Obstetrics and Gynecology
Perineal tears and instrumental delivery

University Of Fallujah
College Of Medicine

Lecture : 2

Stage : 4th Year

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Date: 30|9|2025

Learning objectives

1. Review the classification of perineal tears and their proper diagnosis and management.

2. Know the indication, types and post-operative care of episiotomy.

3. Know the types of instrument used in labour and their related prerequisites and complication.

Perineal tears

85% of female with vaginal delivery have some degree of perineal trauma and 60–70% will require suturing.

The first important step following birth of the baby and delivery of the placenta is to examine the woman carefully to classify the perineal tear.

Some women perform perineal massage in the antenatal period and this may reduce the risk or extent of tearing.

Perineal tears occur more commonly with:

- ❑ Prolonged labour, especially the active second stage.
- ❑ Big babies.
- ❑ With instrumental delivery.

Classification of perineal tears

First degree	Injury to perineal skin only
Second degree	Injury to perineum involving muscles but not the anal sphincter
Third degre	Injury to perineum involving the anal sphincter complex
III a	Less than 50% of External anal sphincter (EAS) torn
III b	More than 50% of EAS torn
III c	Both EAS and Internal anal sphincter (IAS) torn
Fourth degree	Injury to the perineum involving the anal sphincter complex (EAS and IAS) and anal epithelium

What are Perineal Tears?

In general, external anal sphincter incompetence causes faecal urgency, whereas internal anal sphincter incompetence causes faecal incontinence.

Third-degree tears reported in approximately 3% of primigravida and 0.5% of multipara.

Surgical technique

First-degree tears: with minimal or no bleeding may not require surgical repair.

Second-degree perineal repair:

- Verbal consent.
- Adequate analgesia (epidural or by infiltration with local anaesthetic).
- Lithotomy position.
- It may be helpful to place a pad or tampon high in the vagina to prevent blood loss from the uterus obscuring the view.
- The vaginal mucosa is repaired first using rapidly absorbable suture material by continuous stitches.
- The muscle layer closed Interrupted sutures.
- Closure of the perineal skin follows with either interrupted sutures or a continuous subcuticular stitch.
- A rectal examination performed to confirm that the sphincter feels intact and to ensure that no sutures inadvertently placed through the rectal mucosa.

