GENITAL PROLAPSE

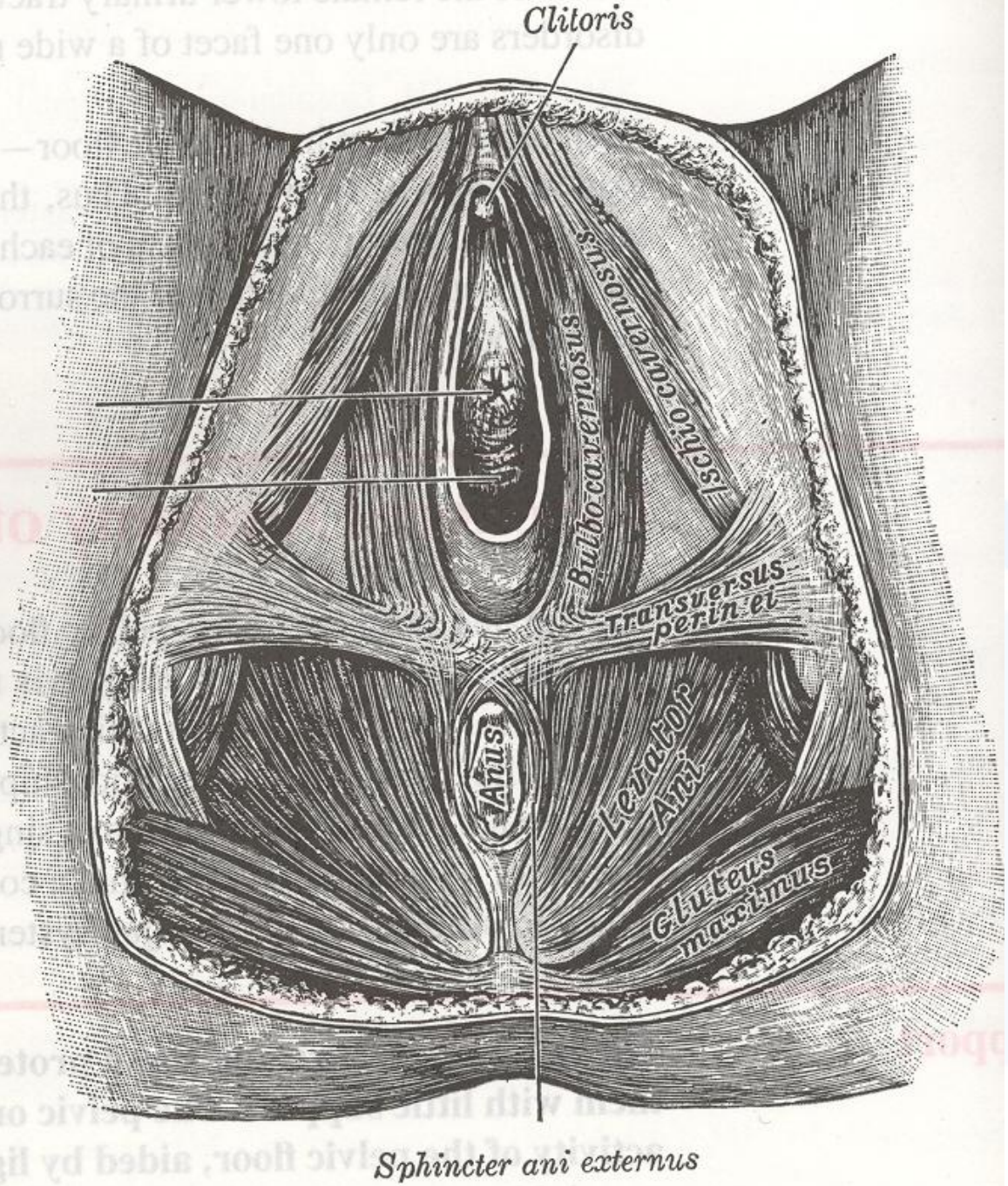
Prof. Leon Snyman
M.B.Ch.B, M.Prax.Med, M.Med (O&G), FCOG(SA)
Gynaecologic Oncology Unit
Department Obstetrics & Gynaecology
UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA
Denkleiers • Leading Minds • Dikgopolo tša Dihlalefi

Introduction

- Uterine prolapse
- Vaginal prolapse
  - Cystocele
  - Rectocele
  - Enterocele
  - Vault prolapse

Anatomy

- Ligaments:
  - Round ligament and broad ligament – not important in preventing prolapse
  - Utero-sacral and transverse cervical ligaments – important in preventing prolapse
- Muscles
  - Levator ani and fascia


Clitoris
Urethra
Vagina
Bulbo-cavernosus
Ischio-cavernosus
Transversus perinei
Anus
Levator Ani
Gluteus maximus
Sphincter ani externus

Muscles of the Pelvic Floor: Pelvic Diaphragm

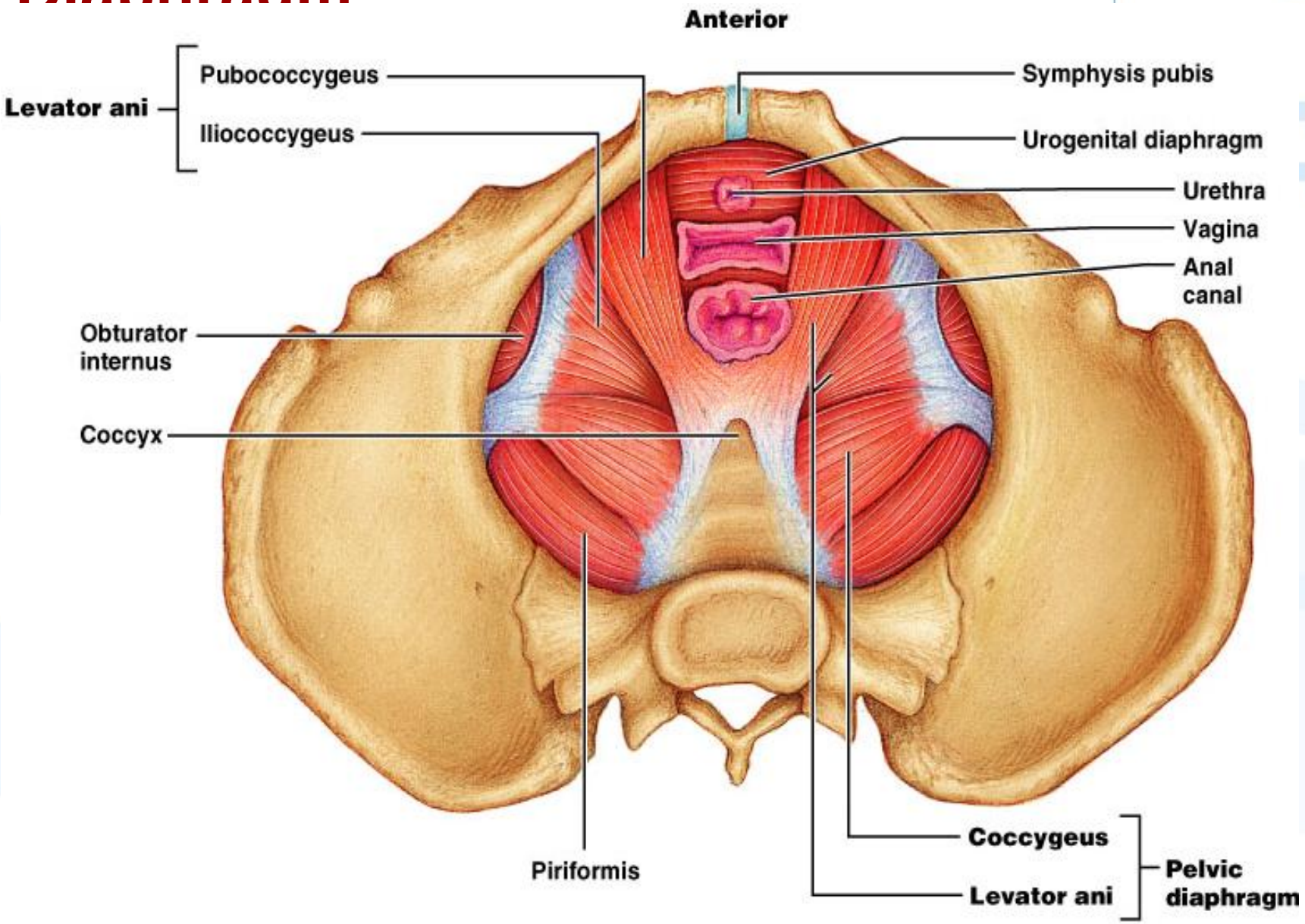


Figure 10.12a

Definition

- Downward displacement of any of the pelvic organs from its normal position
- Procidentia refers to total prolapse with reference to the vagina

Epidemiology

- Older women
- White women
- Black women: 80 x less incidence of genital prolapse than White, Coloured + Indian women
  - Smaller, deeper pelvis, longer supravaginal cervix, stronger ligaments and larger inclination of pelvic entrance

