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Perineal Laceration Repair

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Objectives

1. Classify perineal lacerations as first, second, third or fourth degree tears.
2. Demonstrate proficiency in suturing tears to the perineal skin, muscles and vaginal tissues.

Citation

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History

- Reference to laceration repair dates back to Hippocrates
- Incidence of lacerations was increasing but has stabilized
  - Parallels the use of episiotomy
- Repair technique has been fine tuned using an evidence based approach

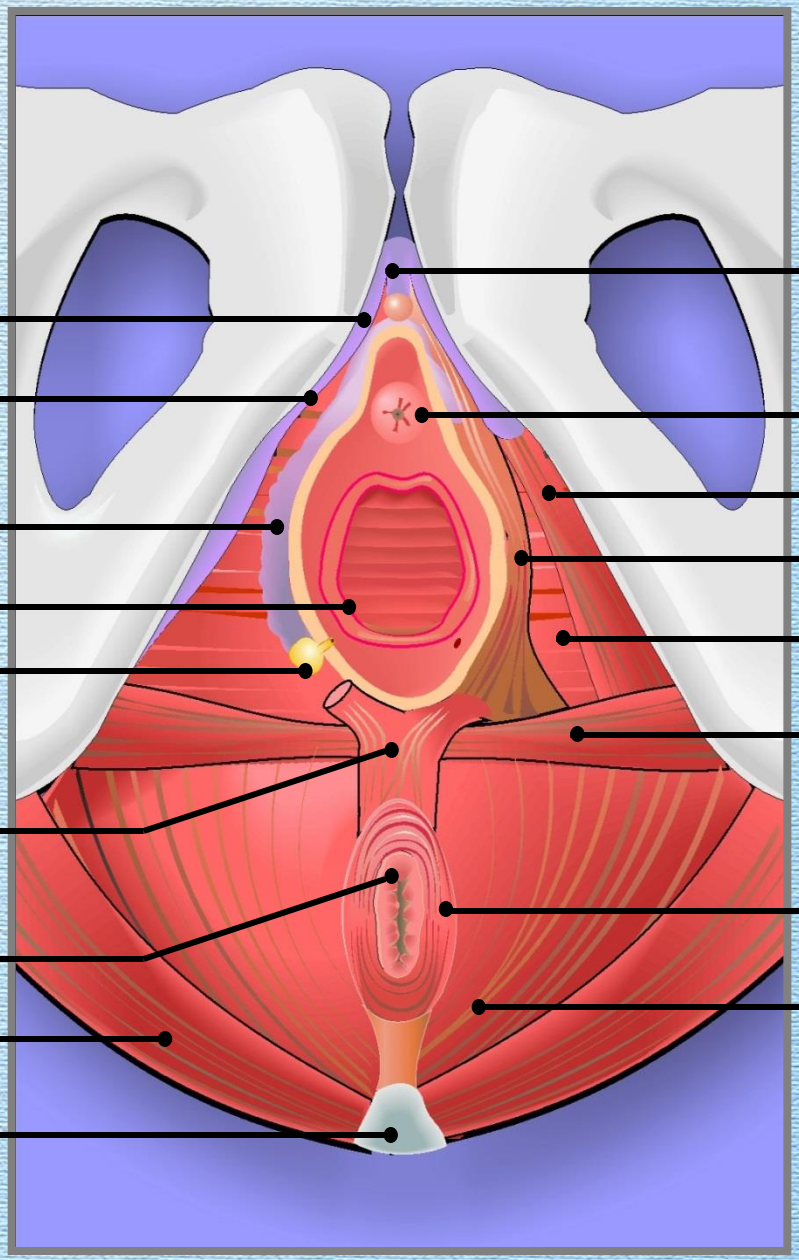
Associated Factors I

- Episiotomy
  - midline > mediolateral
- Delivery with stirrups
  - delivery table, lithotomy position
- Operative delivery
  - forceps > vacuum
- Increasing birth weight

Associated Factors II

- Prolonged 2nd stage of labor
- Nulliparity
- OT or OP positions
- Anesthesia - local and epidural
- Younger age
- Use of oxytocin

Anatomy of Perineum



Classification of Lacerations

Degree of laceration		Description
First degree		Superficial laceration of the vaginal mucosa or perineal body
Second degree		Laceration of the vaginal mucosa and/or perineal skin and deeper subcutaneous tissues
Third degree	Incomplete	Second degree laceration with laceration of the capsule and part (but not all) of the external anal sphincter muscle
	complete	As above with complete laceration of the external anal sphincter muscle
Fourth degree		Laceration of the rectal mucosa

Prevention

- Avoid operative delivery
  - Vacuum if needed
- Avoid episiotomy
- Antenatal perineal massage
- Lateral birth position
- Perineal warm packs during 2nd stage

Prior to Repair

- Evaluate laceration
- Prepare equipment
  - Instruments
  - Sutures
- Call for assistance
- Provide
  - Analgesia
  - Lighting
  - Visualization

