ODS

Dr. Md. Ashek Mahmud Ferdaus
FCPS (SURGERY), MS (Colorectal Surgery), FISCP(India).
Fellow International Society of Coloproctology.
Assistant Professor (Colorectal Surgery)
Mymensingh Medical College.

Normal bowel habit

Frequency-

- Varies from person to person.
- < 3/day and >3 days / week- normal.
- One hand there is constipation- <3 in a week.
- On the other hand diarrhea->3 bowel movements in a day.

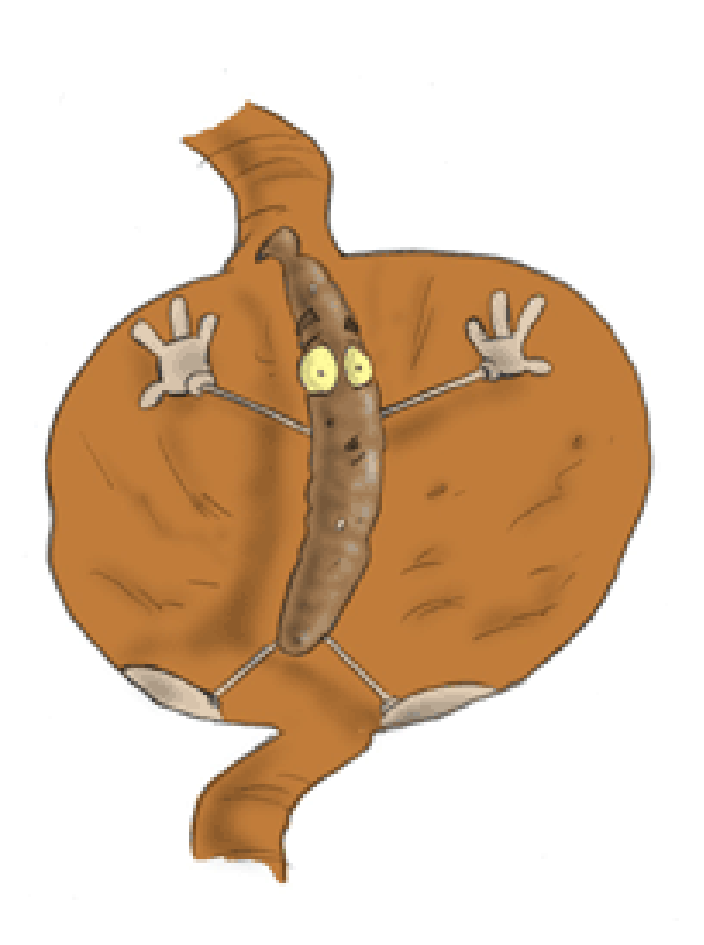
Normal bowel habit

- Quantity-
  - Varies from person to person.
  - Should be < 200 grams daily
  - Diarrhea -passing >200 grams or ml/ day.

What are irregular bowel movements?

Usually used to describe constipation.

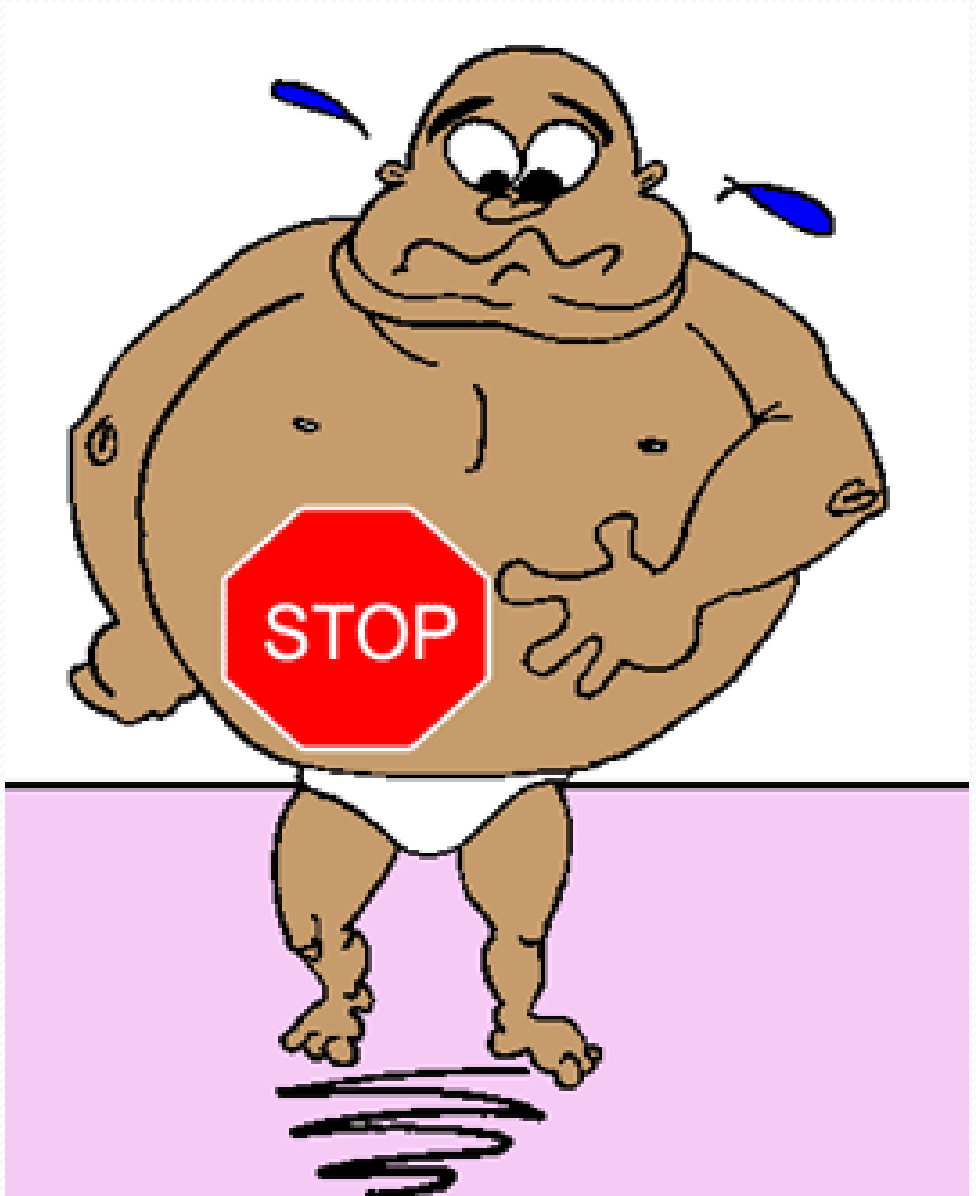
At the extreme end of constipation is- Obstipation.



What is Obstipation?

Obstipation (obstructive constipation)-

- Intractable constipation that has become refractory to cure or control is referred to as obstipation.



Constipation

Rome III criteria(Rome Committee in 2006) for functional constipation

1. Must include ≥*2 of the following a :*
   - Straining during at least 25 % of defecations
   - Lumpy or hard stools in at least 25 % of defecations
   - Sense of incomplete evacuation for at least 25 % .
   - Sensation of anorectal obstruction / blockage for at least 25 % of defecations
   - Manual evacuation at least 25 % of defecations
   - <3 defecations / week

2. There are insufficient criteria for irritable bowel syndrome.
3. Loose stools rarely without the use of laxatives

- a Criteria fulfilled for the last 3 months with symptom onset at least 6 months prior to diagnosis

Constipation subtypes

- Normal transit constipation.
- Slow transit constipation.
- Pelvic constipation.

Normal transit / IBS -C-

- Functional disorder.
- Normal transit through the GIT.
- Stools are hard and defecation may be difficult.
- Additionally –
  - Abdominal pain and
  - Bloating relieved by defecation.

Constipation subtypes:

Slow transit or abdominal constipation-

- Motility disorder.
- Stool moves at a slow rate.
- Only colon is affected, while in others, other portions of the **GIT** may be affected.
- May not defecate for days to weeks at a time, despite using laxatives and enemas.

Pelvic constipation –

Lack of coordination of the pelvic floor.

Pathophysiology:

- rectal hyposensitivity, or
- constipation from impingement, such as-
  - Rectocele
  - Enterocele
  - Sigmoidocele
  - full thickness rectal prolapse,
  - internal intussusception, and
  - SRUS.

Pelvic constipation

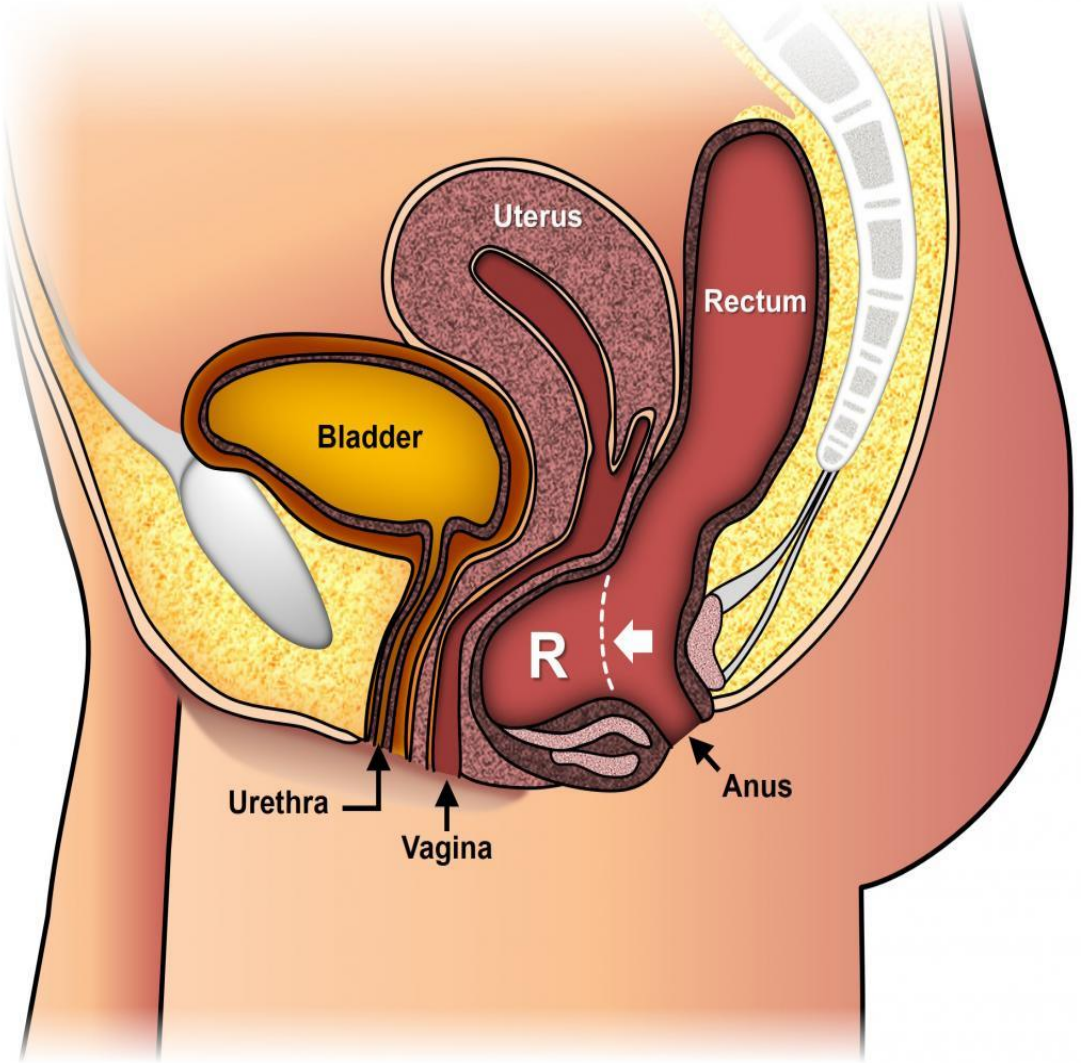
- results in-
  - excessive straining,
  - digital manipulation, and
  - incomplete evacuation.
- Each may occur in isolation or in various combinations.

Factors associated with constipation

- **Lifestyle**
- **Medications**
- **Medical illness**
- *Endocrine / metabolic dysfunction*
- **Psychological**
- **Colonic structure/function**
- ***Pelvic floor abnormality***

Pelvic floor abnormality

- Nonrelaxing puborectalis.
- Anal stenosis.
- Rectocele.
- Enterocoele.
- Sigmoidocele.



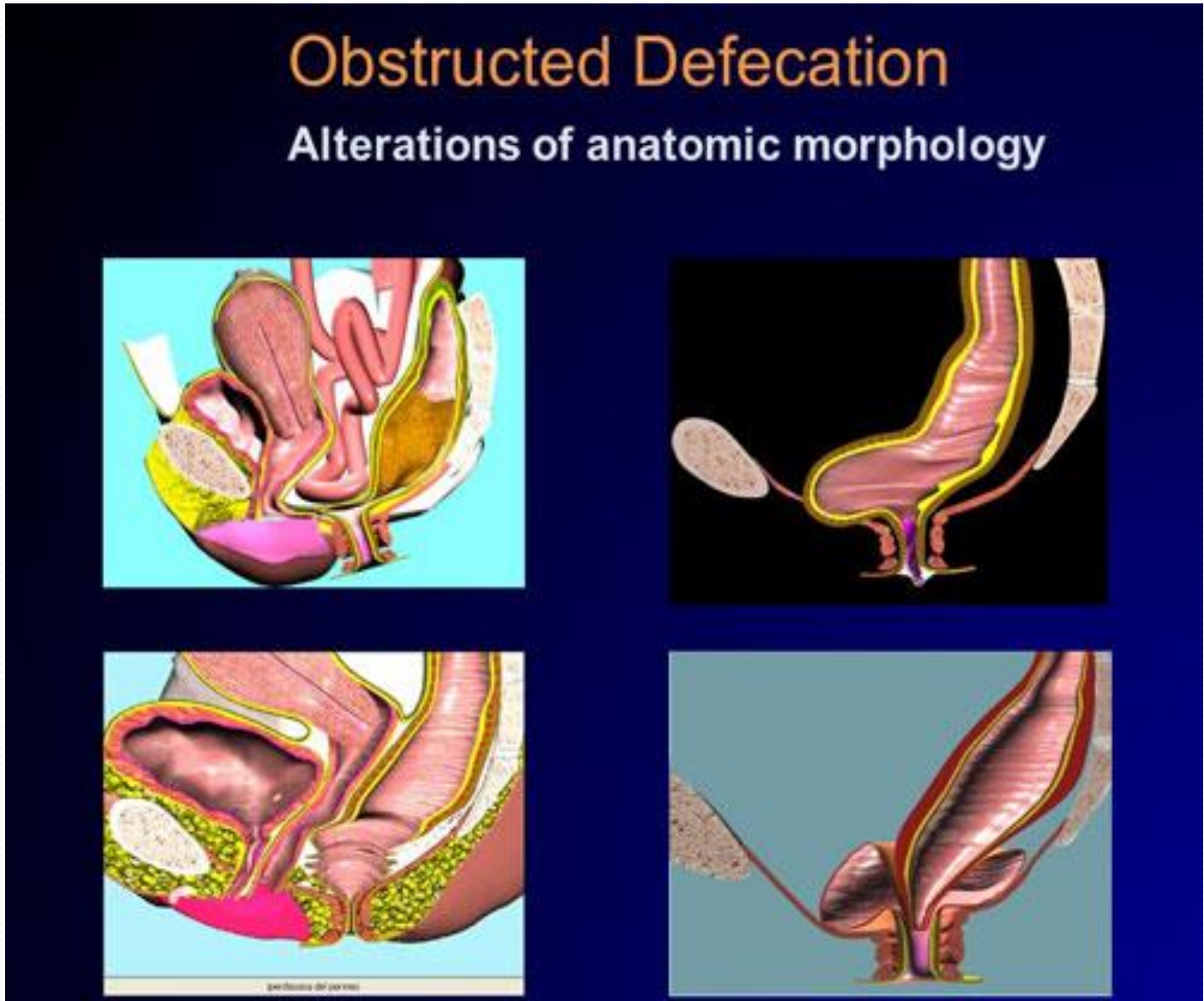
ODS

The cardinal symptoms-

- straining at stool,
- sense of incomplete evacuation,
- Rectal, vaginal or perineal digitations.
- Paradoxical contraction of the puborectalis during straining -PFD.
- psychological problems.

