VAGINAL DELIVERY

More than 85% → tear
About 70 -80% require suturing
Spontaneously or intentionally by surgical incision/episiotomy
Comparison of the introital - perineal region of a nulliparous woman (a) and a woman after vaginal delivery (b). And perineal third- fourth tear (c). The pelvic floor during late second-stage labour in vaginal delivery. Note the overdistension and enlargement of puborectalis muscle fibres.
CLASSIFICATION OF PERINEAL INJURY (SULTAN 1999-RCOG-WHO)

First degree: Tear involving the vaginal epithelium and skin only

Second degree: Tear of the perineal muscles but not the anal sphincter

Third degree: Any involvement of the anal sphincter
   - 3a = less than 50% of external sphincter thickness torn
   - 3b = more than 50% of external sphincter thickness torn
   - 3c = internal sphincter also torn

Fourth degree: injury to perineum involving the anal sphincter complex and rectal mucosa
COMPLICATIONS

Third / fourth tear degree:

Incontinence fecal

Occult damage anal sphincter
Obstetric external sphincter tear between 1 and 2 o'clock. The internal sphincter is thinned anteriorly with a small defect at 12 o'clock.

Partial rupture of the sphincter with well-defined segmental scarring and acoustic shadowing (arrows) from this in a young boy who fell on a wooden stake.

Large obstetric tear between 10 and 2 o'clock (arrows) involving both the internal and external anal sphincters.

Obstetric external sphincter tear between 1 and 2 o'clock. The internal sphincter is thinned anteriorly with a small defect at 12 o'clock.

Ultrasonography anorectal
Fecal incontinence is the inability to control the passage of gas, liquid or solid through the anus.
PREVALENCE

Third/ Fourth perineal tear vaginal delivery where mediolateral episiotomy is performed. 0.6-9%

Occult damage or defect sphincter (endoanal ultrasound evaluation). 36%
RISK FACTOR THIRD/FOURTH DEGREE TEAR

- Forceps-assisted delivery > 7%
- Prolonged second stage > 4%
- Large birth weight > 2%
- Occipito posterior position > 3%
- Episiotomy > 3%
PREVALENCE SYMPTOM INCONTINENCE AFTER REPAIR

Incontinence symptom 25 - 75%
- Flatus 30%
- Liquid stool 8%
- Solid stool 4%
- Fecal urgency 26%
Etiology Occult damage or defect anal sphincter

- Very few understood anatomy of perineum and anal sphincter
- Inadequate training to repair anal sphincter tear (skill)
- Standard classification is different than RCOG-WHO classification.
- Method repair (end to end or overlap)
- Suture material: cat gut or poliglactin (vicryl) or monofilaments (Polydioxanone)
- Postoperative care: in adequate
ANATOMY ANORECTAL

ANATOMIC:
- Anal Sphincter:
  - internal sphincter
  - external sphincter
- Puborectalis muscle
Anatomy of the anal sphincter

- **Longitudinal smooth muscle**
- **Rectum**
- **circular smooth muscle**
- **Levator ani**
  - Iliococcygeus
  - Puborectalis
  - Deep
  - Superficial
  - Subcutaneous
- **External anal sphincter**
- **Internal anal sphincter**
- **Anus**
- **Fat**
FUNCTION OF ANAL SPHINCTER AND PUBORECTALIS

Puborectalis: control continence over solid stool
Internal sphincter: control of liquid faeces
External sphincter provide internal sphincter in times of sudden need, such as raised intra abdominal pressures
Anal cushion $\rightarrow$ the amount of blood flowing through its arteriovenous channels provide control over flatus
REPAIR TYPE

- END TO END (OBSTETRIC)
- OVERLAP (COLORECTAL SURGEON)
Method repair

1. Overlap – end to end technique
2. Suture material monofilament
3. Separate repair internal sphincter from anal external sphincter
4. Anal incontinence reduced 41% to 8% and, Persistent external sphincter reduced from 85% to 15%
5. Overlap technique repair is good than End to End technique
INVESTIGATION

- Anal manometry
- EMG
- Anal Endo sonography
- MRI
Perineal tear degree III  Perineal tear degree III & IV  Recto vaginal fistulae
CONCLUSIONS

Vaginal delivery can cause perineal injury, from first degree until fourth degree.

Risk factor perineal tear: forceps-assisted delivery, prolonged second stage, large birth weight, occipito posterior position, episiotomy.

Anal sphincter tear can cause incontinence fecal.

Defect anal sphincter or occult damage is high prevalence after conventional primary sphincter repair of obstetrics injury with endoanal evaluation, which cause fecal incontinence after primary repair.
CONCLUSIONS

To reduce the defect anal sphincter and fecal incontinence, operator understood anatomical perineum and anorectal, adequate experienced or trained to repair anal sphincter.

Overlap technique is superior than End to End technique; suture material monofilament (Polydioxanone), good than poliglactin (vicryl) or cat gut.
TECHNIQUE REPAIR OF ACUT THIRD/DEGREE PERINEAL TEAR
TECHNIQUE REPAIR OF OLD THIRD/FOURTH DEGREE PERINEAL TEAR

Original condition

Initial incision

Excising the scar

Suturing the rectal wound
Performing sphincter

Apposing the levator borders

Suture the external anal sphincter

Final view
REPAIR RECTO VAGINAL FISTULAE