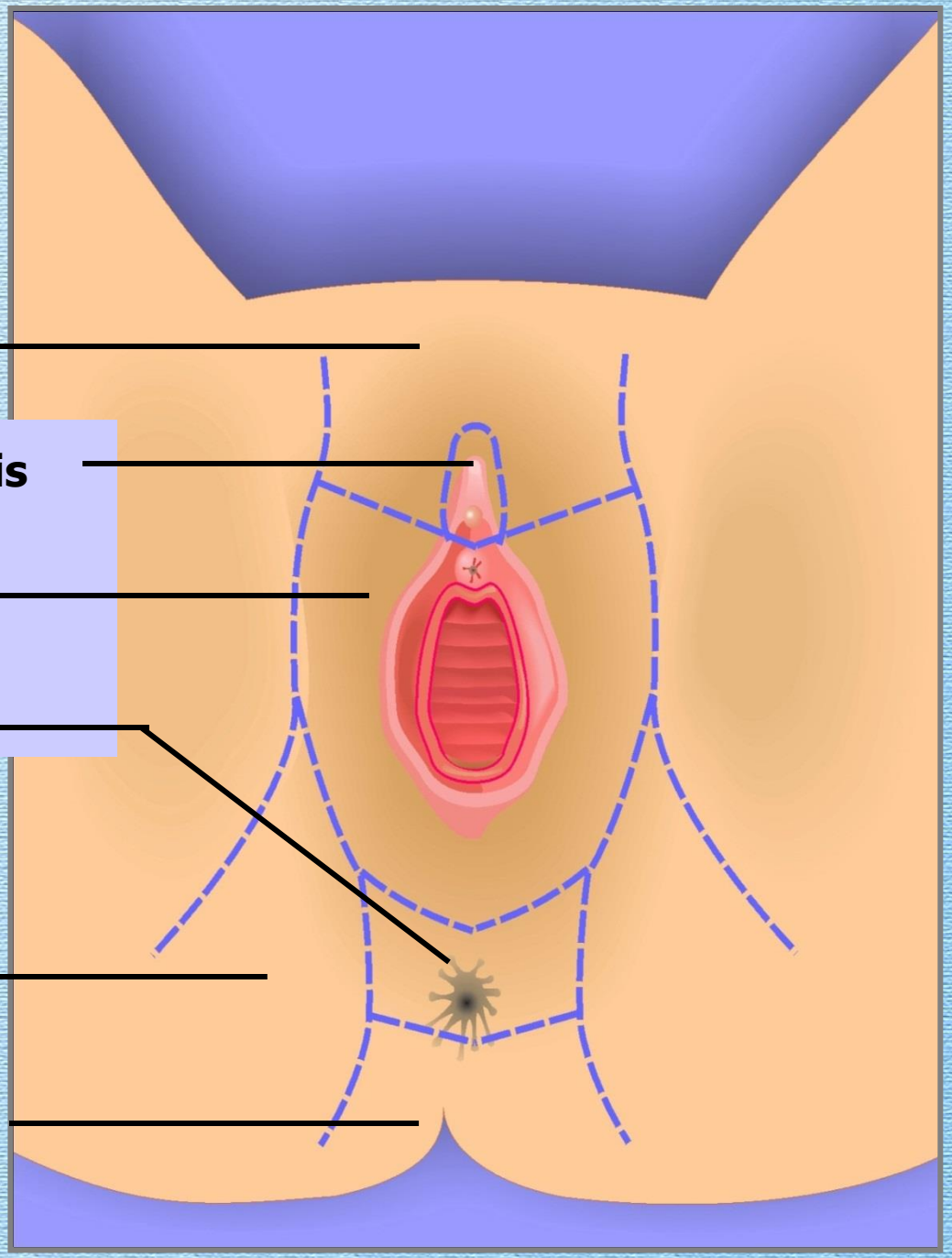
Equipment

- Sponges
- Vaginal pack
- Irrigation
- 2 Allis clamps
- Needle holder
- Sharp tooth tissue forceps
- Sutures
  - Polyglycolic acid derivative
  - 2-0 & 3-0
- Local anesthesia

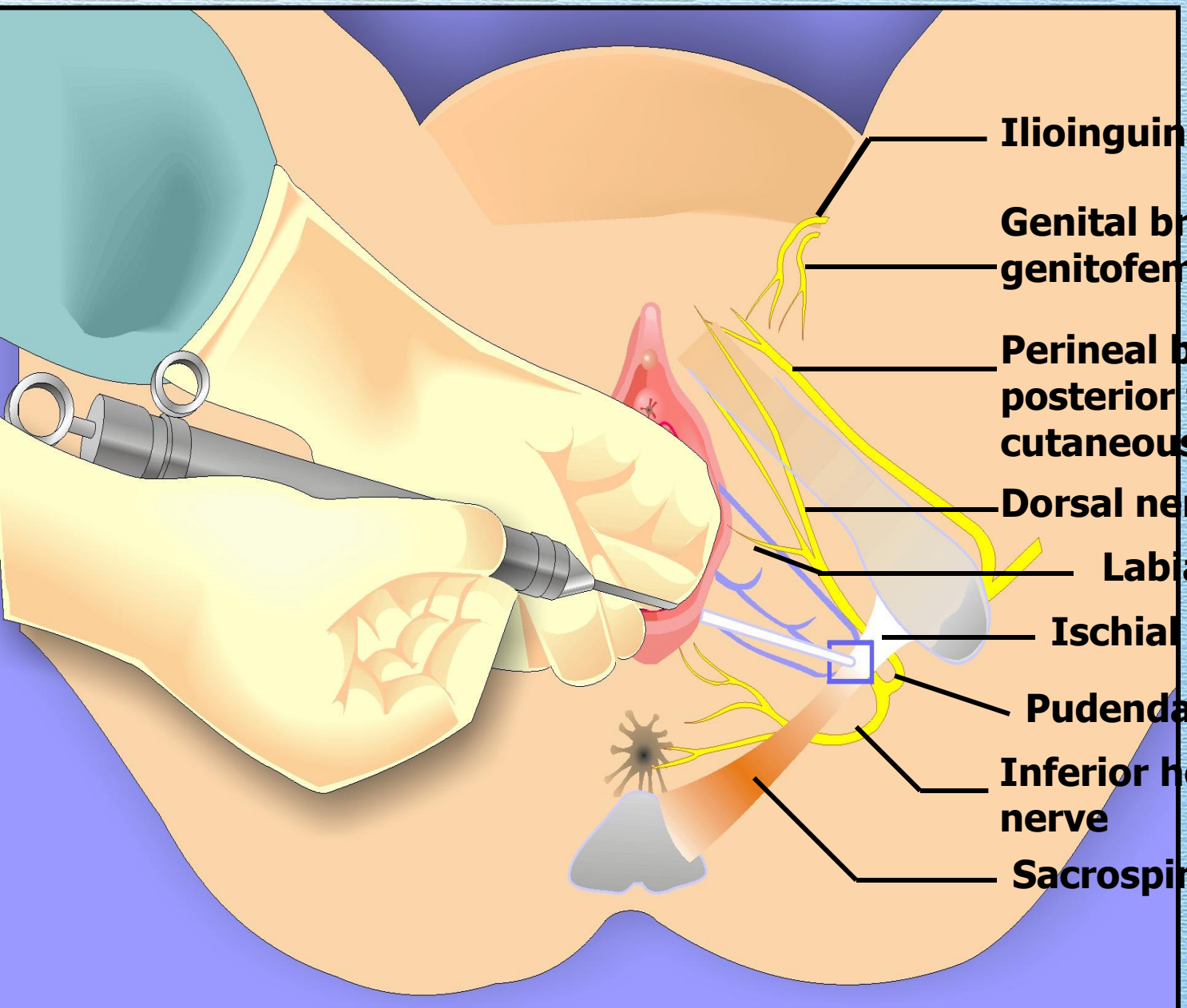
Anesthesia

- Provide perineal analgesia
- Local vs. pudendal vs. regional vs. inhalation
- Anesthetics:
  - Lidocaine
  - Bupivacaine
  - Chloroprocaine

