# RAMA UNIVERSITY

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FACULTY OF NURSING

# FISTULA IN ANO

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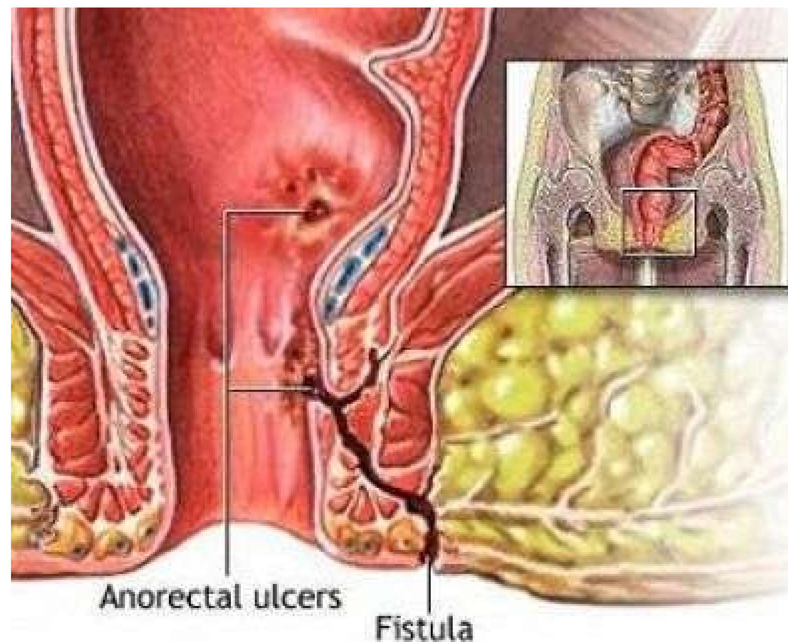
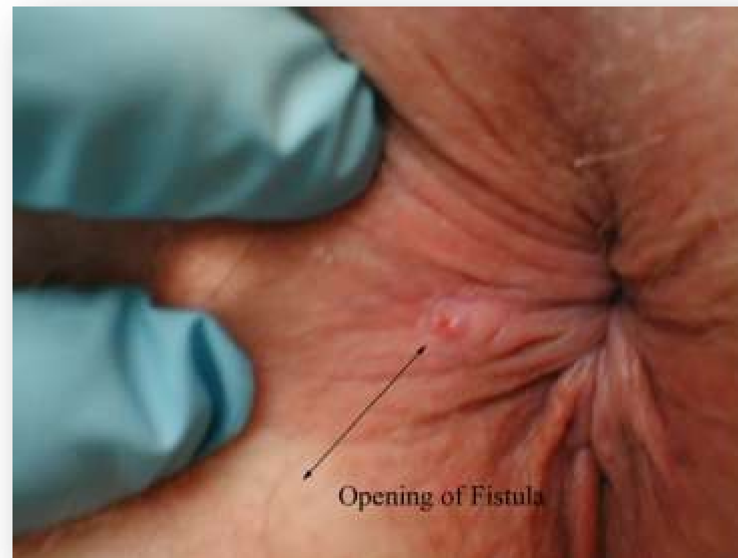
# INTRODUCTION

- A fistula-in-ano, or anal fistula, is a chronic abnormal communication, usually lined to some degree by granulation tissue, which runs outwards from the anorectal lumen (the internal opening) to an external opening on the skin of the perineum or buttock.



A doctor and a patient with *fistula in ano*. Sketch from a 15th-century Flemish copy of Jan Yperman's *Cyrurgie*.