Causes-

- Rectocele, enterocele, sigmoidocele.
- Intususception.
- SRUS
- Perineal descent.
- Pelvic floor dyssynergia

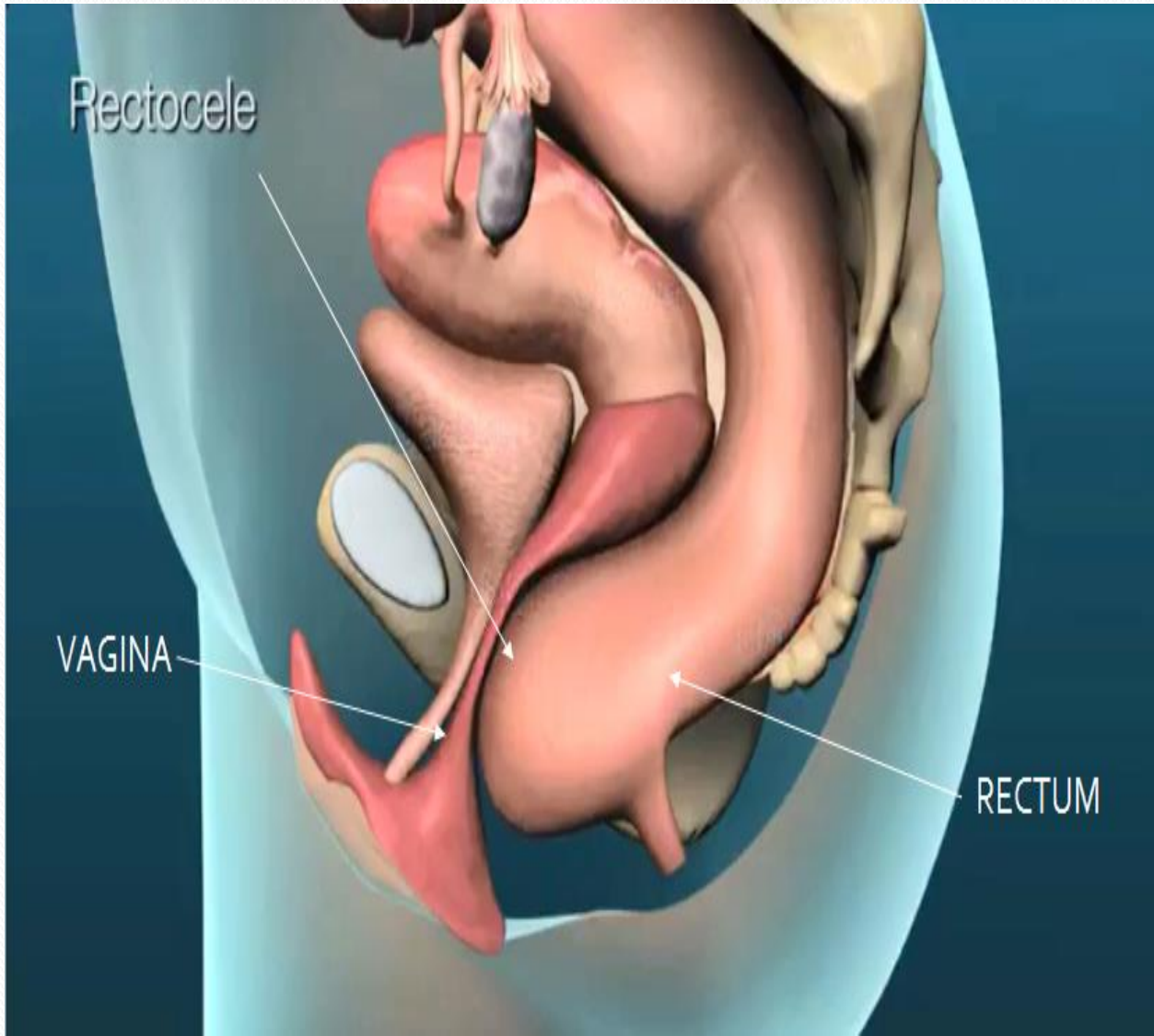


Rectocele

Herniation of the anterior rectal wall into the lumen of the vagina.

Pathogenesis:

- Chronic straining on a weakened rectovaginal septum both by-
  - obstetric trauma and
  - Progressive pelvic floor deficiency, as part of the aging process.



4th or 5th decade of life.

- 5 most common presenting symptoms---
  - excessive straining,
  - incomplete evacuation,
  - manual assistance required,
  - sense of fullness,
  - Bowel movement <3/week.

Diagnosis:

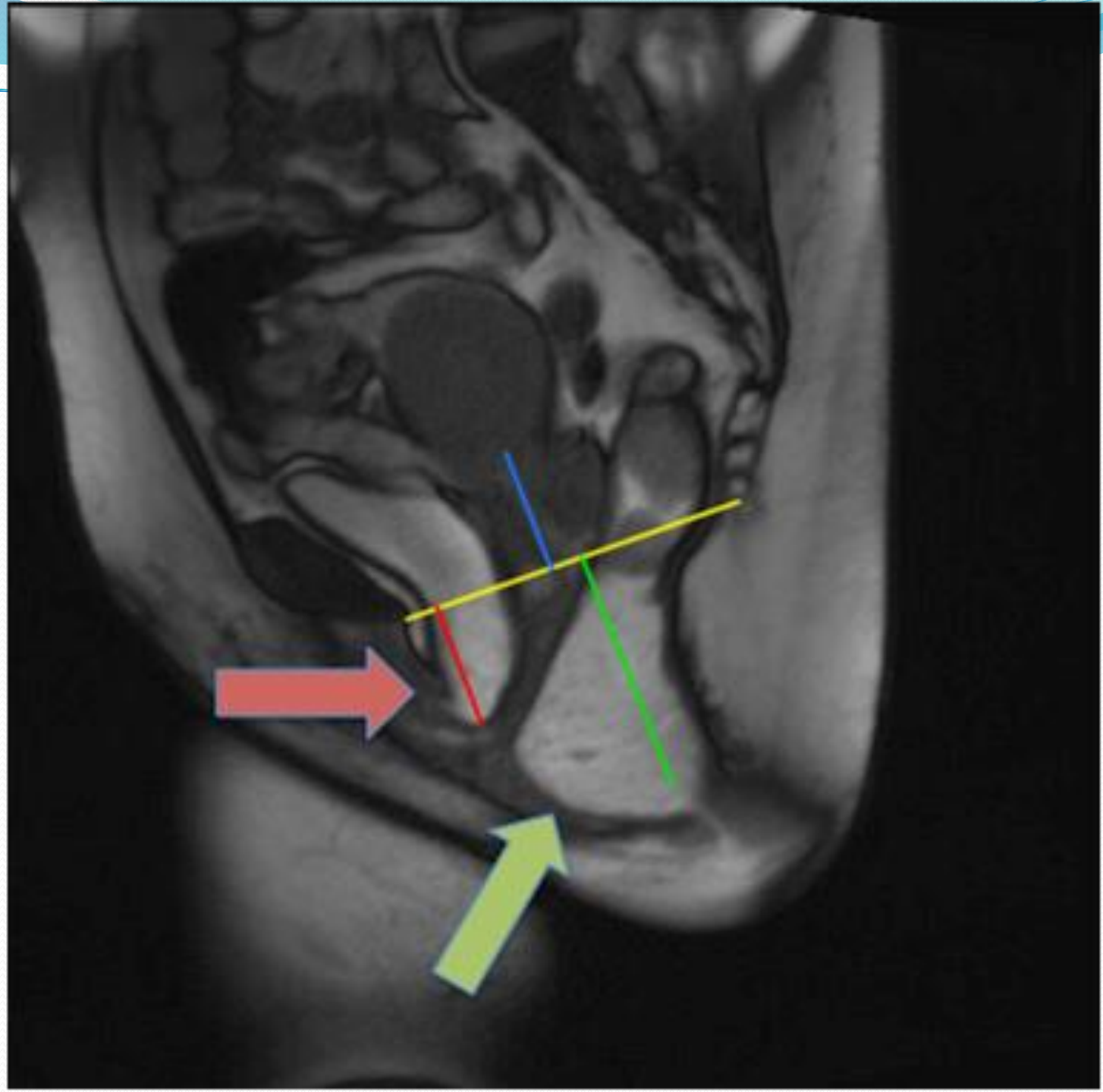
- Adequate history.

- A hooked finger -
  - pocket-like defect.

Diagnosis:

Defecography –

- Conventional.
- Dynamic.
  - <2 cm- insignificant.
  - >3 cm in depth- abnormal.

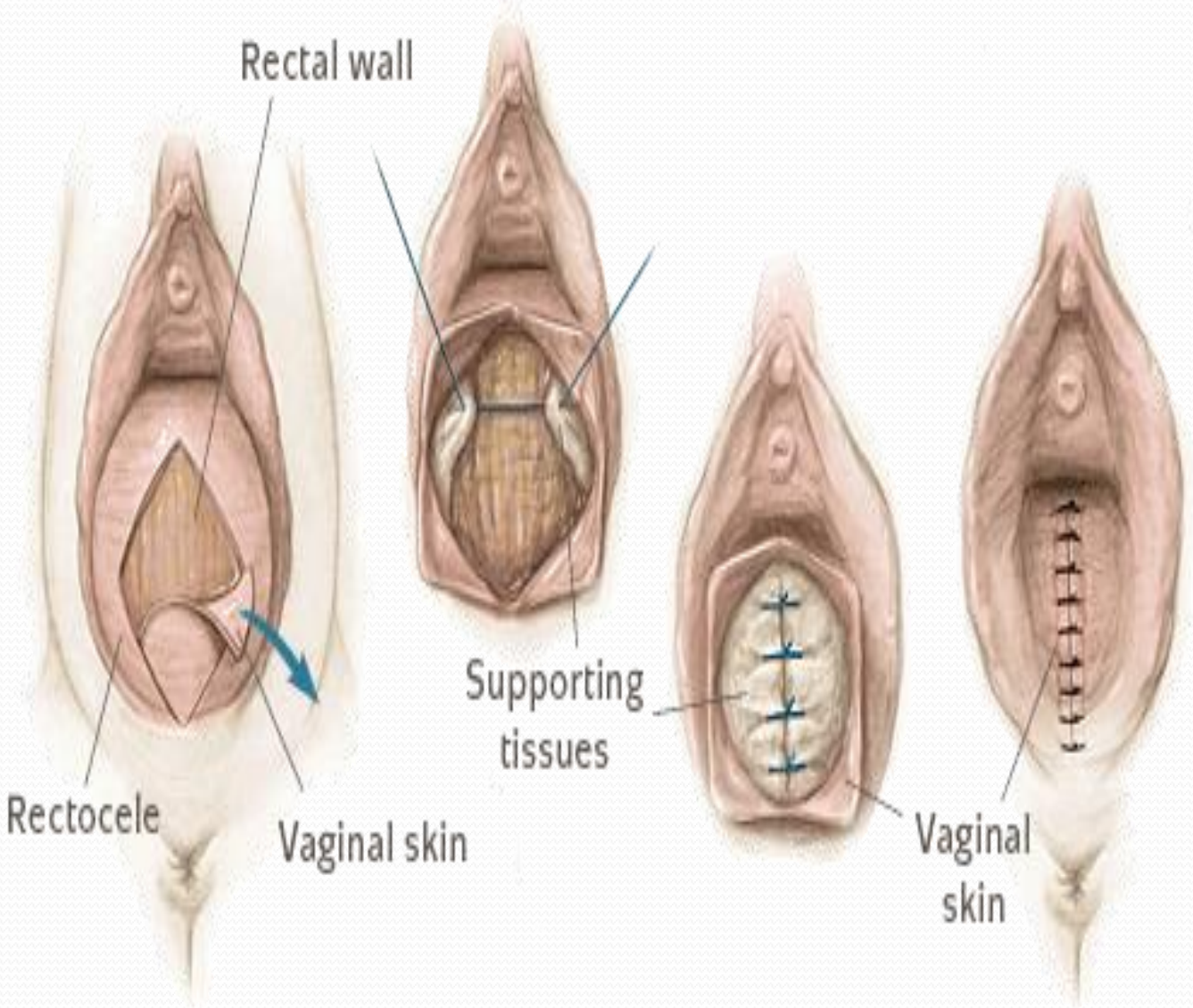


Rectocele

Treatment-

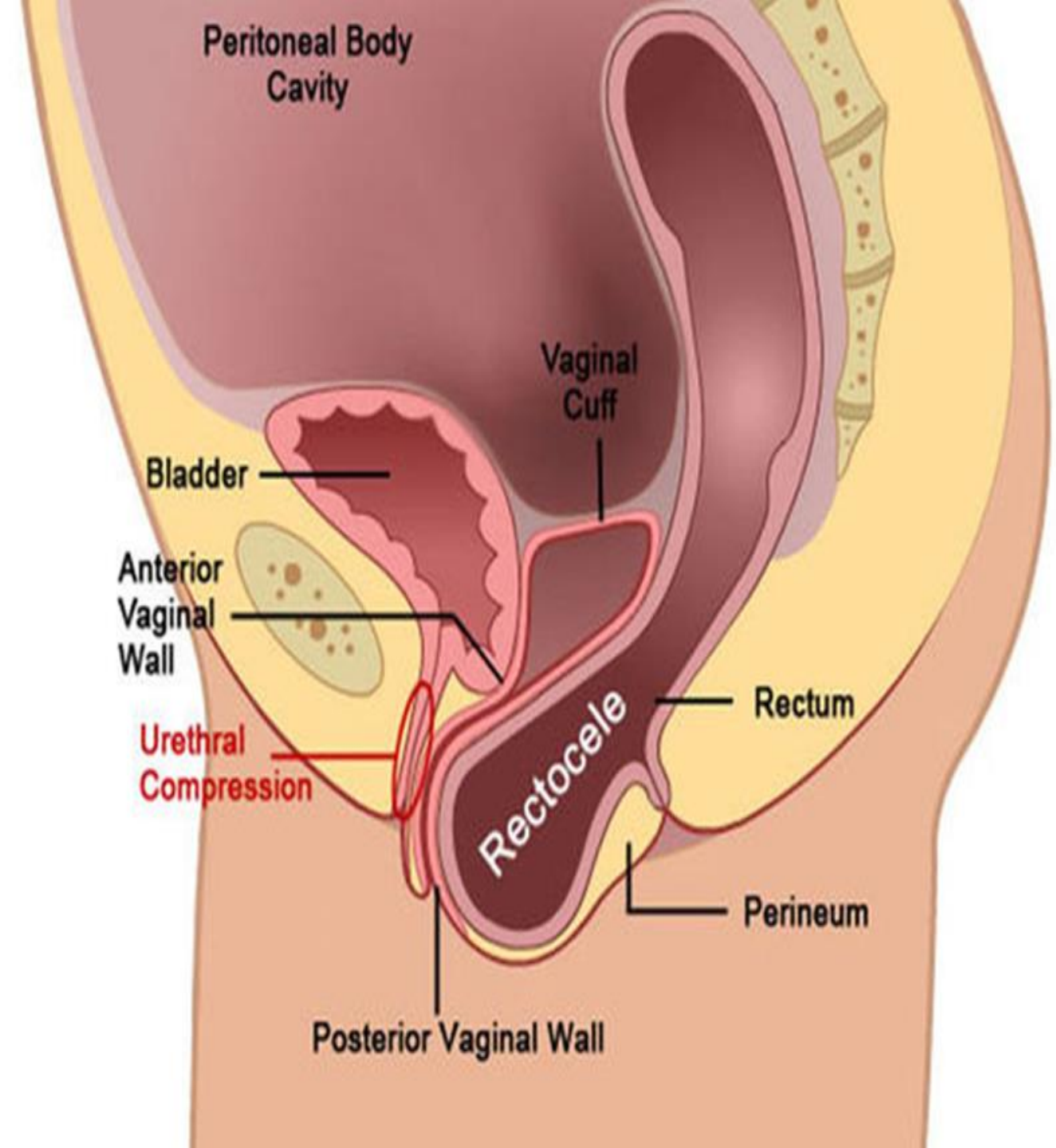
- Conservative-
- Surgical-
  - Transvaginal,
  - Transanal
  - Transperineal
  - Abdominal.

Till now it is not known which treatment is the most optimal one.



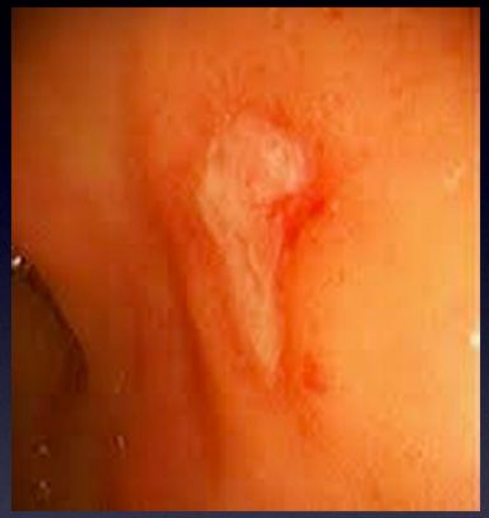
Poor Prognosis:

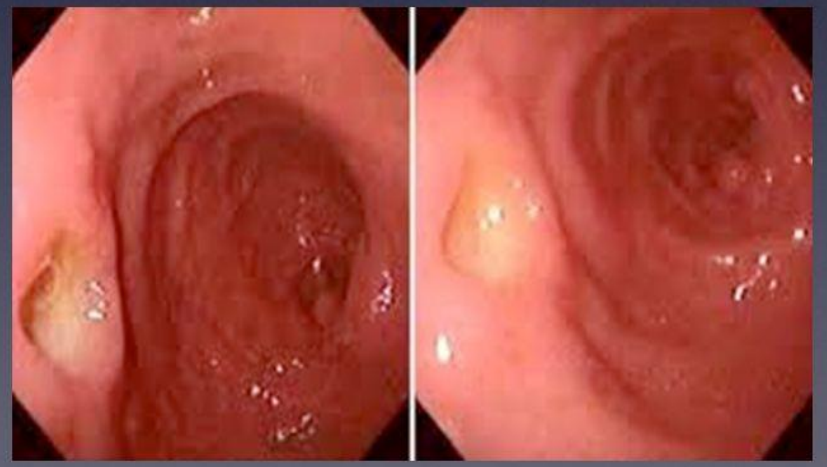
- Previous hysterectomy,
- Large rectocele on defecography,
- Preoperative use of enemas and laxatives related to a poor outcome.



