GENITAL PROLAPSE

Presented by

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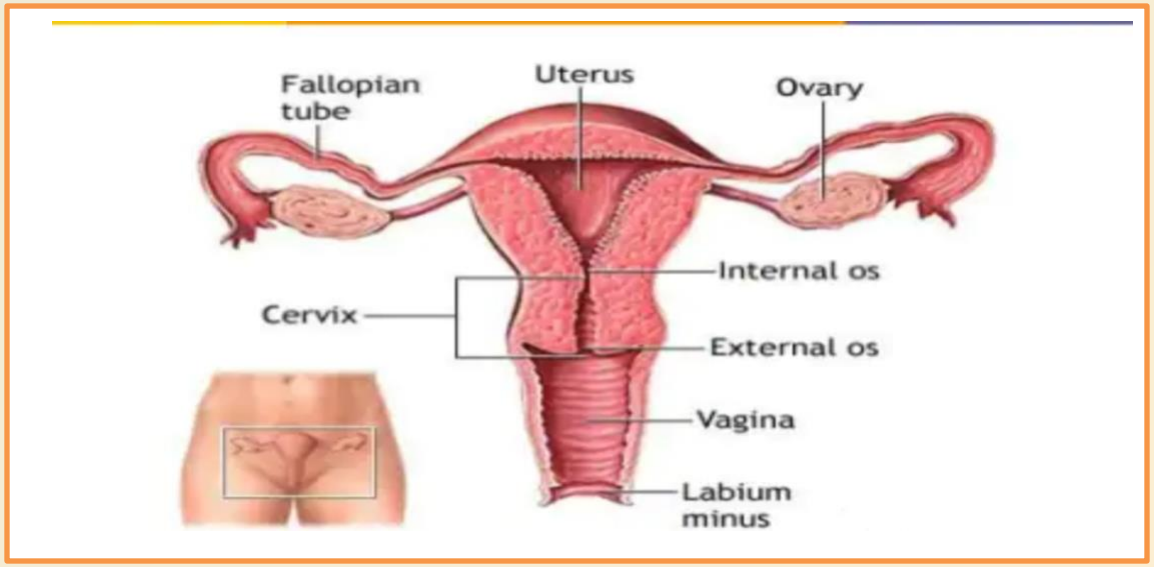
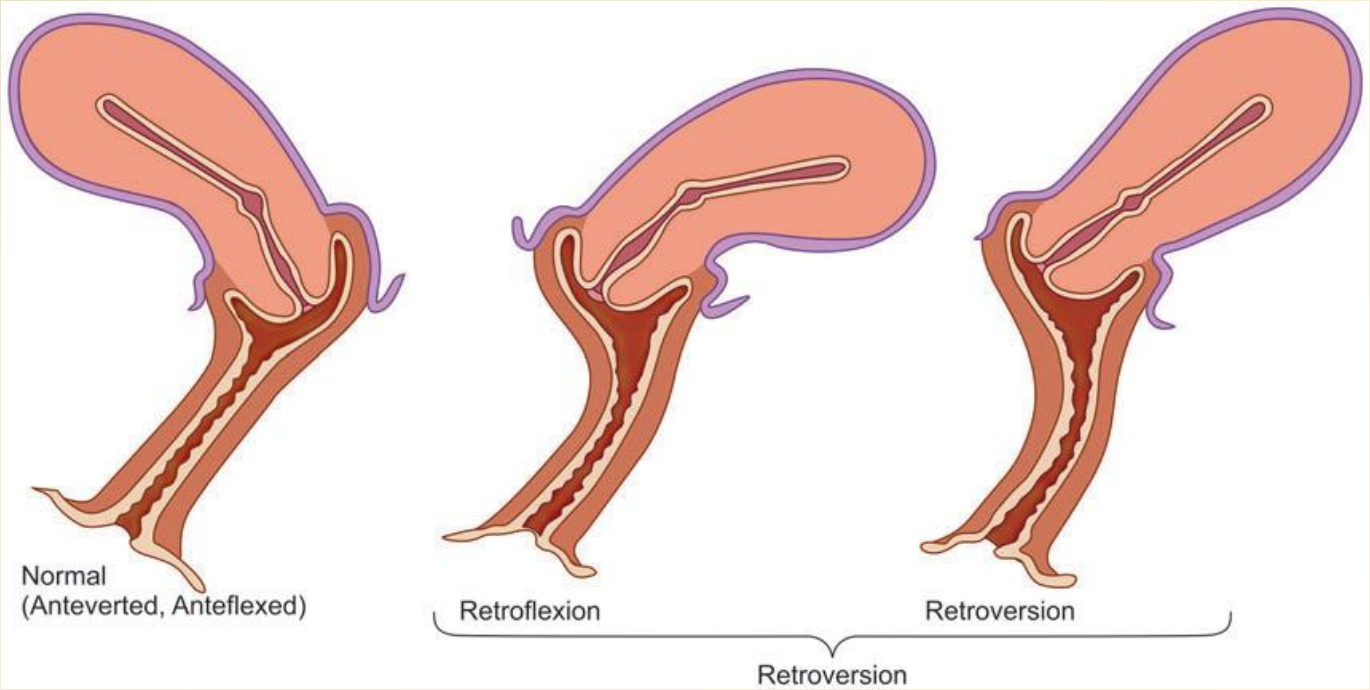
Genital prolapse / Pelvic organ prolapse

- Protrusion of pelvic organs into or out of the vaginal canal. External os lies at the level of ischial spine & internal os at the upper border of symphysis pubis. Descent of uterus from these levels is prolapse.



Position of Uterus

- Normal position of uterus – Anteverted and Anteflexed



Genital support

- Uterus has support of 3 tier : Upper tier, Middle and Lower tier
- **Upper tier** : The responsible structures are

❖ Endopelvic fascia covering the uterus

❖ Round ligaments

❖ Broad ligaments with intervening pelvic cellular tissues.

- **Middle tier : This constitutes** the strongest support of the uterus.

The responsible structures are:

Pericervical ring : It is connected with the

- **Anteriorly: Pubocervical ligaments and vesicovaginal septum**
- **Laterally: Cardinal ligaments**
- **Posteriorly: Uterosacral ligaments and rectovaginal septum**

Pelvic cellular tissues: consists of connective tissues and smooth muscles.

- **Inferior tier:** This gives the indirect support to the uterus.
- The support is principally given by the
  - Pelvic Floor Muscles (Levator Ani),
  - Endopelvic Fascia,
  - Levator Plate,
  - Perineal Body And
  - Urogenital Diaphragm

Supports of vagina

Supports of the Anterior Vaginal Wall-

1. **Positional support**: In the erect posture, the vagina makes an angle of 45° to the horizontal. Any raised intra-abdominal pressure is transmitted exclusively to the anterior vaginal wall which is apposed to the posterior vaginal wall.

2.**Pelvic cellular tissue** 3.**Bladder**

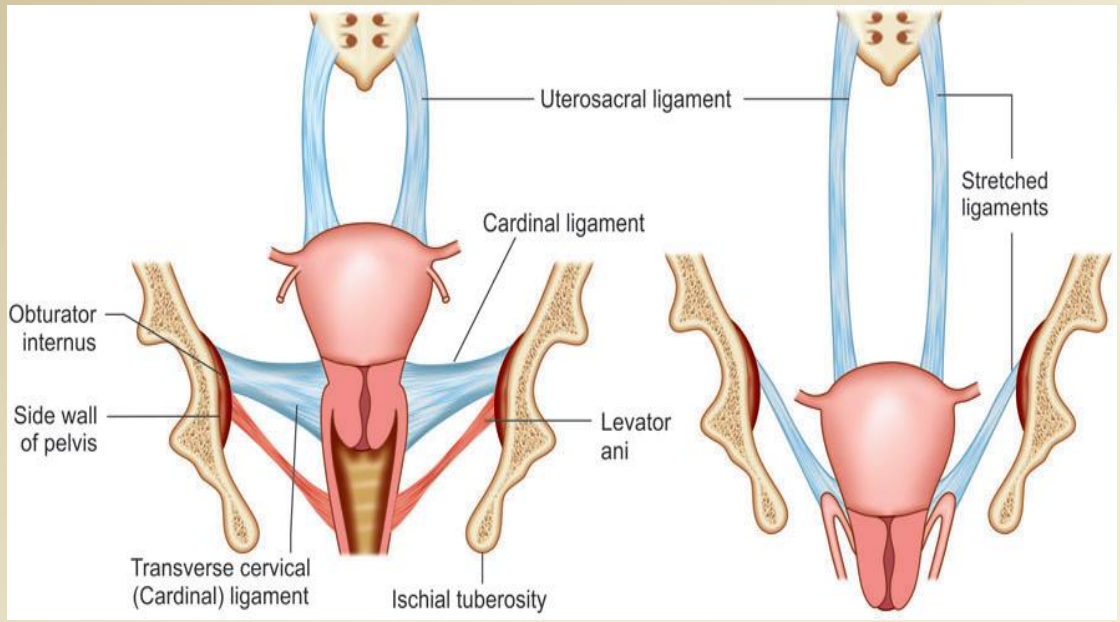
Supports of the posterior vaginal wall-

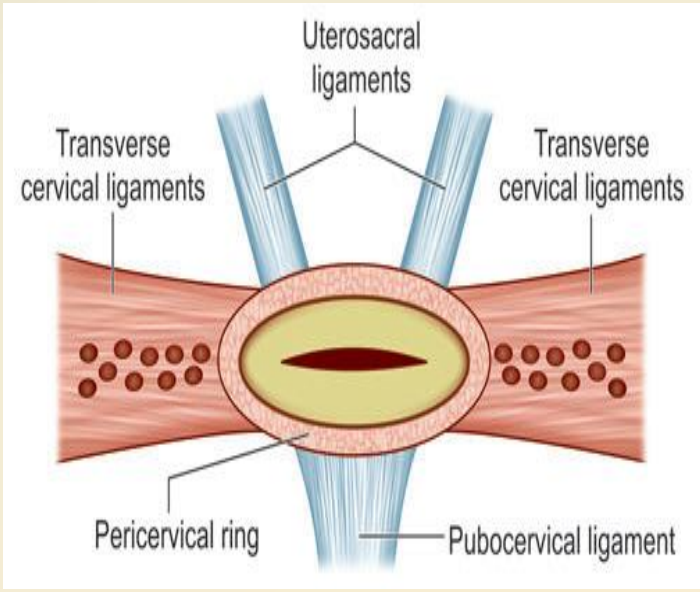
1.Endopelvic fascial sheath-covering vagina & rectum