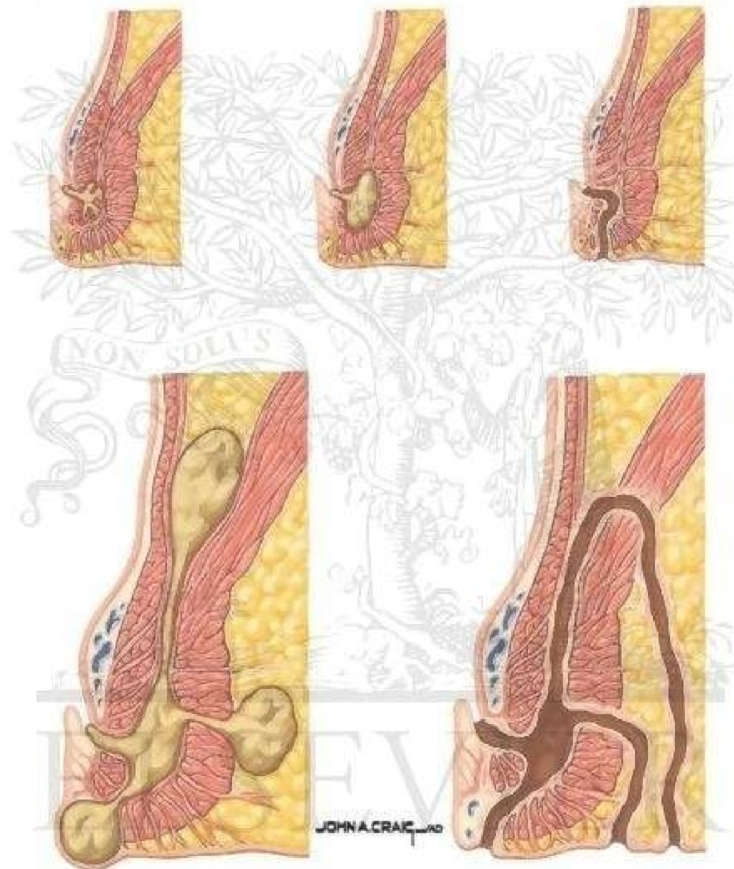

External opening of a fistula-in-ano

# RISK FACTORS

- Nearly always caused by previous perianal abscess formation
- Crohn's disease
- Diabetes Mellitus
- Tuberculosis
- Lymphogranuloma venerum
- Actinomycosis
- Rectal duplication
- Trauma
- Radiotherapy
- patients who are immunocompromised for any reason (HIV infection, malignancy)

# DEVELOPMENT OF FISTULA

A fistula-in-ano complicates 30-50% of perianal abscesses.

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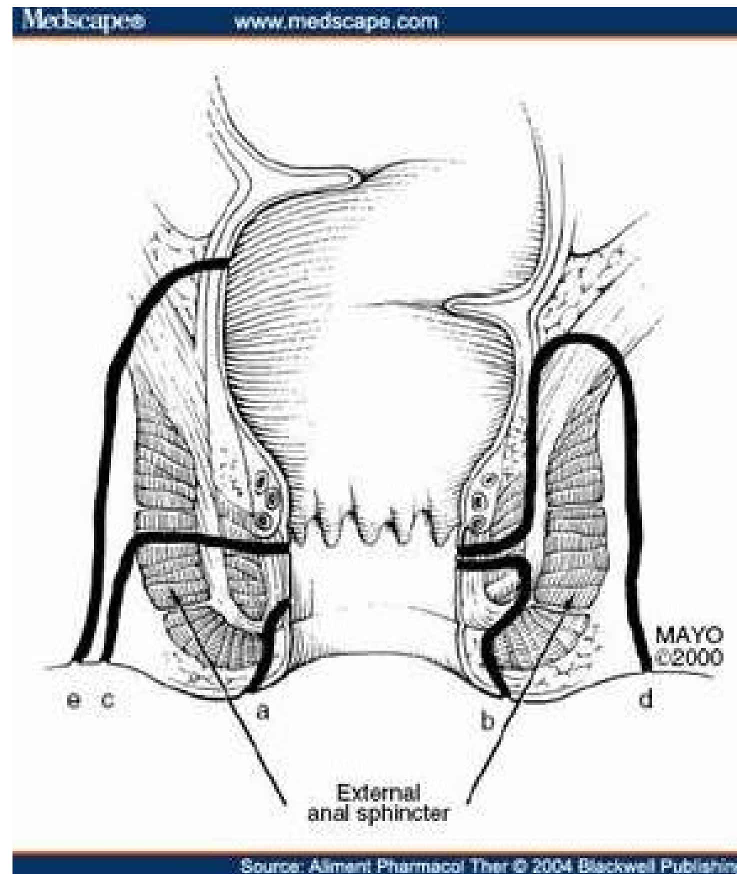
# Park's Classification