Solitary Rectal Ulcer Syndrome

- Diagnostic problem.
- Easily be confused with rectal cancer.

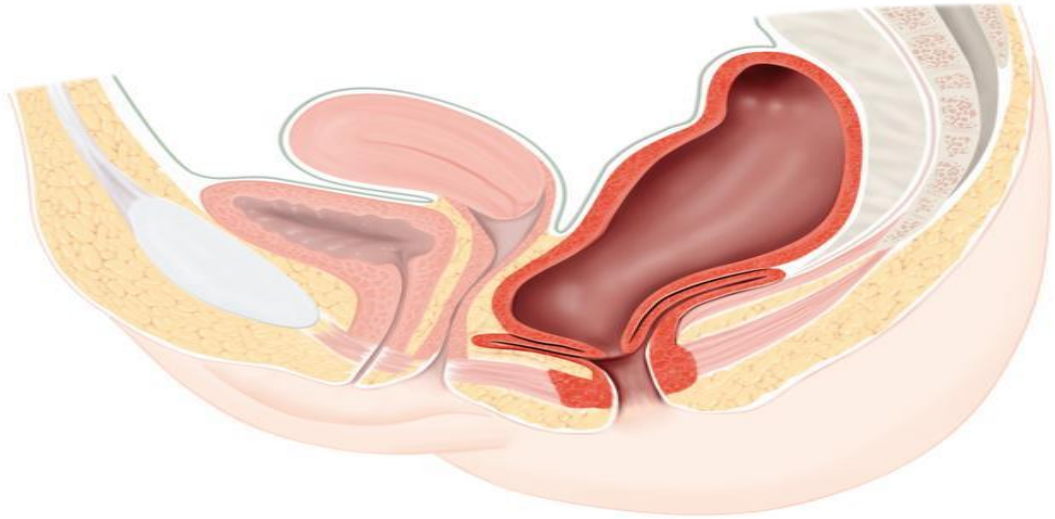


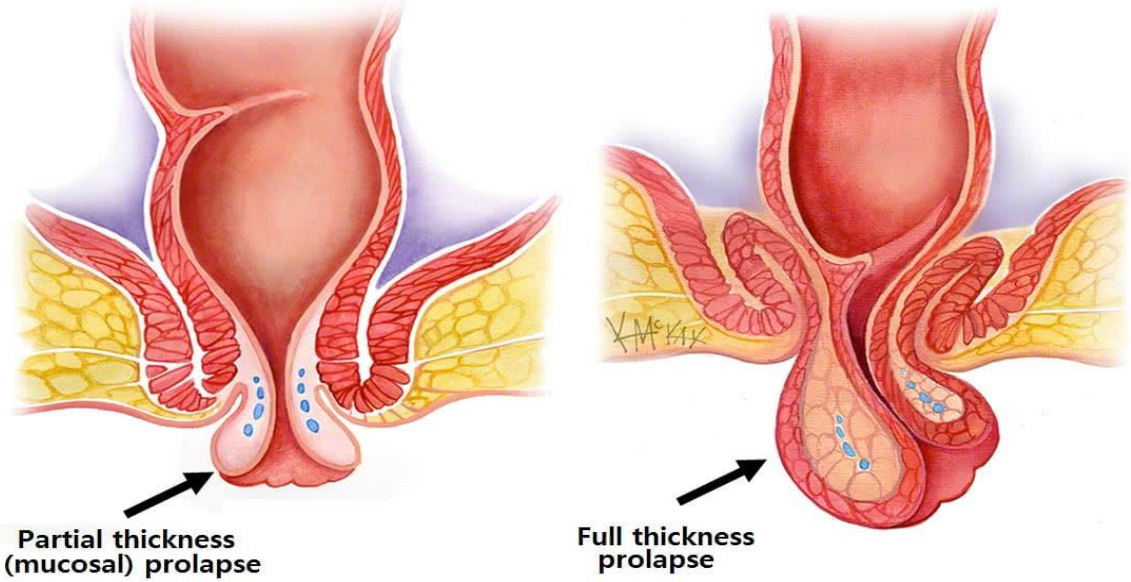


Solitary rectal ulcer syndrome

Aetiology:

- Unclear.
- Common feature is chronic inflammation &/or trauma result from –
  - IBD.
  - Resolving ischemia,
  - internal intussusception
  - Rectal prolapse
  - direct digital trauma,
  - Forces evacuating a hard stool.





Predisposing factors:

- Difficulty in defecation.
- Straining & incomplete evacuation.
- Increased intrarectal pressure
- digitation.

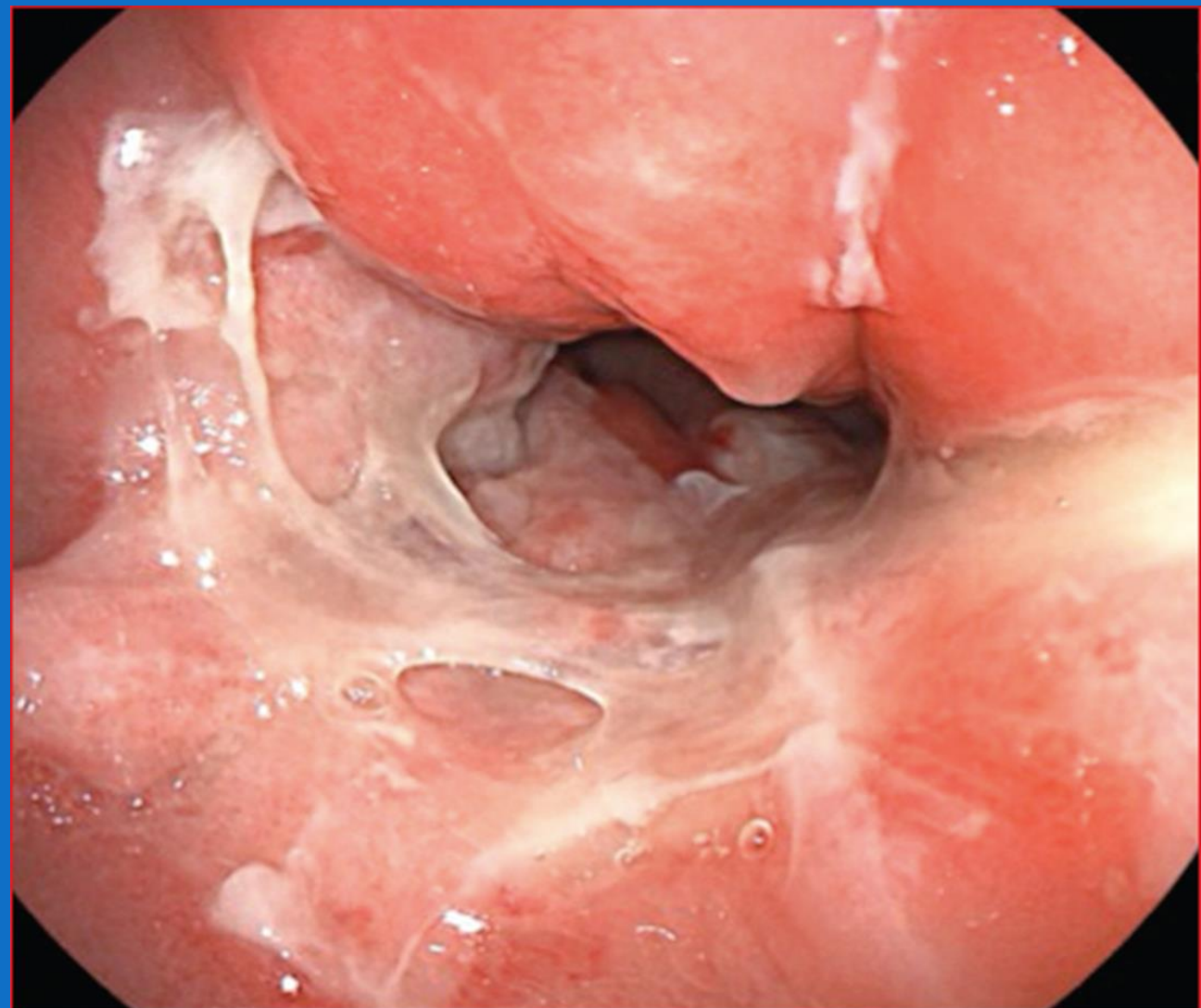
-results in anterior mucosal trauma and ulceration.

Number:

- single,
- multiple, or
- no rectal ulcers.

Site:

- usually on the anterior rectal wall.
- 4-12 cm from anal verge.



SRUS is characterized by –

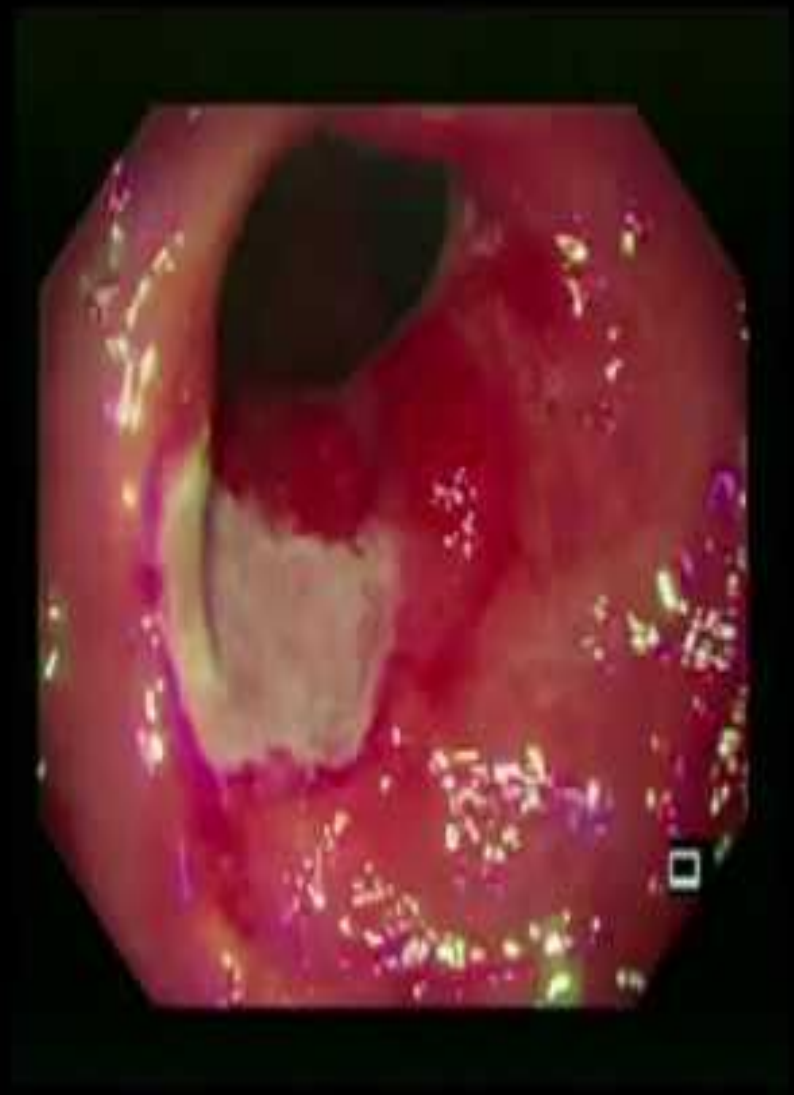
- PR bleeding,
- Copious mucous discharge.
- Anorectal pain,
- Difficult evacuation.

Morphology:

- shallow
- “punched out”
- gray-white base
- surrounded by hyperemia.

Investigations:

- DRE & proctoscopy –
  - ulcer in the anterior rectal wall.
  - 2-3 cm in size.
  - Single, multiple or no rectal ulcer
  - Edge- punched out with gray white base surrounded by hyperemia.
  - Base- indurated.



Investigations

Colonoscopy-

- in symptomatic patients.

Defecography-

- generally abnormal in most patients.

Histopathology-

- Obliteration of the lamina propria by fibrosis and a thickened muscularis mucosa with muscle fibers.

Treatment—conservative therapy -first.

- Dietary changes,
- Bulking agents and
- Biofeedback .

- Surgery- rarely indicated
  - For prolapse or
  - Refractory to conservative management.
- TAE of the ulcer,
- Stapled mucosal resection,
- Modified anterior delorme procedure,
- Abdominal rectopexy (rectal prolapse), and colostomy formation.

2.Biofeedback

Goal—

use

- visual,
- auditory,
- verbal or
- other forms of sensory information to improve patients ability to sense rectal distension & reinforce appropriate sphincter contraction.

Indications:

- FI.
- After sphincter reconstruction.
- Constipation

Methods

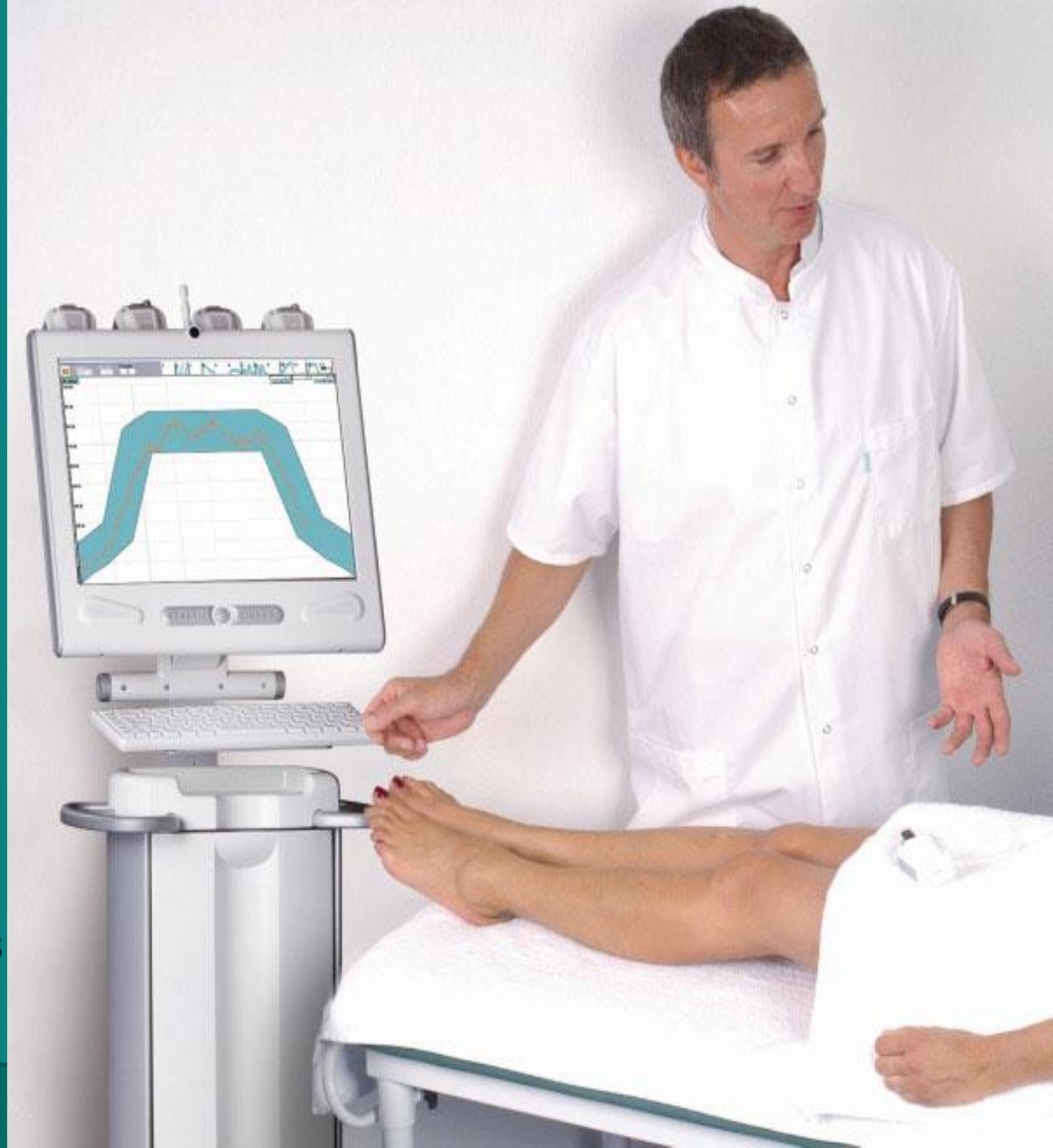
- Widely variable.
- Weekly or bi-weekly sessions of 30 or 60 min.

Use of-

- Home practice machines,
- EMG,
- Manometry, and
- Even ultrasound.

At least 3 components :

- Strength training---- EAS.
- Sensory training - rectal sensations
- Co-ordination training –IAS & EAS during rectal distention.



The method involves-

- Placing a balloon in the rectum.
- connecting pressure transducers.
- large amounts of air are injected into the rectal balloon;
- gradually the volume is reduced until the patient can contract EAS.

- Subsequently, visual feedback is eliminated
- patient is checked by a trained observer if he can respond to rectal sensations alone.

Sessions:

- 10-15 sessions (2/wk) & regular recall session every 6 months.
- Supportive counselling & practical advice.