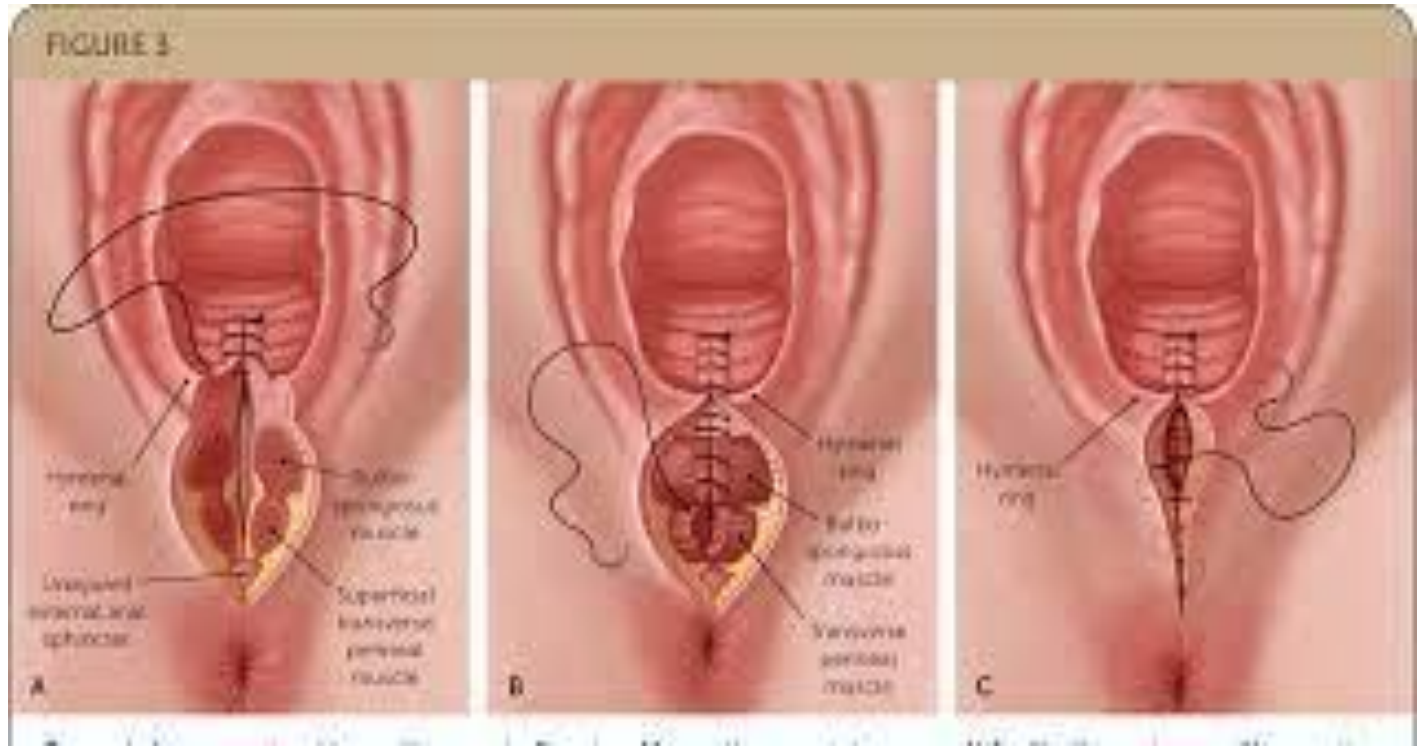


FIGURE 3
A
B
C

Repair of third- and fourth-degree tears (obstetric anal sphincter injuries):

- Should performed by trained practitioner.
- Adequate analgesia: (regional or general anaesthetic) as local infiltration does not allow relaxation of the sphincter enough to allow a satisfactory repair.
- The lighting must be adequate and an assistant needed.
- Repair of the rectal mucosa performed first.
- The torn external sphincter repaired. It is important to ensure that the muscle is correctly approximated with long-acting sutures so that the muscle is given adequate time to heal.
- The remainder of the perineal repair is as for second-degree trauma.

Aftercare obstetric anal sphincter injuries repair

- Lactulose (laxative) and a bulking agent recommended for 5–10 days.
- The woman should remain in hospital until she has had a first bowel motion.
- An oral broad-spectrum antibiotic prescribed for 5–7 days to reduce the risk of infection.
- Regular oral analgesia
- At 6–12 weeks, a full evaluation of the degree of symptoms should take place. This must include careful questioning with regard to faecal and urinary symptoms and

advice in relation to future pregnancy and delivery as follow:

- ❑ Asymptomatic women advised that the risk of recurrence in a future pregnancy is 6–8% and that vaginal delivery is safely achievable.
- ❑ Women with ongoing troublesome symptoms should offered an elective caesarean section.

Episiotomy

An episiotomy is a surgical incision of the perineum performed during the second stage of labour to enlarge the vulval outlet and assist vaginal birth.
In the UK, rates now approximate the World Health Organization (WHO) recommendation of 10% of spontaneous vaginal deliveries.

An episiotomy performed in the second stage, usually when the perineum stretched and it deemed necessary and when delivery needs to expedited for a fetal bradycardia.