(according to the relationship of primary tract to the anal sphincters)

- Intersphincteric (45%)
  - Simple low tract
  - **High** tract
  - **High** tract with rectal opening
  - Extra rectal extention
- Trans-sphincteric (40%)
  - Uncomplicated
  - **High** tract
- Suprasphincteric
  - Uncomplicated
  - **High** tract
- Extrasphincteric
  - Secondary to trauma
  - Secondary to anorectal disease
  - Secondary to pelvic inflammation

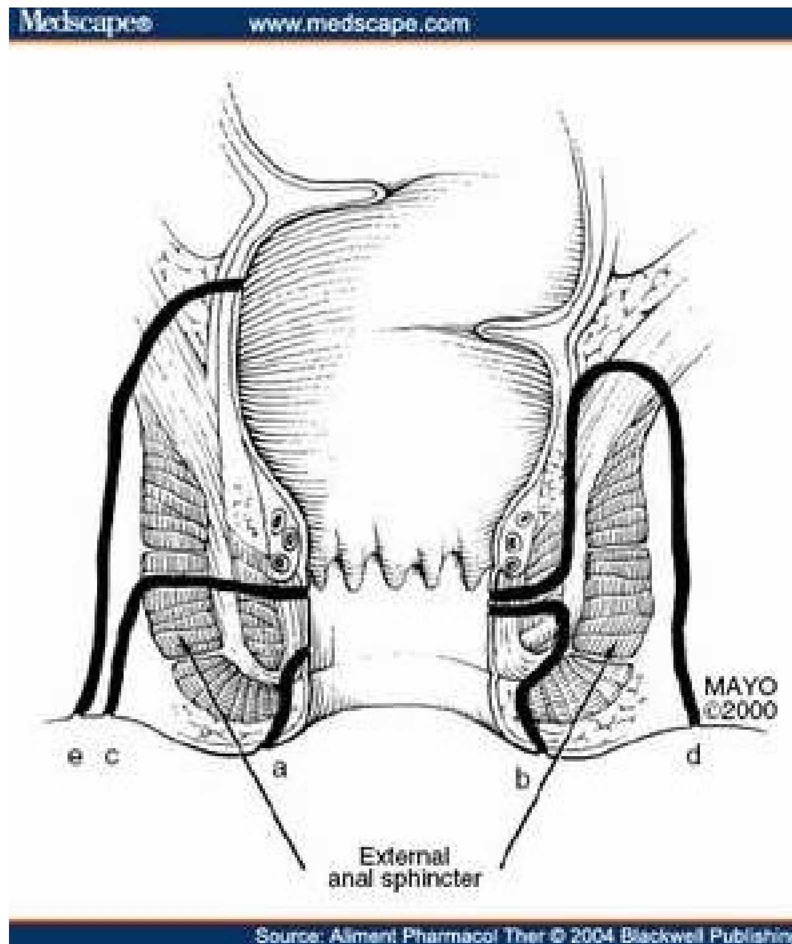


Based on level of internal opening related to anal sphincters

- Low variety
- High variety

  If the internal opening begins *above* the anal sphincter then the fistula is described as 'high'.

  Usually rare.



# PRESENTATION OF FISTULA

- **Intermittent discharge**

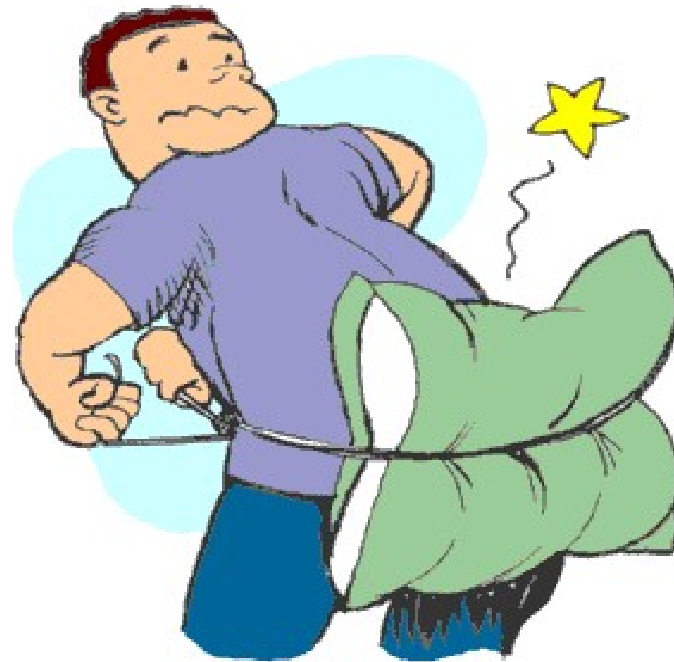
  (purulent or bloody)

