Steps in application of forceps

- Anesthesia – bilateral pudendal block
- Lithotomy position
- Aseptic measure
- Empty bladder
- Vaginal examination
- Episiotomy
- Forceps application and traction

# APPLICATION (1)



**Left blade**

**Right blade**

**Assembly of forceps  
before application**

## APPLICATION (2)

- *Left blade* is applied **FIRST**
- *Fingers* (right hand) passed into **VAGINA**
- *Handle* (left blade) held between **FINGERS** and **THUMB** (left hand) and
- Inclined to the right side so that it is **PARALLEL** to the **opposite (right) inguinal ligament**

# APPLICATION (3)

- *Left blade* passed between **FETAL HEAD** & **PALMER SURFACES** of the **FINGERS** (right hand)
- As the blade passes into the birth canal the **HANDLE** is carried **BACKWARDS** and **TOWARDS** the **MIDLINE**
- **FINGERS (right)** are withdrawn
- **RIGHT BLADE** is held and passed **SIMILARLY**

# APPLICATION (4)



## Applying left blade

Holding left handle with left hand

Left blade passed between fetal head and palmer surface of fingers of right hand

Fingers of right hand passed into vagina

# APPLICATION (5)



## Applying right blade

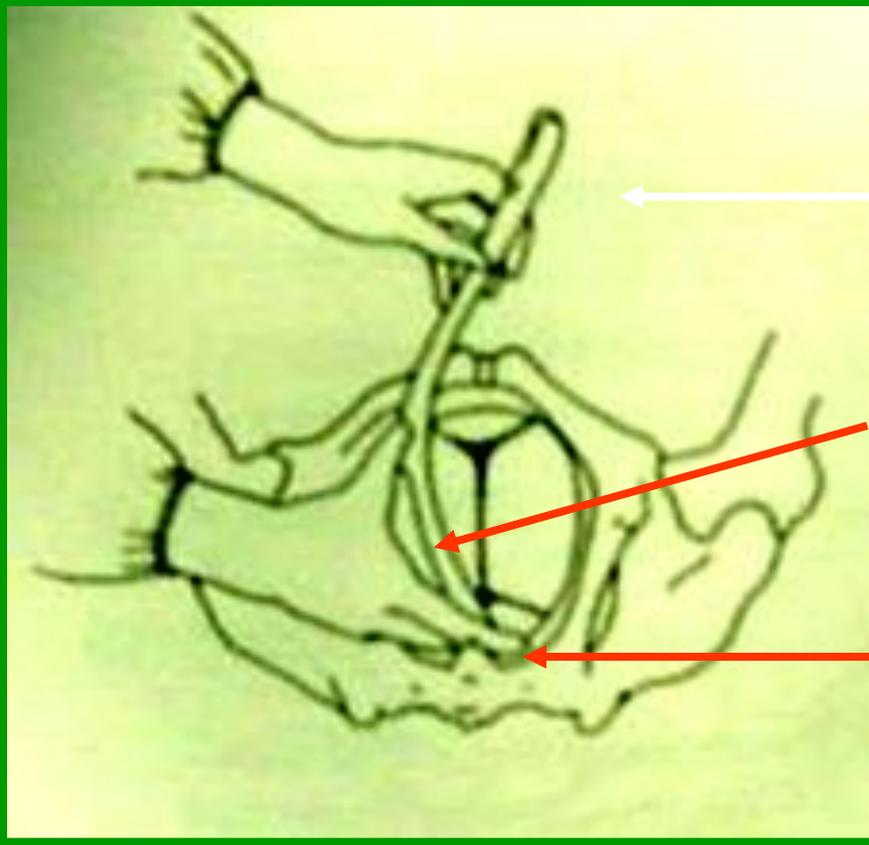
Holding right handle with right hand

Right blade passed between fetal head and palmer surface of fingers of left hand

Left blade applied

# APPLICATION (6)

## Applying the left blade of the forceps



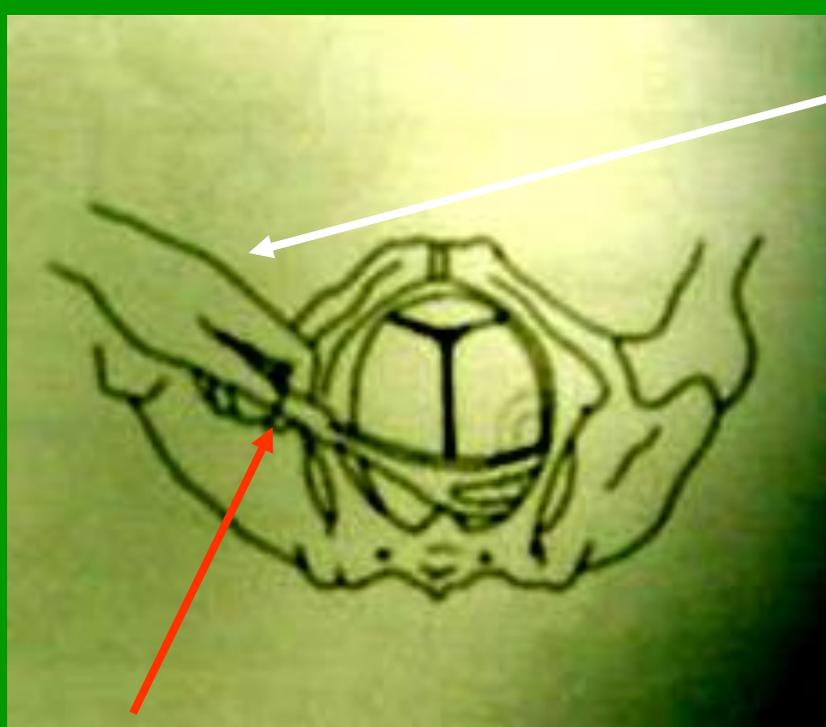
← Holding left handle with left hand

↗ Left blade passed between fetal head  
And palmer surface of fingers of  
right hand

↘ Fingers of right hand passed  
into vagina

# APPLICATION (7)

Applying the left blade of the forceps

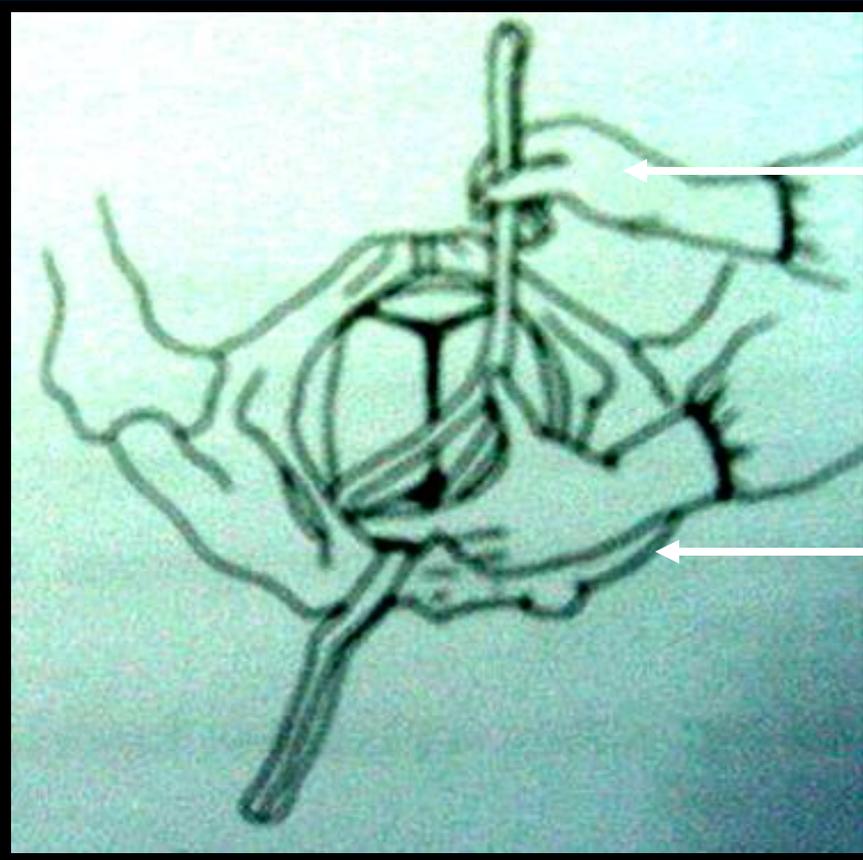


Holding left handle with left hand

Handle of left blade parallel to opposite inguinal ligament (right )

# APPLICATION (8)

## Applying right blade



← Holding right handle with right hand

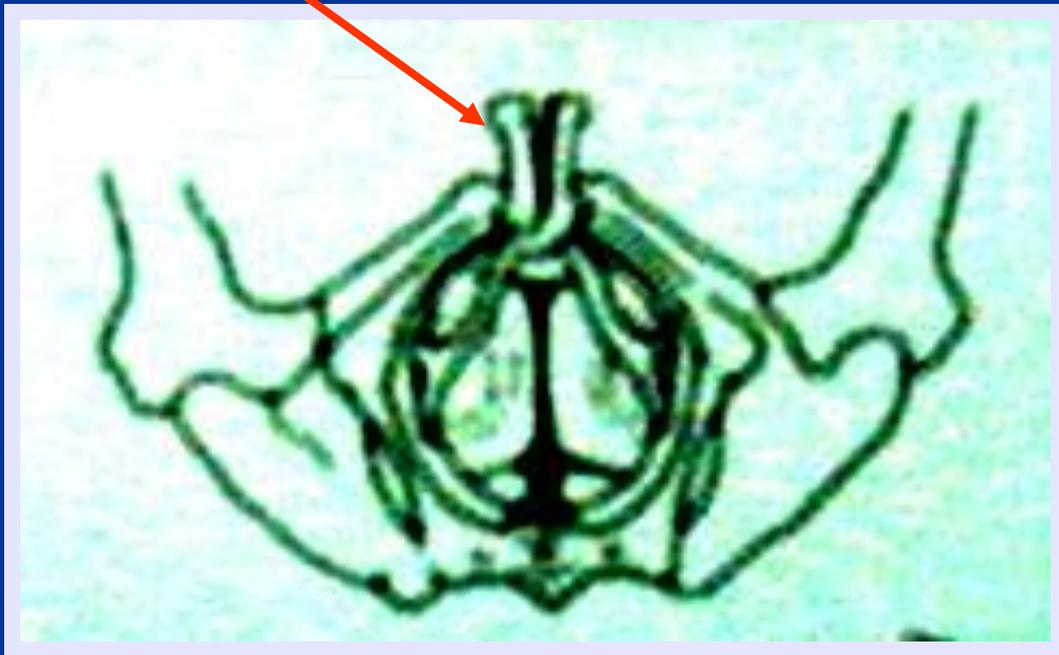
← Right blade passed between fetal head and palmer surface of fingers of left hand