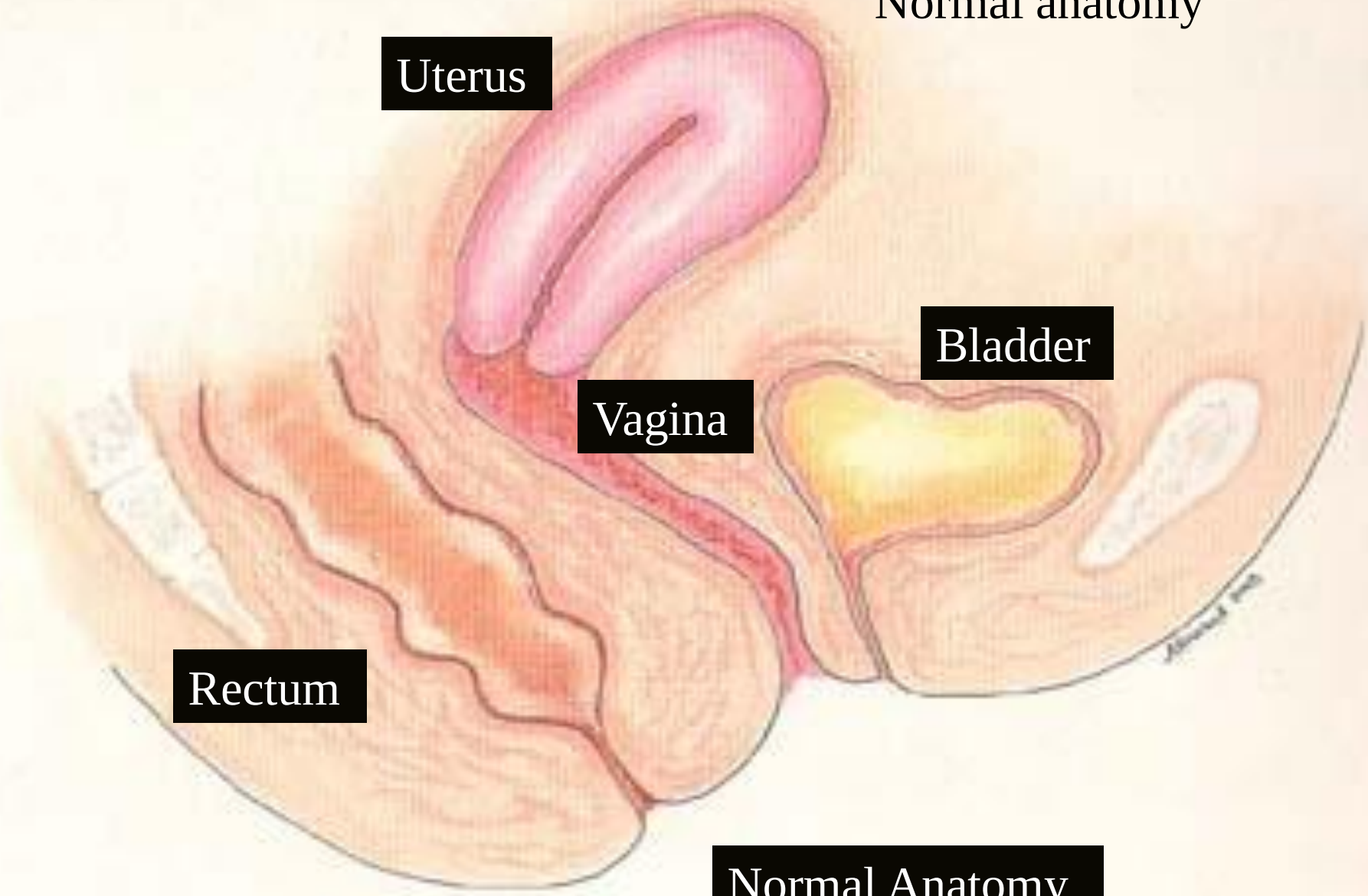
Terms

- *Cystocele*
  - Downward displacement of the bladder
- *Cystourethrocele*
  - Cystocele that includes the urethra
- *Uterine prolapse*
  - *Descent of uterus and cervix toward the vaginal introitus*

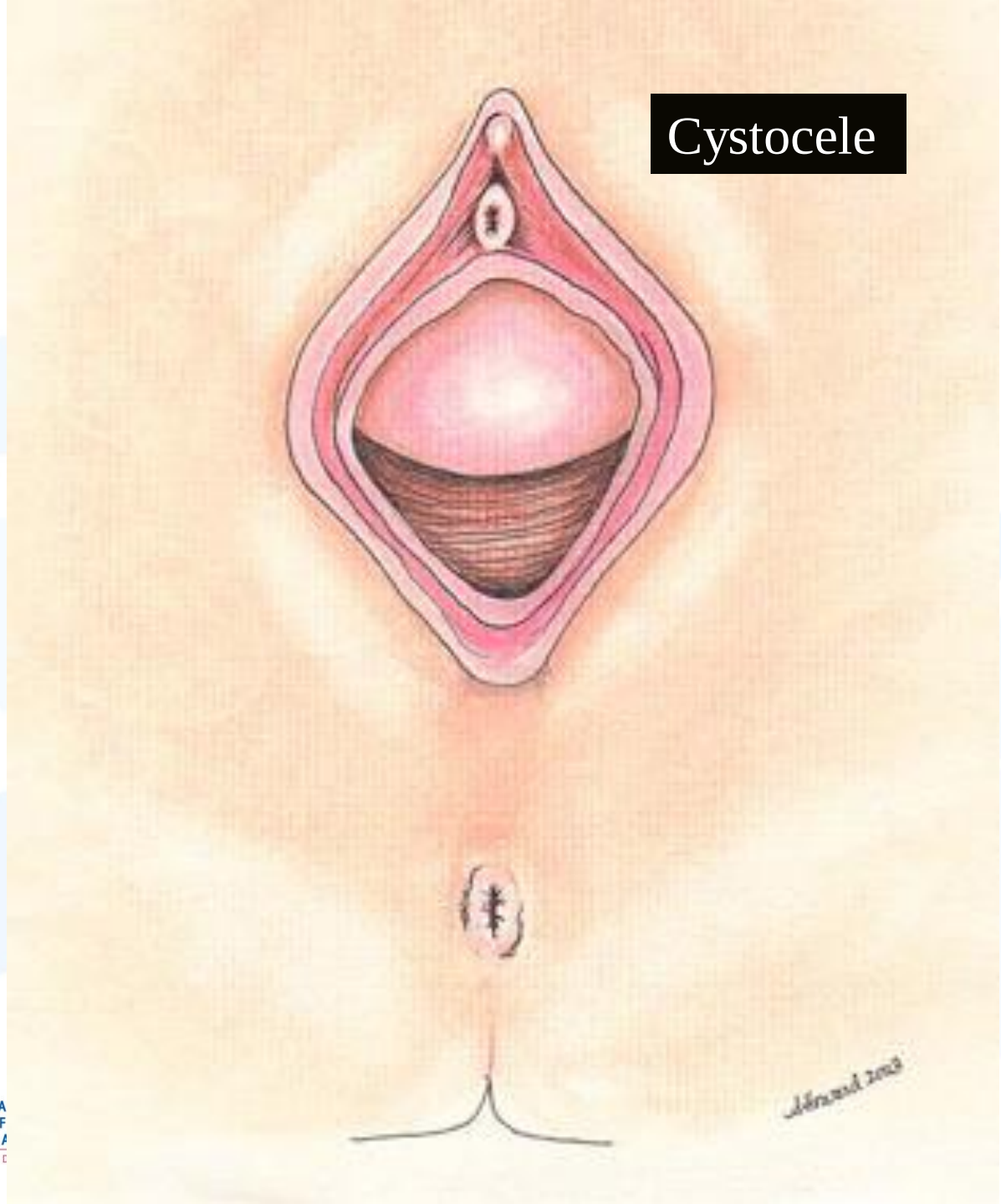
Terms

- *Rectocele*
  - Protrusion of rectum into the posterior vagina
- *Enterocele*
  - Herniation of small bowel into the vagina
- *Vault prolapse*
  - Downward displacement of the vaginal vault through the introitus
- *Procedentia*