- **Pain**

  (which increases until temporary relief occurs when pus discharges)

- **Pruritis ani**

- **Pervious episode of anorectal sepsis**



# CLINICAL ASSESSMENT

- **History** : Full medical history including obstetric, gastrointestinal, anal surgical and continence are necessary.

  Before any surgical procedure is carried out an EUA should be performed.

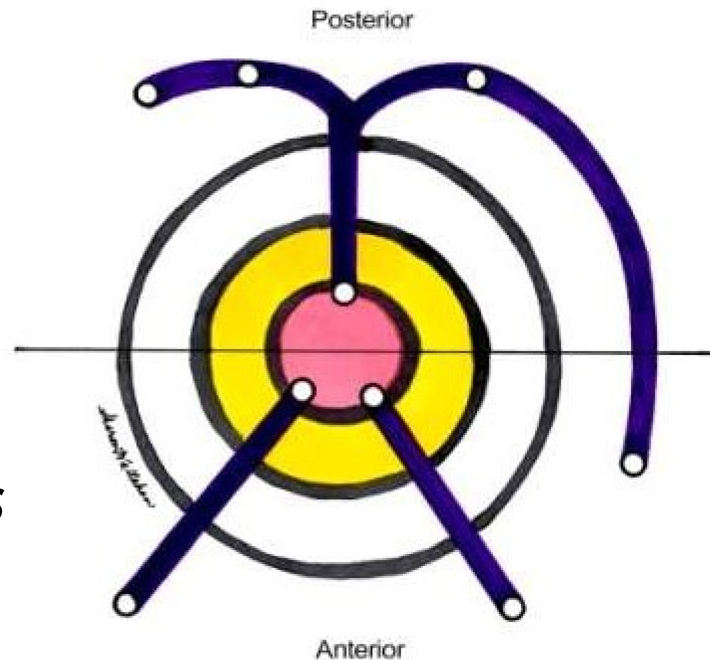
- **EUA:** A full examination/inspection of the perineum followed by DRE & **Proctosigmoidoscopy.**
  - DRE examination - area of induration, fibrous tract and internal opening may be felt.
  - Proctosigmoidoscopic inspection - to evaluate the rectal mucosa for any underlying disease process.

- Site of internal opening.
- Site of external opening.
- The course of primary tract
- Presence of secondary extention.
- Sphincter strength.
- The presence of other condition complicating the fistula.

# GOODSALLS RULE

- If the external opening is **anterior** to the line, the fistula usually runs *directly* into the anal canal.

- If the external opening is **posterior** to the line, the fistula usually *curves* to the posterior midline of the anal canal.