# APPLICATION (9)

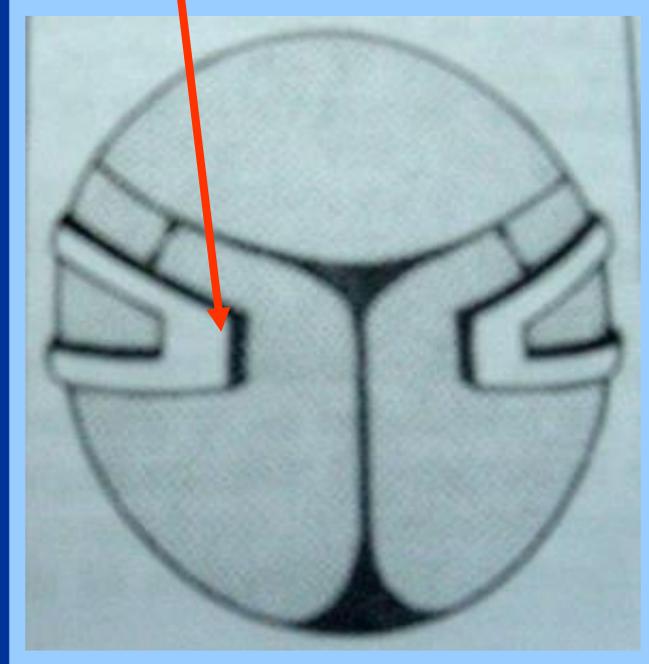
- **VISIBLE** portion of *right blade* will lie **ABOVE** and **ACROSS** the *handle of left blade*
- **SHANK** pressed **BACKWARDS** against the **PERINEUM**
- *Handles* should **lock** and lies **horizontally**
- If **NOT LOCK**, *blades* must be removed and **position re-examined**

# APPLICATION (10)

Locking of forceps

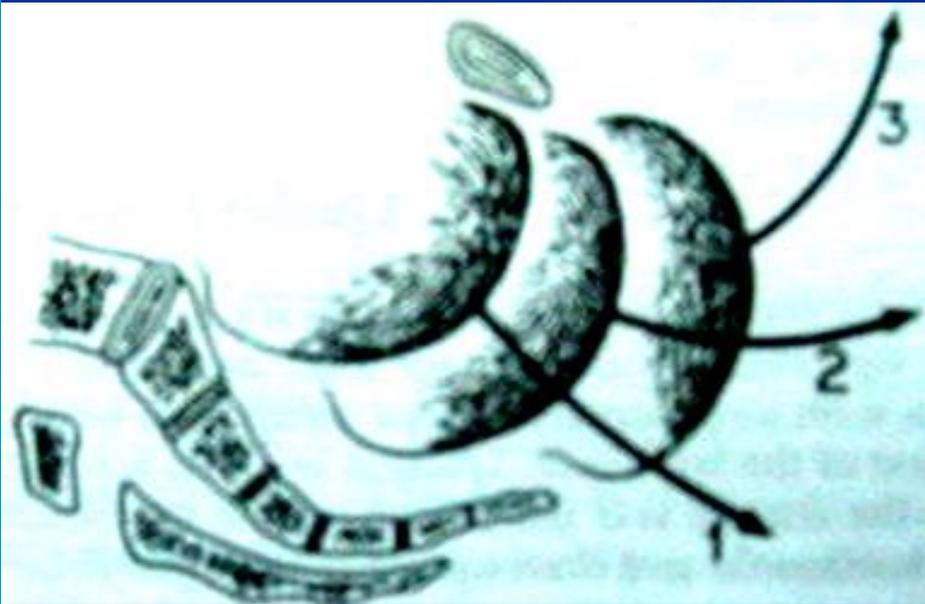


Fetal head in the cephalic curve  
(biparietal application is the only  
Safe application)