2. Attachment of uterosacral ligament to lat.

3. Levator ani muscle

4. Urogenital diaphragm & perineal body





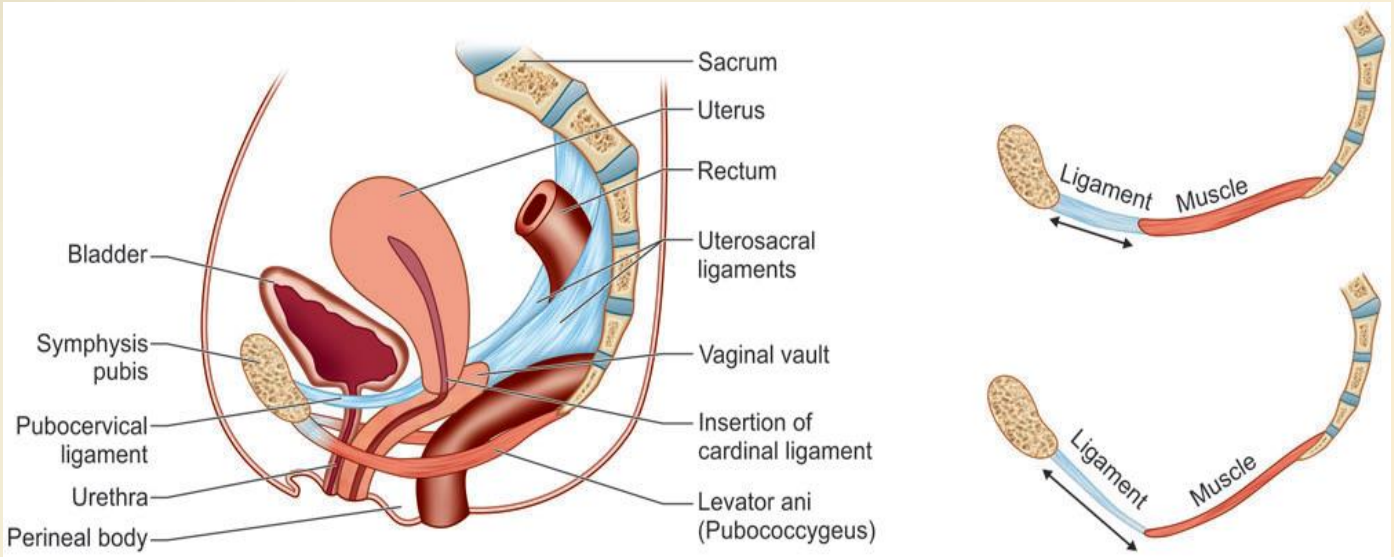


Fig. showing Support of uterus

Definition

- Prolapse : derived from latin word prolapsus, a slipping forth , which means falling or slipping out of place of a part or viscus.
- **Pelvic organ prolapse (POP)**: descent of the organs into the vagina often accompanied by urinary, bowel, sexual, or local pelvic symptoms.
- It is one of the common clinical conditions met in day-to-day gynecological practice **especially among the parous women.**

Prevalence: It is estimated that prolapse affects 12-30% multiparous and 2% of nulliparous women.

Aetiology of POP

Anatomical factors

- Gravitational stress due to human bipedal posture
- Anterior inclination of pelvis directing the force more anteriorly
- Stress of parturition (Internal rotation) causing maximum damage to puborectal fibers of levator ani
- Pelvic floor weakness due to uro-genital hiatus and the direction of obstetric axis through the hiatus
- Inherent weakness (Genetic) of the supporting structures

Predisposing factors

A. Acquired

Trauma of vaginal delivery causing injury (tear or break) to:

- Ligaments
- Endopelvic fascia
- Levator muscle (myopathy)
- Perineal body
- Nerve (pudendal) and muscle damage due to repeated child birth

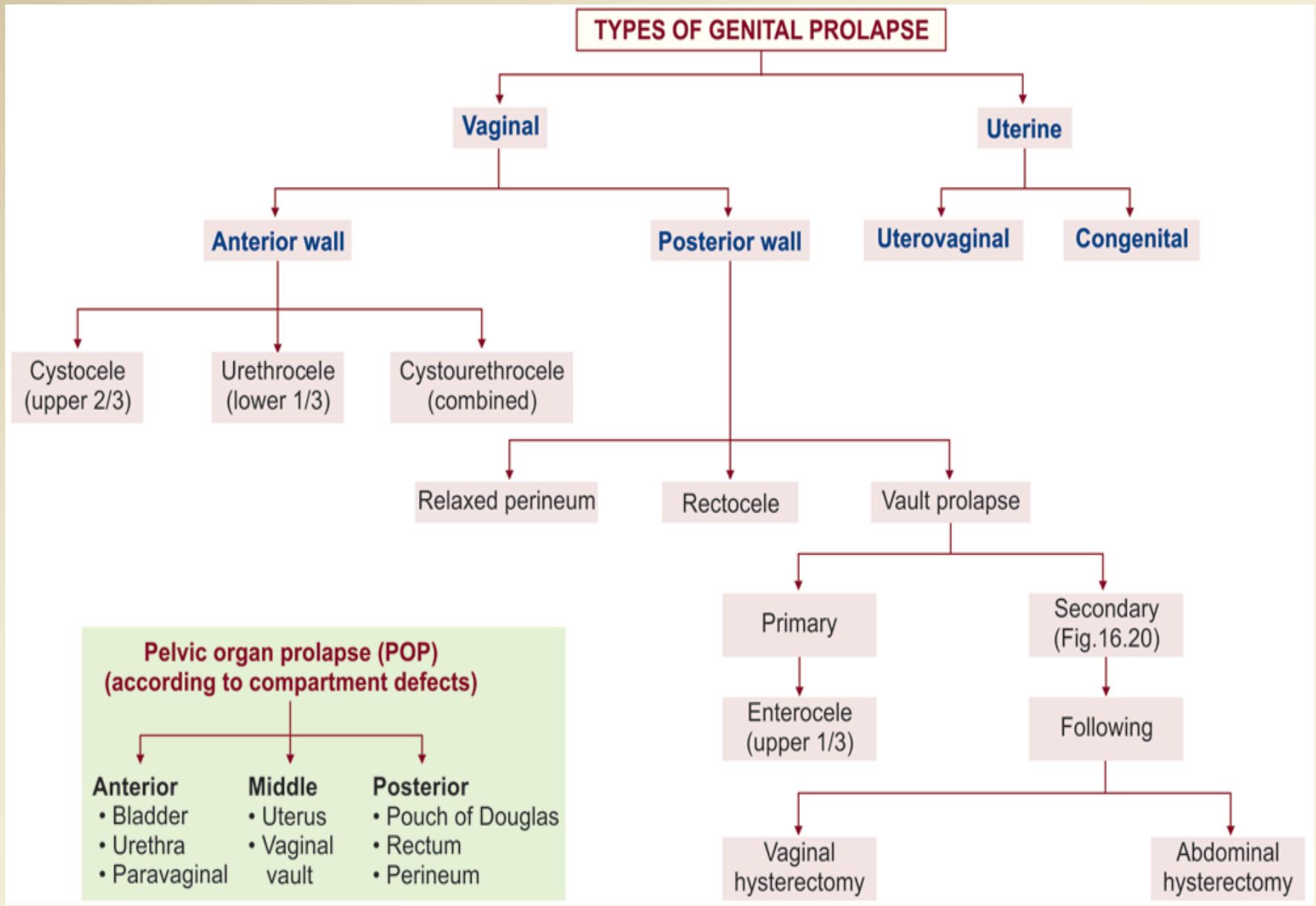
B. Congenital

- **Genetic (connective tissue disorders),** decreased ratio of type I collagen
- Spina bifida

Aggravating factors

- Postmenopausal atrophy
- Poor collagen tissue repair with age
- Increased intra-abdominal pressure as in chronic lung disease (COPD) and constipation
- Occupation (weight lifting)
- Asthenia and under-nutrition
- Obesity, smoking
- Increased weight of the uterus as in fibroid or myo-hyperplasia
- Multiparity, smoking

These factors possibly operate where the supports of the genital organs are already weak


TYPES OF GENITAL PROLAPSE
Vaginal
Uterine
Anterior wall
Posterior wall
Uterovaginal
Congenital
Cystocele (upper 2/3)
Urethrocele (lower 1/3)
Cystourethrocele (combined)
Relaxed perineum
Rectocele
Vault prolapse
Primary
Secondary (Fig.16.20)
Enterocele (upper 1/3)
Following
Vaginal hysterectomy
Abdominal hysterectomy
Pelvic organ prolapse (POP) (according to compartment defects)
Anterior
• Bladder
• Urethra
• Paravaginal
Middle
• Uterus
• Vaginal vault
Posterior
• Pouch of Douglas
• Rectum
• Perineum

Types of POP

The genital prolapse is broadly grouped into:

- **Vaginal prolapse**
- **Uterine prolapse**

While vaginal prolapse can occur independently without uterine descent, the uterine prolapse is usually associated with variable degrees of vaginal descent