Innervation of Perineum

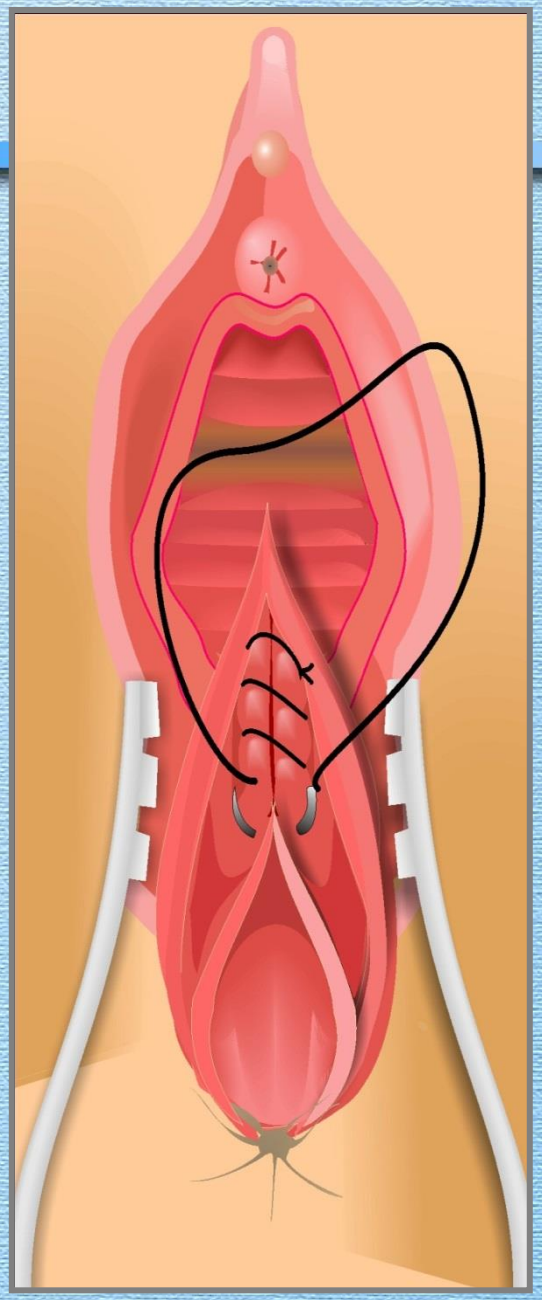


Pudendal Block



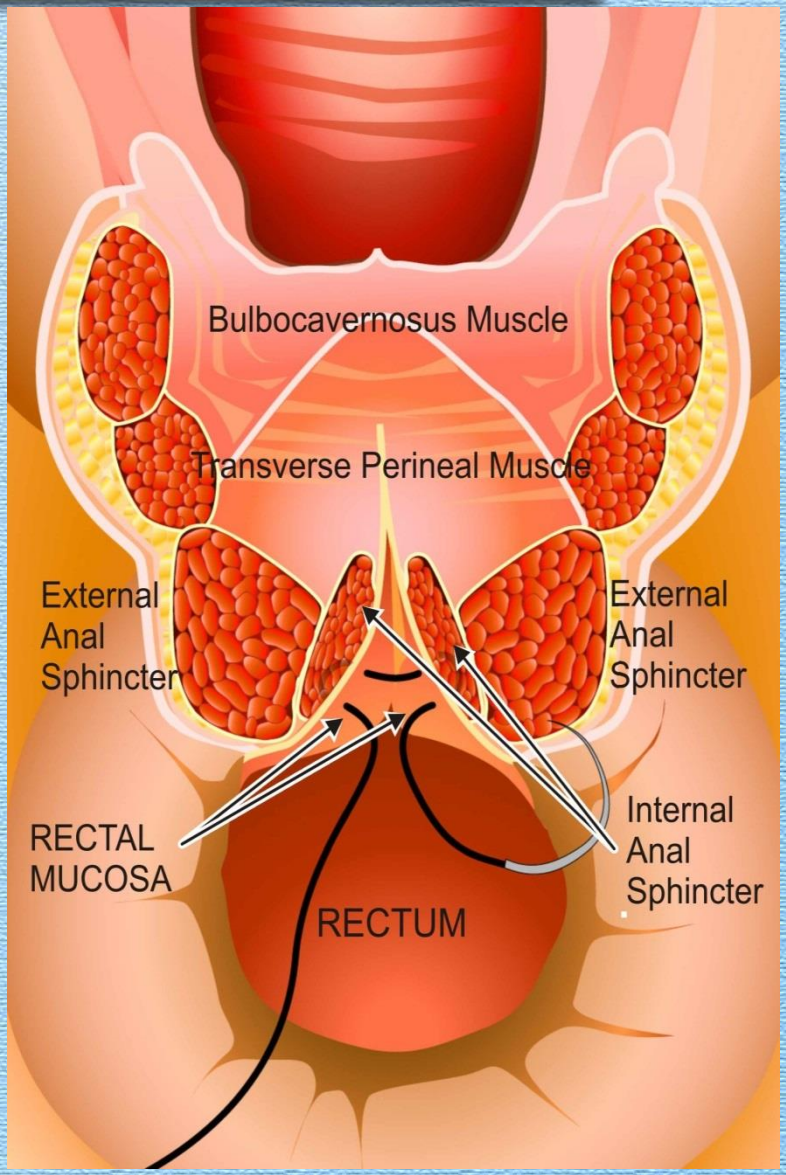
Rectal Mucosa

- Identify apex
- Begin closure above apex
- Close with running or interrupted 3-0 polyglycolic suture
- Transmucosal sutures not recommended