# Traction (1)

## Principle of traction



3. Upwards and forwards

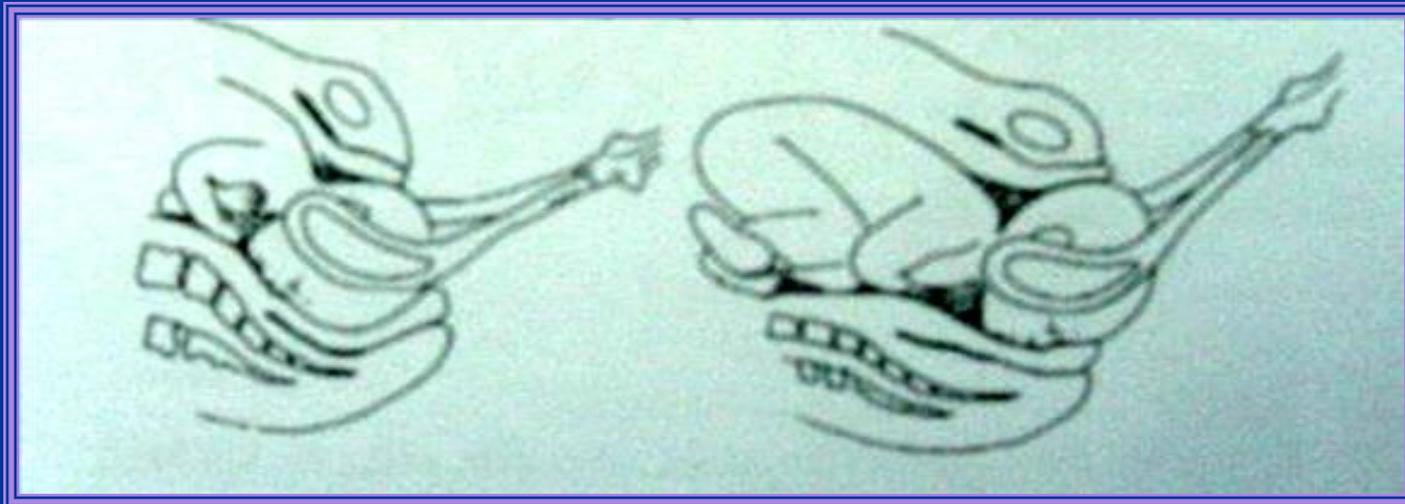
2. Downwards (straight horizontal pull)