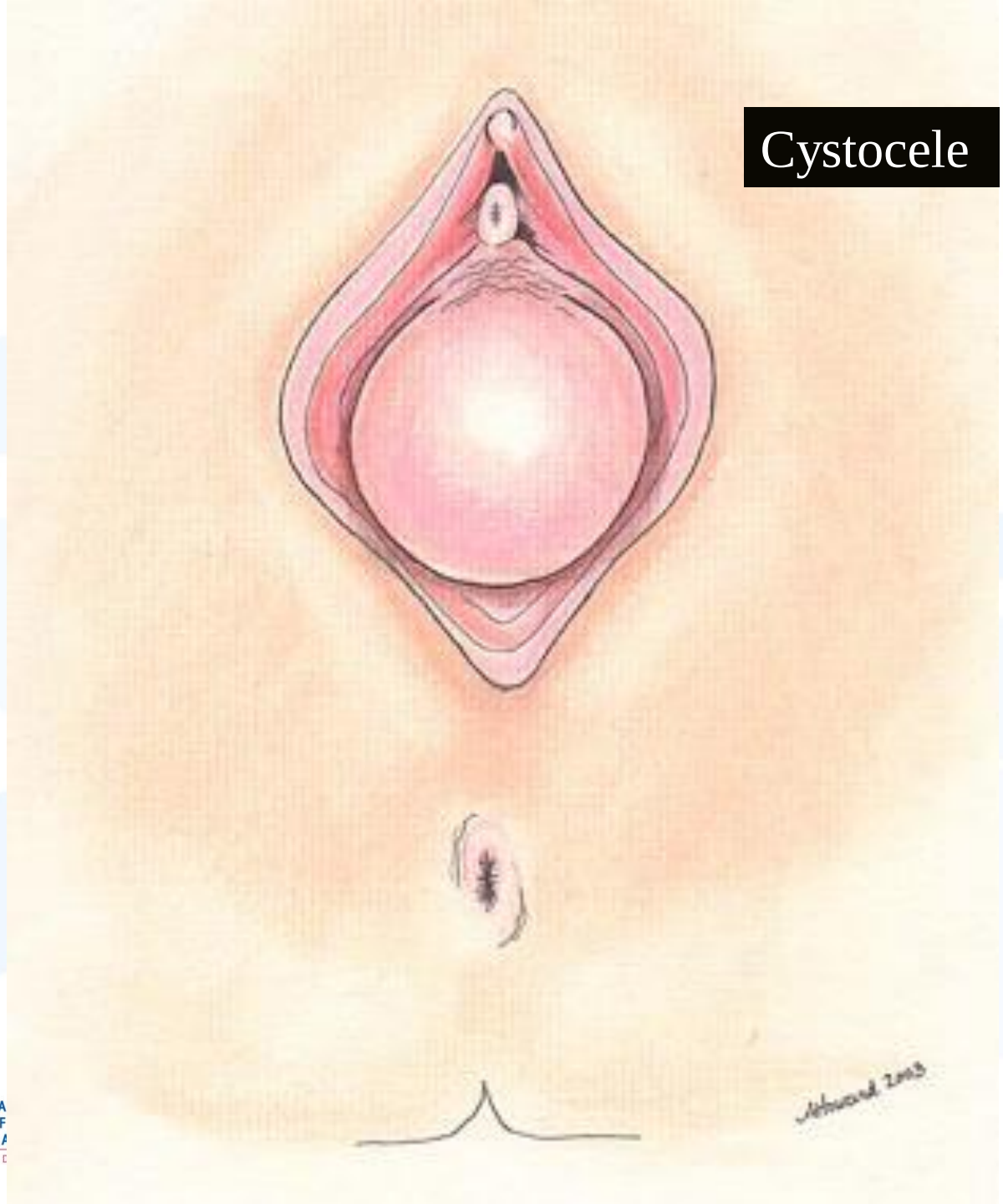
Normal anatomy

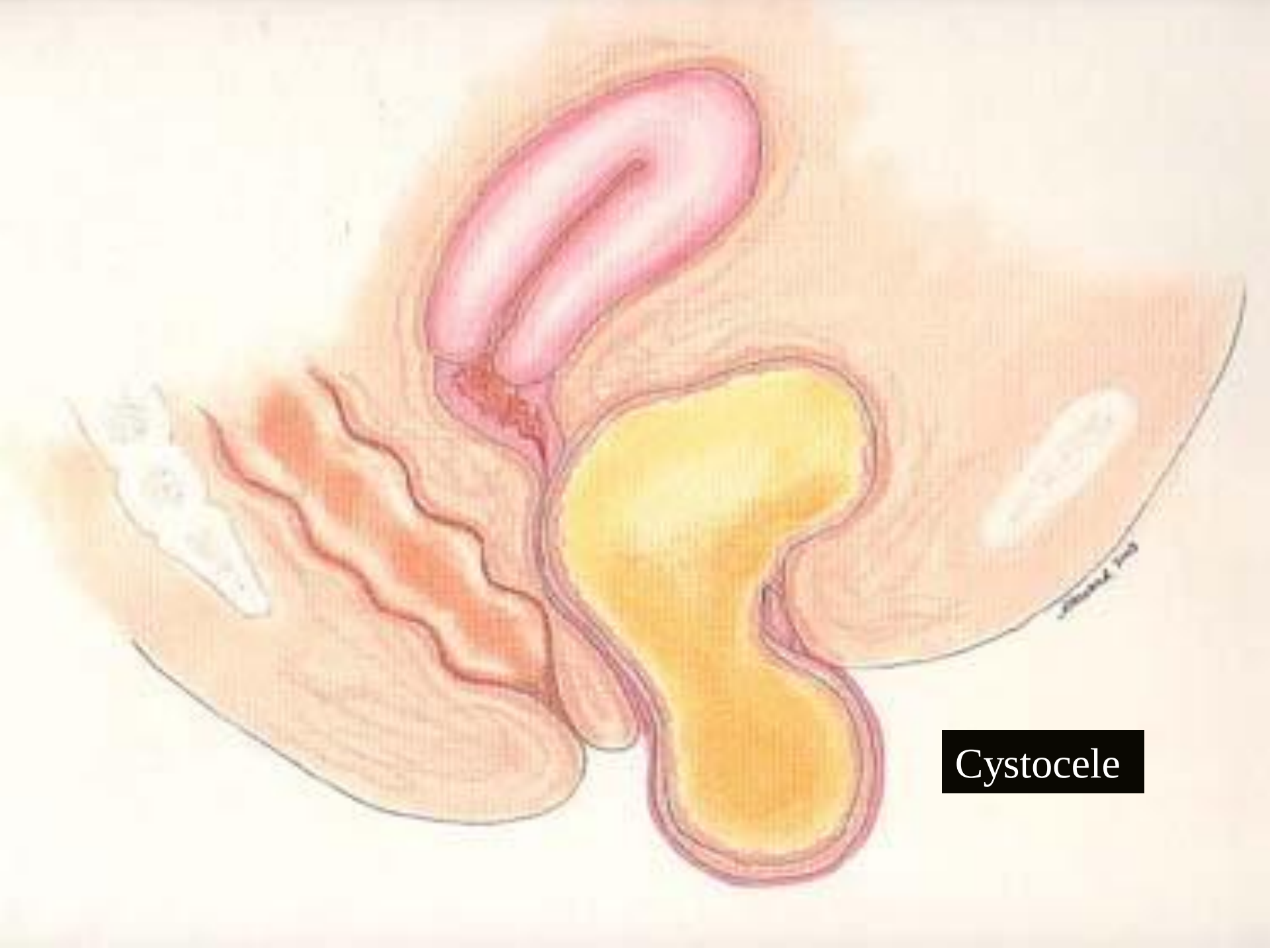


Cystocele

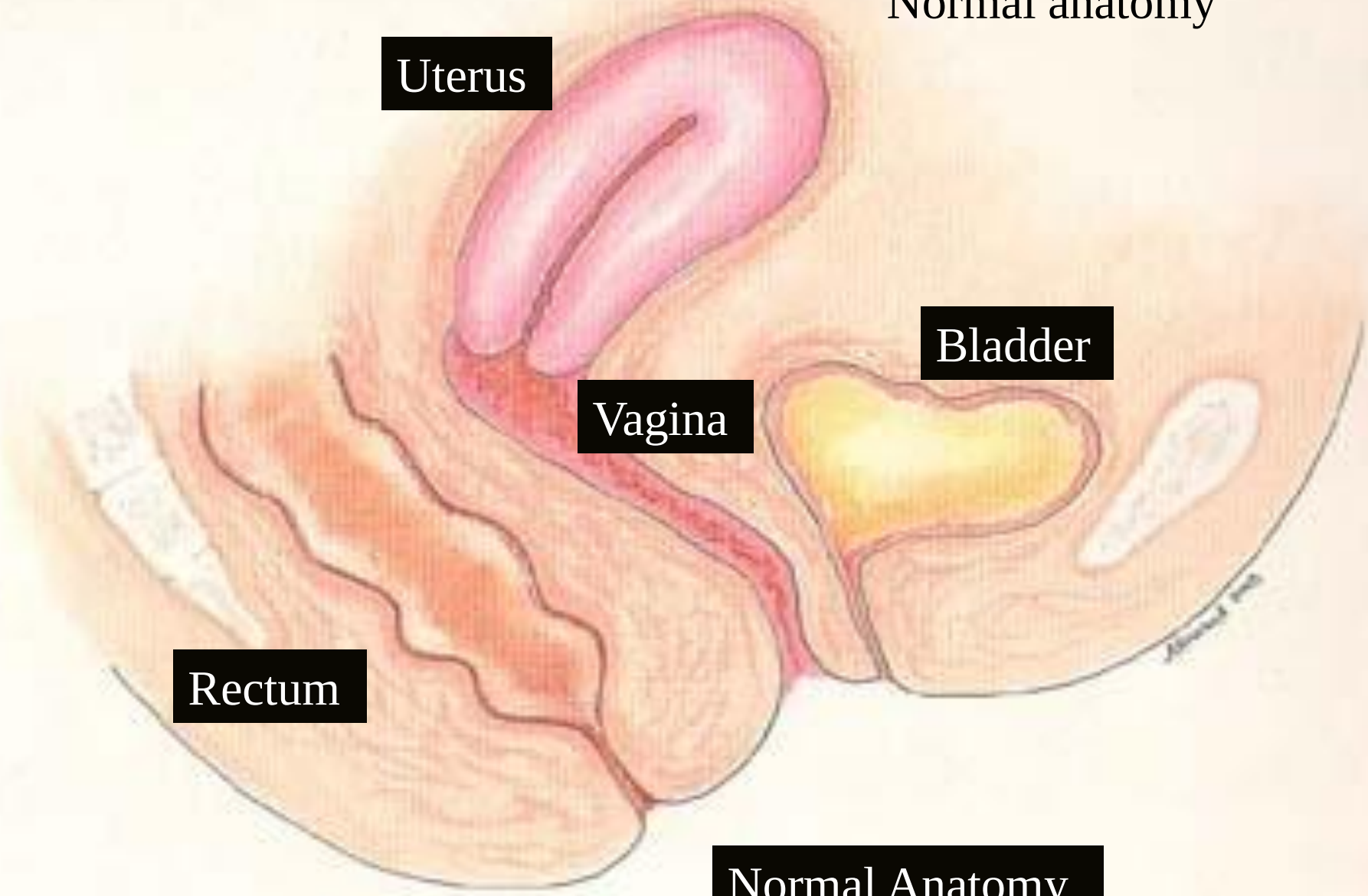


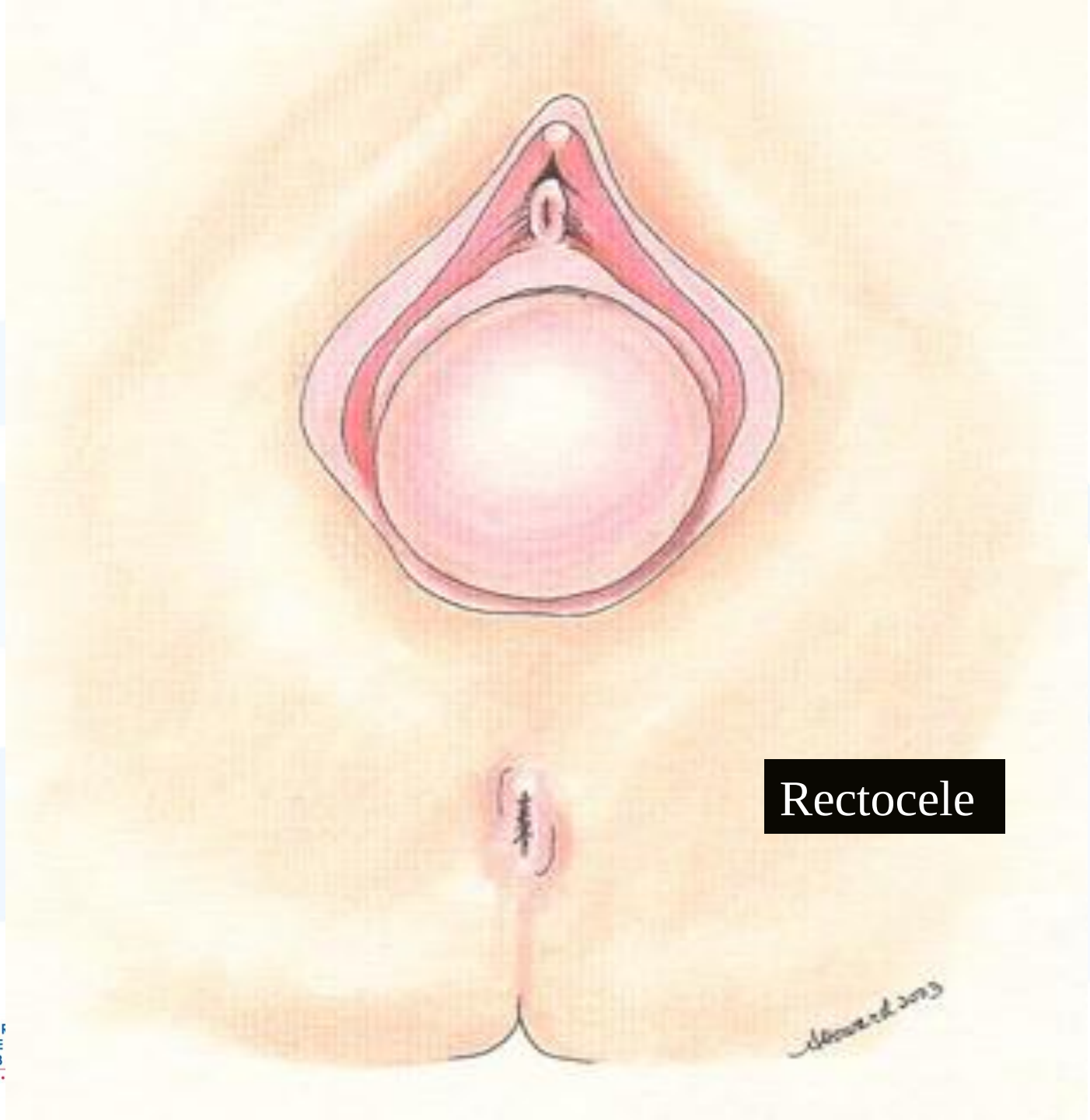