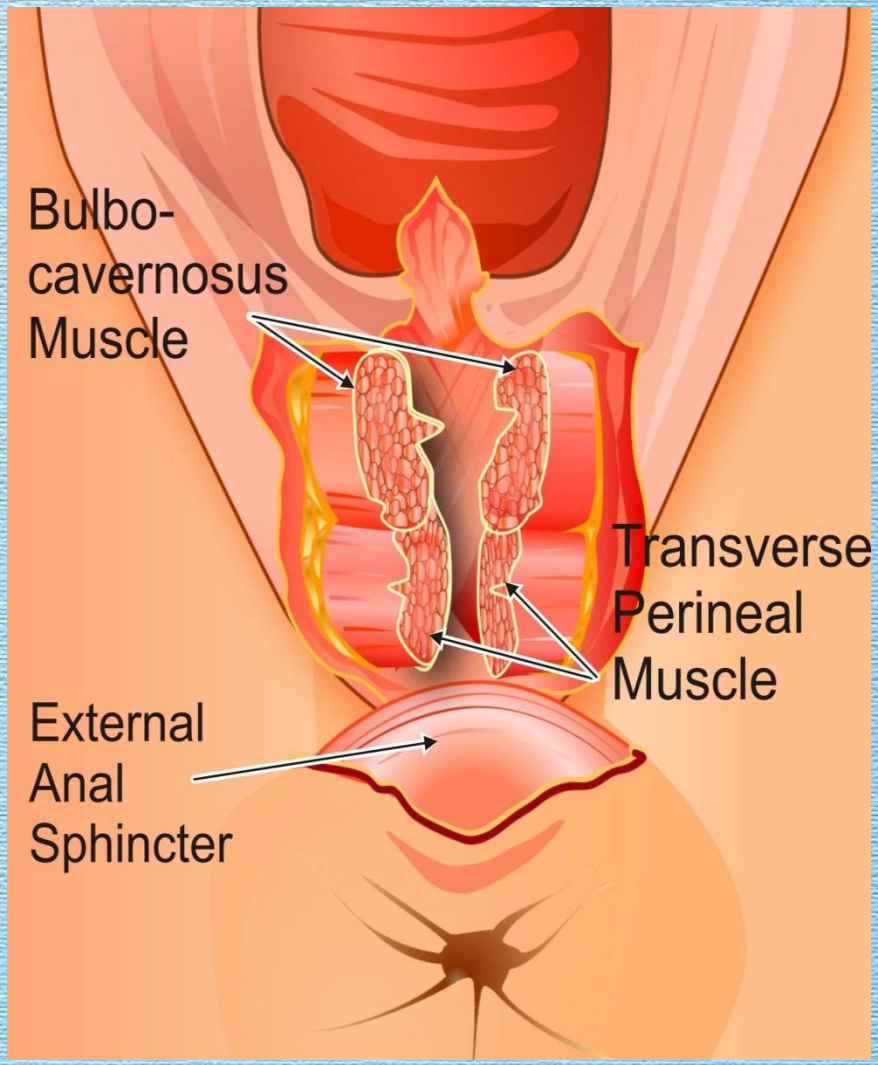
Internal Anal Sphincter Closure

- Identify the internal anal sphincter
  - Longitudinal fibromuscular layer
  - Between the rectal mucosa and the external anal sphincter
- Close with running locked 3-0 polyglycolic suture



Rectovaginal Septum

- Goal:
  - Decreased dead space
  - strengthened septum
- Reapproximate rectovaginal fascia
- Run 2-0 polyglycolic suture
- Repair may occur before or after external anal sphincter
- Avoid entry into rectal lumen



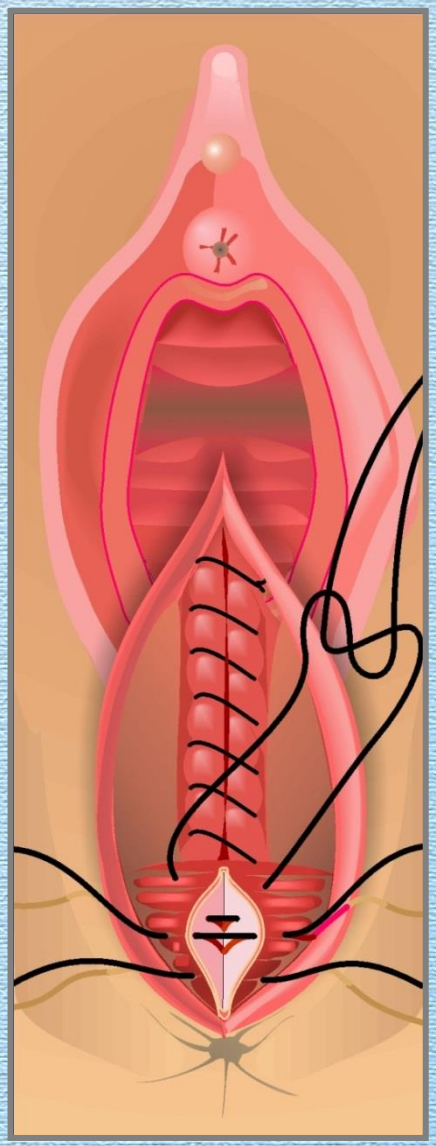
External Anal Sphincter

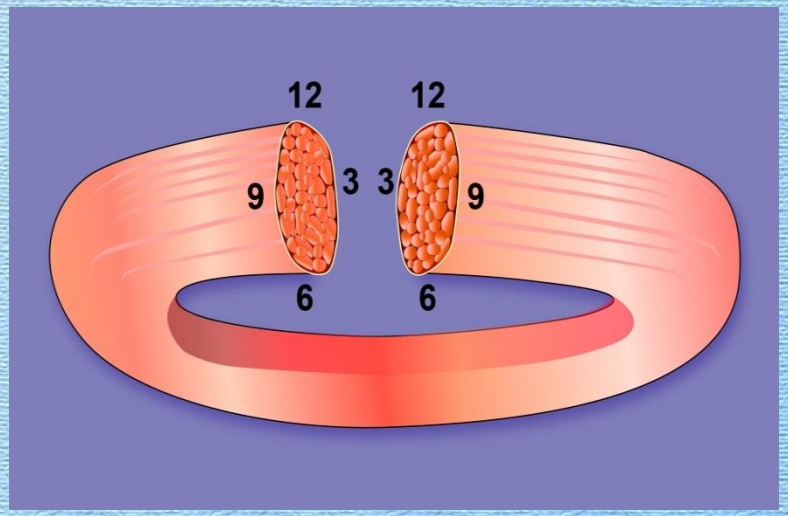
- End-to-end traditional
  - ☞ Taught as primary method in ALSO
- Overlap a newer technique
- Some heterogeneity in the evidence but the end-to-end technique seems to have better continence outcomes