1. Downwards and backwards

# TRACTION (2)

**Principle of traction**

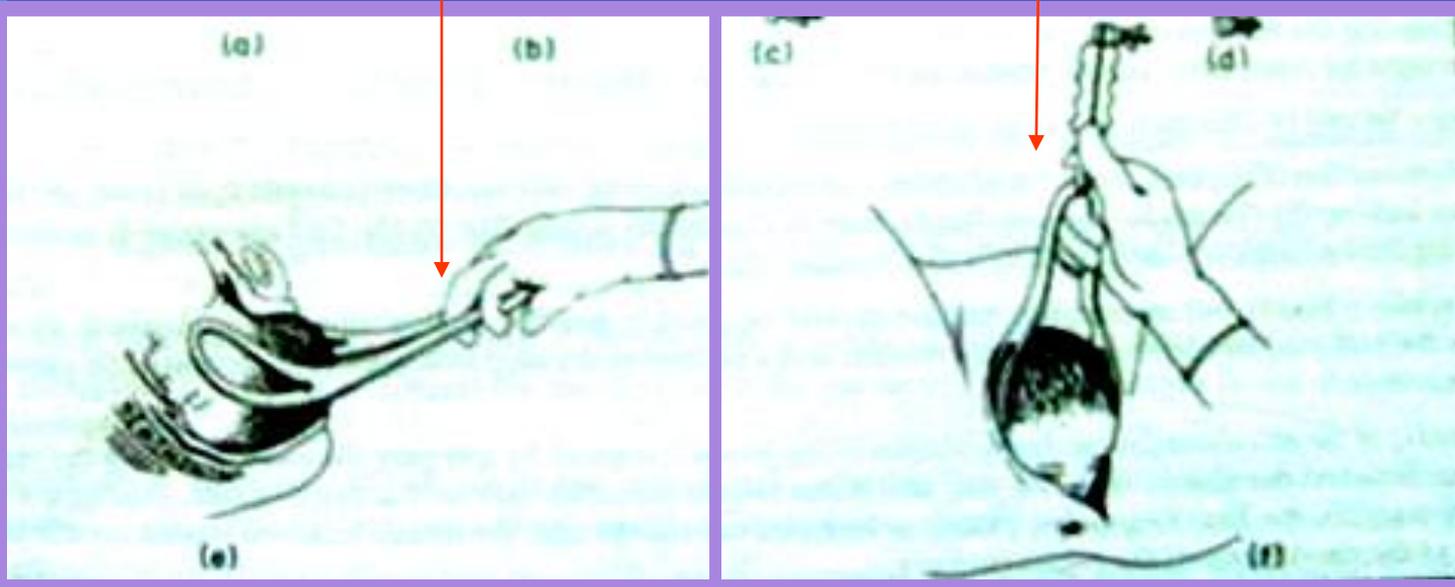
According to the birth canal



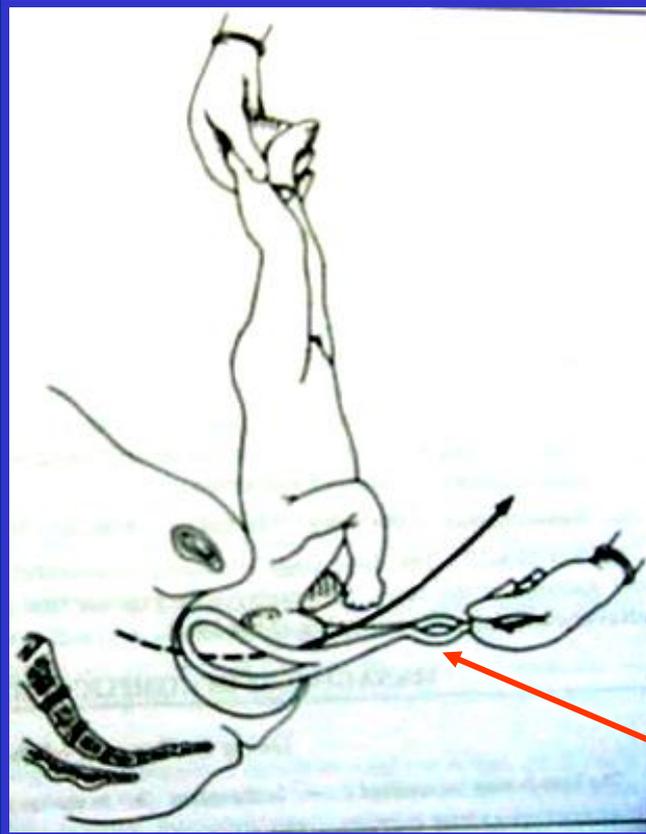
# Traction (3)

Position of fingers during traction

Change in grip in the final stage of delivery



## Traction (3)



**Delivery of after-coming head of breech delivery using ordinary obstetric forceps**

# Complications (maternal)

- Tears – genital tract (cervix, vagina)
- Extension of episiotomy – need repair
- Uterine rupture – immediate treatment
- PPH, shock

# Complications (fetal)

- Asphyxia
- Cephalhematoma
- Injury to facial nerve, facial palsy - observation
- Laceration of – face, scalp may occur
- Fracture of face and skull – observation

# Prophylactic forceps

- To shorten 2<sup>nd</sup> stage of labor when maternal and/or fetal complications are anticipated
- E.g eclampsia, heart disease, VBAC
- Should not be applied until the criteria of low forceps are fulfilled.

# Trial of forceps

- Tentative attempt of forceps delivery in a case of suspected mid pelvic contraction with a preamble declaration of abandoning it in favor of CS if moderate traction fails to overcome the resistance.

# Failed forceps (causes)

- Incompletely dilated cervix
- Un-rotated OP position
- CPD
- Undiagnosed brow or hydrocephalus or fetal ascites
- Constriction ring
- Large baby and shoulder impacted at brim



# Vacuum Extraction

# VENTOUSE

- **Instrumental device** - designed to assist delivery by creating a vacuum between it and the fetal scalp.
- **Designed by** – Malmstrom (1956)
- **Pulling force** – directly transmitted to the base of the skull.