Cystocele



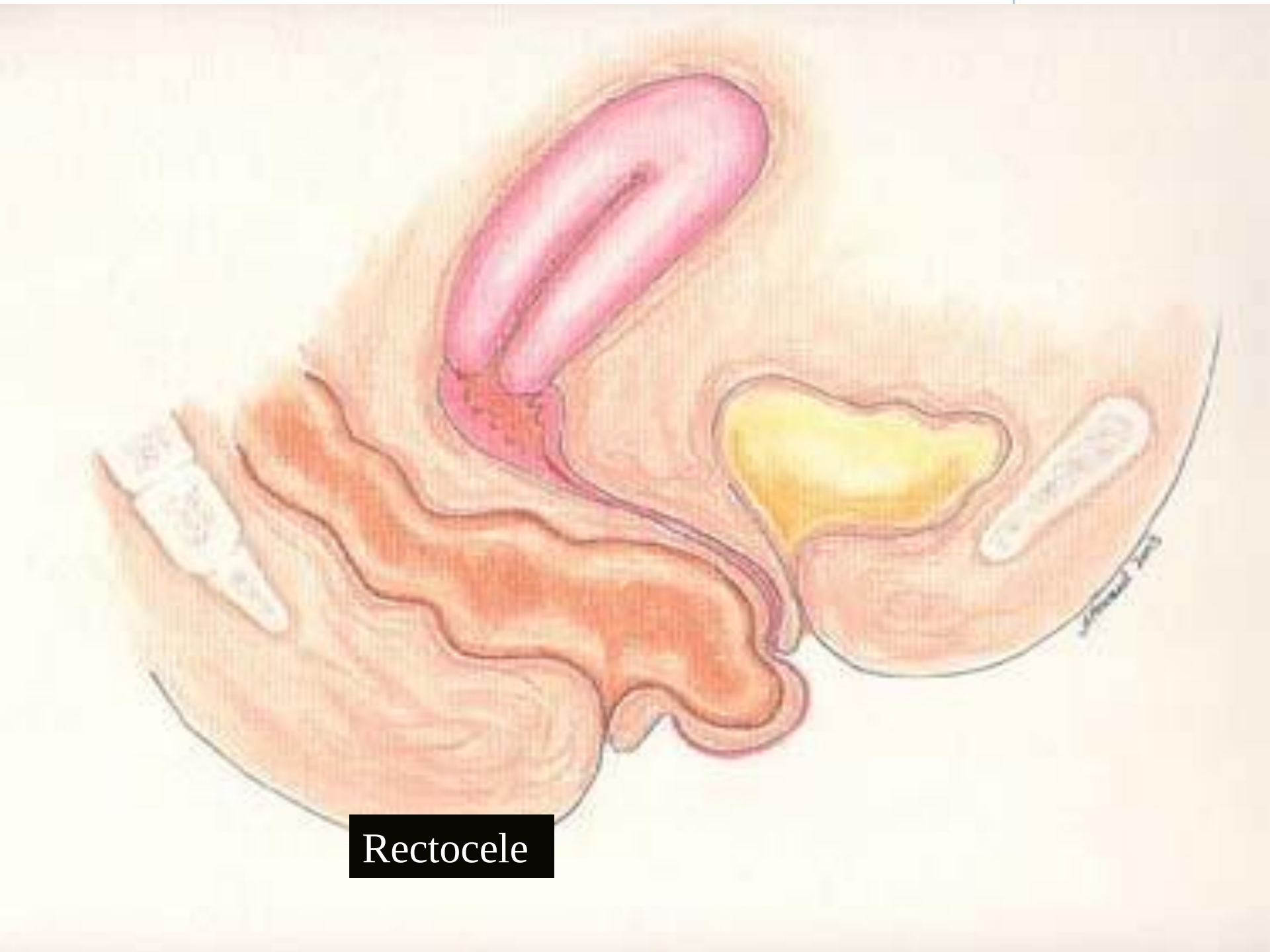

Cystocele

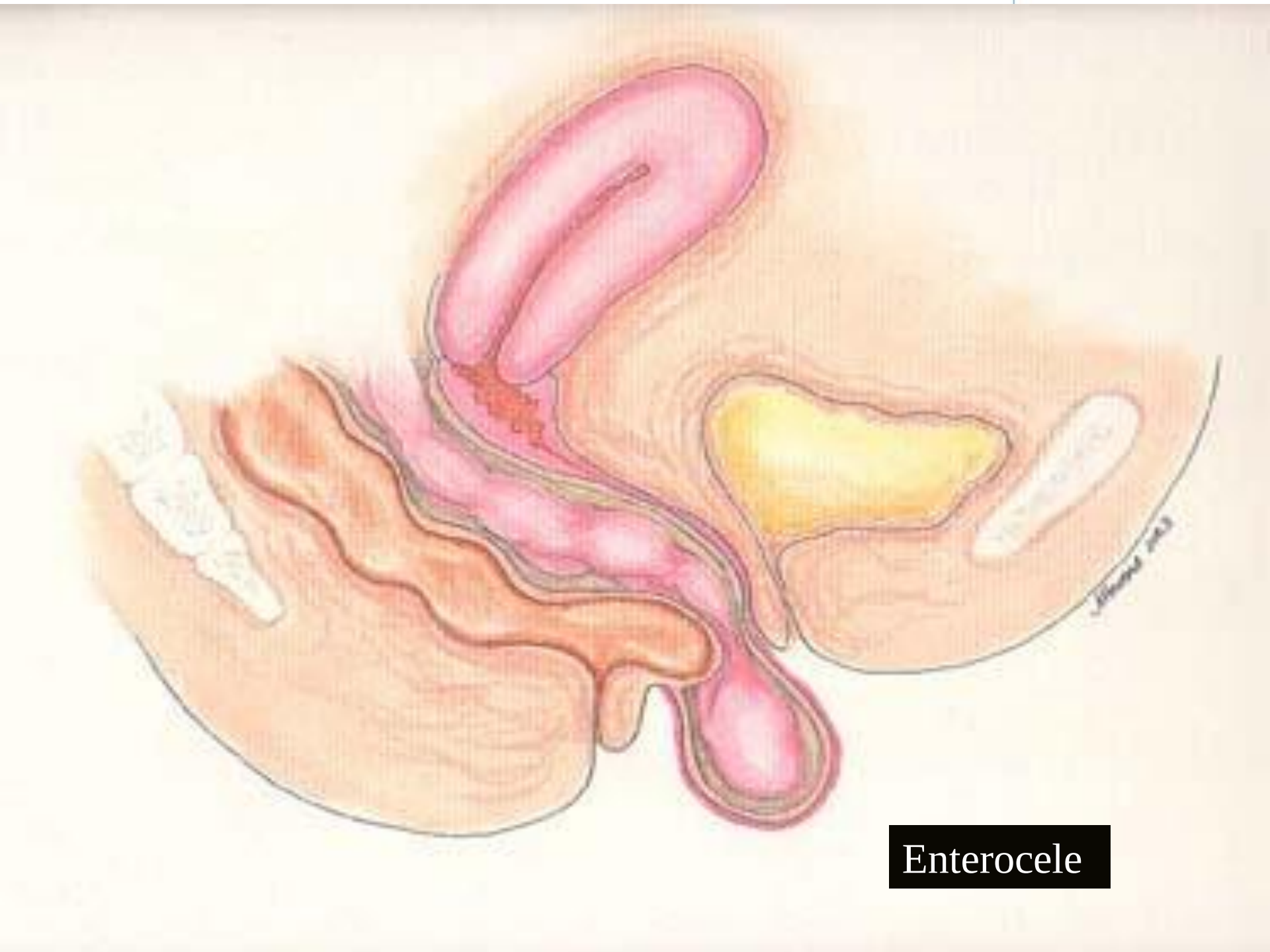
Normal anatomy

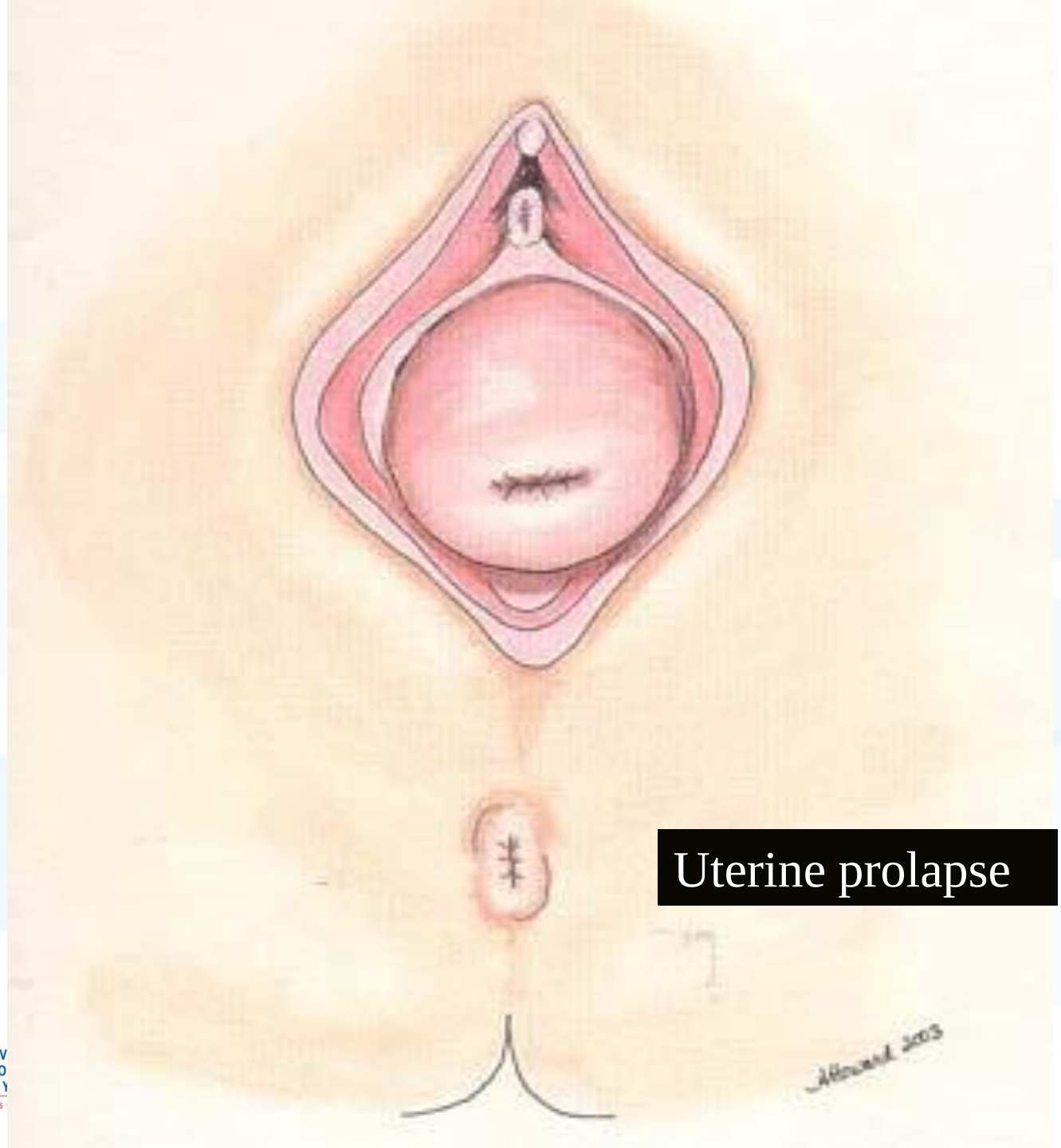