Vaginal Prolapse-

- **Vaginal Prolapse- Anterior wall**

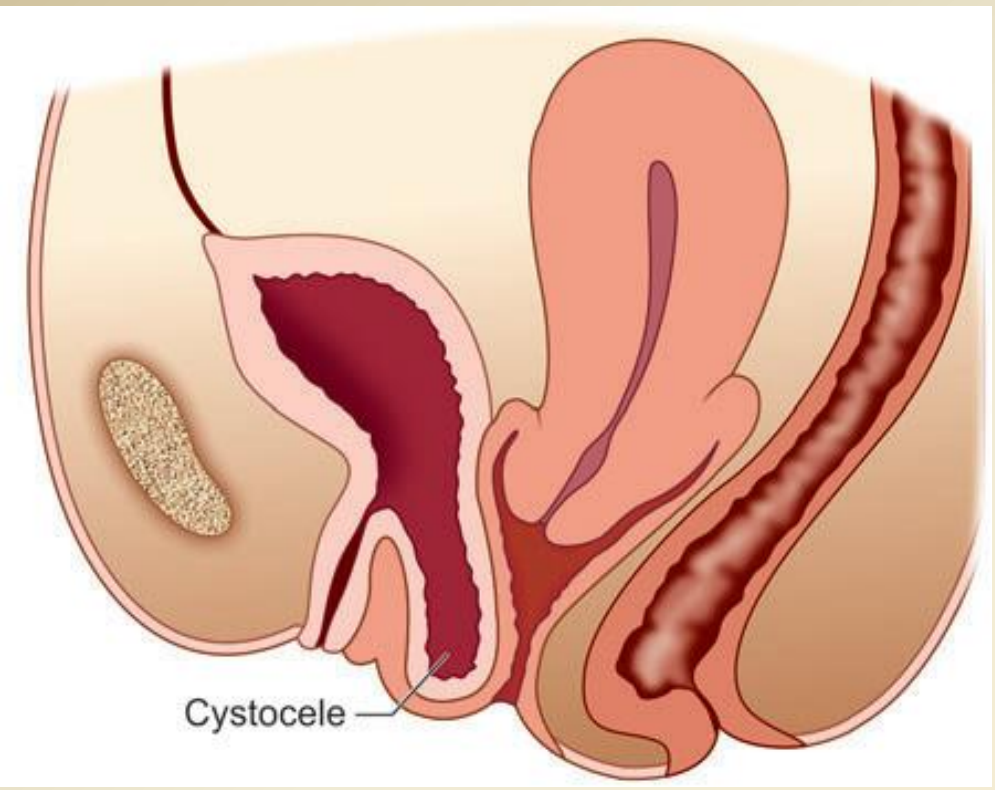
Cystocele — The cystocele is formed by laxity and descent of the upper two-thirds of the anterior vaginal wall. As the bladder base is closely related to this area, there is herniation of the bladder through the lax anterior wall.

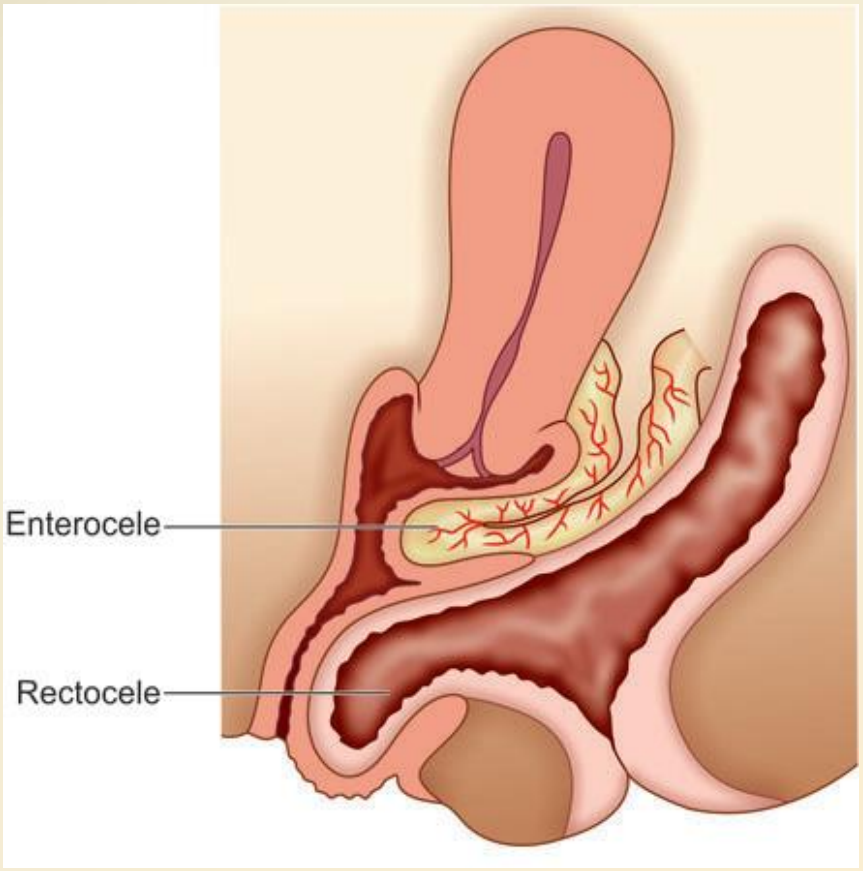
Urethrocele — When there is laxity of the lower-third of the anterior vaginal wall, the urethra herniates through it. This may appear independently or usually along with cystocele and is called cystourethrocele.

- **Posterior wall**

Relaxed perineum — Torn perineal body produces gaping introitus with bulge of the lower part of the posterior vaginal wall.

Rectocele — There is laxity of the middle-third of the posterior vaginal wall and the adjacent rectovaginal septum.

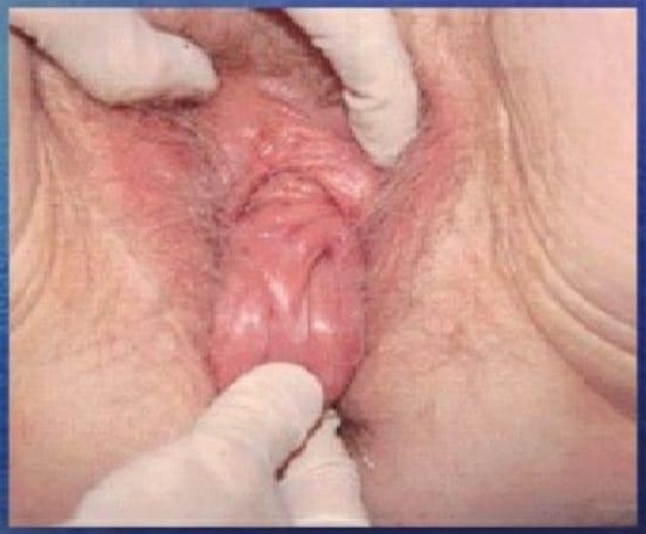

Cystocele


Enterocele
Rectocele

Vault Prolapse

- **Enterocele:** Laxity of the upper-third of the posterior vaginal wall results in herniation of the pouch of Douglas, contain omentum or even loop of small bowel and hence, called enterocele.
- **Secondary vault prolapse:** may occur following either vaginal or abdominal hyste rectomy.

Vaginal Vault Prolapse



Uterine Prolapse

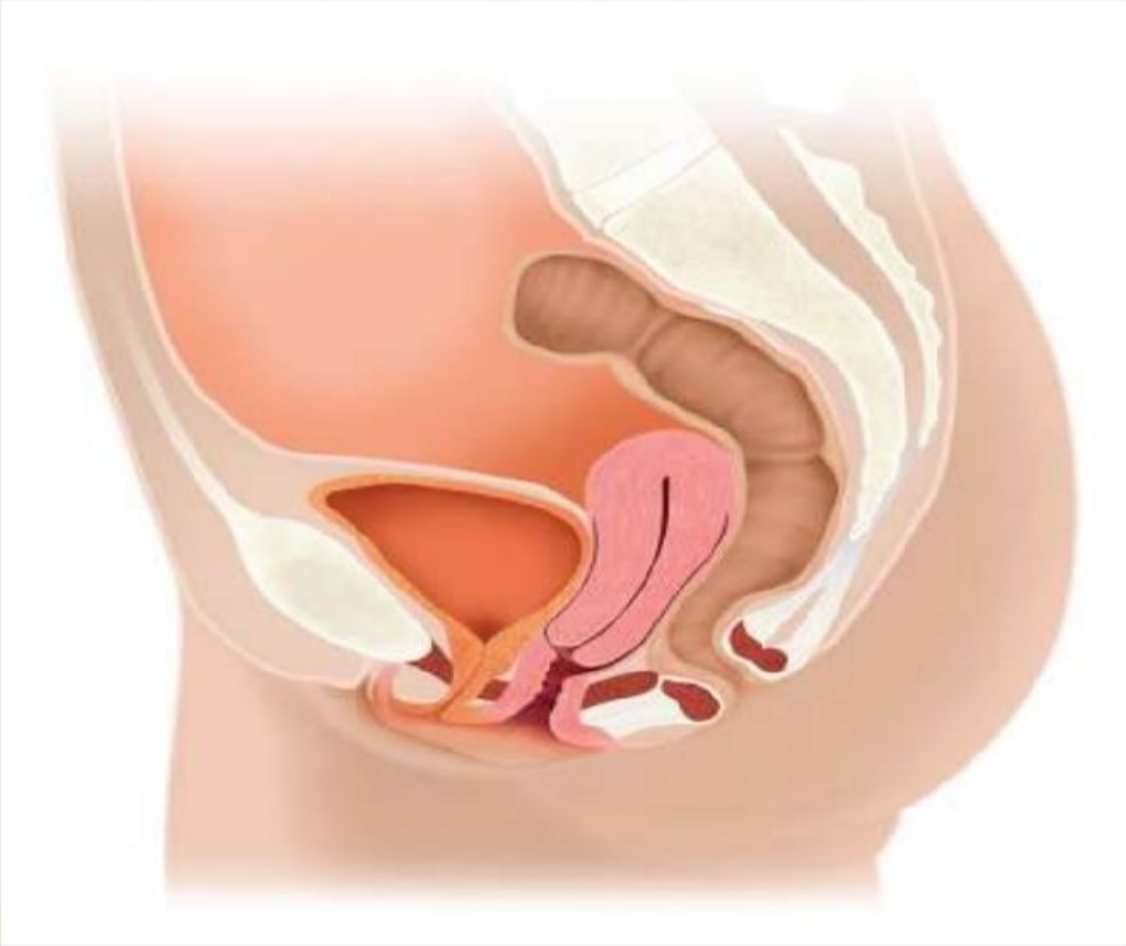
- **Uterovaginal prolapse** is the prolapse of the uterus, cervix, and upper vagina. This is the most common type.