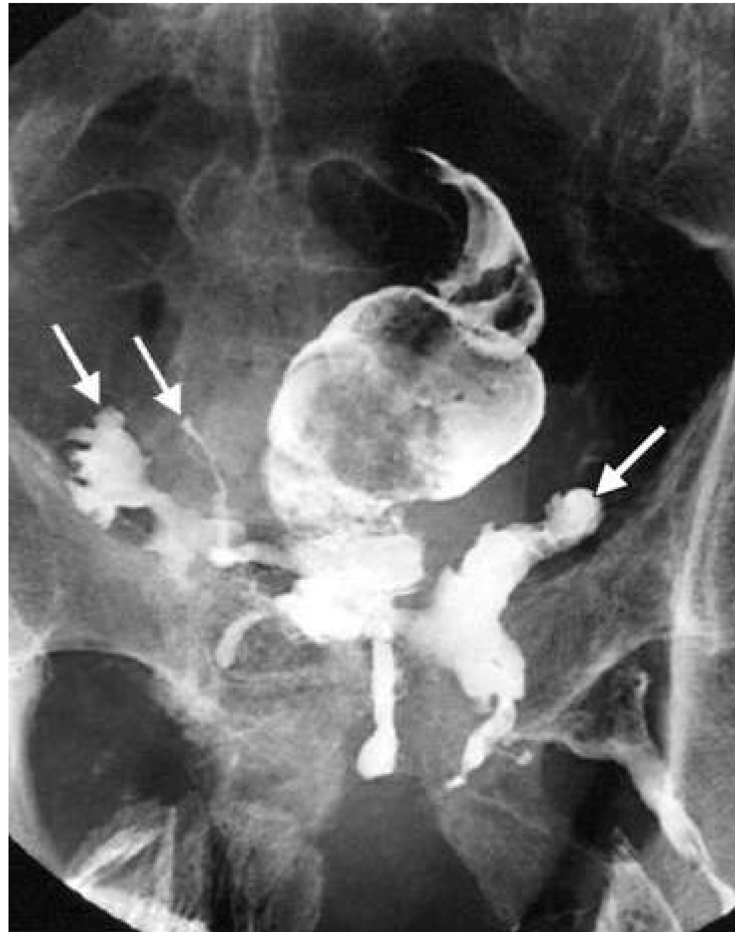


# IMAGING

- Fistulography
- Endoanal ultrasound
- MRI

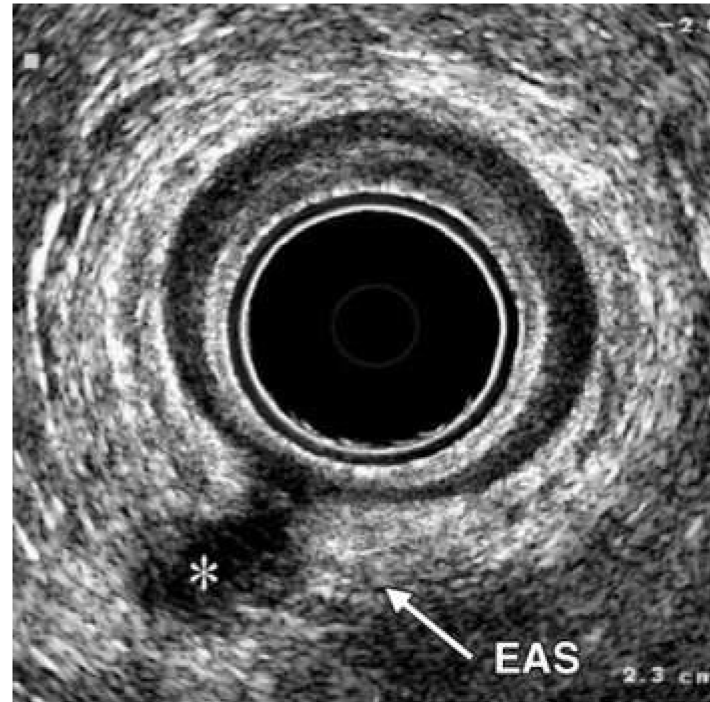
# FISTULOGRAPHY

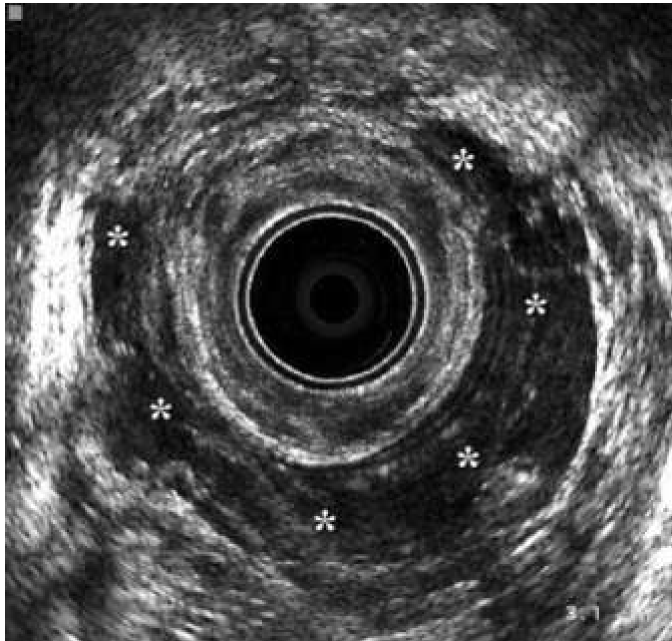
- Reveal primary and secondary tract.
- Useful if an extrasphincteric fistula suspected