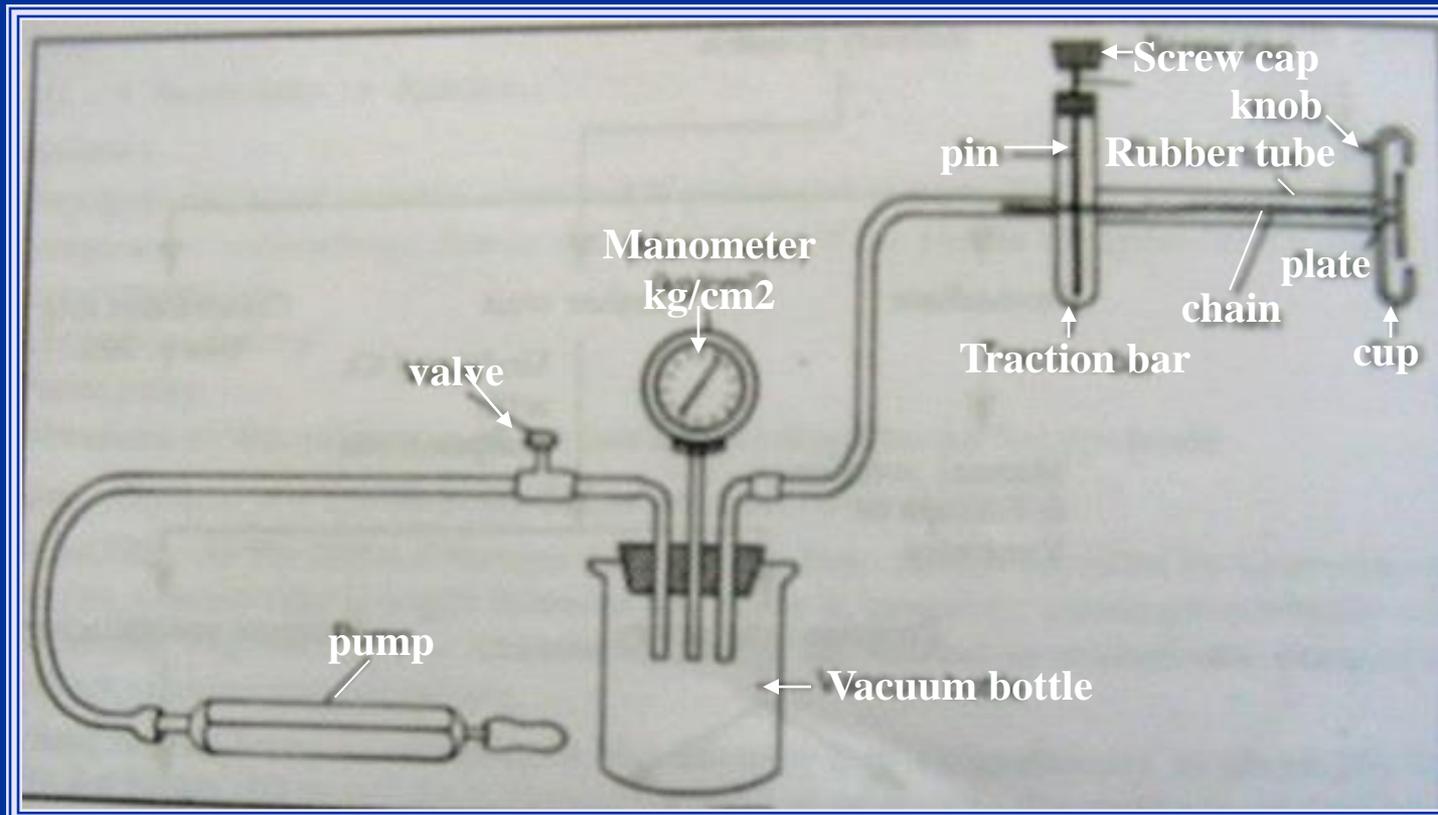
# DESCRIPTION

- **Suction cups (metal)** – 4 sizes  
30, 40, 50, & 60 mm

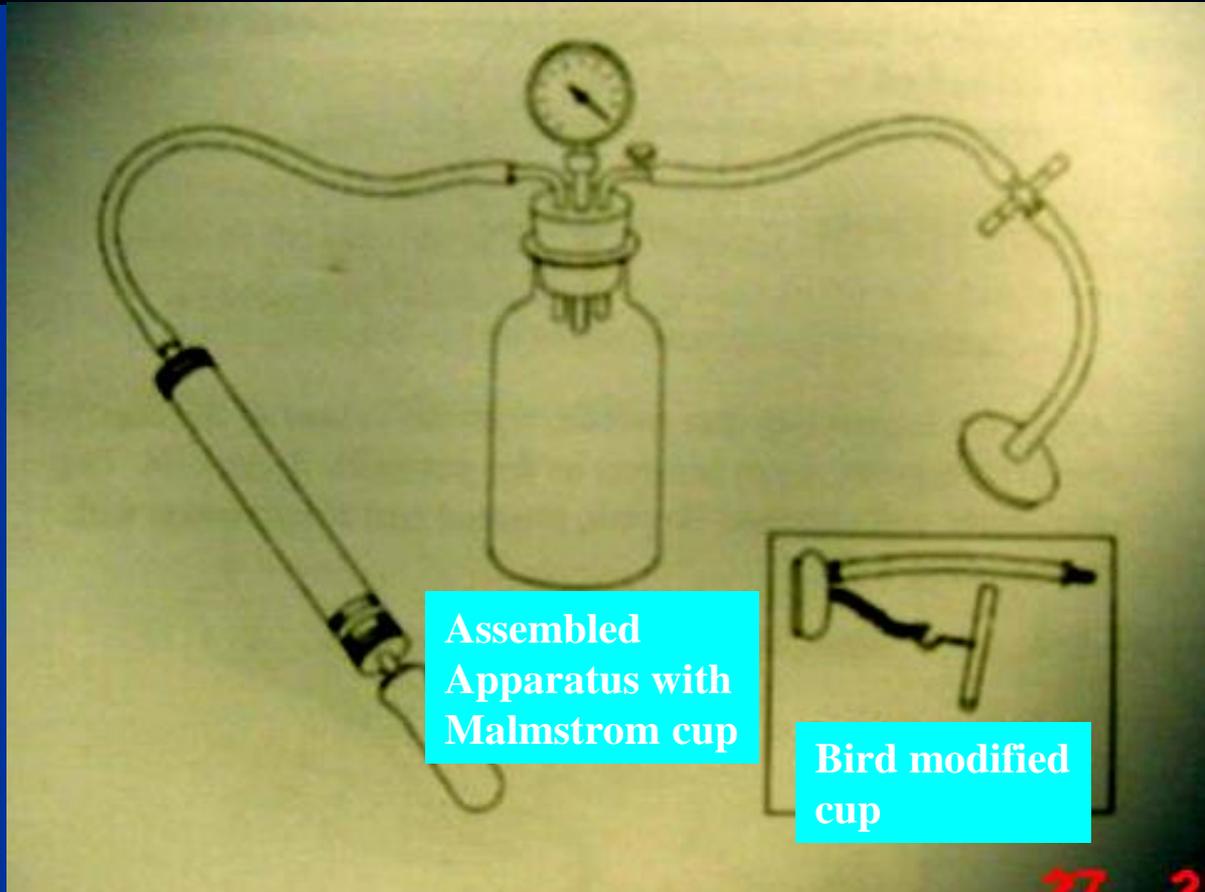
**Silica cup**

- **Vacuum pump**
- **Traction rod device** - traction bar, chain

# Various parts of vacuum extractor



# Diagram of a manual vacuum extractor



Assembled  
Apparatus with  
Malmstrom cup

Bird modified  
cup

# Vacuum cups



# Vacuum machine



# INDICATIONS

- Usually used in **2<sup>nd</sup> stage** (can use in **late 1<sup>st</sup> stage**)
  - Deep transverse arrest with adequate pelvis
  - Delay in descent of high head in second twins
  - As an alternative to forceps **except**
    - Face presentation
    - After-coming head of breech
  - **Delay in late 1<sup>st</sup> stage due to primary cervical dystocia**

# PREREQUISITES

- **Full dilatation** of the cervix
- **Engaged** head (2/5 above symphysis pubis)
- **Good** uterine contraction
- **Co-operation** of the patient

# BASIC RULES FOR VENTOUSE DELIVERY

- **Delivery should be completed within 30 minutes of application**
- **Head (not the scalp) should descend with each pull**
- **Cup should be reapplied no more than three times**
- **If failure with the ventouse occurs despite good contraction, do not try the forceps as well**