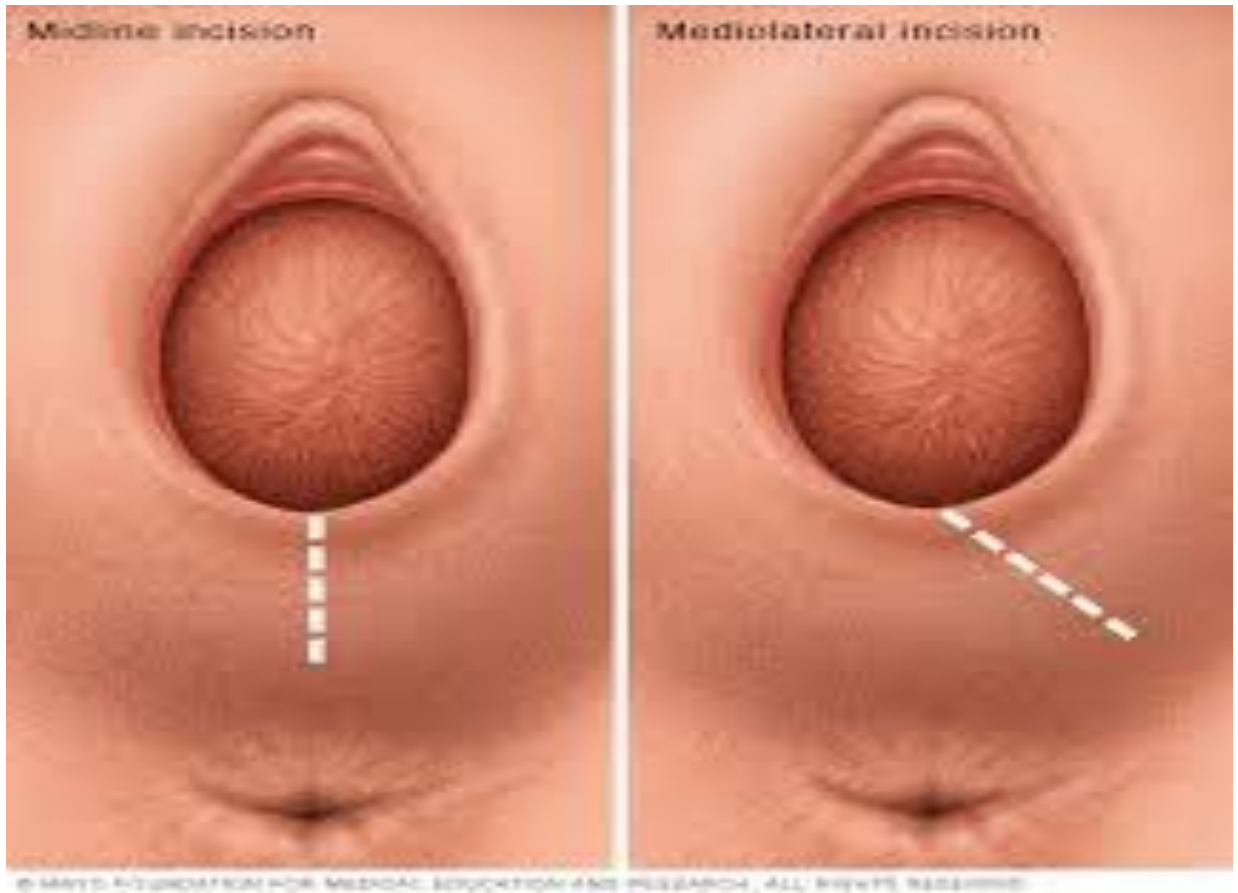
Analgesia

If there is not a good epidural, the perineum should infiltrated with local anaesthetic.
If an effective epidural anaesthetic is in place, and time allows, it should topped up for delivery with the patient upright to get best coverage of the perineal area.

Surgical technique:

A mediolateral episiotomy at a 60° angle to the midline is usually recommended; it should start at the posterior part of the fourchette, move backwards and then turn medially well before the border of the anal sphincter, so that any extension will avoid the sphincter.

A midline episiotomy is an incision in a comparatively avascular area and results in less bleeding, quicker healing and less pain; however, there is an increased risk of extension to involve the anal sphincter.


Midline incision
Mediolateral incision

The episiotomy should repaired in the same way as a second-degree tear unless there has been involvement of the anal sphincter complex requiring repair.

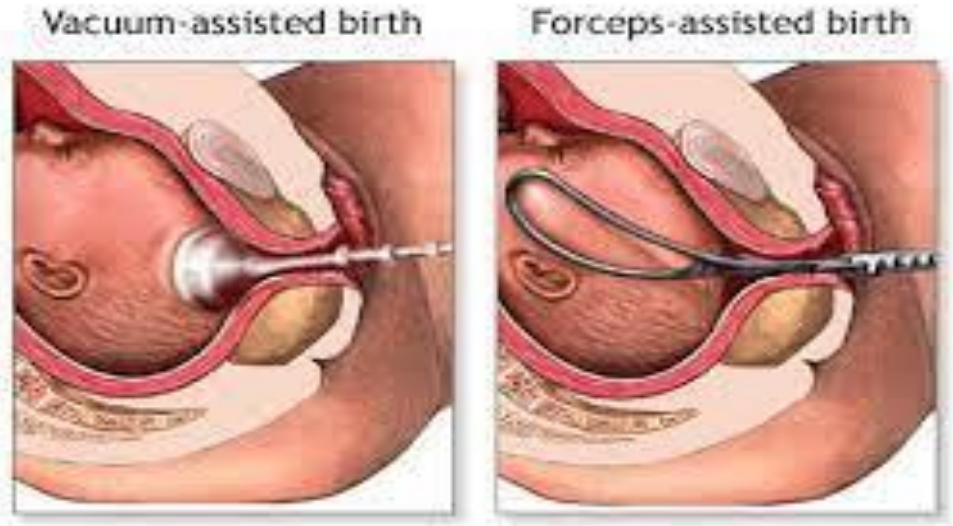
Complications

- ❑ Short-term complications of perineal trauma or episiotomy include pain, infection and haemorrhage.
- ❑ Long-term effects include dyspareunia, incontinence of urine and incontinence of flatus or faeces. The risks are highest with anal sphincter injury.