# ENDO ANAL ULTRASOUND

- Determine sphincter integrity
- Complexity of the fistula

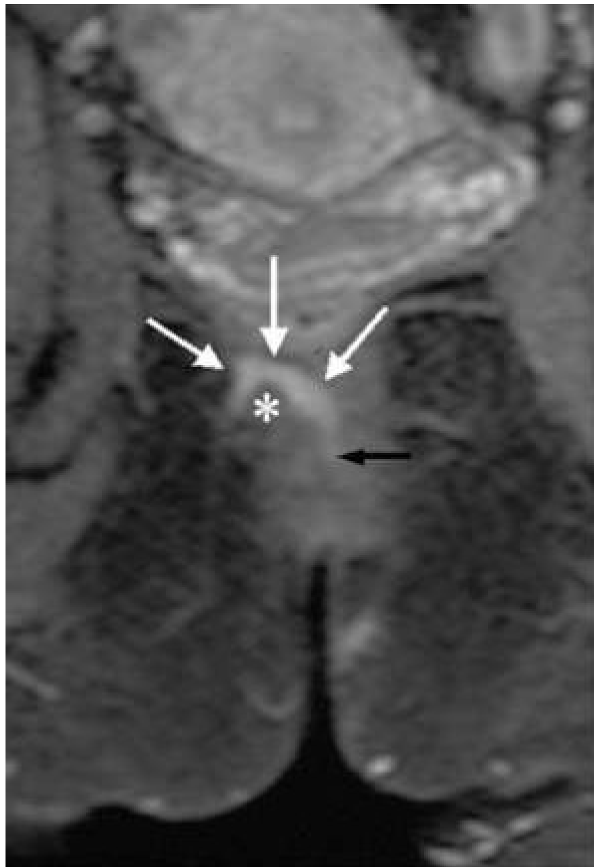


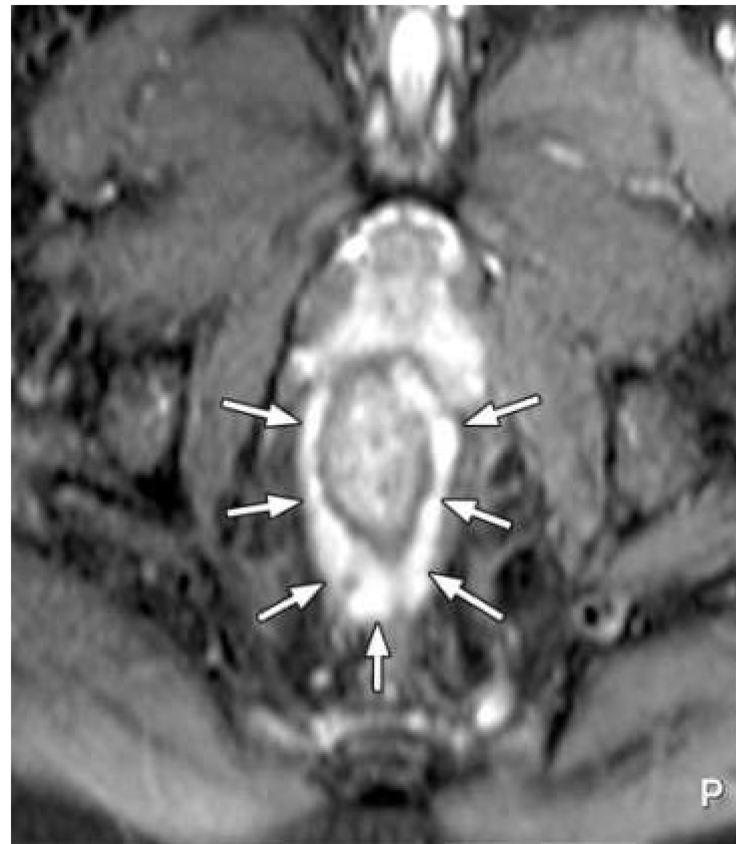
Horse shoe fistula

# MAGNETIC RESONANCE IMAGING

Considered „gold standard" for fistula-in-ano imaging



High variety supra-sphicteric fistula




Horse shoe fistula