# METHOD FOR DELIVERY (1)

## A. Examine the patient carefully

- Size of the baby
- Engagement of head
- Position of the vertex
- Amount of caput
- Attitude of the presenting part

## METHOD FOR DELIVERY (2)

### B. Appropriate cup should be chosen

- 4 cm – cervix is not fully dilated
  - 5 cm  narrow vagina
  - 6 cm  preferable
- fully dilated cervix

## METHOD FOR DELIVERY (2)

- c. Connect to the pump and a check should be made for leakages prior to commencing the delivery
  - the instrument should be **assembled** and the **vacuum is tested** prior to its application

# PROCEDURE (**anesthesia**)

## Local infiltration

- 1% lignocaine (10 – 20 ml)
- pudendal block or perineal infiltration
- without anesthesia especially in parous women

# PROCEDURE (**application of cup**)

## **Appropriate cup**

- selected according to cervical dilatation

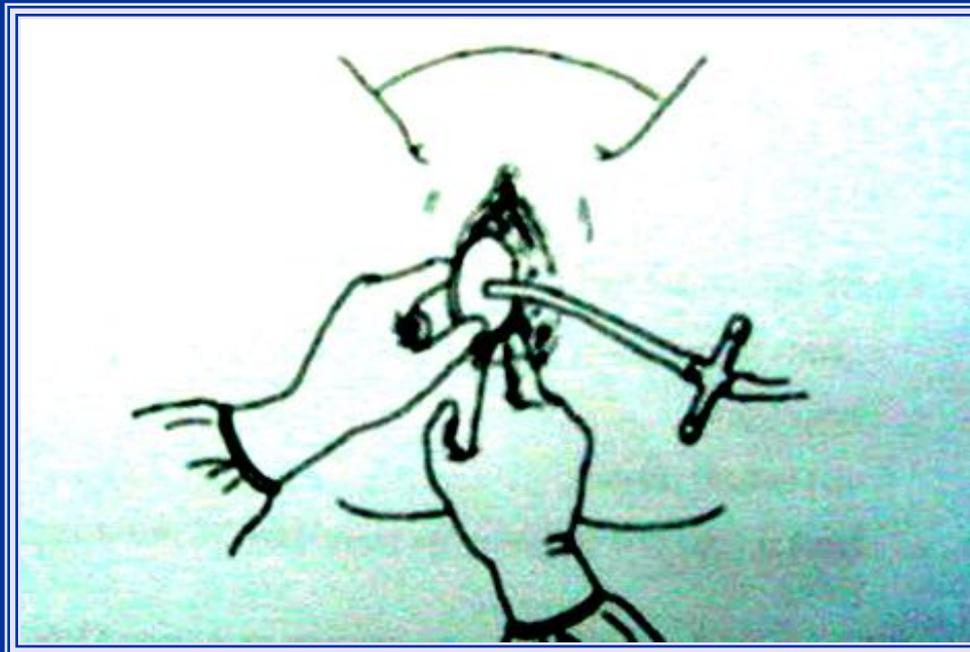
**-4 cm – cervix is not fully dilated**

**-5 cm** } ----- narrow vagina  
} fully dilated cervix  
**-6 cm** } ----- preferable

# PROCEDURE (**application of cup**)

## Cup introduced sideways into the vagina

- pressing backward against perineum
- retract the perineum with 2 fingers of other hand