- **Congenital prolapse:** There is usually no cystocele. This is often met in nulliparous women.

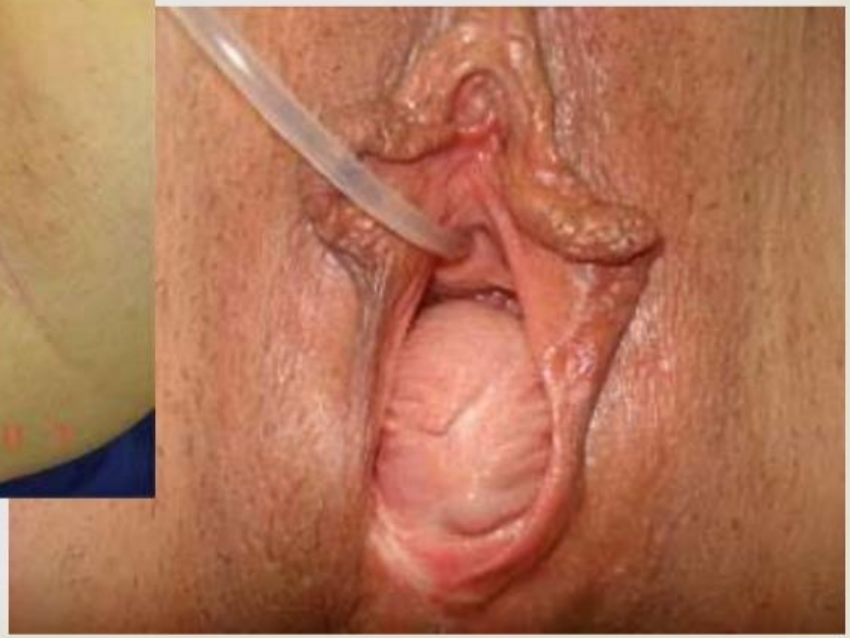
DEGREES OF UTERINE PROSLAPSE (CLINICAL)

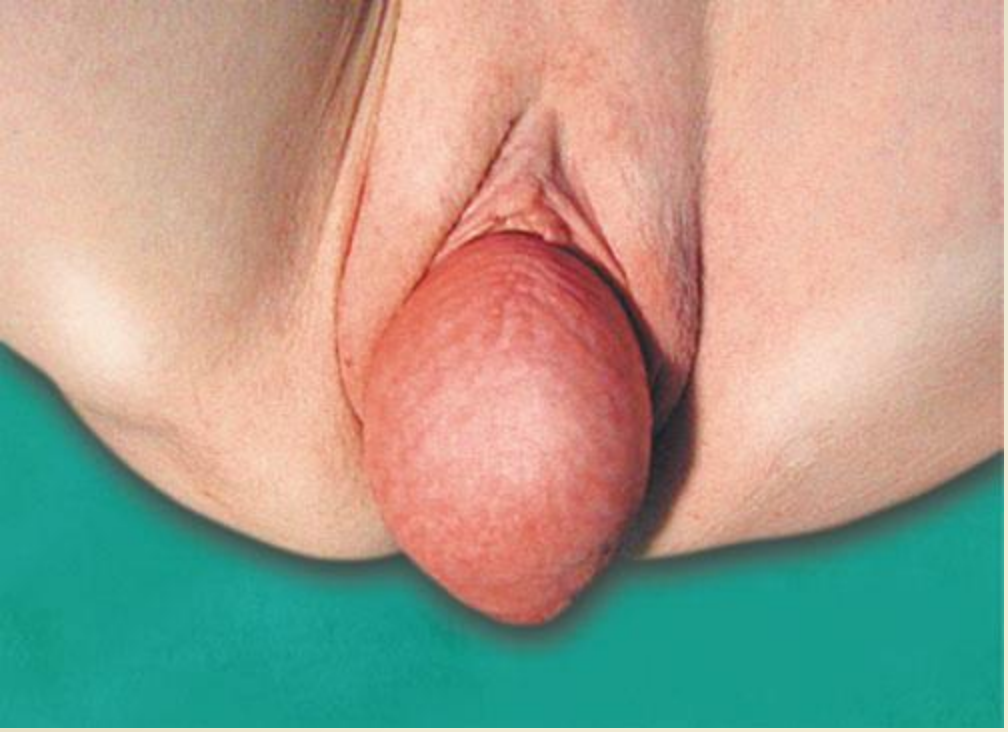
- **Normal: External os lies at the level of ischeal spines. No** prolapse
- **First degree: The uterus descends down from its normal** anatomical position but the external os still remains above the Introitus .
- **Second degree: The external os protrudes outside the vaginal** introitus but the uterine body still remains inside the vagina
- **Third degree: (*Syn: Procidentia, Complete prolapse) : The*** uterine cervix and body and the fundus descends to lie outside the introitus
- **Procidentia involves prolapse of the uterus with eversion of** the entire vagina.

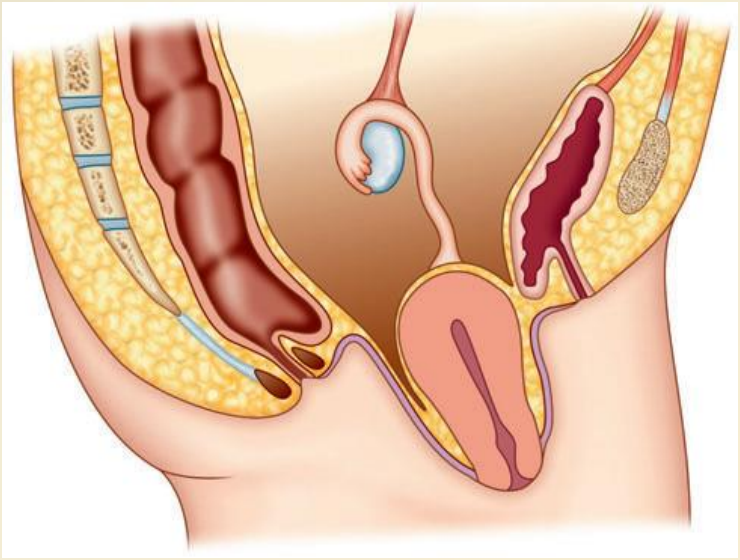
First degree prolapse



Second degree prolapse



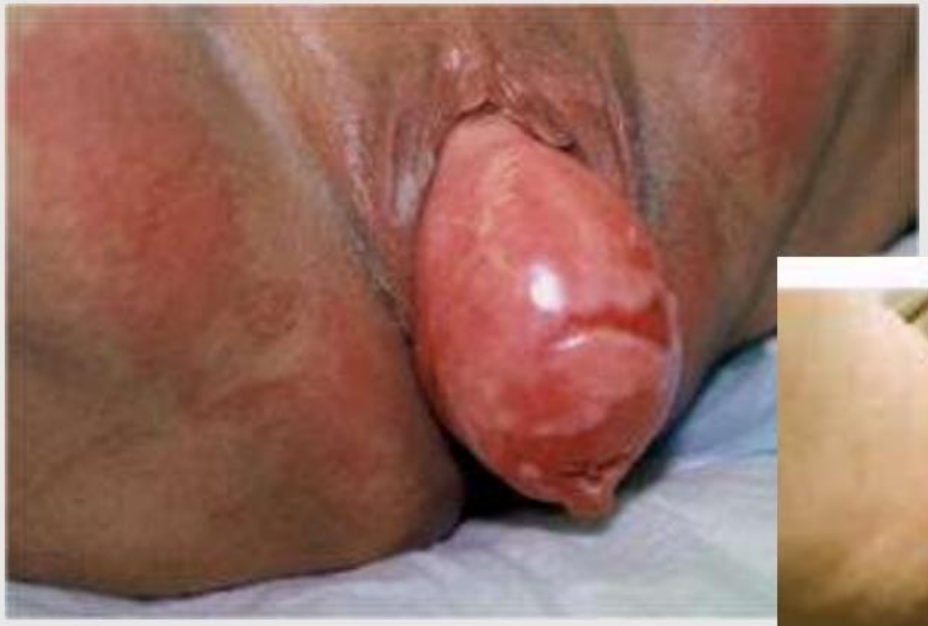




Third degree uterine prolapse

Second degree uterine prolapse with marked cystocele

Third degree prolapse



Baden-walker-halfway system for the evaluation of pelvic organ prolapse during physical examination

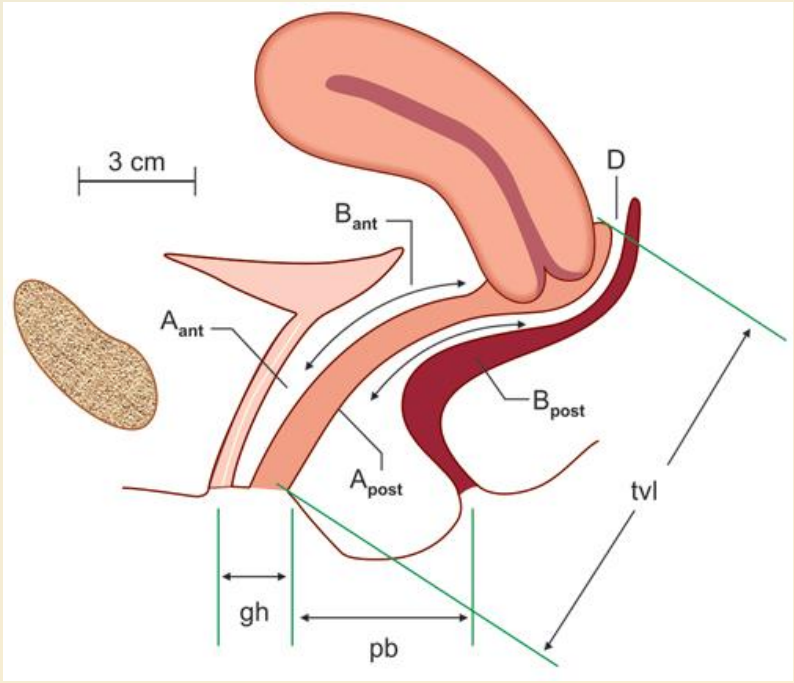
Grade	
0	Normal position for each respective site
1	Descent halfway to hymen
2	Descent to hymen
3	Descent halfway past the hymen
4	Maximum possible descent for each site