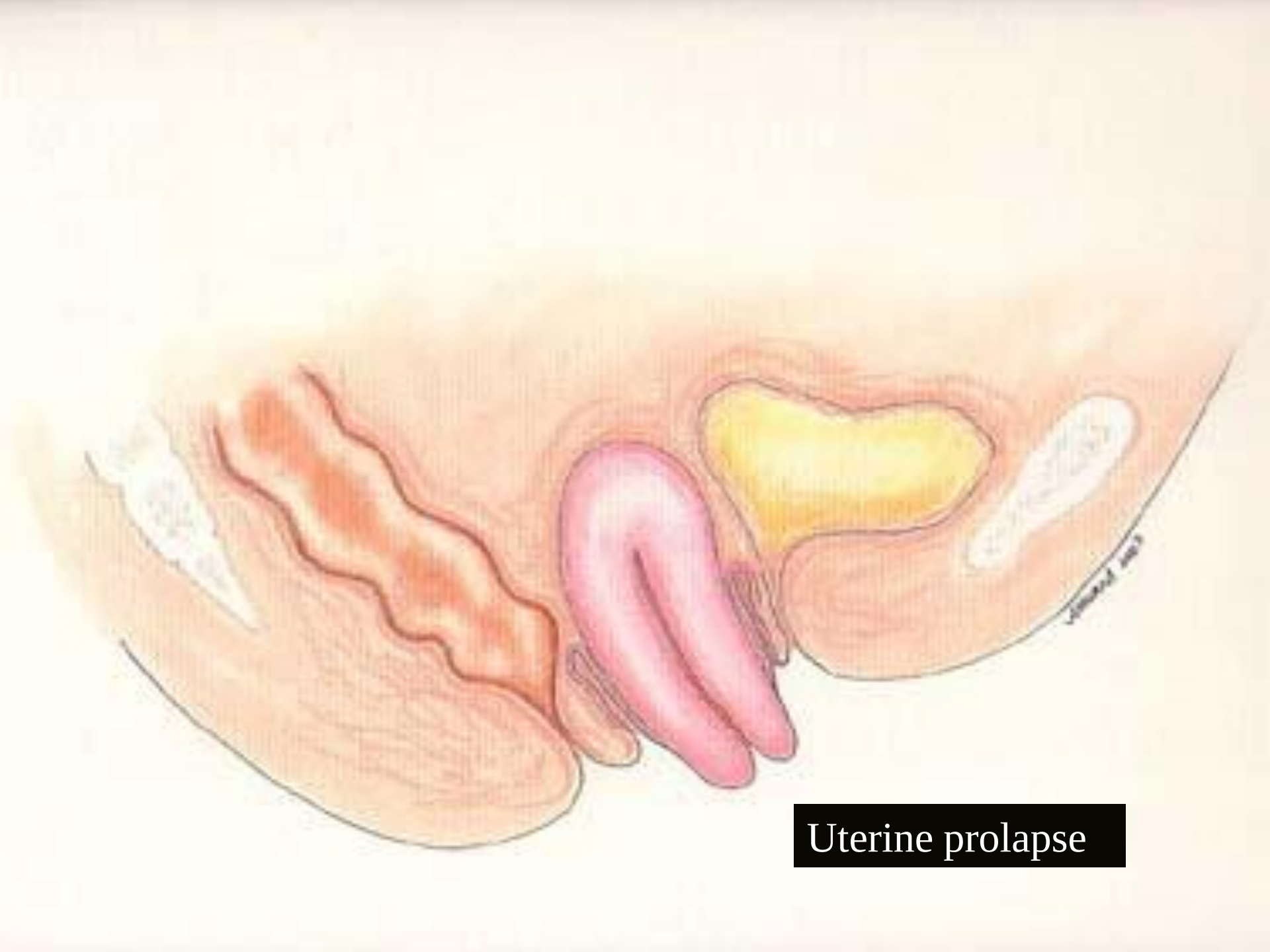
Rectocele


Rectocele


Enterocele



Uterine prolapse



Uterine prolapse

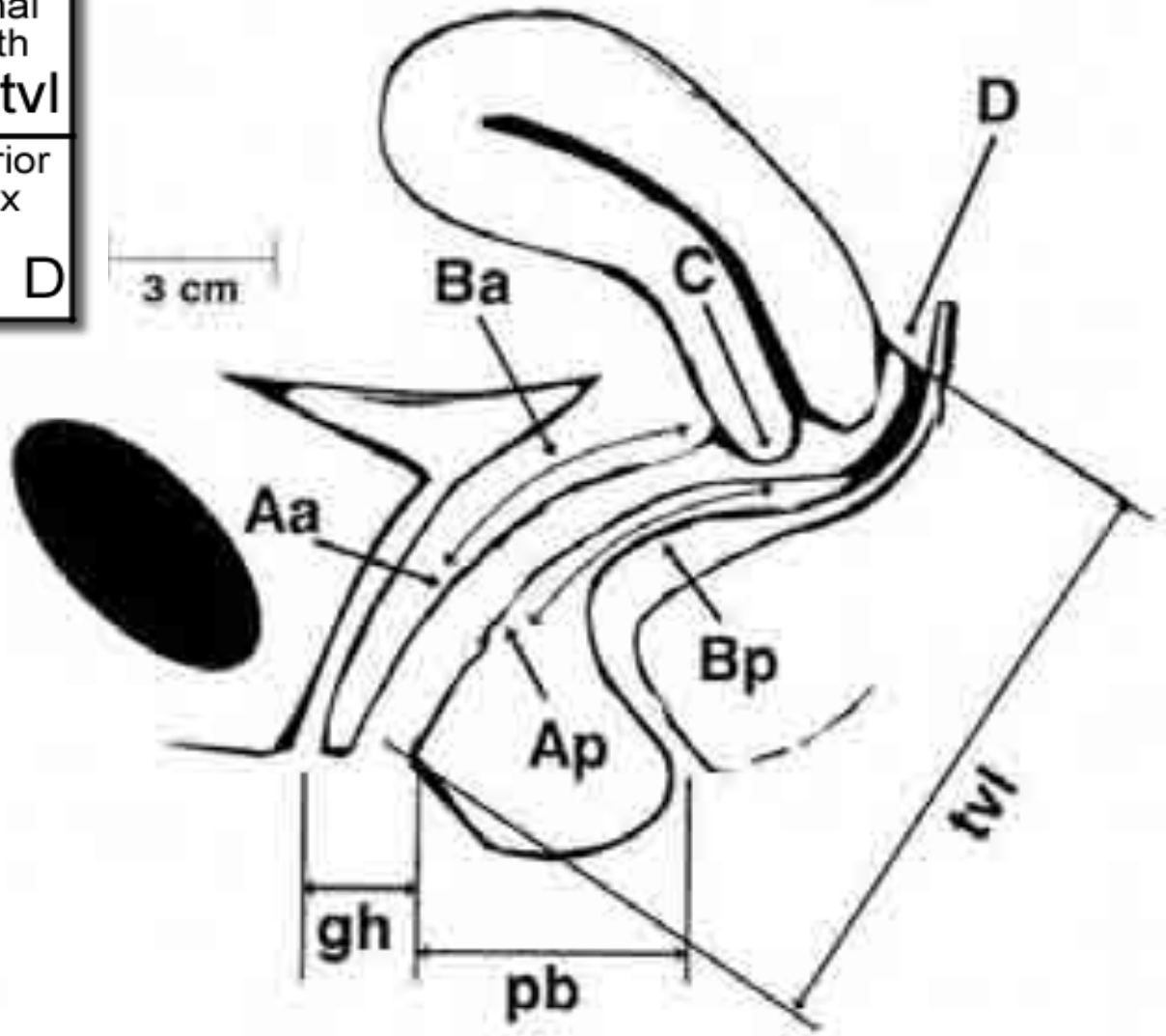
Etiology

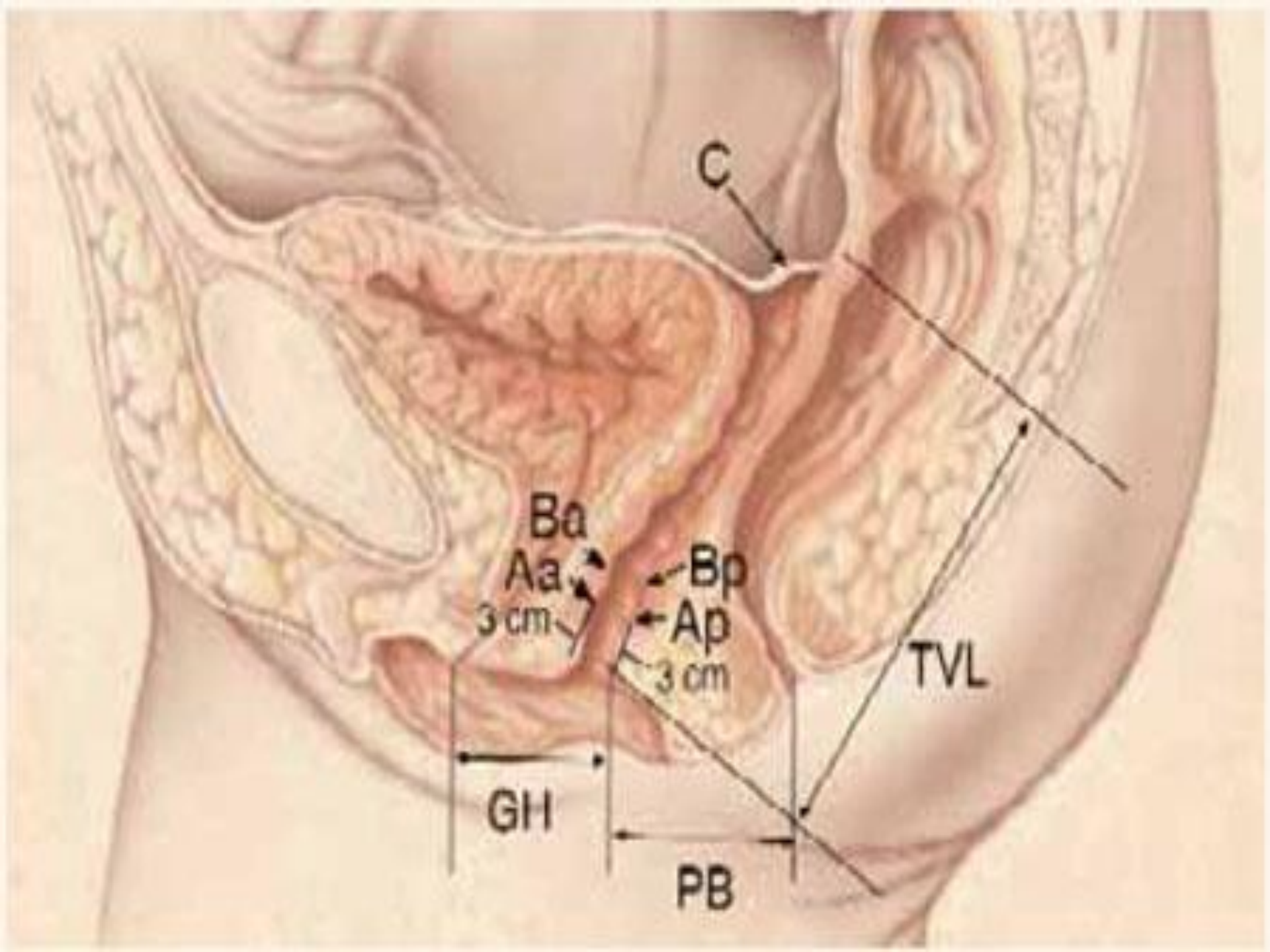
- Pregnancy
- Vaginal deliveries
- Trauma
- Estrogen deficiency
- Congenital – weak fascia and ligaments
- Increased intra-abdominal pressure
- After hysterectomy