Operative vaginal delivery

Refers to a vaginal birth with the use of any type of forceps or vacuum extractor (ventouse).
The goal of OVD is to expedite delivery with a minimum of maternal or neonatal morbidity. In the UK, between 10% and 15% of deliveries assisted with forceps or ventouse. The rate in nulliparous women is as high as 30%.


Traction chain
Suction hose
A
Inverted edges
B
Silastic cups
C
Straight edge of cup
D


Vacuum-assisted birth
Forceps-assisted birth

Indication

Fetal

- ❑ Suspected fetal compromise (most common), usually based on a pathological cardiotocograph (CTG) or abnormal fetal blood sampling.
- ❑ Thick meconium.

Maternal

- ❑ The most common maternal indication is prolonged active second stage of labour.
- ❑ Maternal exhaustion.
- ❑ Medical indications to avoid prolonged pushing (e.g. cardiac disease, hypertensive crisis, cerebral vascular disease, myasthenia gravis, and spinal cord injury).

Prerequisite

- ❑ Clear explanation given and informed consent obtained.
- ❑ Appropriate anesthesia is in place.
- ❑ Experience operator.
- ❑ Engaged head.
- ❑ Fully dilated cervix.
- ❑ Membrane rupture.

Complication

- ❑ Failure to achieve a vaginal delivery: more with ventouse.
- ❑ Increase risk of shoulder dystocia and postpartum haemorrhage.
- ❑ Cephalohematomas (accumulation of blood beneath the periosteum), subgaleal hematomas (blood in the space above the periosteum) and retinal hemorrhages. More with ventouse.
- ❑ Significant maternal perineal and vaginal trauma: more with forceps.
- ❑ Severe perineal pain at 24 hours: more with forceps.
- ❑ Higher incidence of lacerations and facial palsy with forceps.

Contraindication

- ❑ The head is not engage (station above the ischial spine).
- ❑ Before fully dilated cervix.
- ❑ The operator is inexperienced in the use of the instrument.
- ❑ Sever caput and moulding.
- ❑ The position of fetal head is not determined.
- ❑ Gestation age less than 36 weeks because of risk of cephalhaematoma and intracranial haemorrhage (for ventouse only).
- ❑ Face or breech presentation (for ventouse only).
- ❑ Following fetal blood sampling (FBS) or application of a fetal scalp electrode because there is minimal risk of fetal haemorrhage (for ventouse only).

Analgesia

Analgesic requirements are greater for forceps than for ventouse delivery. Where rotational forceps or midpelvic traction forceps needed, regional analgesia is preferred.

For a rigid cup ventouse delivery, a pudendal block with perineal infiltration may be all that needed and if a soft cup is used, analgesic requirements may be limited to perineal infiltration with local anaesthetic.

Episiotomy with instrumental delivery

Most obstetricians cut an episiotomy routinely for forceps delivery, especially in nulliparous deliveries where anal sphincter damage is more likely. In parous women, particularly those requiring ventouse delivery, an episiotomy may not be necessary.

Instrument types

Ventouse/vacuum extractors

Consist of suction cup, of a silastic or rigid construction, is connected, via tubing, to a vacuum source