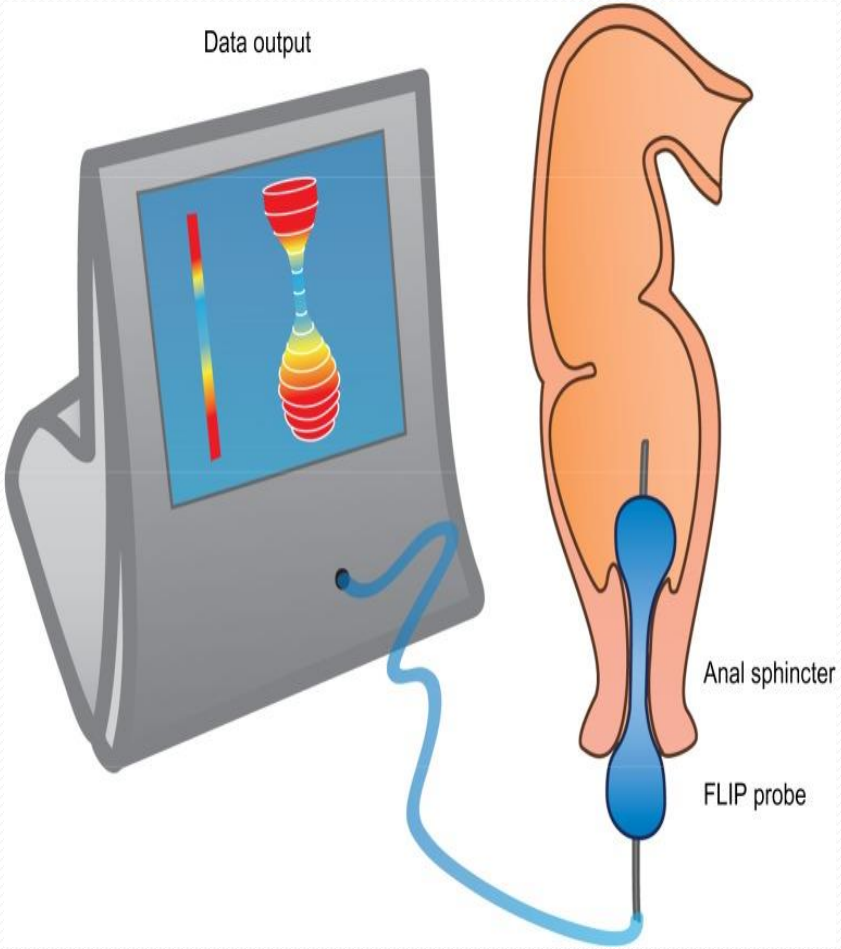
Anorectal Manometry

Aim:

Functional assessment of the anal sphincters and distal rectum.

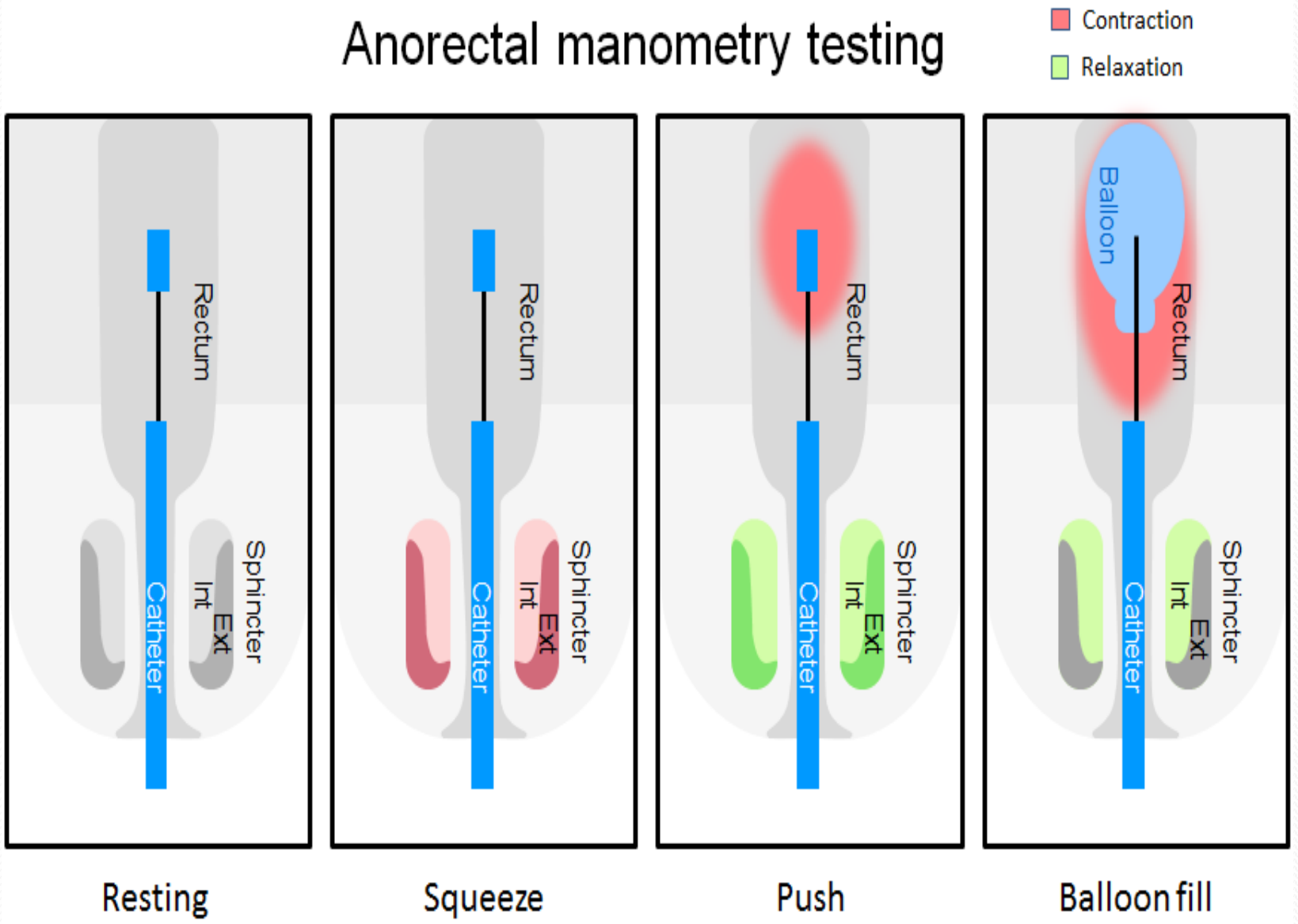
Procedure:

- Microtransducers----in anal canal.
- Multichannel water perfused catheters.
- Flow rates of 0.3 ml / channel / minute .
- The resistance of flow of fluid from the catheter determines pressure measurements.



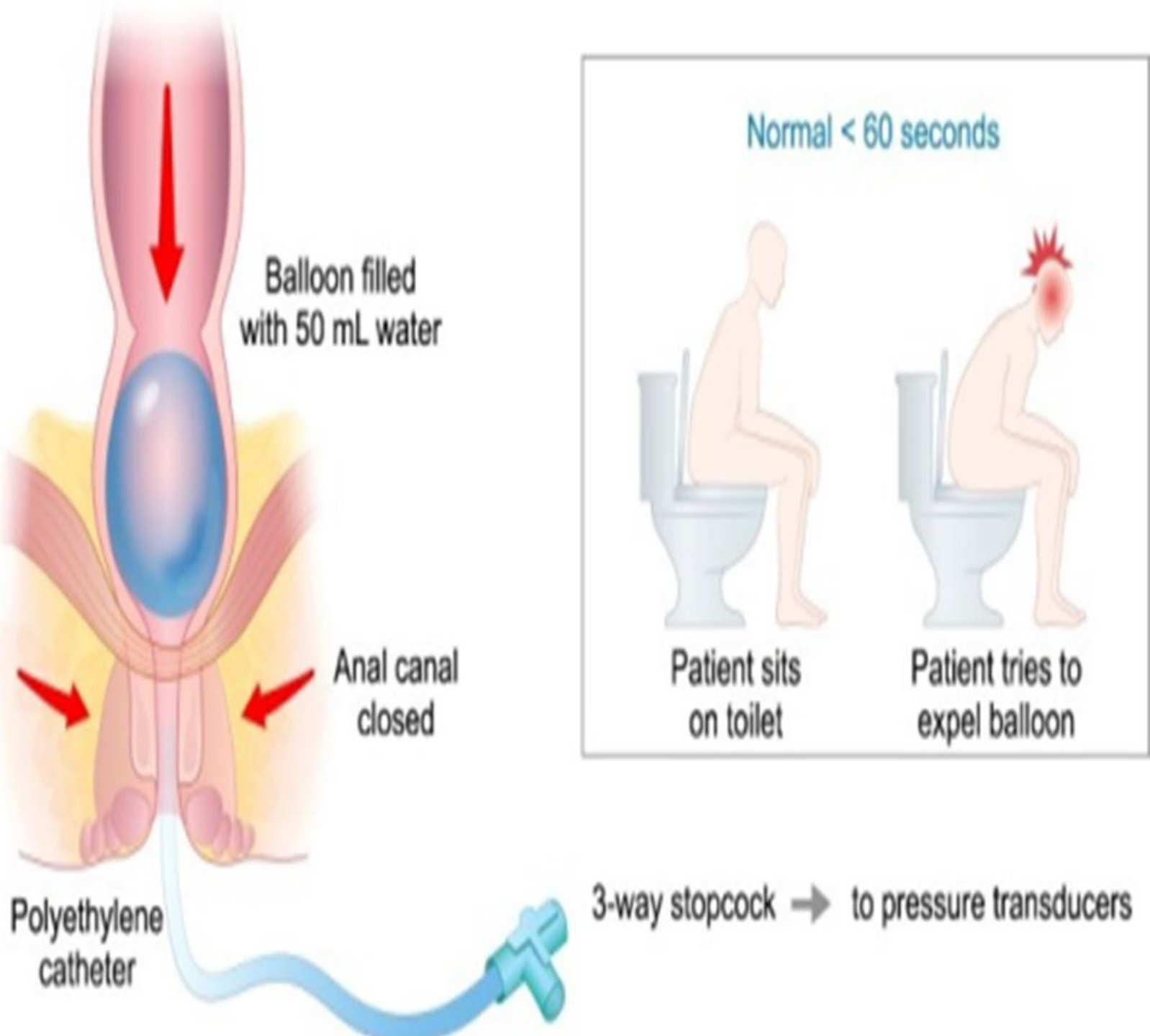
Anal Manometry

- RAP
- Squeeze pressure.
- High pressure zone.
- RAIR- absent in HD.
- Rectal sensation.
- Rectal compliance.



Balloon expulsion test-

- Main aim to identify-ODS.
- Normal pt can expel upto 50-150ml.
- Constipation, megarectum, nonrelaxing pelvic floor--cant expel even IRP is normal.



Result:

- Simple resection without biofeedback does not resolve the symptoms.
- Rectopexy---- high failure rates of up to 50%,
- Early results of STARR in refractory SRUS appear encouraging.

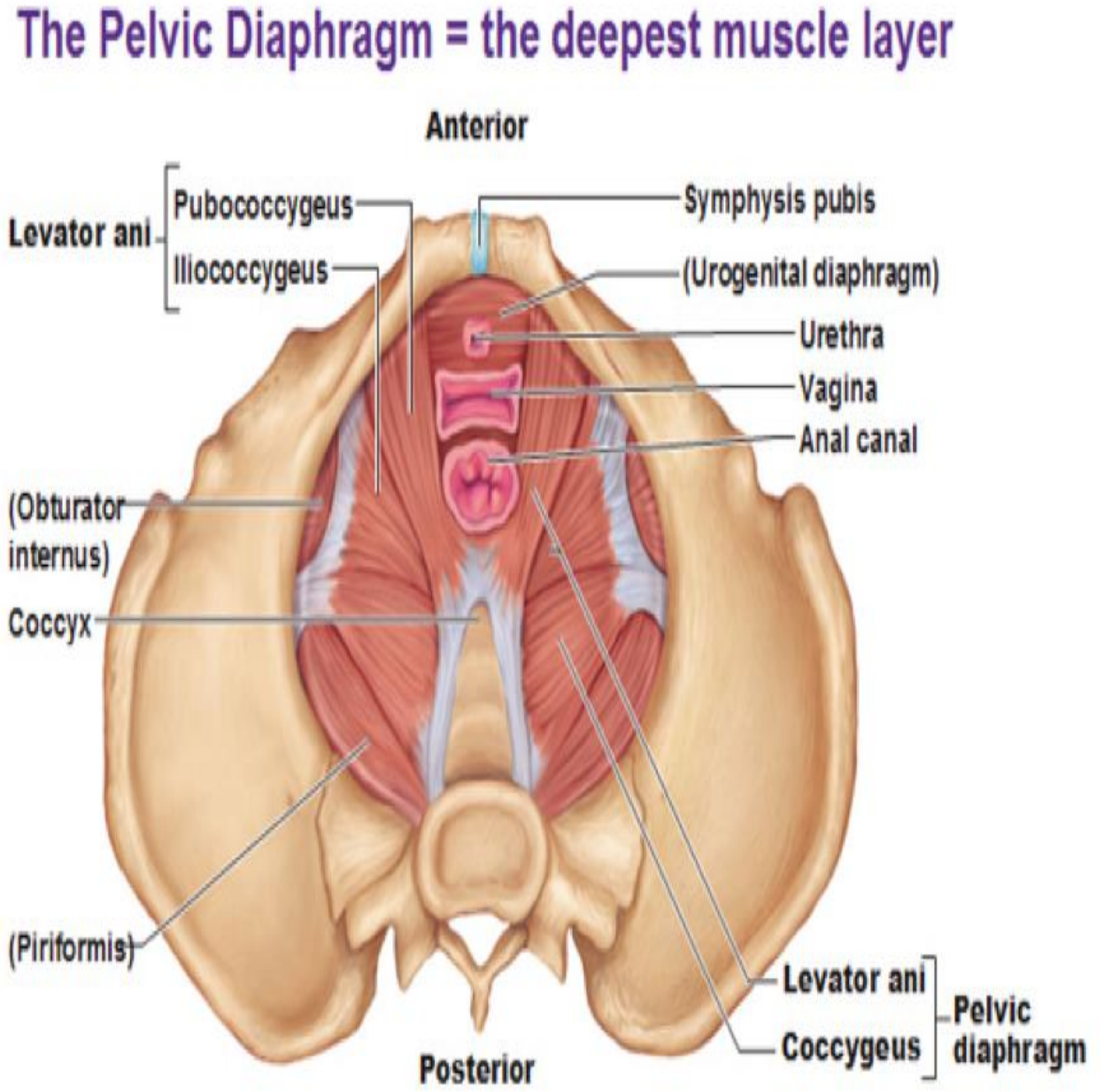
Pelvic diaphragm

Pelvic diaghragm/ levator ani muscle-------

- 3 striated muscle-
  - Ileococcygeus.
  - Pubococcygeus
  - Puborectalis.

Levator hiatus- btw 2 pubococcygeus-

- Lower rectum
- Urethrae
- Dorsal v. of penis
- Vagina.



Pelvic floor disorder

Anterior compartment (urinary)----

- cystocele and
- hypermobile bladder neck.

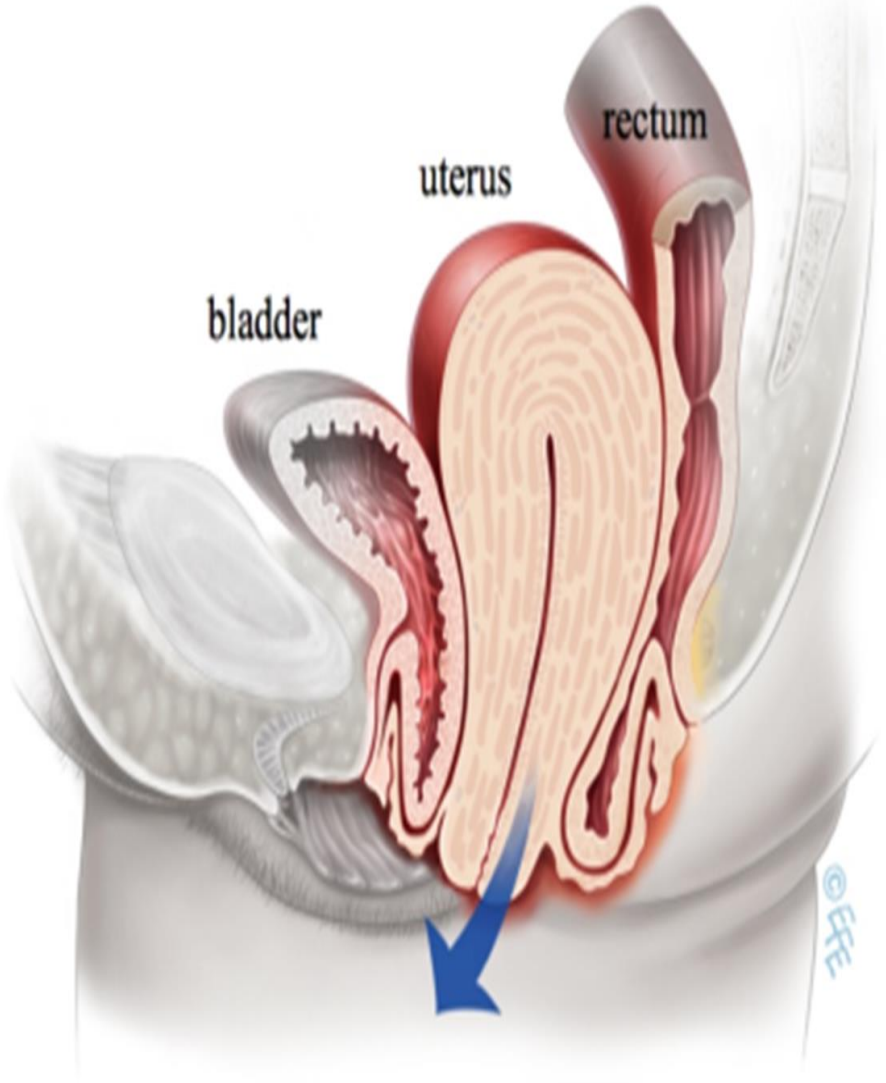
Middle compartment(genital)-----

- vaginal vault prolapse;
- Uterine prolapse.