External Anal Sphincter: end-to-end

ALSO

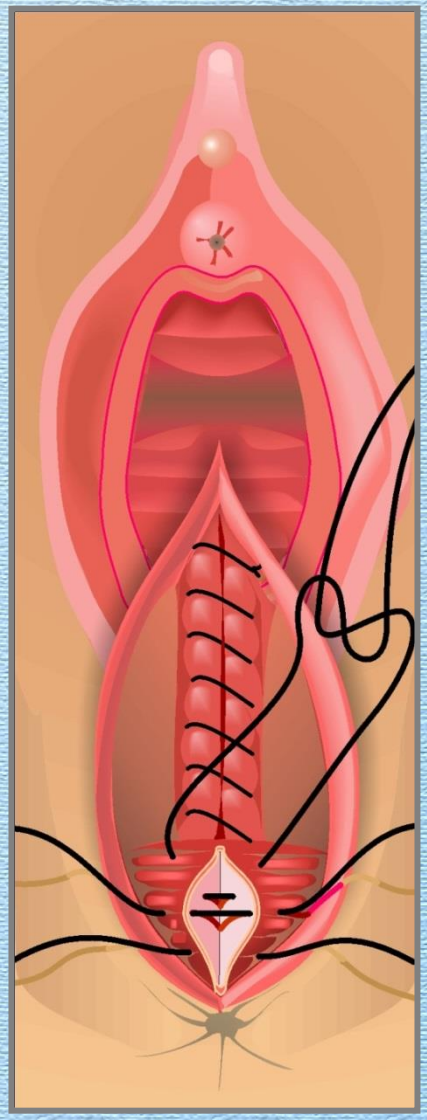
- Identify ends of sphincter
- Grasp with Allis clamps
- Reapproximate with at least four 2-0 polyglycolic sutures
- Don't strangulate

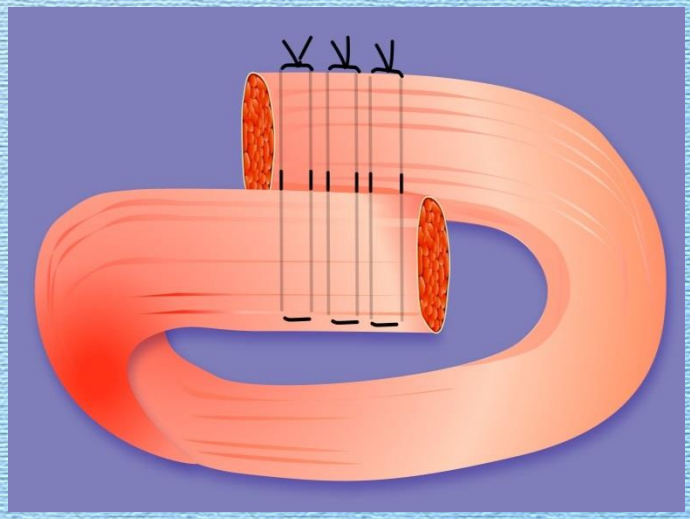




External Anal Sphincter: overlap

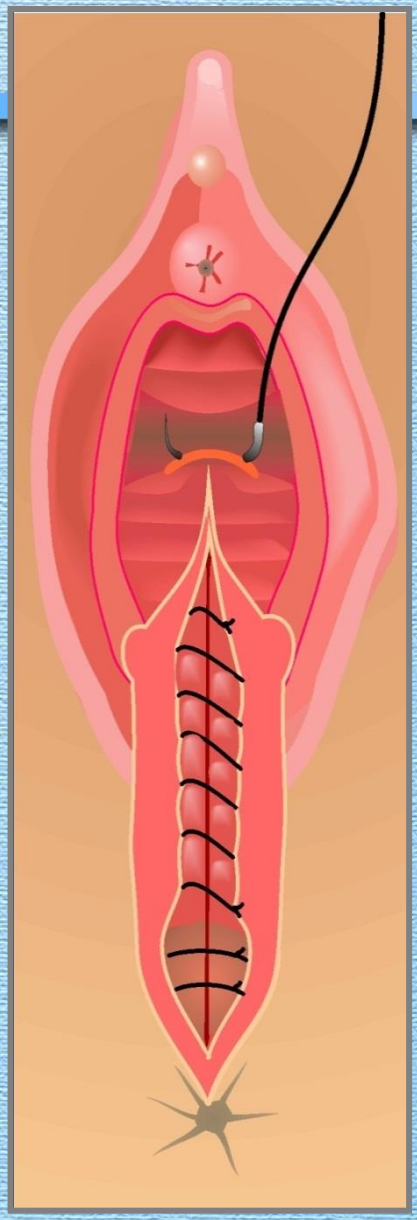
- Similar to end-to-end
- Grasp with Allis clamps
- Reapproximate with at least four 2-0 polyglycolic sutures
- Overlap muscle as shown