PELVIC ORGAN PROLAPSE QUANTITATIVE SCORING

Stage	Description
0	**No descent of pelvic organs**
I	**Leading edge of the prolapse remains 1 cm or more** above the hymenal ring (1 cm)
II	**Leading edge of the prolapse extends from 1 cm above** (–1) to 1 cm below (+1) the hymenal ring
III	**From 1 cm beyond the hymenal ring but without** complete vaginal eversion
IV	**IV Essentially complete eversion of vagina**

GRID USED TO RECORD MEASUREMENTS IN POP-Q SYSTEM

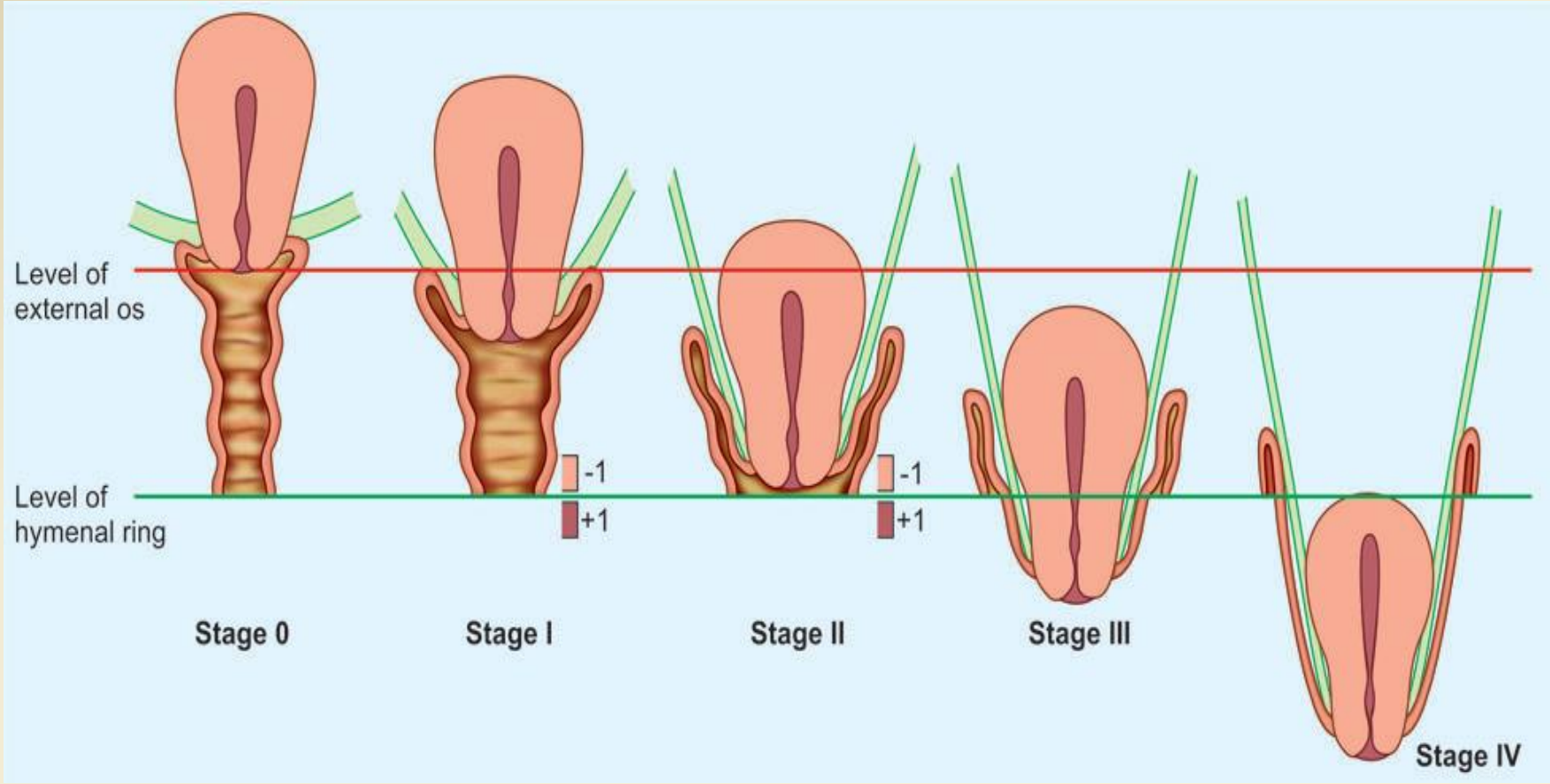
Aa Anterior wall (– 3 cm to + 3 cm)	Ba Anterior wall (– 3 cm to + 8 cm)	C Cervix or vaginal cuff (– 8 cm to +8 cm)
gh Genital hiatus (2 cm)	pb Perineal body (3 cm)	tvl Total vaginal length (10 cm)
Ap Posterior wall (– 3 cm to +3)	Bp Posterior wall (– 3 cm to +8 cm)	D Posterior fornix (–10)



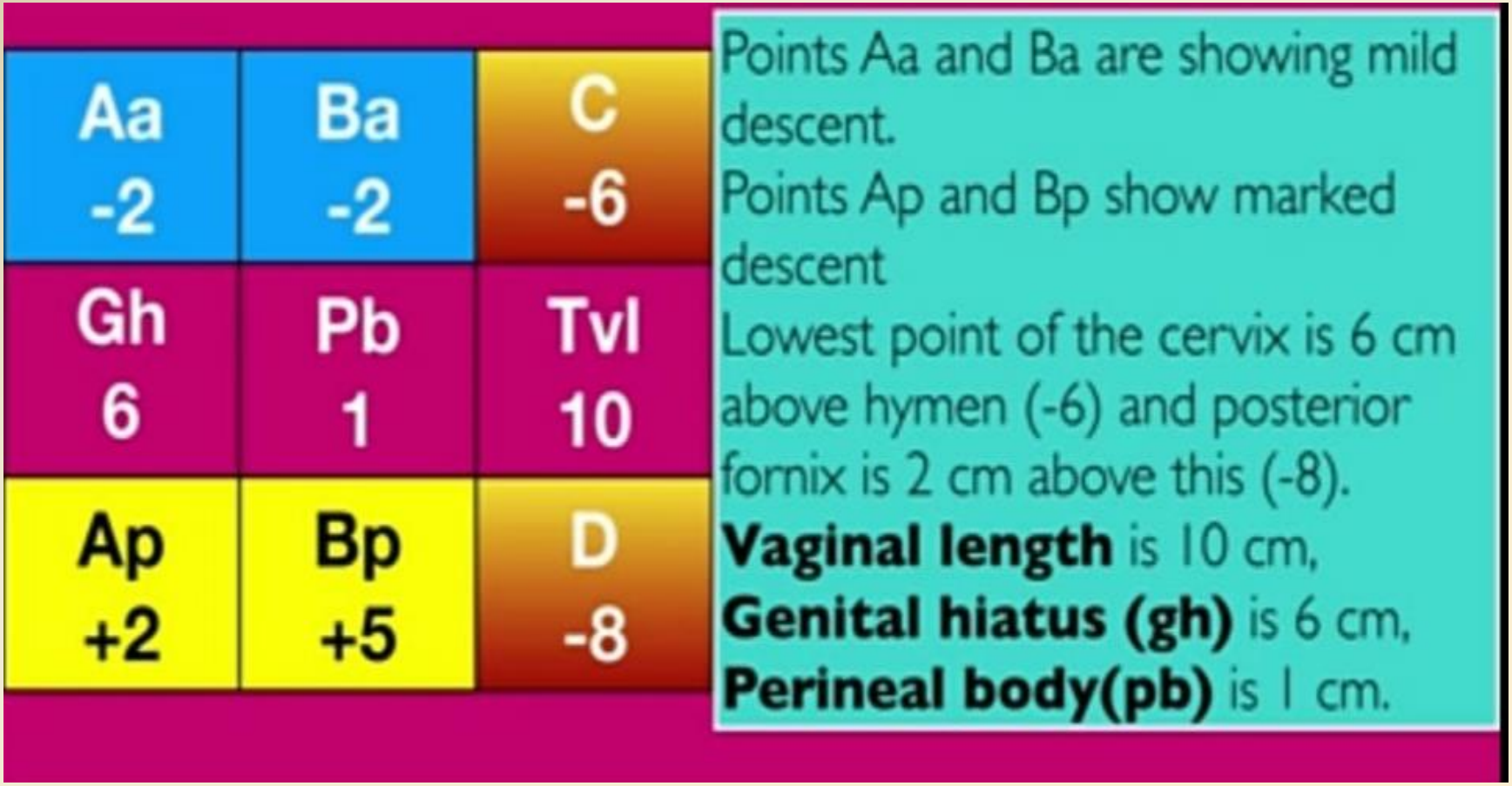
Site specific measurements in pelvic organ prolapse quantification (POP-Q) system

Site	Descriprion	Range
Aa	Anterior vaginal wall, midline 3cm to external urinary meatus	-3cm to + 3cm
Ba	Anterior vaginal wall, most distal position between Aa anterior fornix	-3cm to + TVL
C	Cervix or vaginal cuff	+_TVL
D	Posterior fornix or vaginal apex	+_TVL
Ap	Posterior vaginal wall, midline 3cm proximal to hymen	-3cm to + 3cm
Bp	Posterior vaginal wall, most distal position, between Ap and posterior fornix	-3cm to + TVL
Gh	External urinary meatus to posterior midline hymenal ring	2 cm
TVL	Point C or D to the hymenal ring	10 cm
Pb	Posterior hymen to anal opening	3 cm