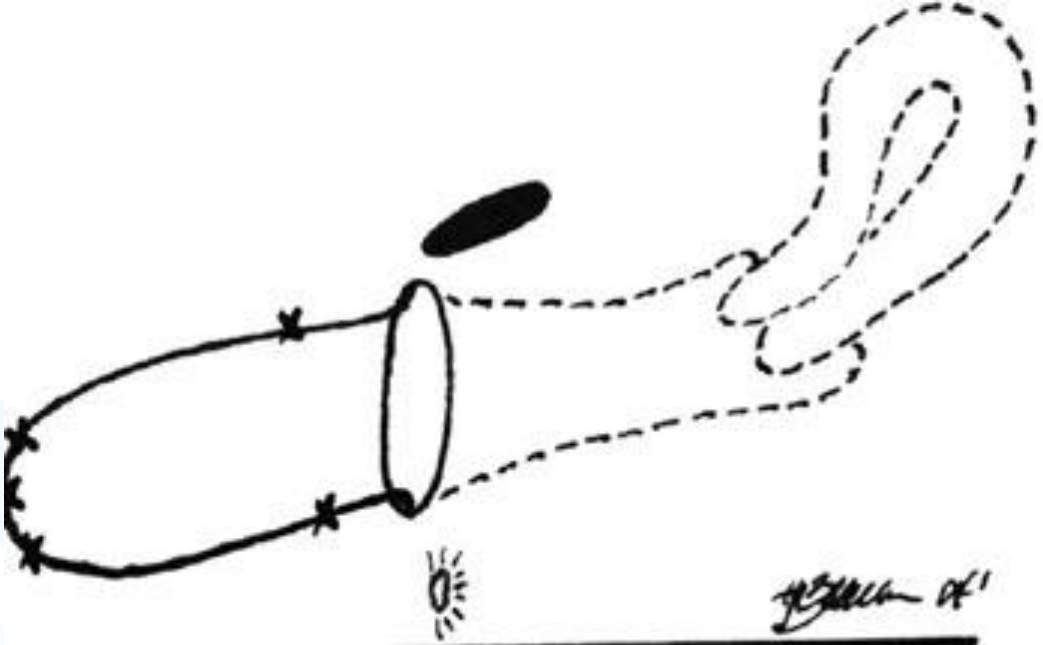
Grading

- Different systems
  - Grade I to III
  - POP-Q
    - Describes prolapse objectively using measured points in the different compartments
    - Seldom used clinically
    - Mostly research application

anterior wall **Aa**	anterior wall **Ba**	cervix or cuff **C**
genital hiatus **gh**	perineal body **pb**	total vaginal length **tvl**
posterior wall **Ap**	posterior wall **Bp**	posterior fornix **D**




C
Ba
Aa
3 cm
Bp
Ap
3 cm
TVL
GH
PB



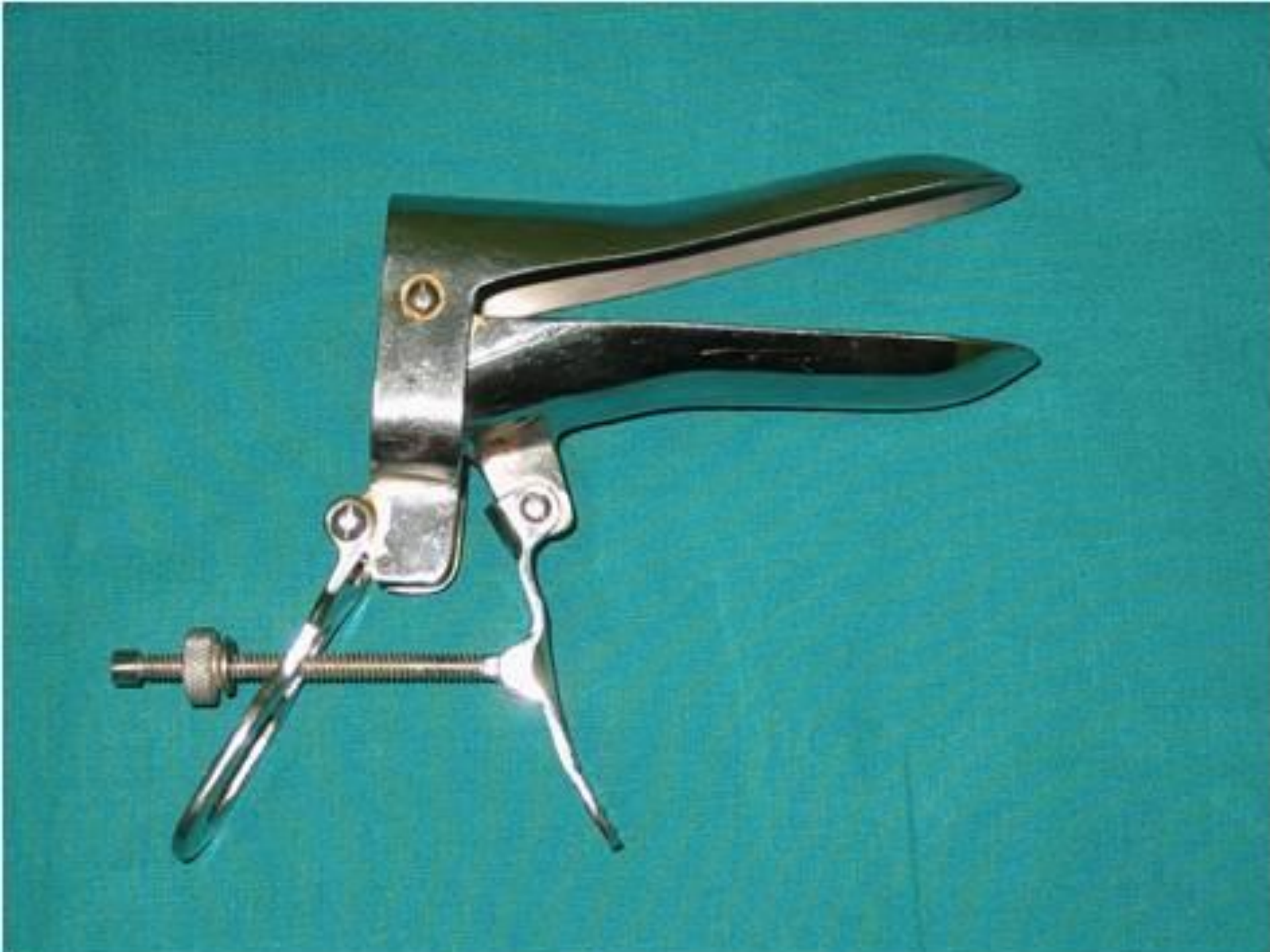
+3 Aa	+8 Ba	+8 C
4 Gh	1.5 Pb	8 Tvl
+3 Ap	+8 Bp	– D

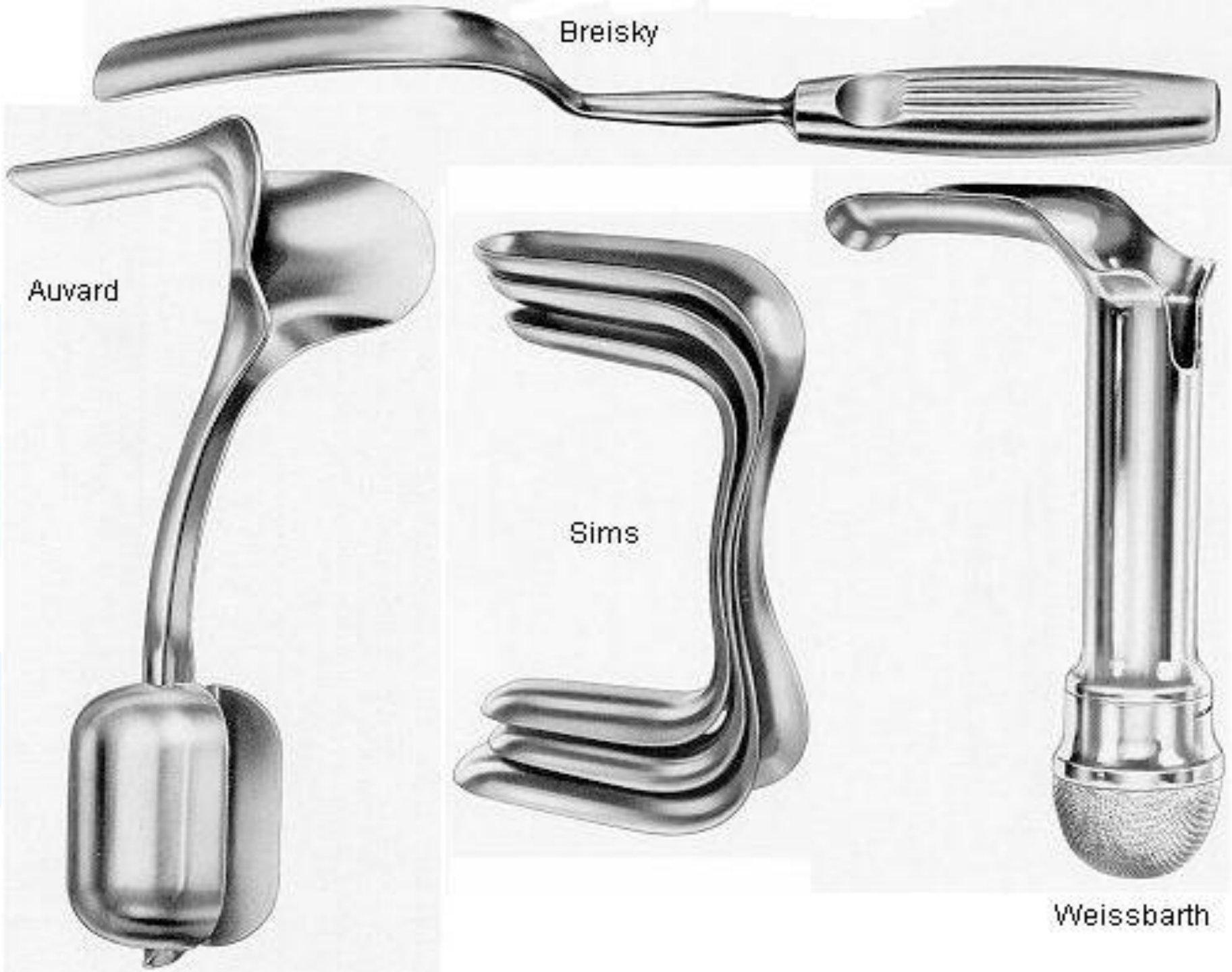
Symptoms

- Feeling of “something in the vagina”
- Urinary symptoms
  - Incontinence
  - Difficulty in voiding
- Lower backache
- Difficulty emptying the rectum
- Dispareunia