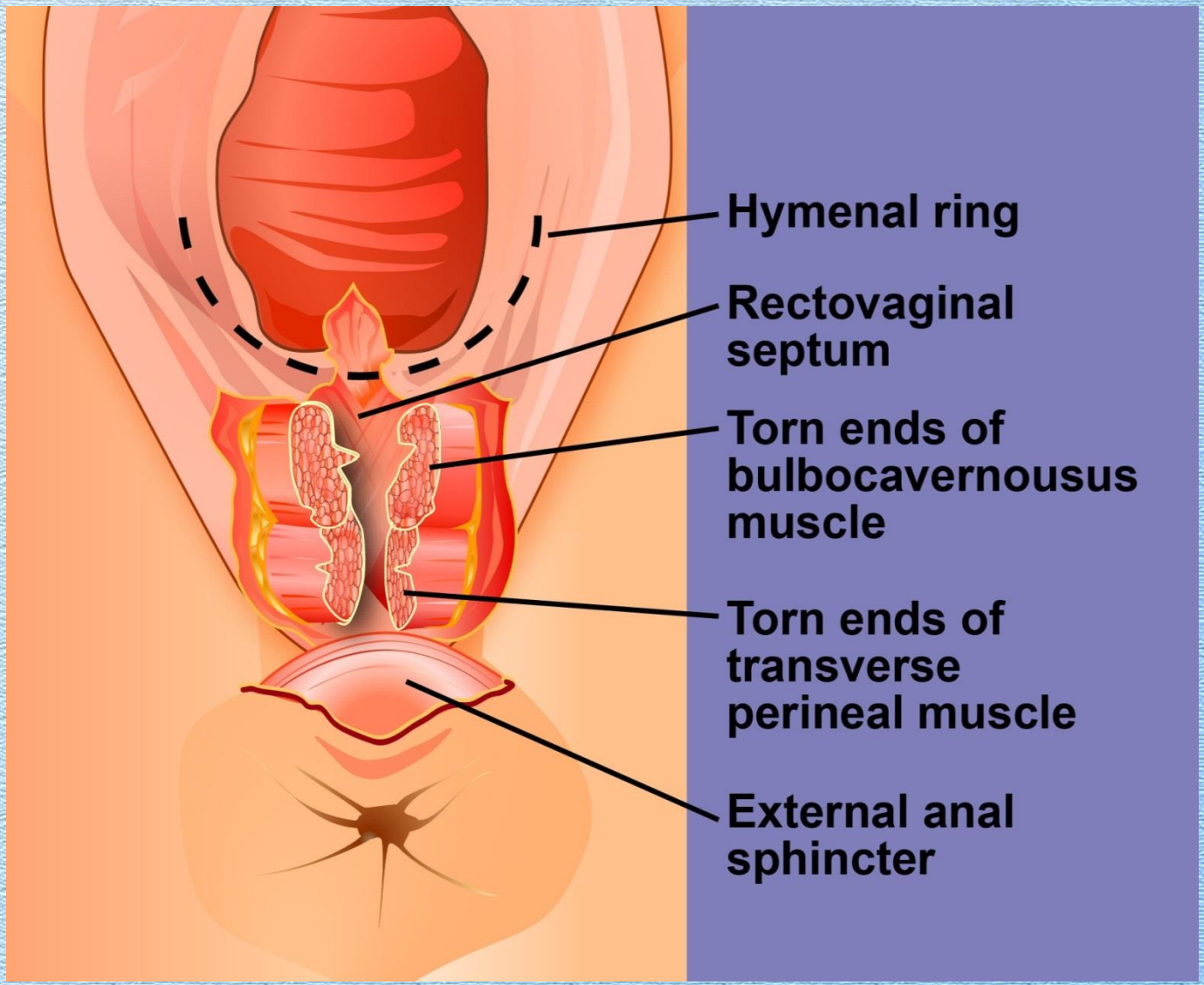


Vagina

- Begin above apex
- Use polyglycolic suture
- Close to hymeneal ring
- Suture placed deep enough to repair rectovaginal septum but not into rectal lumen