PELVIC ORGAN PROLAPSE QUANTITATIVE SCORING

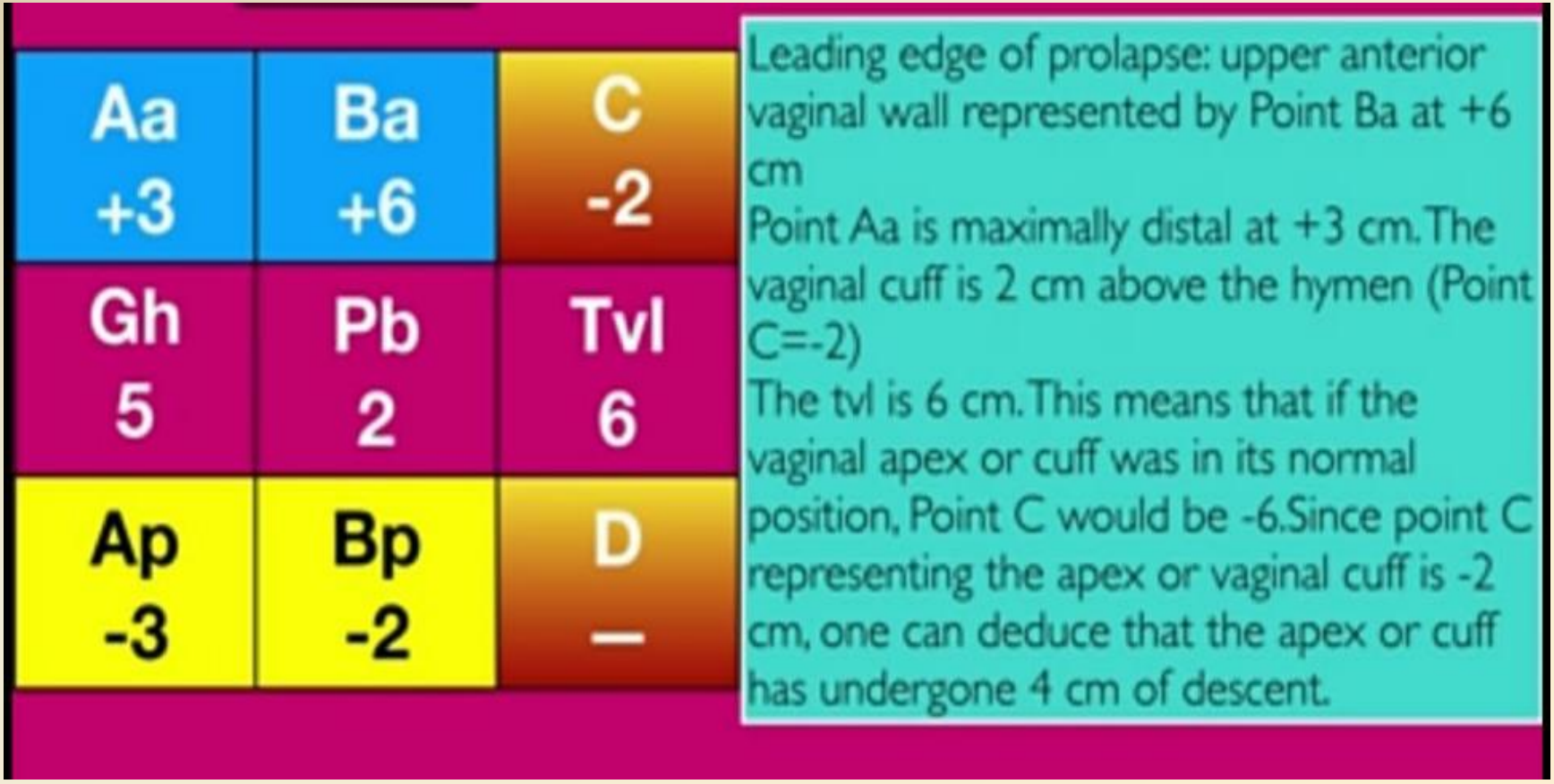


What is your diagnosis?



Posterior Compartment Prolapse

What is your diagnosis



Stage – 1 Vault prolapse

Symptoms

- **Feeling of something coming down per vaginam**
- **Discomfort on walking**
- **Backache or dragging pain in the pelvis.**
- **Dyspareunia.**
- **Urinary symptoms (in presence of cystocele).**
- **Difficulty in passing urine**
- **Incomplete evacuation may lead to frequent desire to pass urine..**

- Urgency and frequency of micturition may also be due to cystitis
- Painful micturition is due to infection.
- Stress incontinence is usually due to associated urethrocele.
- Retention of urine may rarely occur.
- Bowel symptom (in presence of rectocele).
- Difficulty in passing stool.
- Fecal incontinence may be associated.
- Excessive white or blood-stained discharge per vaginam is due to associated vaginitis or decubitus ulcer.

CLINICAL EXAMINATION AND DIAGNOSIS OF POP

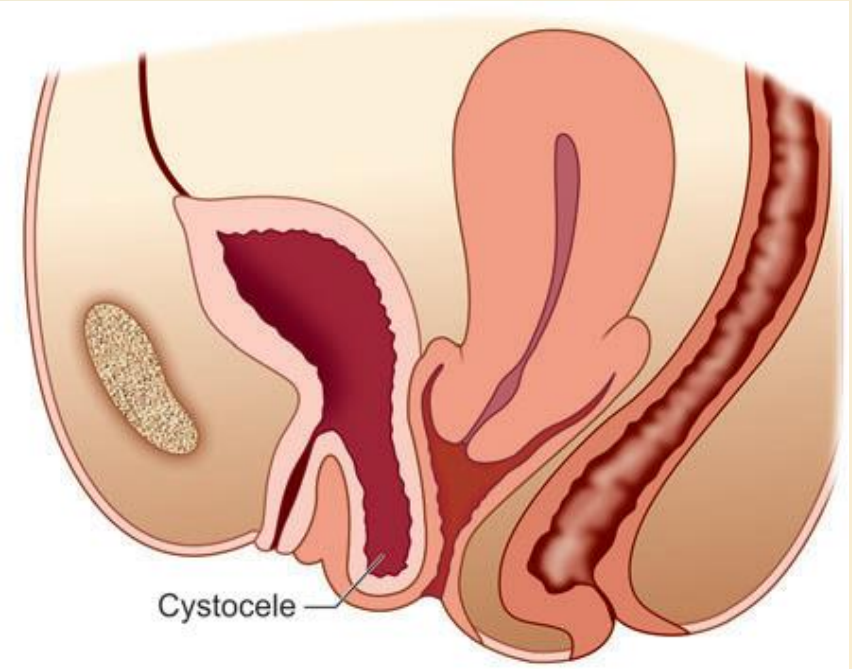
- **Composite examination—inspection and palpation:** Vaginal, rectal, rectovaginal.
- **General examination—details, including body mass** index (BMI), signs of myopathy or neuropathy, features of chronic airway disease (COPD) or any abdominal mass should be done.
- **Pelvic organ prolapse (POP) is evaluated by pelvic** examination in both dorsal and standing positions. The patient is asked to strain as to perform a Valsalva maneuver during examination.
- **A negative finding on inspection in dorsal position** should be reconfirmed by asking the patient to strain on squatting position.
- **Prolapse of one organ (uterus) is usually associated** with prolapse of the adjacent organs (bladder, rectum).
- **Etiological aspect of prolapse and the high risk factors** should be evaluated.

Pelvic examination is done to assess: Staging (POP-Q),

levator ani muscle tone, urinary incontinence, decubitus ulcer, uterine size, mobility, perineal body and anal sphincter tone.

Cystocele

- **There is a bulge of varying degree** of the anterior vaginal wall, which increases when the patient is asked to strain.
- To elicit this separate the labia or depress the posterior vaginal wall with fingers or using Sims' speculum, placing the patient in lateral position

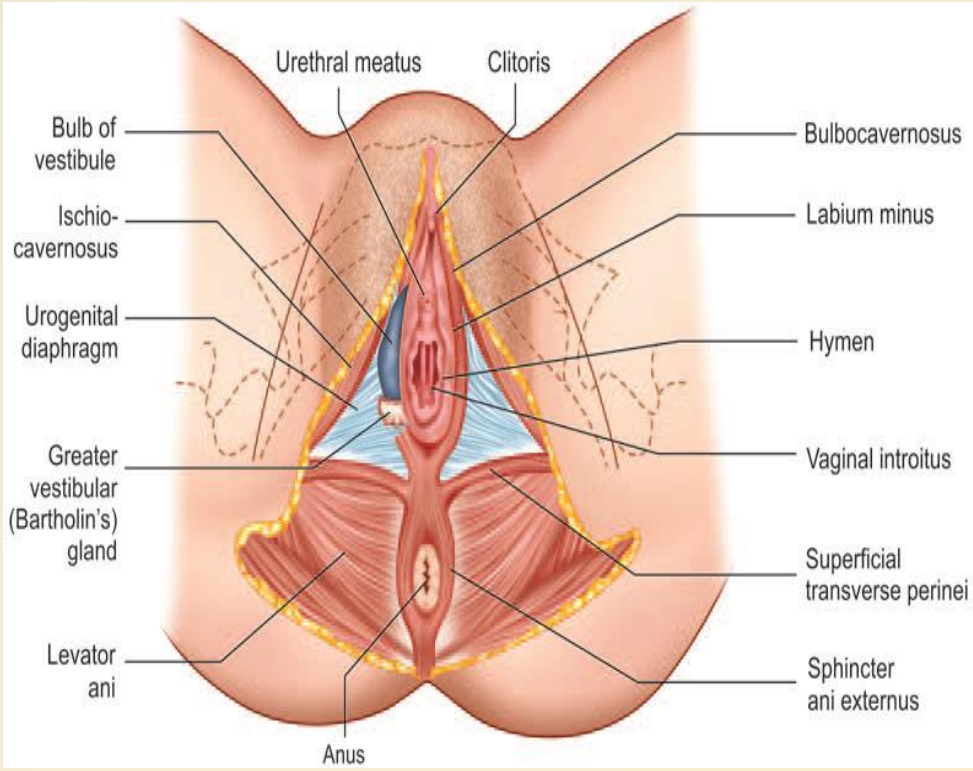


Cystourethrocele

- The bulging of the anterior vaginal wall involves the lower-third also.
- Urine escape out through the urethral meatus when the patient is asked to cough — stress incontinence. To elicit the test, the bladder should be full.