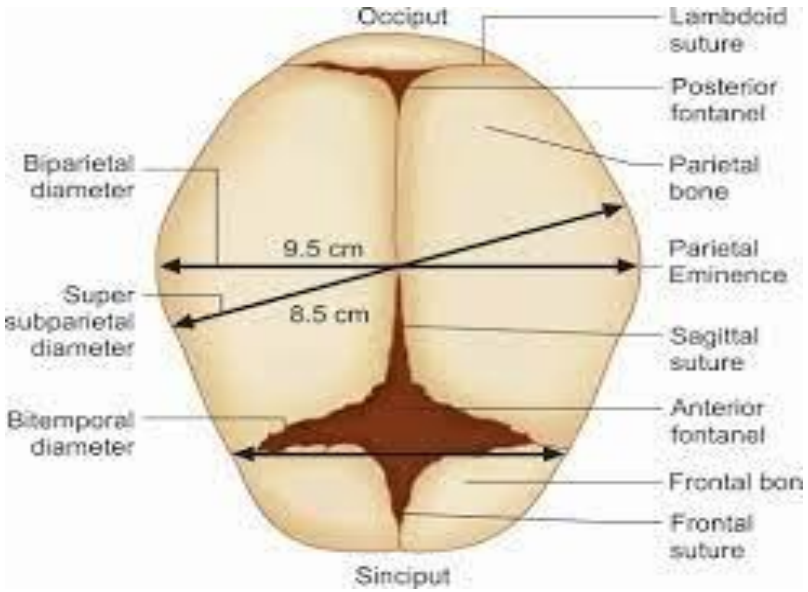
Technique

For successful use of the ventouse, determination of the flexion point is vital. This is located at the vertex, which, in an average term infant, is on the sagittal suture 3 cm anterior to the posterior fontanelle and thus 6 cm posterior to the anterior fontanelle.

Traction must occur in the plane of least resistance along the axis of the pelvis.

Safe and gentle traction is then applied coordinated with uterine contractions and voluntary maternal expulsive efforts.

The operator should allow no more than two episodes of breaking the suction ‘pop-offs’ in a vacuum delivery, and the maximum time from application to delivery should ideally be less than 15 minutes.


Occiput
Lambdoid suture
Posterior fontanel
Parietal bone
Biparietal diameter
9.5 cm
Parietal Eminence
Super subparietal diameter
8.5 cm
Sagittal suture
Anterior fontanel
Bitemporal diameter
Frontal bon
Frontal suture
Sinciput

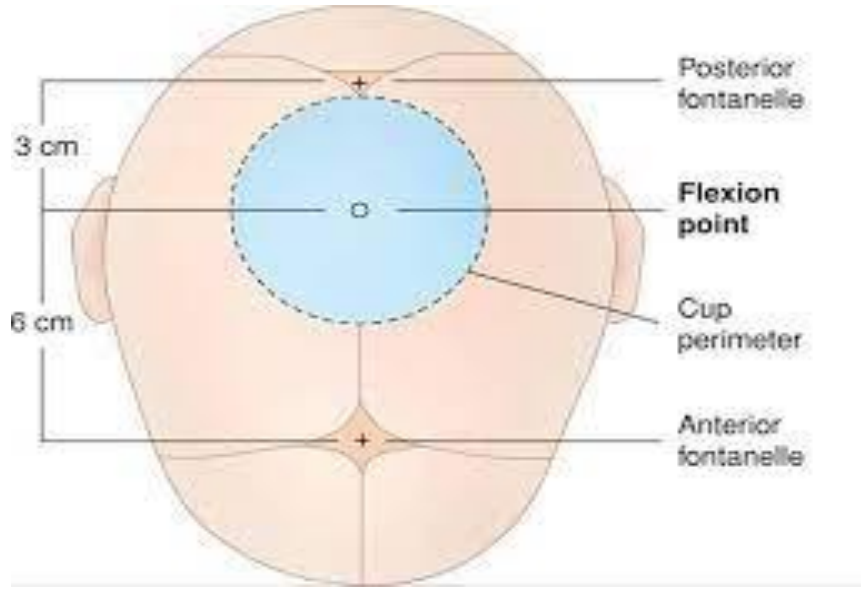

Posterior fontanelle
3 cm
Flexion point
Cup perimeter
6 cm
Anterior fontanelle

Table 66.1 Classification of forceps deliveries

Type of procedure	Criteria
Outlet forceps	Fetal head is at or on the perineum, scalp is visible at the introitus without separating the labia, sagittal suture is in the anteroposterior diameter or right or left occiput anterior or posterior position, rotation is ≤45°
Low forceps	Leading point of the fetal skull is at ≥+2 cm but not on the pelvic floor, rotation may be: (a) ≤45° *or* (b) >45°
Mid-forceps	Station <+2 cm but head engaged
High forceps	(Not included in classification)

Types of forceps

All types in use today consist of two blades with shanks, joined together at a lock, with handles to provide a point for traction

- Non-rotational forceps used when the head is OA with no more than 45º deviation to the left or right (LOA, ROA). Examples such as Neville Barnes or Simpson forceps.
- Rotational forceps used if the head is positioned more than 45º from the vertical, such as Kielland forceps.

- Simpson forceps.

- Kielland forceps.

Neville forceps

Technique

- ❑ The operator checks the pair of forceps to ensure that a matching pair.
- ❑ The left blade inserted before the right with the operator’s hand protecting the vaginal wall from the blades.
- ❑ Traction should be applied intermittently coordinated with uterine contractions and maternal expulsive efforts.


Thank you!