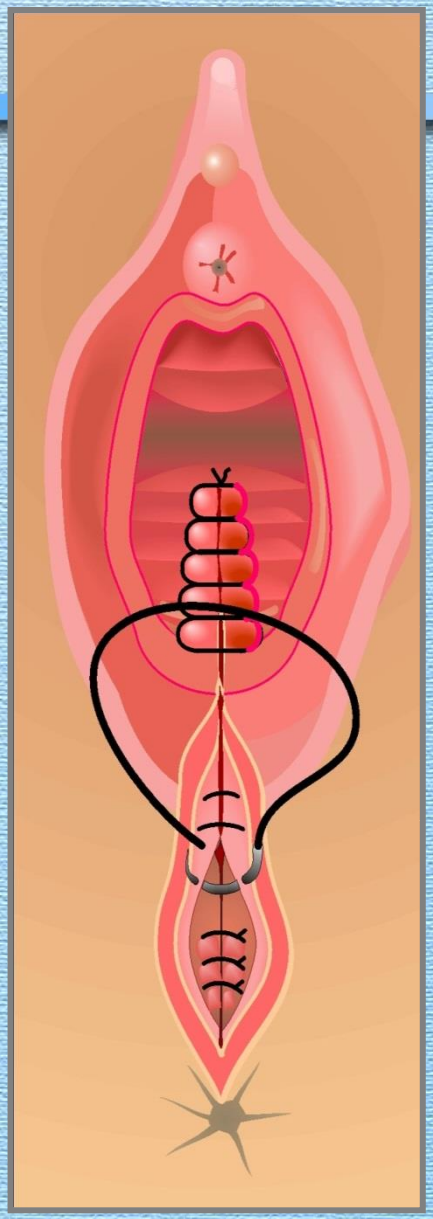


Perineal muscles

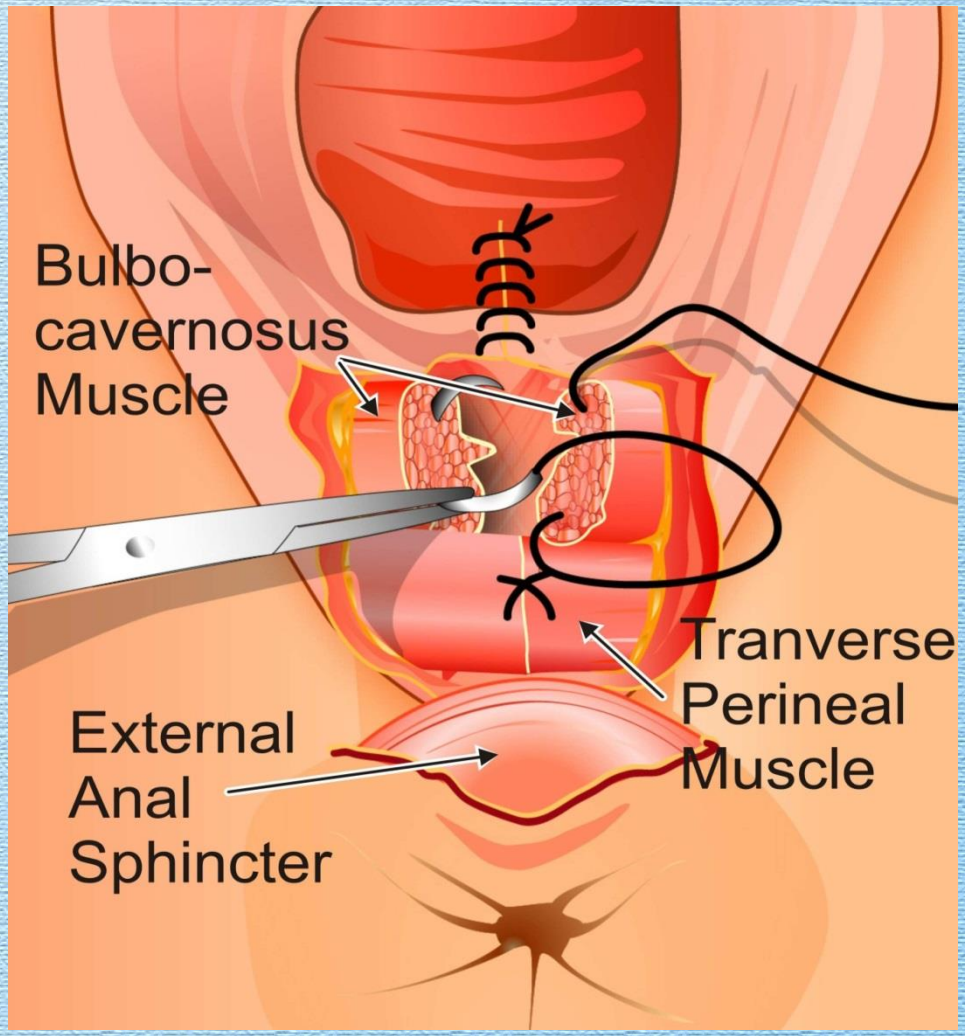


Perineal Body

- New suture, or continue with vaginal suture
- Assess defect
- Close in 1 or 2 layers
- Place “crown stitch” and complete closure

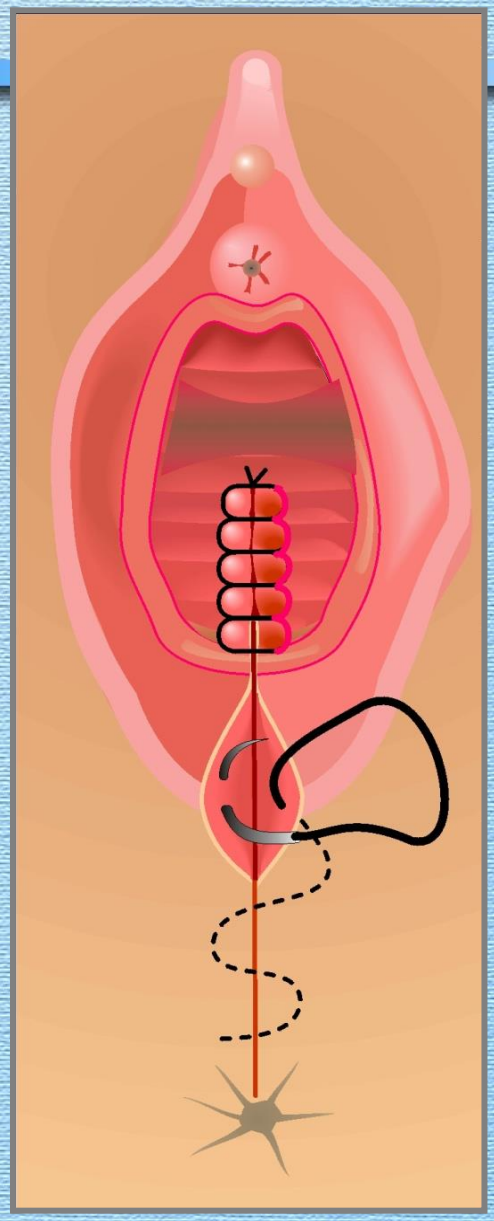


Repair of perineal body muscles: Bulbocavernosis (bulbospongiosis)



Perineum Skin

- Continue stitch as a subcuticular closure
- Transepithelial stitches not recommended due to increased pain
- Leaving skin unsutured is an option if minimal gap after muscles repaired
- Complete closure by bringing suture into vagina for tying