Posterior compartment (anorectal)---

- rectocele,
- enterocele, and
- Rectal Intussusception

- 95% of the women with pelvic floor dysfunction had abnormalities of all 3 compartments.



Pelvic floor disorder

Results from loss of pelvic floor support.

- Commonly women
  - Due to variation in size of the genital hiatus.
- More in aged person.

The exact etiology: unclear.

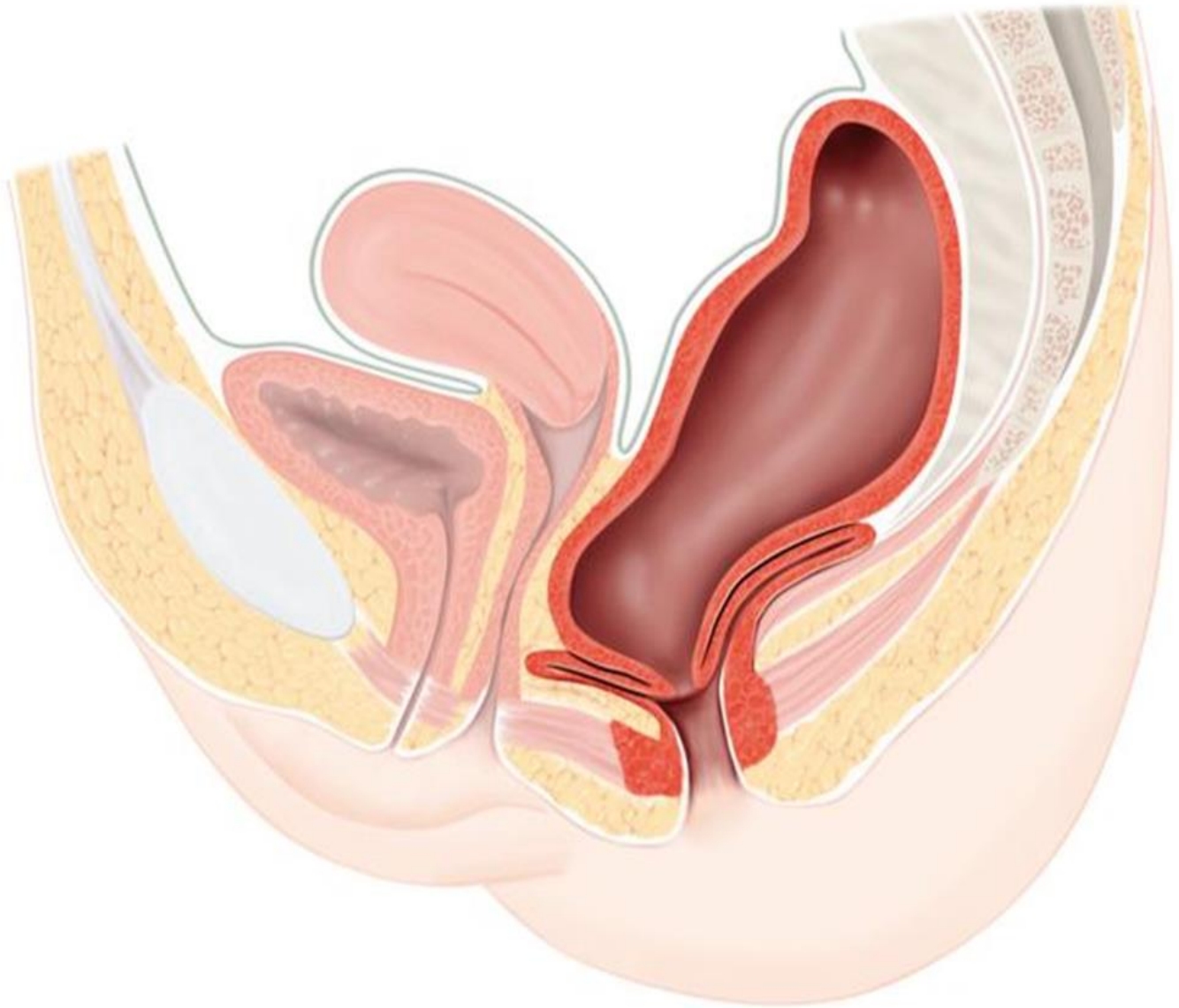
- Chronic stretching of the pelvic muscles leads to myopathic injury.

Many theories-

- Sliding hernia through a defect within the pelvic fascia.
- Other suggests- an intussusception of the rectum.

More in women—

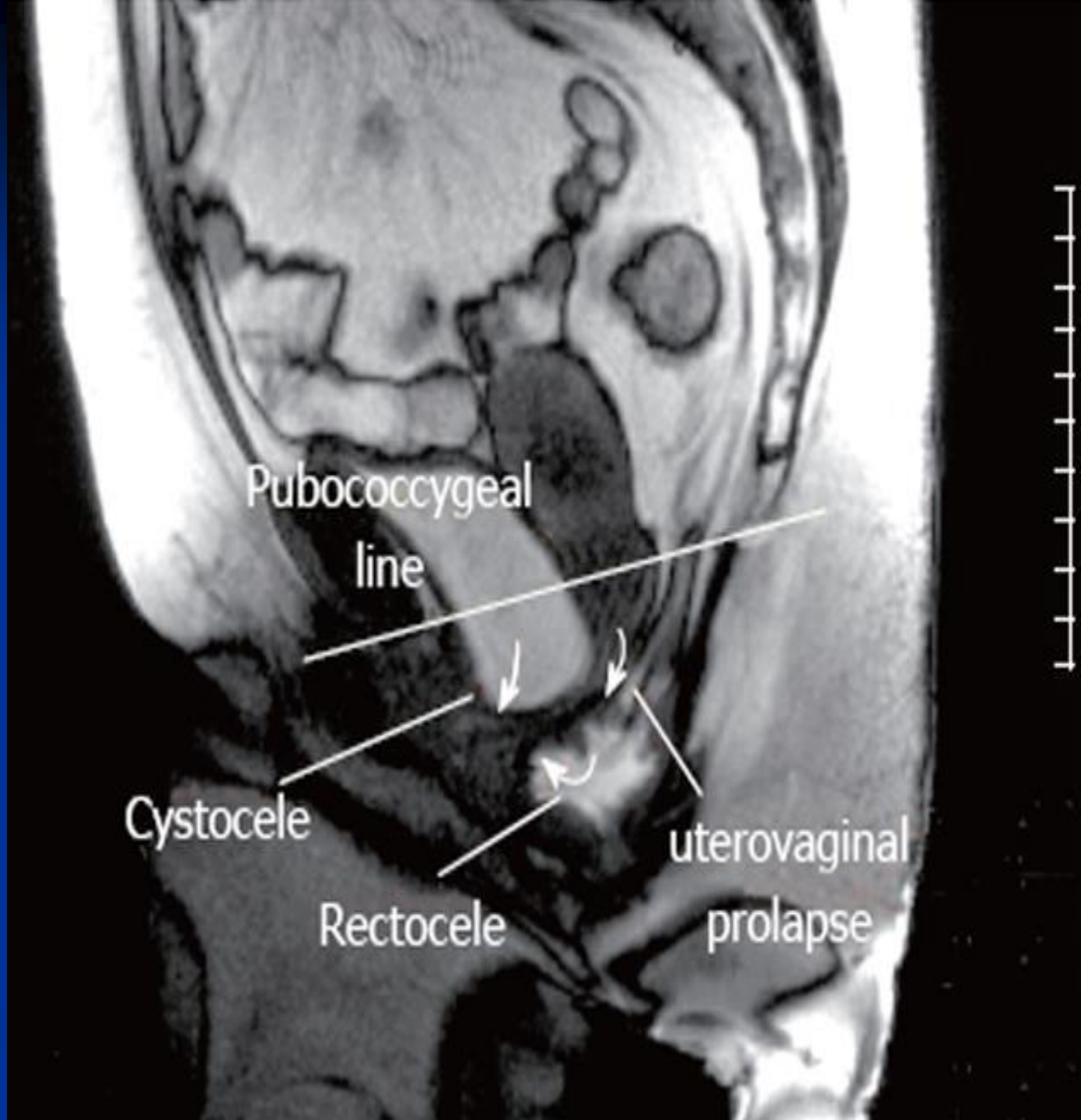
- childbirth,
- prolonged straining at stool,
- Anatomical- wider pelvis.



Pelvic compartment

Investigation:

- Dynamic cystoproctography or cystodefecography



4 contrast study to outline—

- SI ,
- bladder
- vagina,
- Rectum.

Defecography

Radiological visualization of the act of defecation.

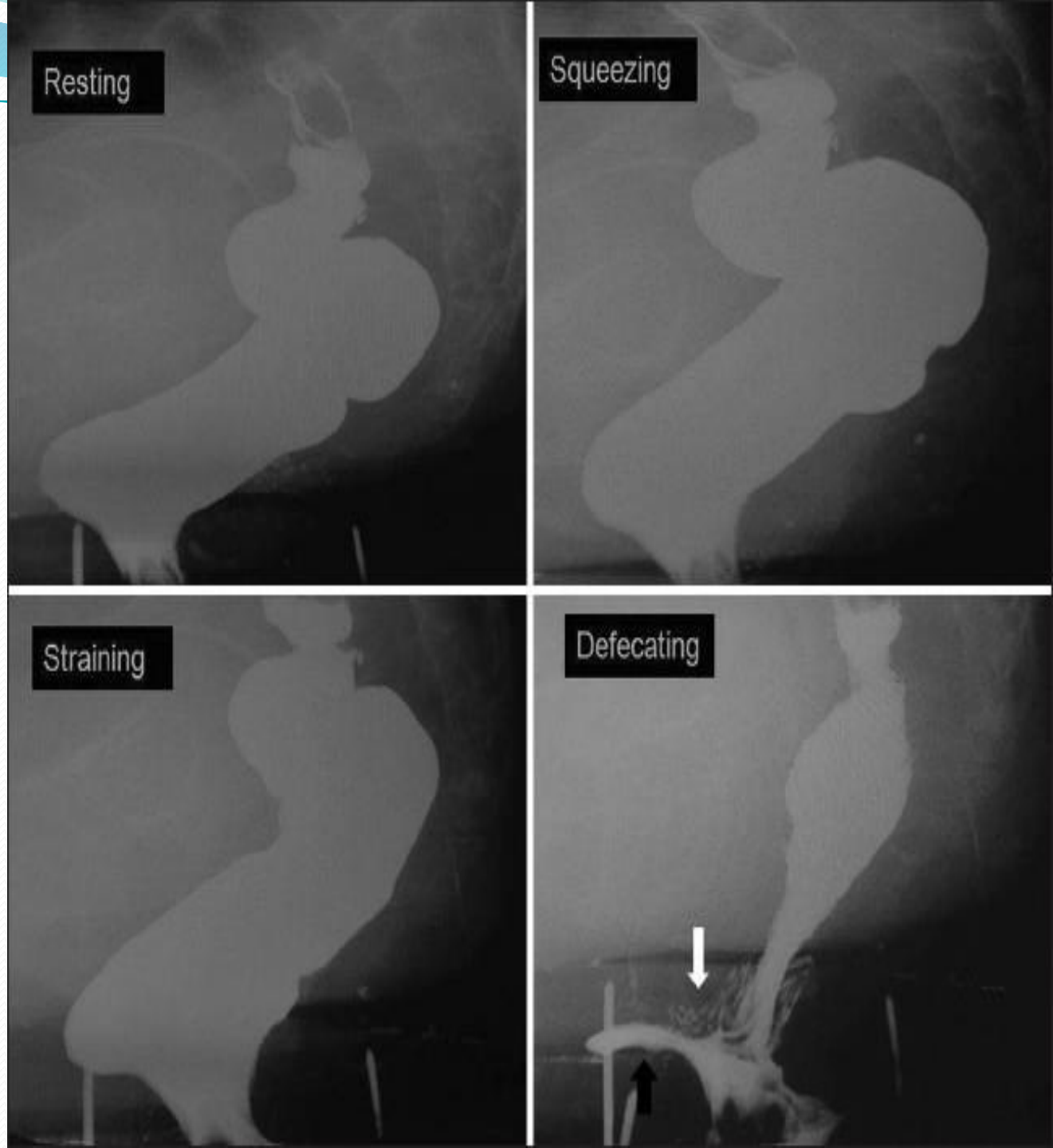
Procedure:

- Contrast is inserted into the rectum and vagina.
- Fluoroscopy is performed during defecation.

Defecography

Value in constipation–(indication)

- Paradoxical contraction of the pelvic floor-PFD
- Internal intussusception,
- Full thickness rectal prolapse,
- Rectocele, or enterocele.



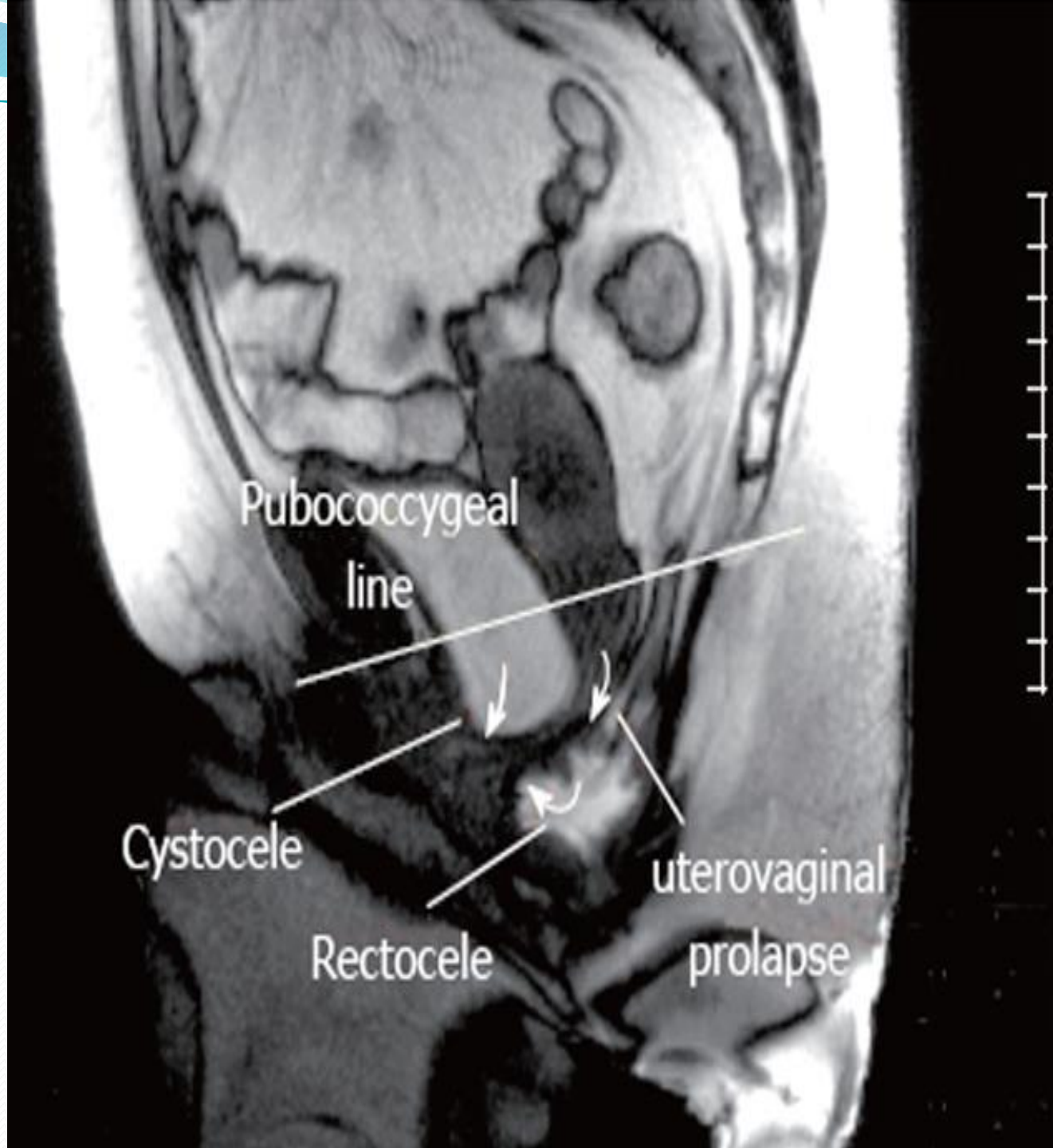
Dynamic MR defecography

Dynamic evaluation of the pelvic floor.