# SURGICAL MANAGEMENT

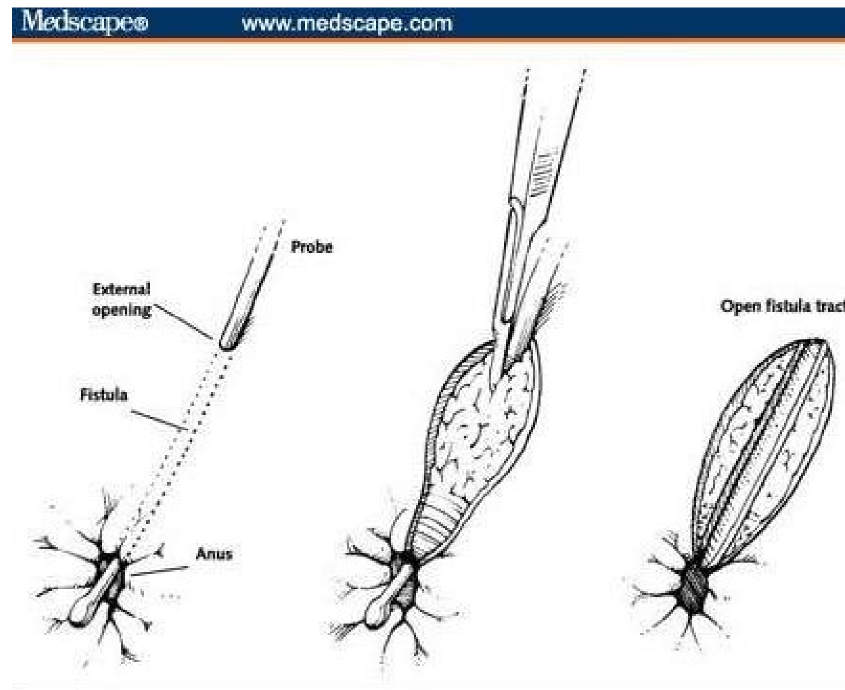
- Fistulotomy (The laying open technique)
- Fistulectomy
- Setons
- Fibrin Glue
- Anal fistula plug
- Advancement Flap

Sphincter preserving techniques (Setons, Fibrin Glue, Anal fistula plug)

# FISTULOTOMY SURGERY

- It involves division of all structures lying between internal and external openings.