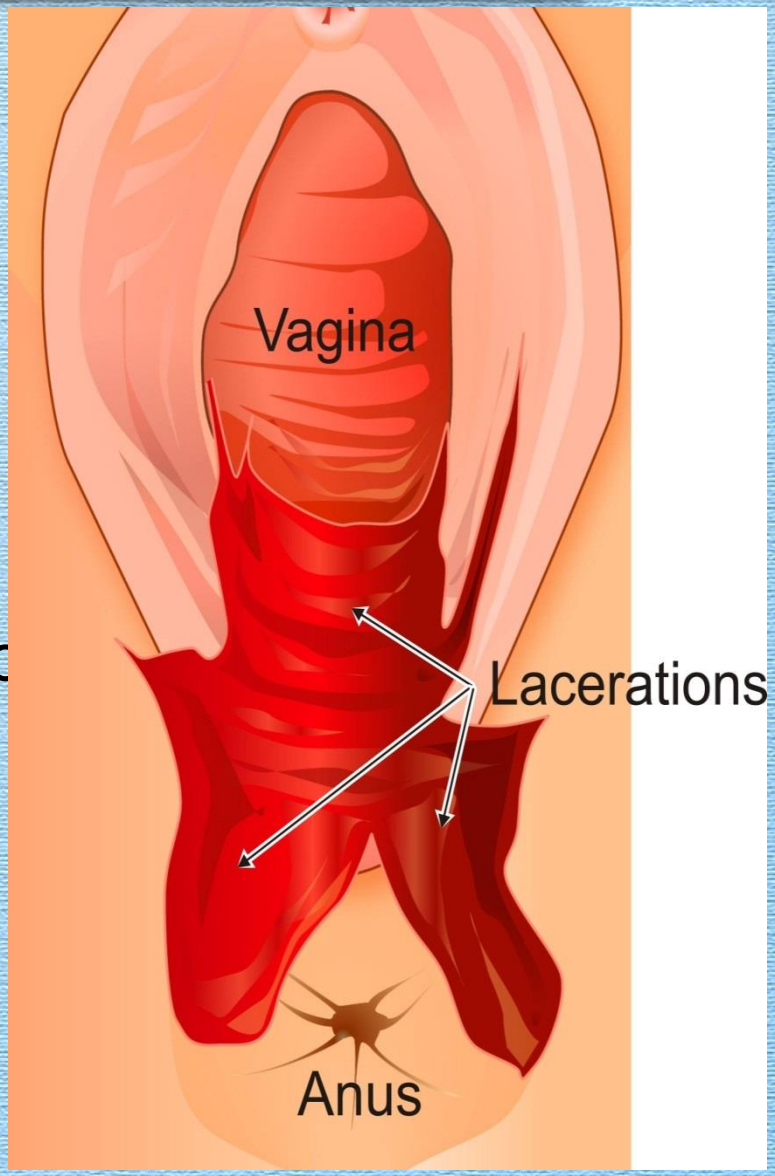


Evaluation of Surgical Repair

- Assure correct sponge, instrument count
- Vaginal exam to assess repair, look for other lacerations
- Rectal exam for:
  - Palpable defects
  - Intact rectal sphincter
    - "Squeeze my finger"
- Consider need to revise repair if problems noted, but may not be beneficial in case of suture in rectal lumen
- Prepare operative note

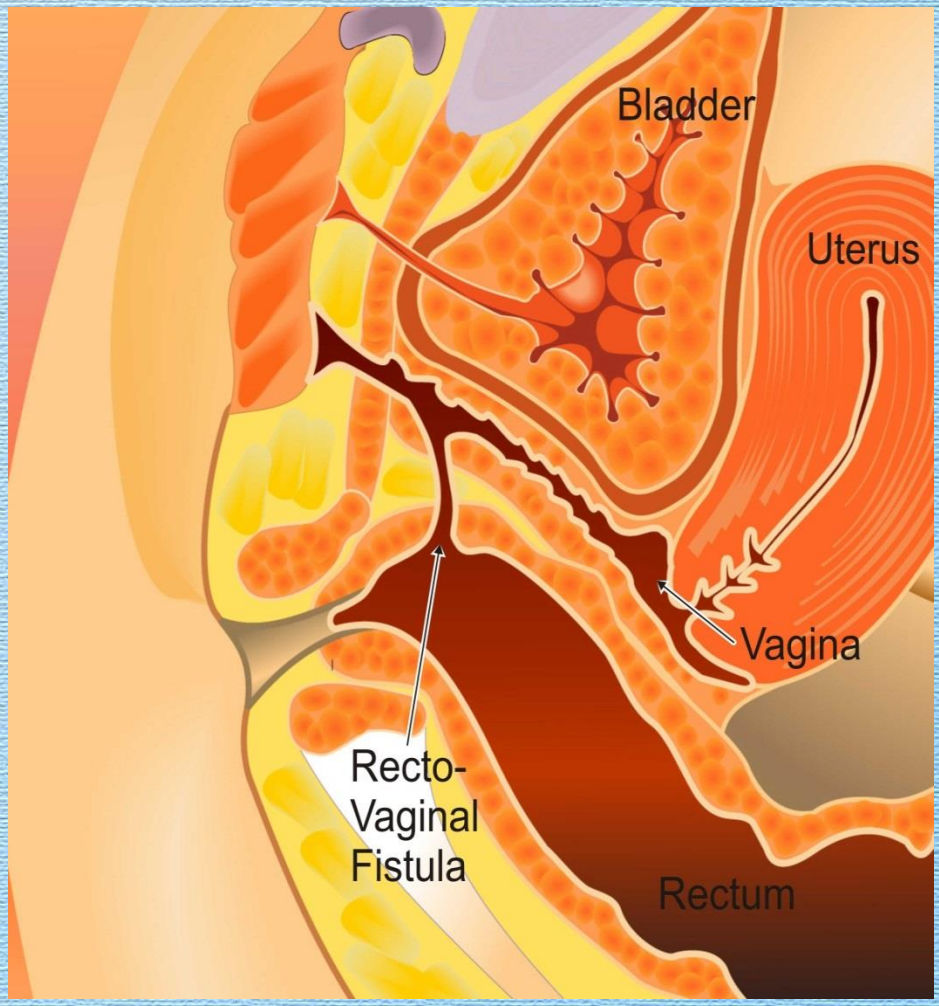
The Complicated Repair

- Lateral and multidirectional extensions
- Hemorrhage
- Pain
- Consider:
  - Additional anesthesia or regic anesthesia
  - Additional assistance
  - Consultation



Complications

- Infection
- Dehiscence
- Hematoma
- Rectovaginal fistula
- Rectocutaneous fistula
- Perineal abscess
- Anal incontinence
- Dyspareunia



Etiology of Complications I

- Infection
- Hematoma
- Poor tissue approximation
- Obesity
- Poor perineal hygiene
- Malnutrition
- Anemia
- Constipation
- Blunt or penetrating trauma

Etiology of Complications II

- Forceful coitus
- Cigarette smoking
- Inflammatory bowel disease
- Connective tissue disease
- Prior pelvic radiation
- Hematologic disease
- Endometriosis

Summary

- Avoid episiotomy and operative vaginal delivery
- Identification of depth of laceration and anatomy is essential
- Ensure adequate lighting
- Provide hemostasis and good approximation of tissue planes
- Examine repair and rectum
- Stay vigilant for post-op infection and treat judiciously

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