Contrast: (usually sonographic gel).

Types:

- open configuration MRI unit-
  - sitting during investigation,
  - superior
- closed-configuration units.

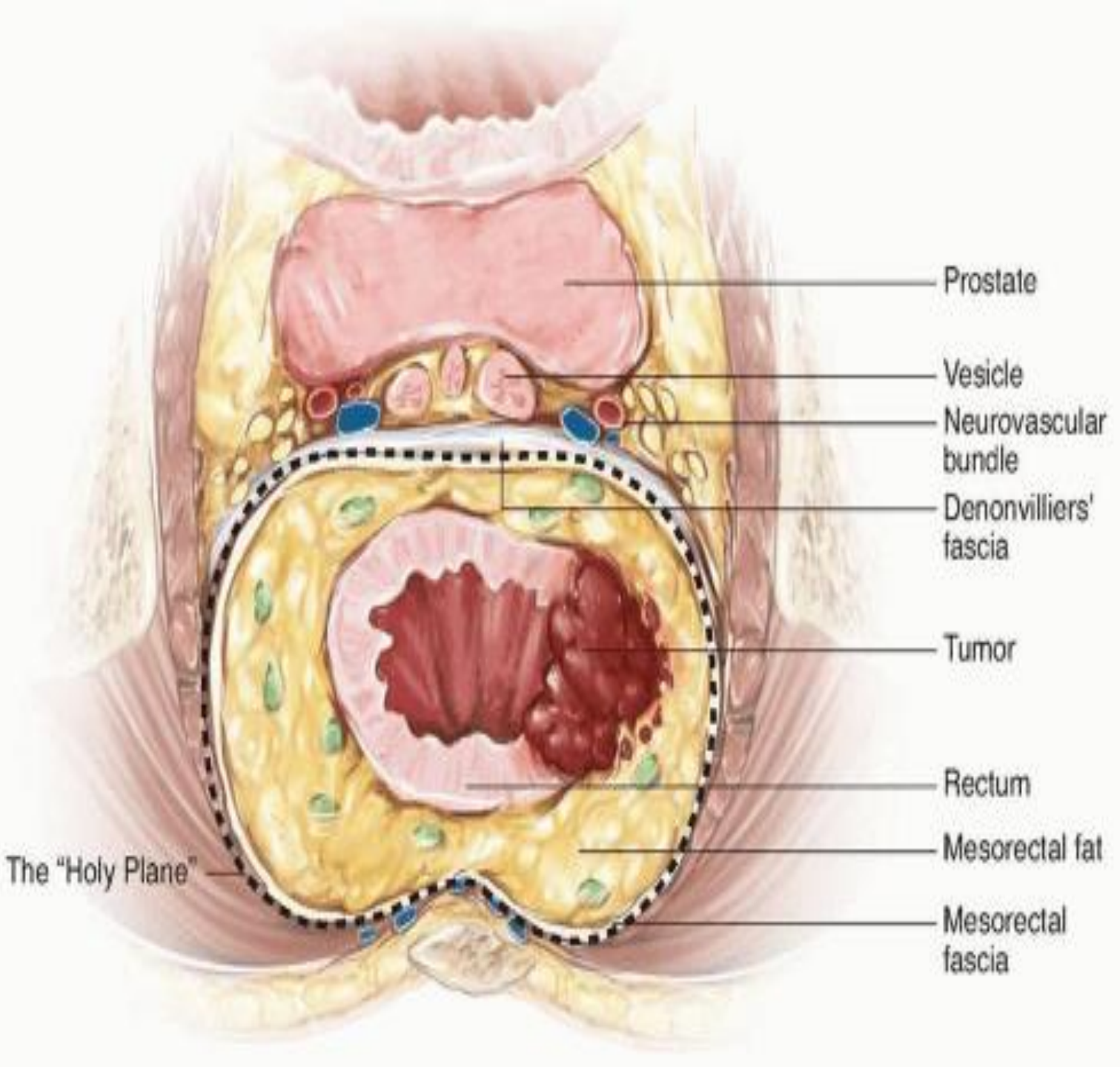


Plane of dissection-

- Close rectal
- Mesorectal
- Extramesorectal

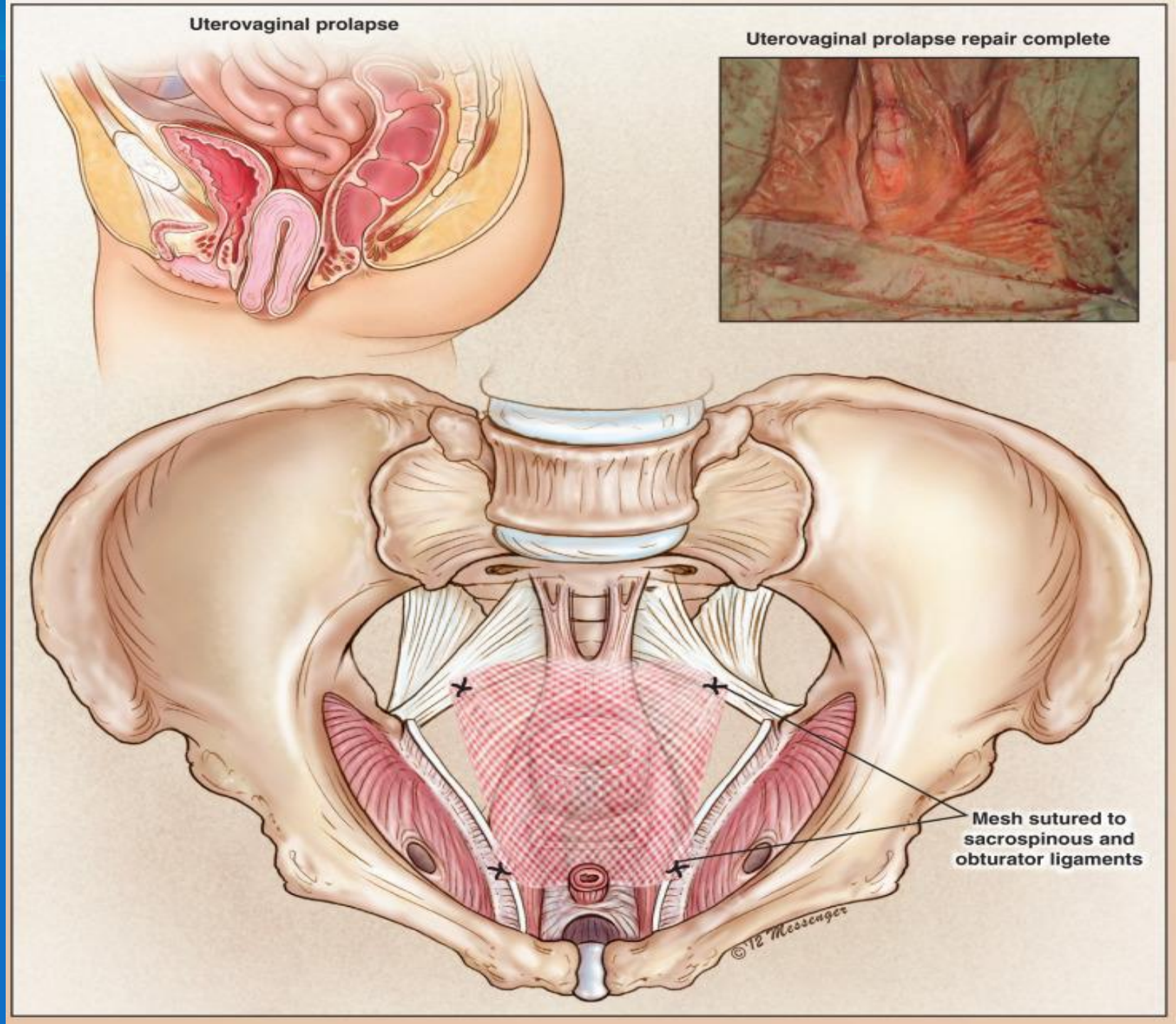
- Dissections for benign conditions-

  - closer to the bowel wall,
  - reducing the possibility of nerve injury.



In pelvic floor laxity- cystocele rectocele enterocele-----

- Total pelvic Marlex mesh repair.



Anismus / dyssynergic defecation / spastic pelvic floor syndrome

Failure of normal relaxation of pelvic floor muscle during attempted defecation.

- In both childrens & adults.
- > in woman.

Functional defecation disorder / functional rectal outlet obs---constipation----ODS.

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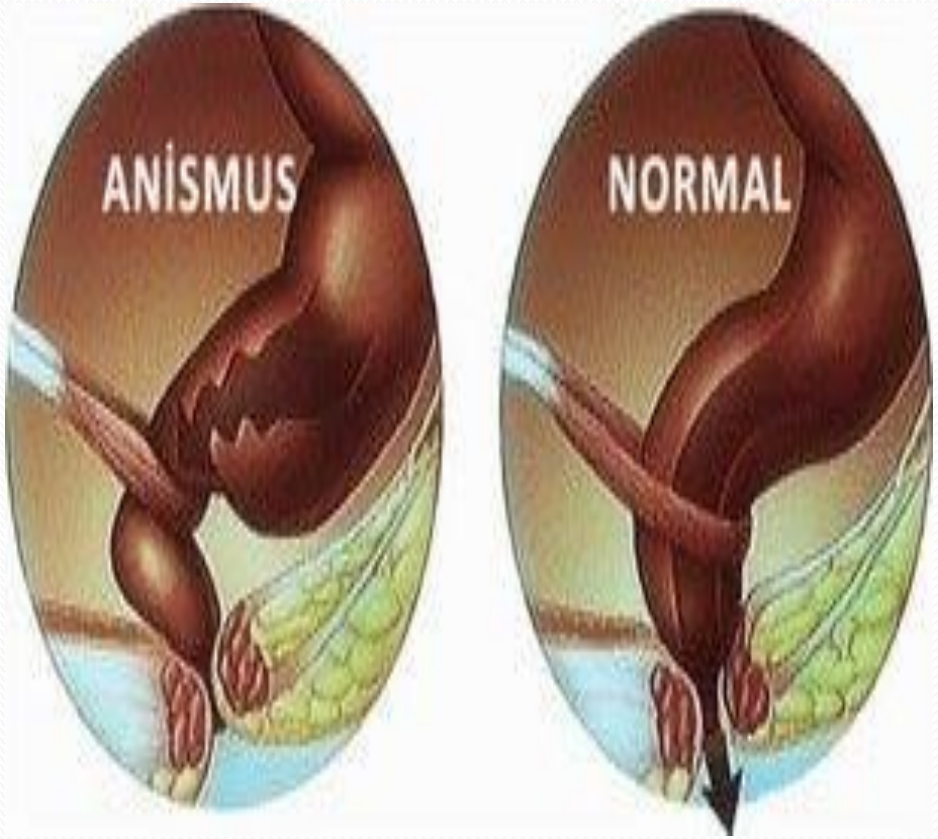
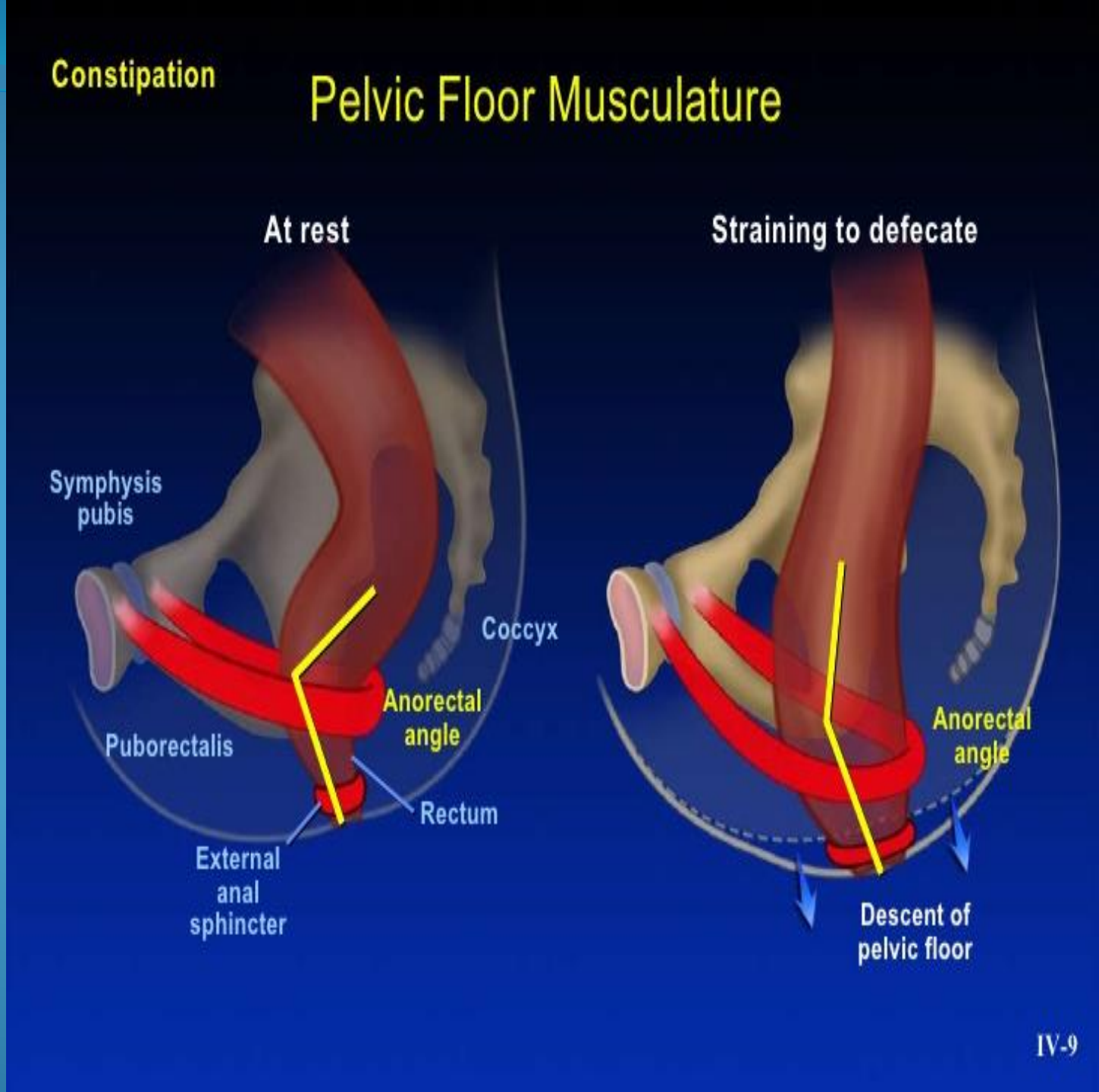


S/S-

- Straining to defecate.
- Tenesmus.
- Feeling anorectal obs.
- Digital evacuation of stool.

Anorectal angle

- 108-127 degree.