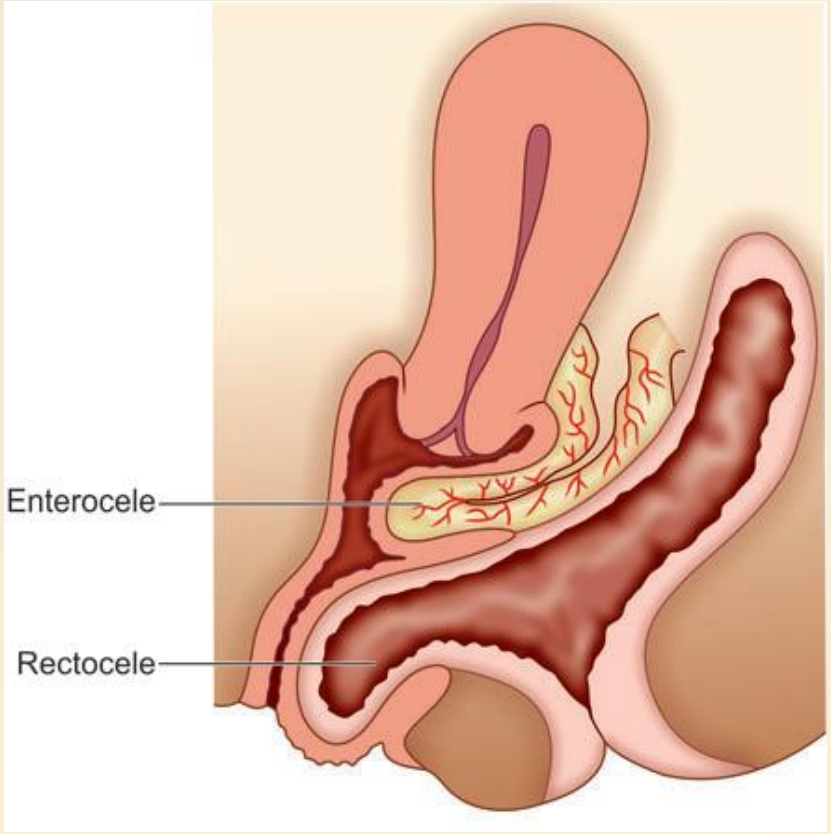
Relaxed perineum:

- There is gaping introitus with old scar of incomplete perineal tear. The distance between the introitus and the anal verge is decreased. The lower part of the posterior vaginal wall is visible with or without straining.



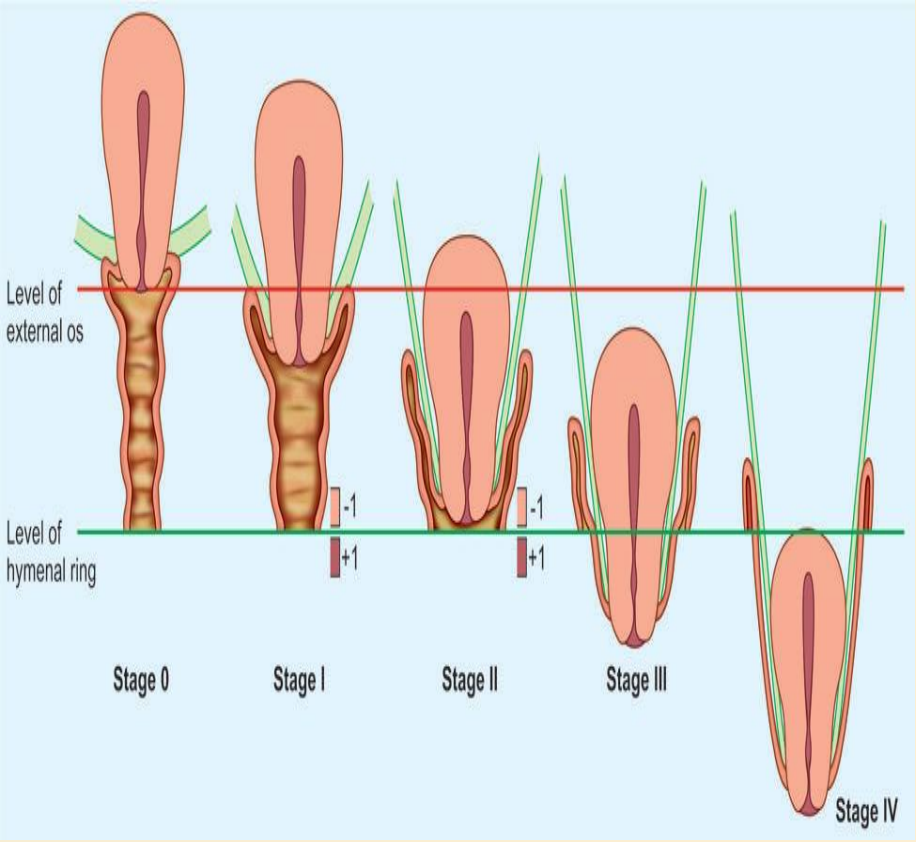
Rectocele and enterocele:

- **When the two conditions exist** together, there is bulging of the posterior vaginal wall with a transverse sulcus between the two. The midvaginal one being rectocele with diffuse margins and reducible.
- Visualized by retracting the anterior vaginal wall by Landon's retractor. Ultimate differentiation of the two entities is by rectal or recto-vaginal examination. In enterocele, the bulging is close to the cervix and cannot be reached by the finger inside the rectum



Uterine prolapse:

- In second or third degree of prolapse, inspection can reveal a mass protruding out through the introitus, the leading part of which is the external os.
- In first degree of uterine descent, the diagnosis is made through speculum examination
- To diagnose a third degree prolapse, palpation is essential.
- There may be evidences of decubitus ulceration or dark pigmented areas



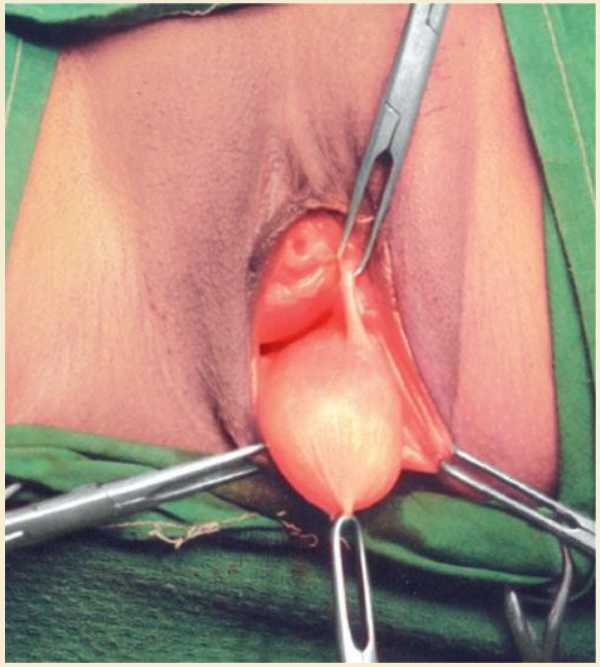
Investigations

- There are no specific investigations.
- If urinary symptoms are present, urine microscopy, cystometry and cystoscopy should be considered.
- In those with long standing procidentia, serum urea and creatinine should be evaluated and renal ultrasound performe as well as IVU.

Differential diagnosis

- **Cystocele**

The cystocele is often confused with a cyst in the anterior vaginal wall, the most common being **Gartner's cyst** (retention cyst in remnants of Wolffian duct).



- **Rectocele :**

✓ Dermoid cyst

✓ Enterocele

- **Uterine prolapse**

✓ Congenital elongation of the cervix

✓ Chronic inversion

✓ Fibroid polyp

Management of prolapse

- **Preventive**
- **Conservative**
- **Surgery**

Preventive

- Adequate antenatal and intranatal care

❖ Avoid injury to supporting structures during the time of vaginal delivery

- Adequate postnatal care

❖ Encourage pelvic floor exercises by squeezing the pelvic floor muscles in the puerperium.