- Applied mainly to low variety intersphincteric and trans-sphinceric fistula



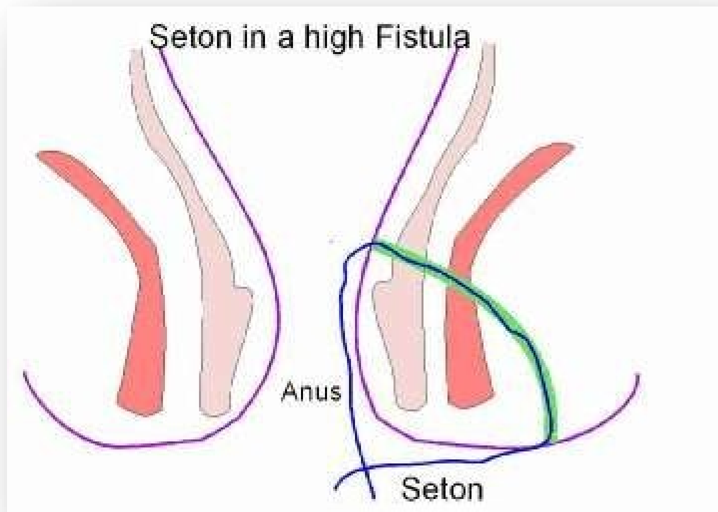
# RISKS

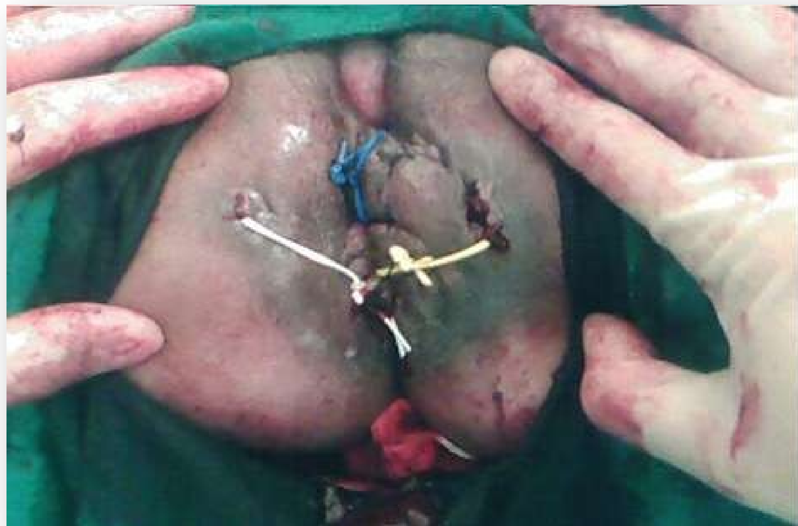
- The traditional fistulotomy surgery usually results in large and deep wounds which can take months to heal.
- “High” often indicates – high risk of faecal incontinence if laid open.
- *Sphincter preserving* techniques are preferable than *laid open* techniques.

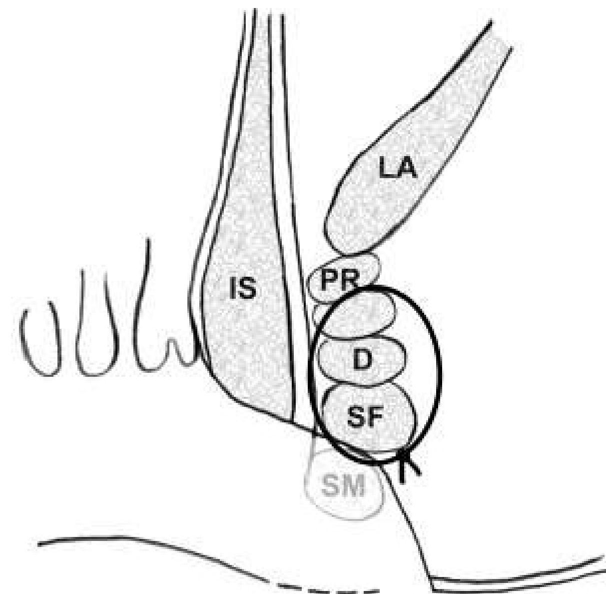
# SECTION SUTURE PLACEMENT

- Preferable surgical option for high variety.
- Setons are usually made from rubber slings
- 2 types of seton suture can be placed

- **Draining Seton**
  - Facilitates draining of sepsis
  - Left loose and allows fistula to heal by fibrosis
- **Cutting Seton**
  - Slowly "cheese-wires" though the sphincter muscle
  - Allows fibrosis to take place behind as it gradually cuts through






**High Transsphincteric Fistulotomy with Seton (divided muscle is dotted)**

**IS -** Internal sphincter
**SM -** Submucosal ext. sphincter
**SF -** Superficial ext. sphincter
**D -** Deep external sphincter
**PR -** Puborectalis muscle
**LA -** Levator ani muscle

# ANAL FISTULA PLUG

- The Anal fistula plug is a minimally invasive and *sphincter-preserving* alternative to traditional fistula surgery.
- The plug is a conical device and is placed by drawing it through the fistula tract and suturing it in place.
- the plug, once implanted, incorporates naturally over time into the human tissue (human cells and tissues will 'grow' into the plug), thus facilitating the closure of the fistula.

# FOLLOW UP CARE

As with most anorectal disorders, follow-up care includes:

- Perianal baths,
- analgesics for pain,
- stool bulking agents, and
- good perianal hygiene.

# THANK YOU