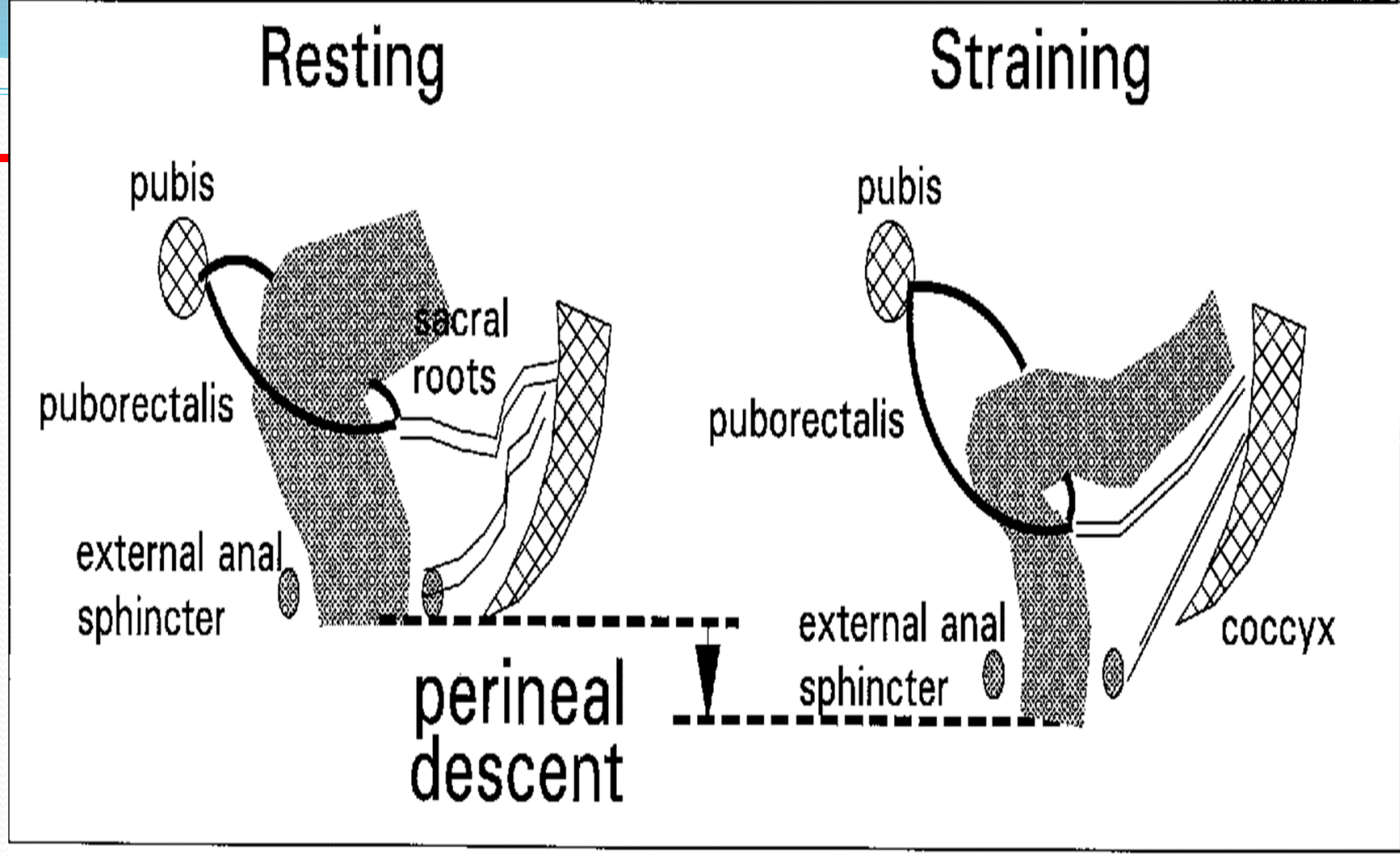


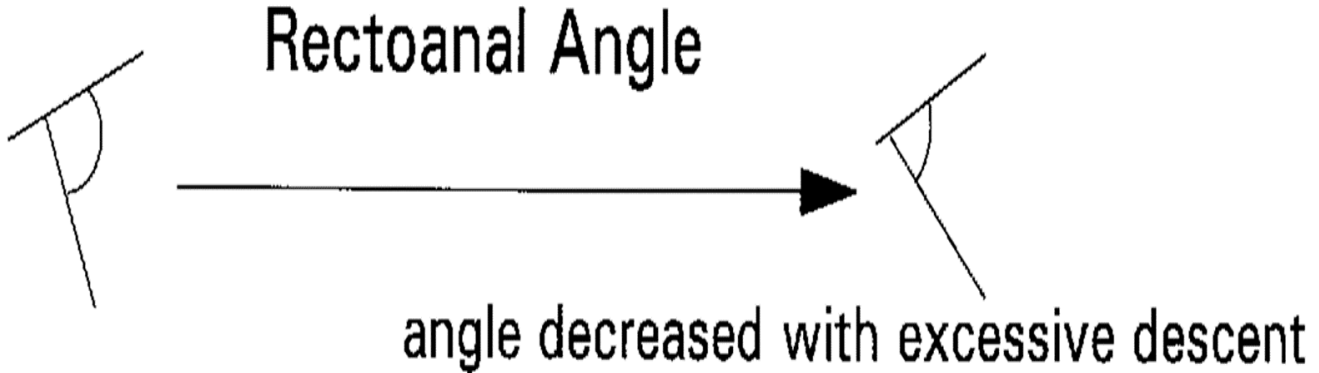
Diagnosis-

DRE- dyssynergic contraction and relaxation during defecation.

- Balloon expulsion test-

- Manometry
- Defecation proctography
- MR defecography





A. If 5 or fewer markers remain, patient has grossly normal colonic transit.

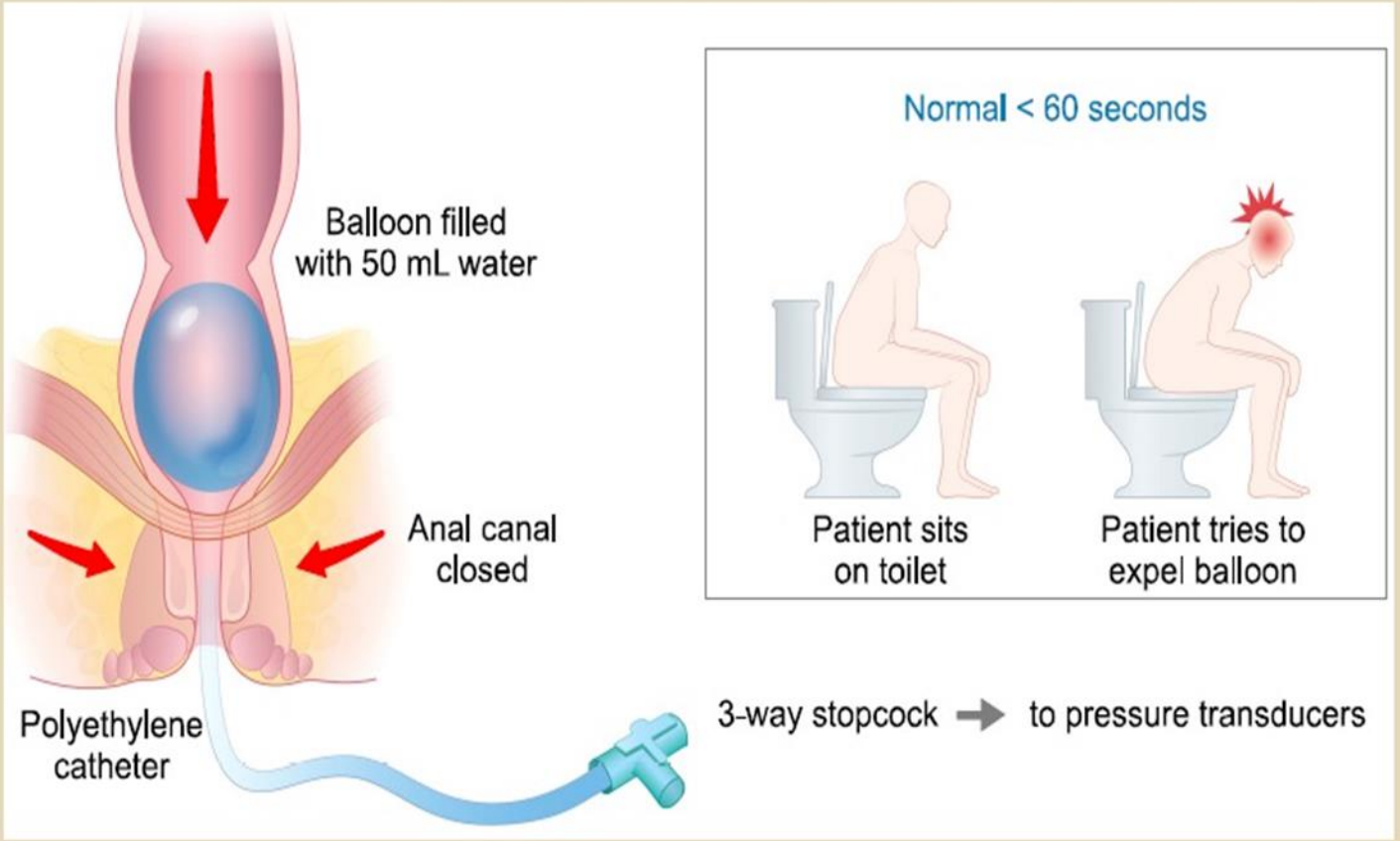
B. Most rings are scattered about the colon. Patient most likely has hypomotility or colonic inertia.

C. Most rings are gathered in the rectosigmoid. Patient has functional outlet obstruction.

Dyssynergic Defecation

Balloon expulsion test-

- Main aim to identify-ODS.
- Normal pt can expel upto 50-150ml within 1 min.
- Constipation, megarectum, nonrelaxing pelvic floor--cant expel even IRP is normal.



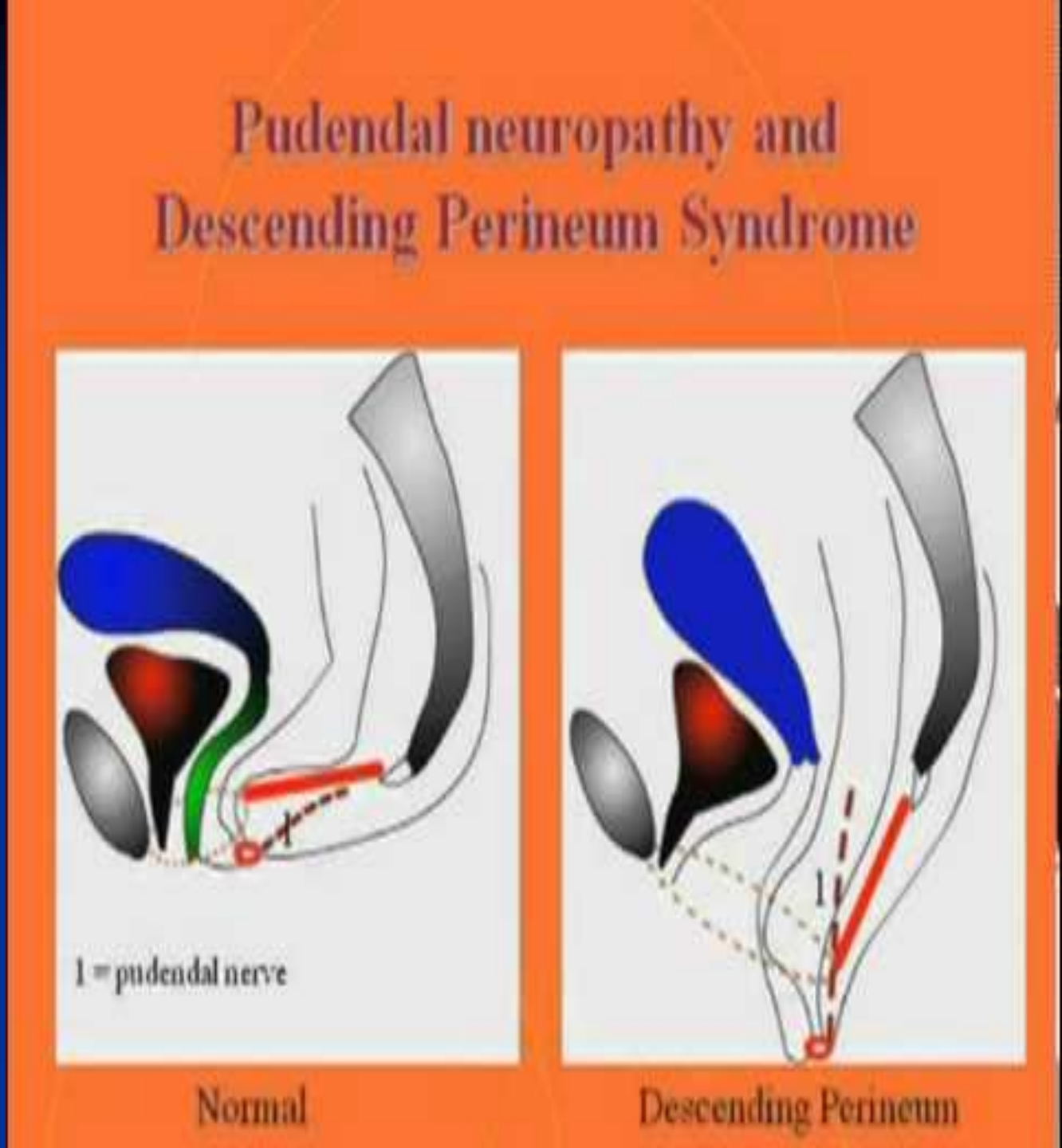
BALLOON EXPULSION TEST

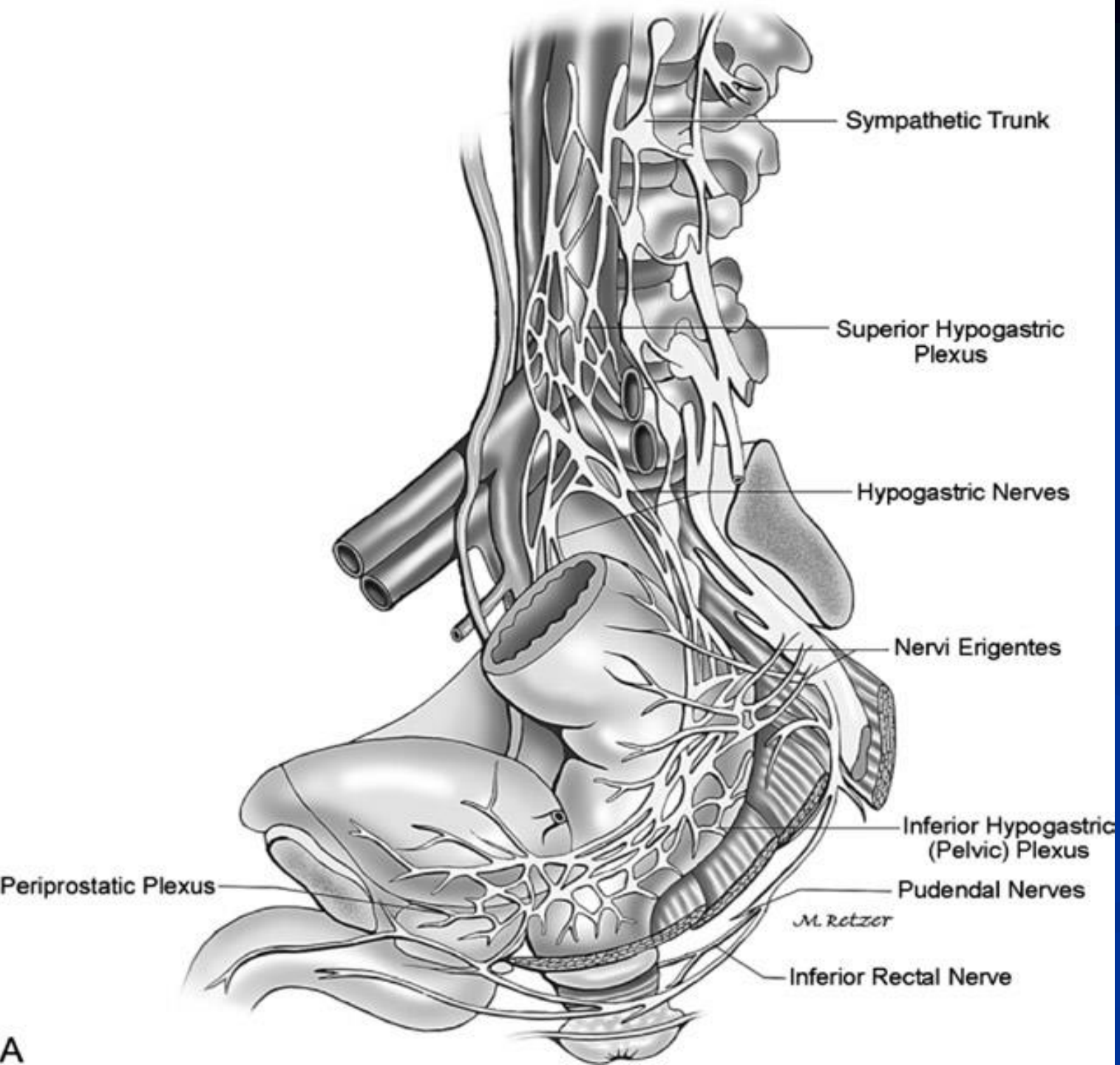
J Neurogastroenterol Motil 2014; 20(3): 407-409

Pelvic Floor Descent/ Failure

Excessive perineal descent -

- FI,
- Severe constipation,
- SRUS,
- anterior mucosal and full-thickness rectal prolapse.
- Urinary voiding problem.





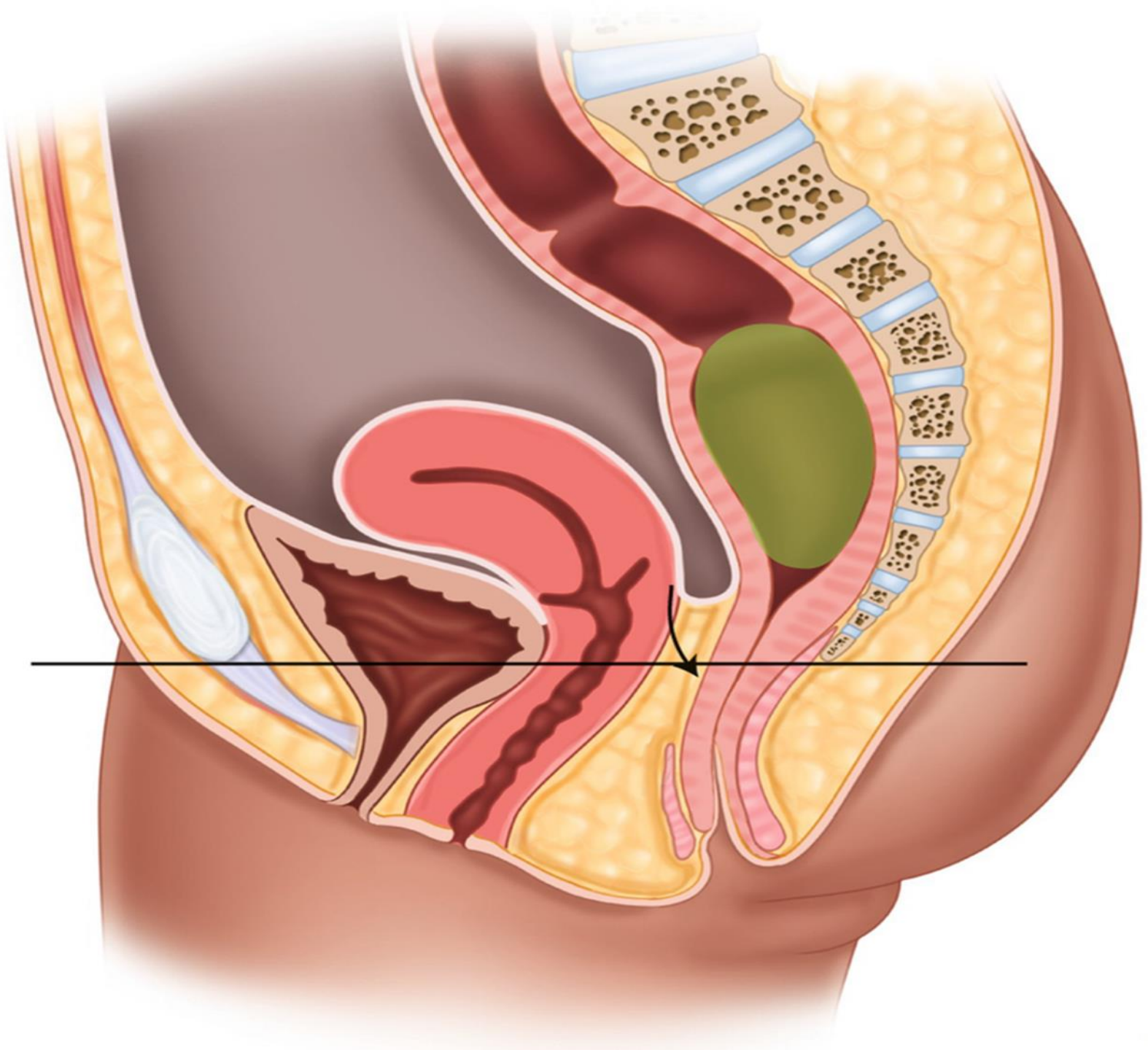
Pathophysiology:

Abnormal perineal descent, during straining, ----traction and damage to the pudendal & pelvic floor nerves----neuropathy & muscular atrophy.