- General measures

❖ Avoid strenuous activities

❖ Avoid future pregnancy

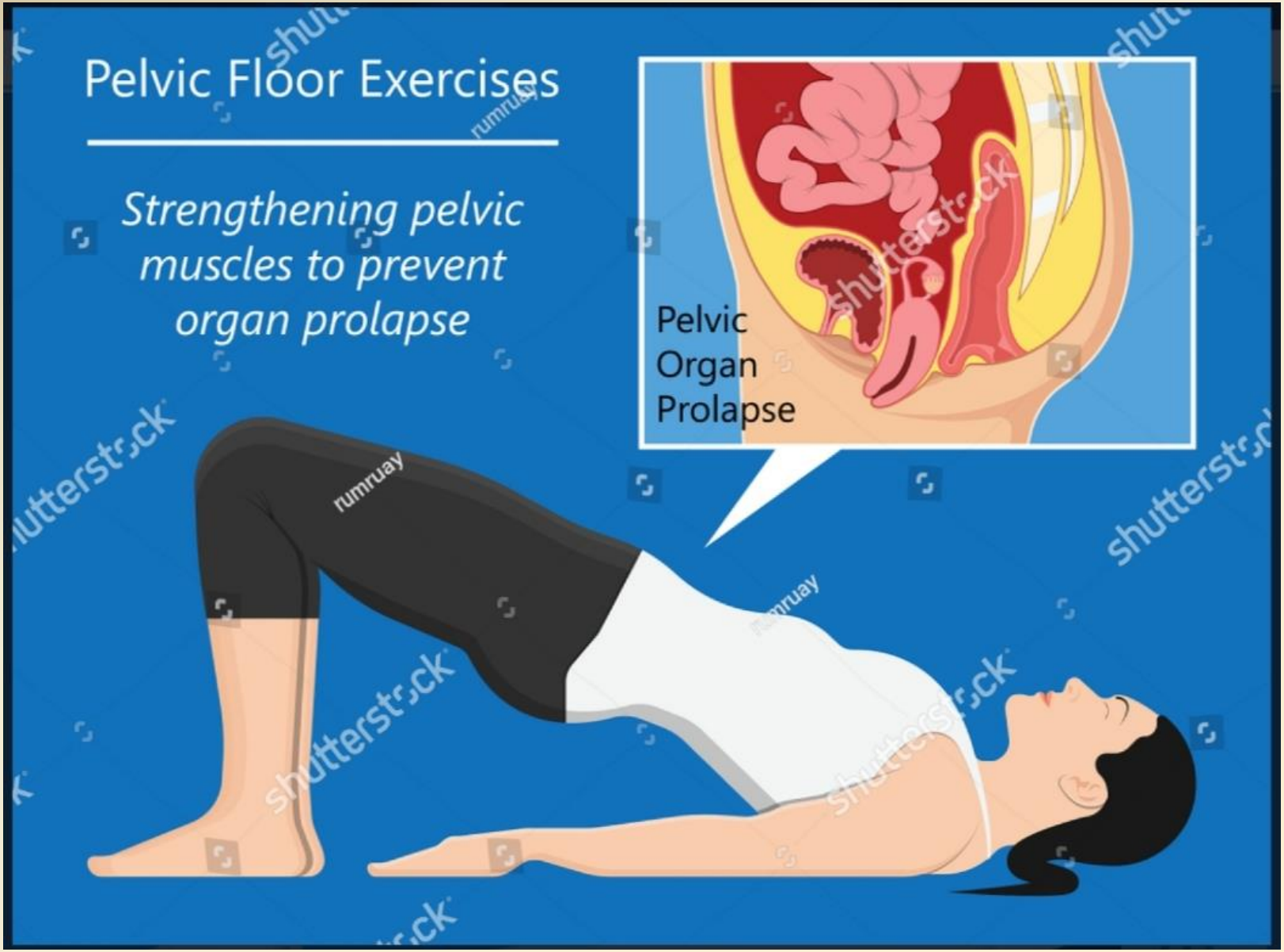
Conservative

Indications of conservative management

- Asymptomatic women
- Old women not willing for surgery
- Mild degree prolapse
- POP in early pregnancy.

Following measures may be taken for conservative management

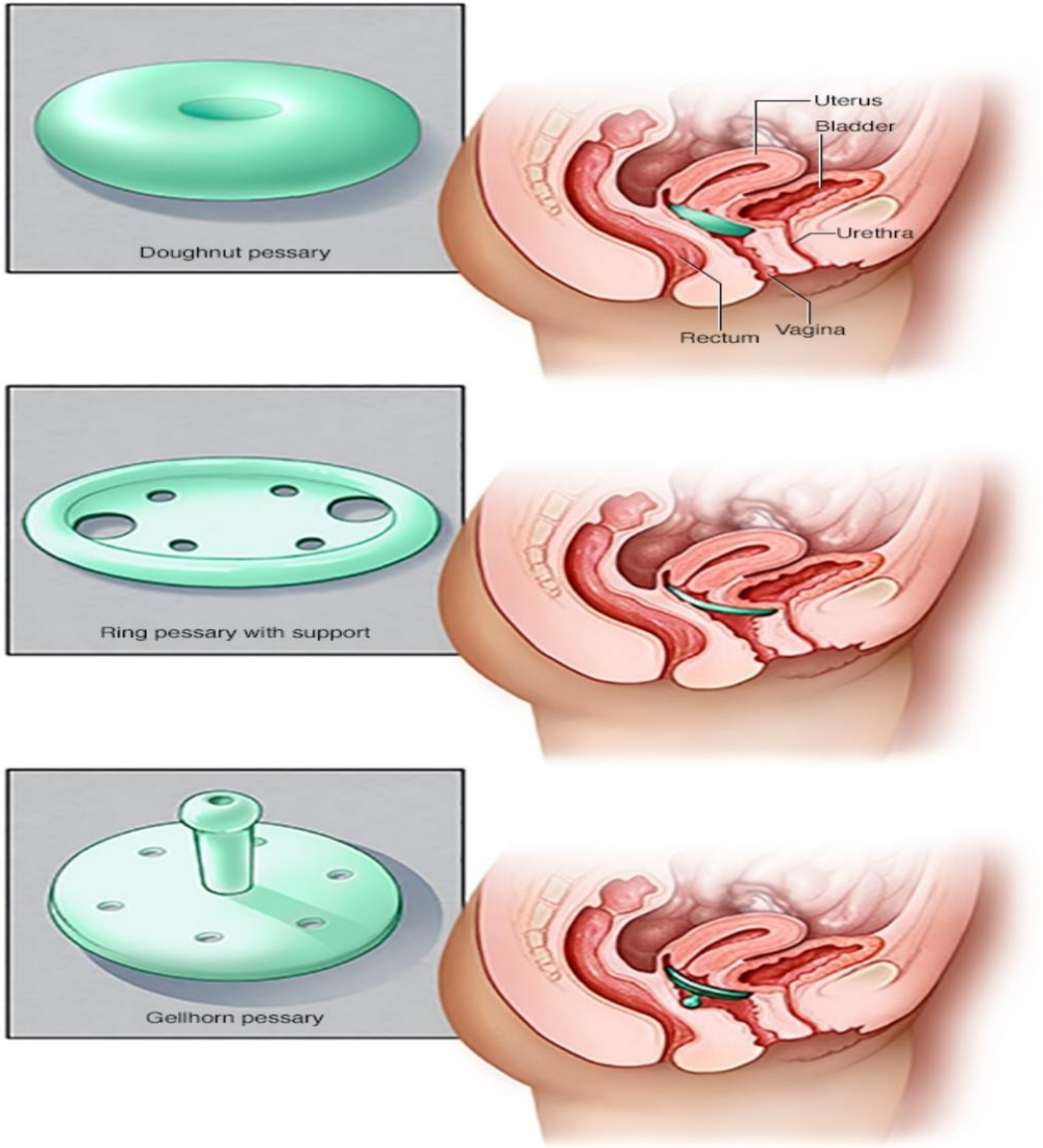
- Improvement of general measures .
- Estrogen replacement therapy may improve minor degree prolapse in postmenopausal women.
- Pelvic floor exercises in an attempt to strengthen the muscles (Kegel exercises).
- Pessary treatment


Pelvic Floor Exercises
Strengthening pelvic muscles to prevent organ prolapse
Pelvic Organ Prolapse
rumruay

Pessary treatment

- Pessary cannot cure prolapse but relieves the symptoms. **Indications of use are:**
- Early pregnancy — the pessary should be placed inside up to 18 weeks when the uterus becomes sufficiently enlarged to sit on the brim of the pelvis.
- Puerperium — to facilitate involution.
- Patients absolutely unfit for surgery specially with short life expectancy.
- Patient's unwillingness for operation.
- While waiting for operation.

Pessary types



Complications of Pessary

- Vaginal bleeding
- Pessary ulcer
- Pelvic pain
- Vaginal discharge

Surgical management of Prolapse

Guidelines for Prolapse Surgery

- Surgery is the treatment of symptomatic prolapse where conservative management has failed or is not indicated.
- Surgical procedures may be:

(A) **Restorative —**

(i) correcting her own support tissues or (ii) compensatory — using permanent graft material

(B) **Extirpative—removing the uterus and** correcting the support tissues.

(C) **Obliterative—**closing the vagina .

TYPE OF PROLAPSE AND THE COMMON SURGICAL REPAIR PROCEDURES

Organ descent	Clinical condition	Type of operation
VAGINAL WALL Anterior (Upper 2/3) or whole).	Cystocele/cystourethrocele Paravaginal defect	Anterior colporrhaphy Paravaginal defect repair
Posterior (Lower 2/3)	Rectocele	Colpoperineorrhaphy
Posterior (Upper 1/3)	Enterocele	Vaginal repair of enterocele with PFR McCall culdoplasty Moskowitz procedure
Combined anterior and posterior	Cystocele and rectocele	PFR (combined procedure)

UTEROVAGINAL **Uterus along with vaginal walls**	**Uterovaginal prolapse**	**Vaginal hysterectomy with PFR (Elderly woman, family completed)** **Fothergill's operation (preservation of uterus)**
VAGINAL WALL FOLLOWING HYSTERECTOMY (Vaginal or abdominal)	Vault prolapse (secondary)	**Vaginal:** **i.** Repair of vaginal vault along with PFR ii. Sacrospinous colpopexy iii. Colpocleisis (Le Fort) **Abdominal:** **i. Sacral colpopexy**
Uterus (Without vaginal walls)	Congenital or nulliparous prolapse (Young women)	Cervicopexy or Sling (Purandare's) operation
Pelvic organ prolapse (POP) Vaginal:	**POP with stress in** continence	**TOT operation** **Abdominal: Burch operation**


THANK
YOU!

- VAGINAL OPERATIONS FOR PROLAPSE

- Anterior colporrhaphy
- Posterior colporrhapry- High / Low
- Enterocele repair
- Perineorrhaphy
- Amputation of cervix
- Paravaginal repair
- Hysterectomy with or without
- Colporrhaphy / Perineorrhaphy

- VAGINAL OPERATIONS FOR PROLAPSE

- Manchester/ Fothergill's operation &
- Shirodkar's modification
- Uterus/Cervix suspension/fixation
- Vaginal vault suspension/fixation
- Retro-rectal levatorplasty and post. anal
- repair for associated rectal prolapse
- Vaginectomy ?
- Colpocleisis ?