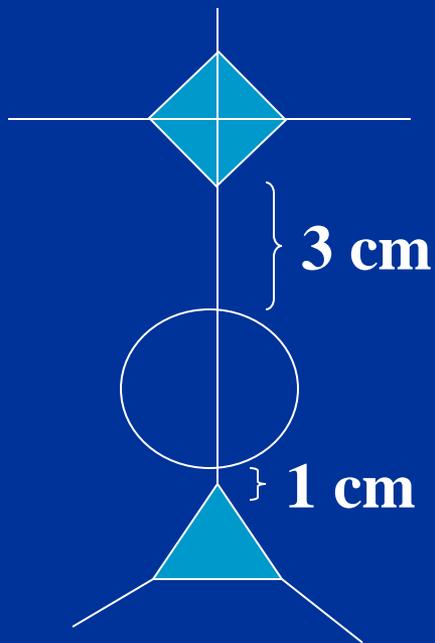


# PROCEDURE (**application of cup**)

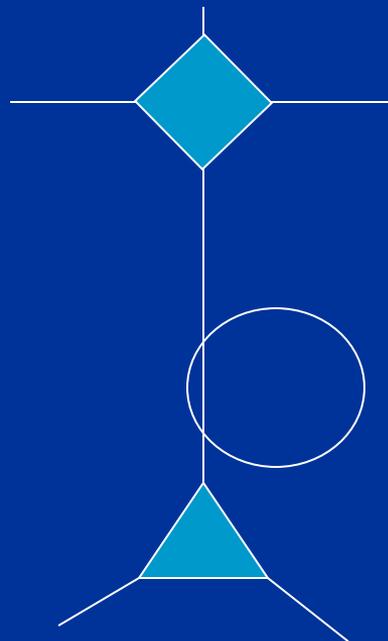
Cup is placed against the fetal head

- **1 cm anterior to posterior fontanelle** - to promote flexion
- **knob towards occiput** – to indicate degree of rotation
- **application on the saggital suture** can correct asynclitism
- **cervix & vaginal wall – free from the cup and fetal scalp**

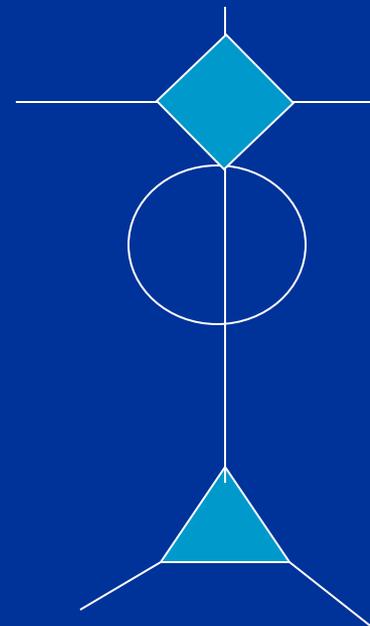
# PROCEDURE (application of cup)



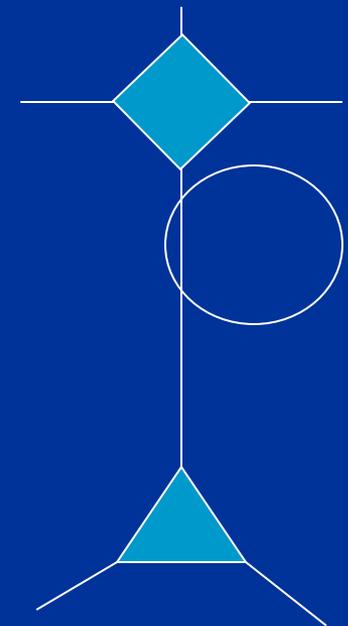
**Flexing  
median**



**Flexing  
paramedian**



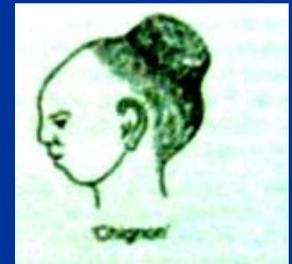
**Deflexing  
median**



**Deflexing  
paramedian**

# PROCEDURE (**vacuum creation**)

- **0.2 kg/cm<sup>2</sup>** (150 mm Hg or 15 cm Hg) – every 2 minutes - maximum **0.8 kg/cm<sup>2</sup>**
- can create vacuum directly to **-0.8 kg/cm<sup>2</sup>**
- **Check** - using the fingers round the cup to ensure that **no cervical or vaginal tissue** is trapped inside the cup
- **Chignon** – artificial caput succedaneum usually disappears within hours



# PROCEDURE (**Traction**)

- **Traction**
  - done **during** uterine contraction **till** delivery
  - used one hand along **axis of birth canal**
  - **vertical** (*right angle*) to the cup
  - **oblique traction – pull it off**
- **Fingers of other hand - placed against the cup to note :**
  - Correct angle of traction**
  - Rotation** (autorotation)
  - Advancement of head**

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# PROCEDURE (**Traction**)

- **Synchronous** with uterine contraction
- Cup is detached - **released the vacuum** as soon as the head is delivered
- The delivery is then completed in the normal way

# COMPLICATIONS (**Fetal**)

- Sloughing of the scalp (necrosis)
- Cephalhematoma
- Sub-aponeurotic hemorrhage
- Intra-cranial hemorrhage (rare)

# COMPLICATIONS (**Maternal**)

- **Laceration** of the cervix
- **Laceration** of the vaginal wall



*Thank You*