- Irreversible pudendal nerve damage occurs after a stretch of 12% of its length.
- Descent of perineum of 2 cm, estimated to cause pudendal nerve stretching of 20%.

O/E-

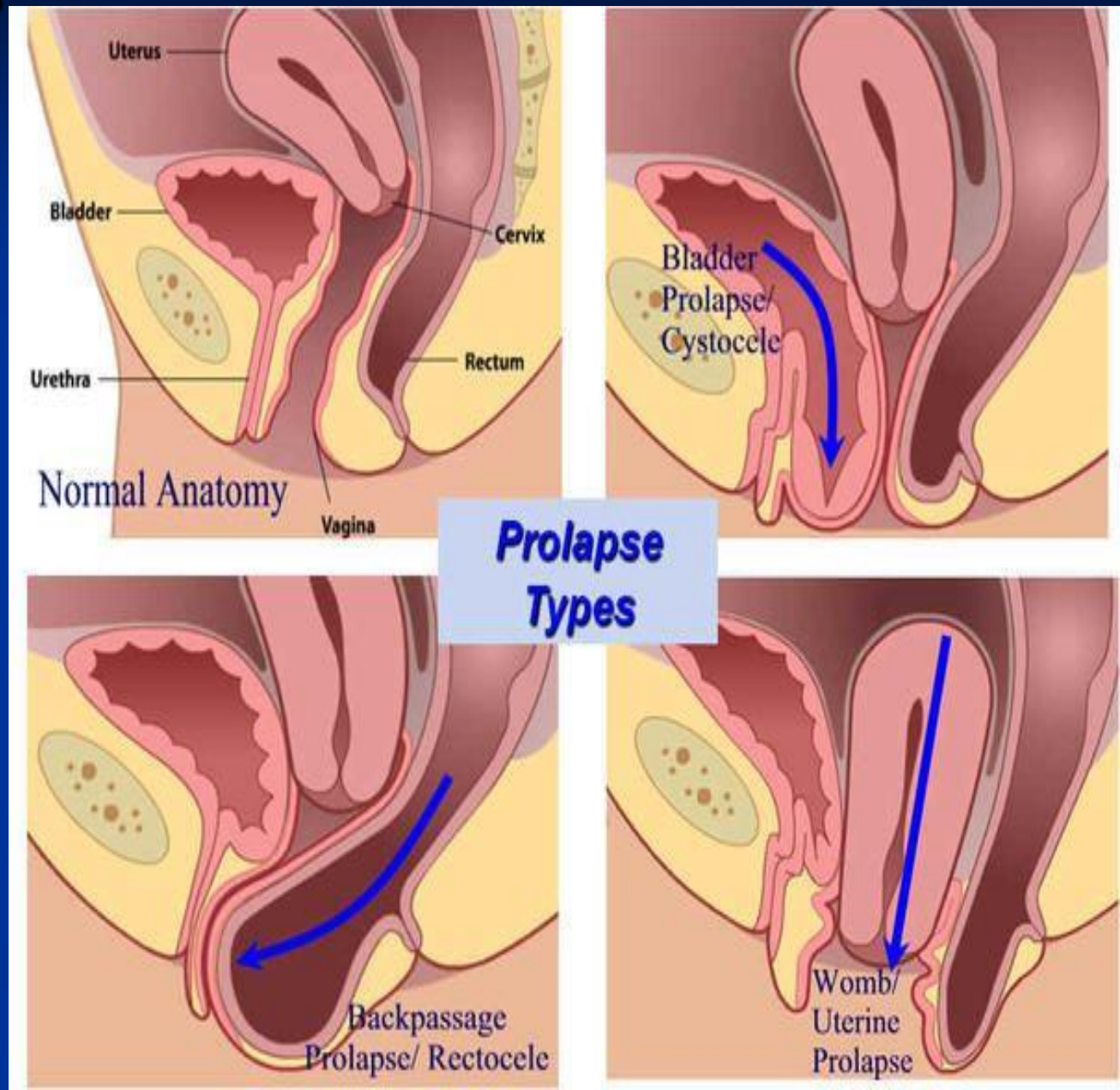
- Obliteration of perineal concavity.
- outward ballooning of perineum.
- Genital or rectal prolapse.



Diagnosis:

Precipitating factor :

- Chronic straining- 75% of subjects.
- Increased age
- Female.
- Neuropathy.
- **Chronic illness**
- **Malnutrition**
- **Internal prolapse**
- **Genitourinary & rectal prolapse.**



Investigation:

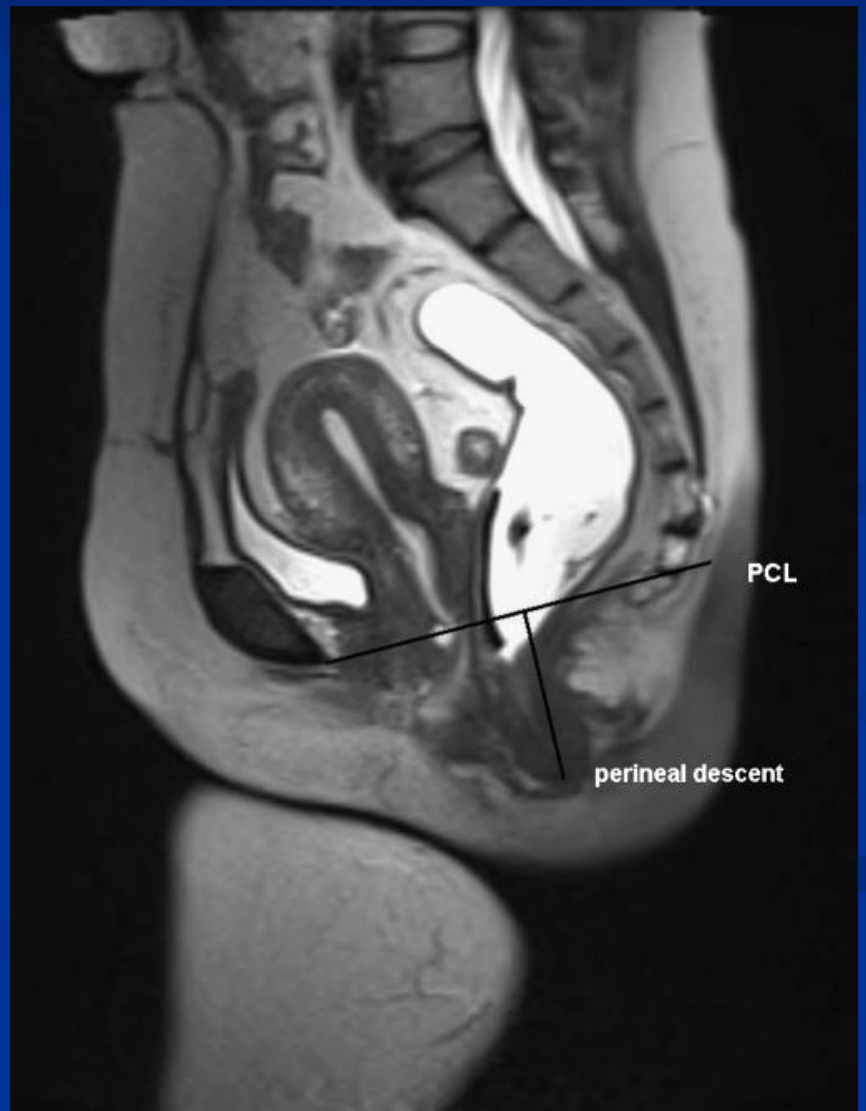
St Mark's perineometer placed on the ischial tuberosities---movable latex cylinder on the perineal skin----The distance between the level of the perineum and the ischial tuberosities is measured at rest & straining.

Interpretation:

- **Negative- plane** of the perineum is above the tuberosities.
- Positive- descent below this level.
- The plane of the perineum at rest should be −2.5±0.6 cm, descending to +0.9±1.0 cm on straining.

Dynamic proctography- The anorectal angle normally lies on a PCL & descends by 2±0.3 cm on straining.

- In DPS----descends 5-6 cm from PCL.

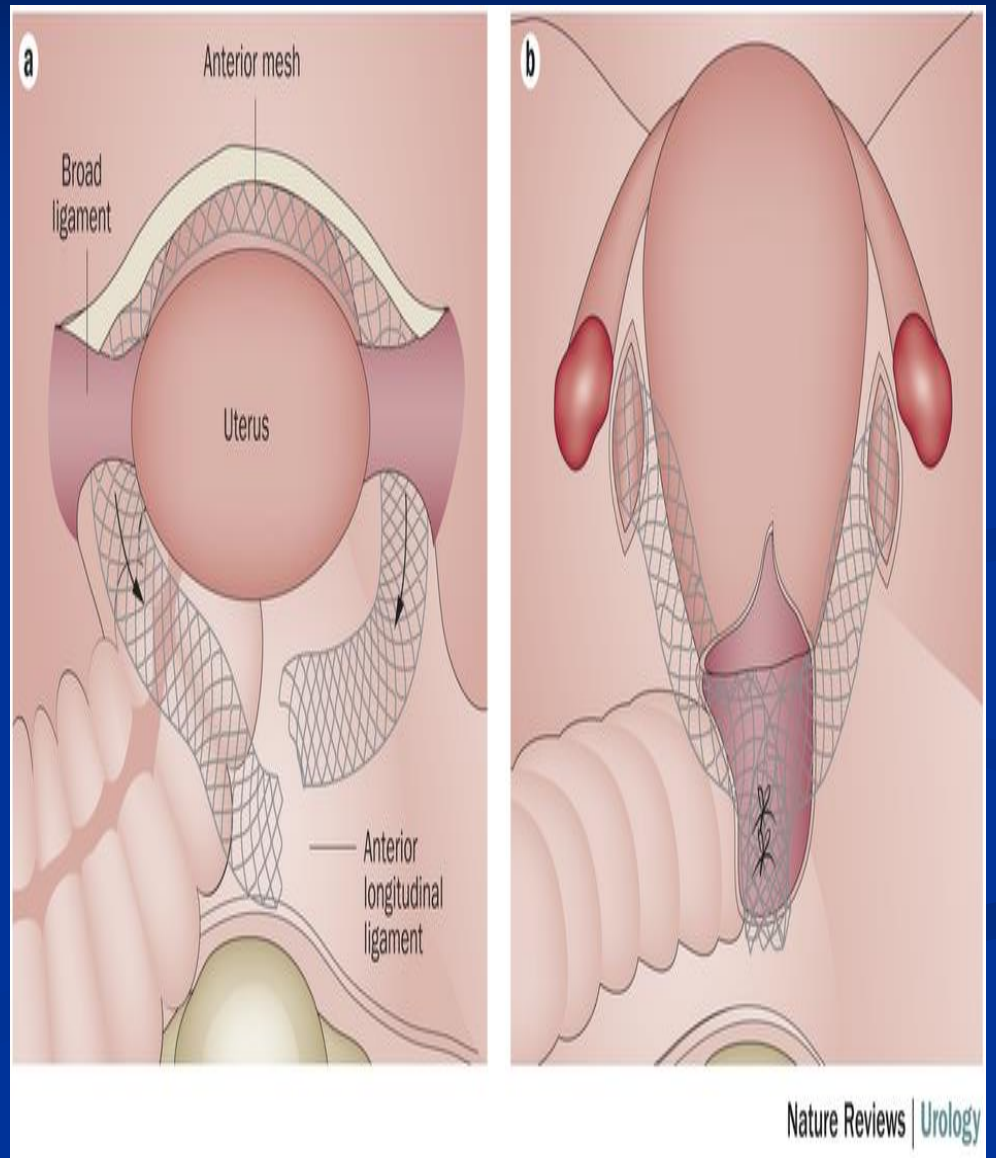


Management:

- Dietary fibre
- Laxative.
- Bowel training----avoid straining.

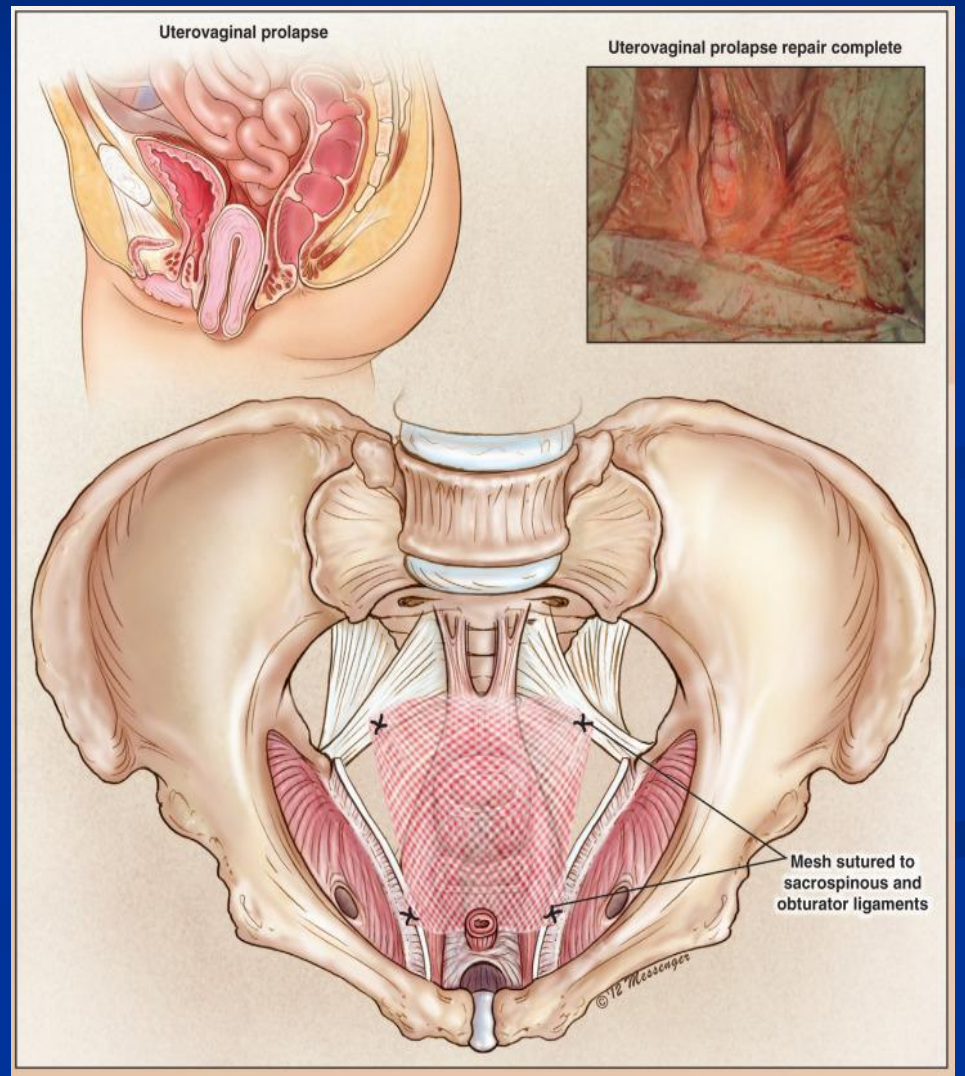
Surgery:

- Restoration of pelvic floor by
  - mesh &
  - suspension or
  - resection of rectum.
- Combined- abd. Colporectopexy with obliteration of Cul De sac.
- Combined abdominoperineal approach -colporectopexy with plication of levator & ant. Perineorrhaphy.



In pelvic floor laxity- cystocele rectocele enterocele-----

- Total pelvic Marlex mesh repair.



Thank You

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