On examination

- Lithotomy and Sims speculum
- Ask patient to bear down or to cough
- Observe the pathology
- Observe for urinary incontinence
- Sometimes neccesary to examine patient in upright position




Breisky
Auvard
Sims
Weissbarth


Cystocele

Uterine prolapse

Special Investigations

- Routine pre-operative investigations and as per indication
- Urodynamic studies only if indicated

Treatment

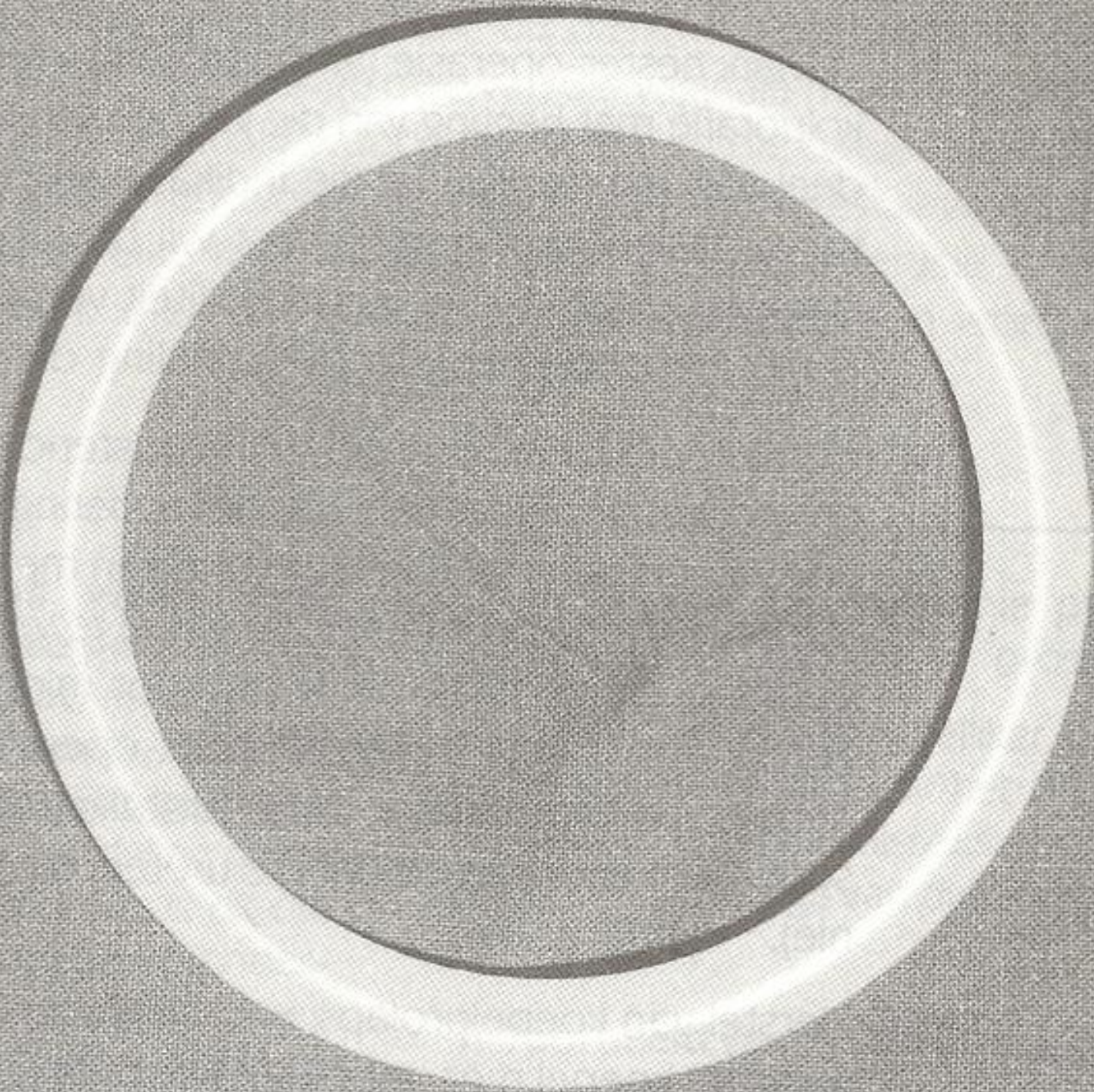
- Asymptomatic prolapse does not need treatment

Treatment

- Surgical and non-surgical
- Indications for non-surgical treatment:
  - Prolapse shortly after pregnancy
  - Unfit for surgery
  - Relief of symptoms while waiting for surgery
  - Mild to moderate prolapse in women planning future pregnancies

Treatment

- Non-surgical
  - Pelvic floor exercises
  - Vaginal pessaries and local estrogen
  - Treat causes of increased abdominal pressure



Surgical

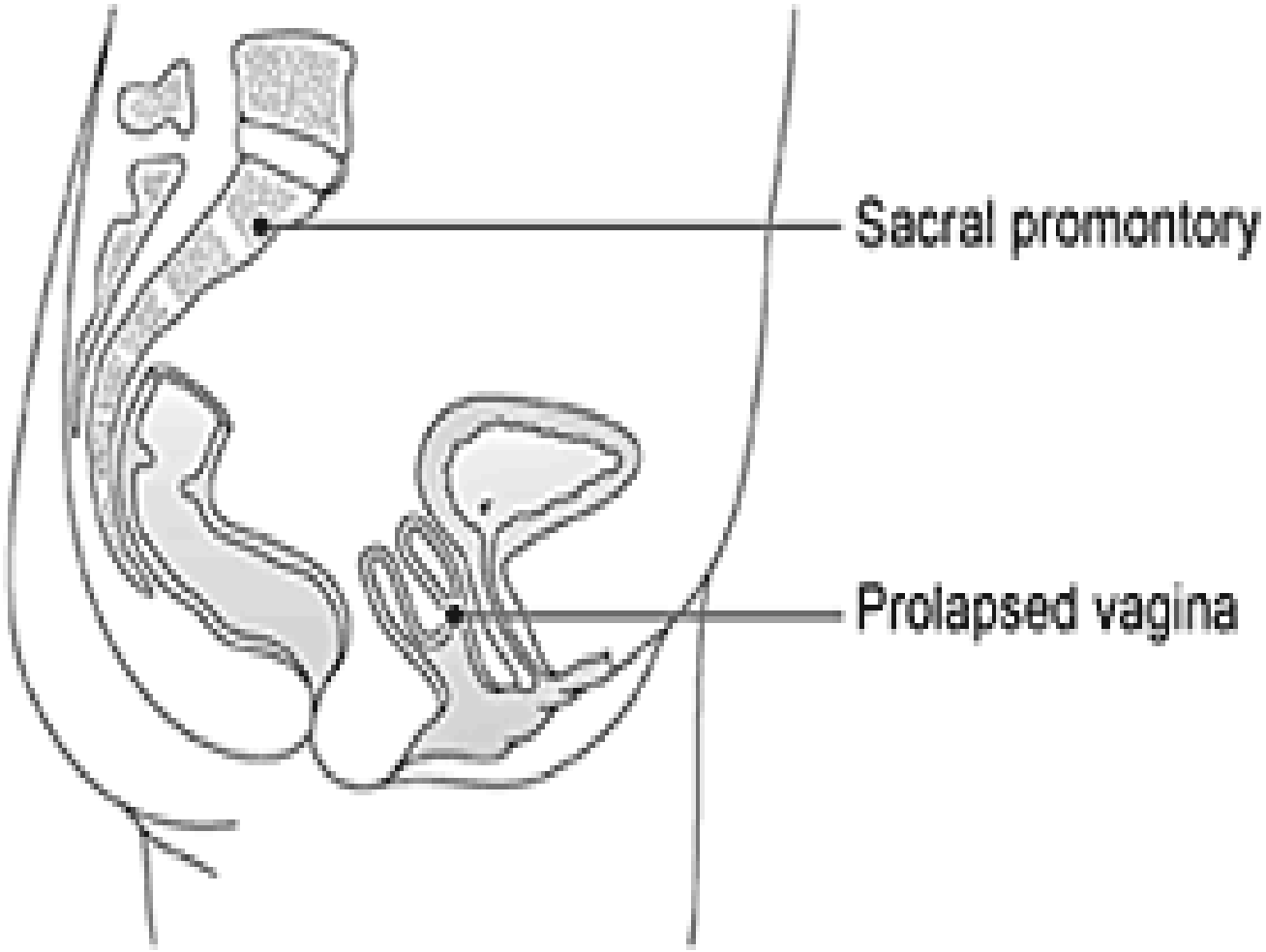
- Cystocele and cystourethrocele
  - Anterior colporrhaphy
- Rectocele
  - Posterior colporrhaphy
- Uterine prolapse
  - Vaginal hysterectomy and sacrospinous fixation (Richter's procedure)

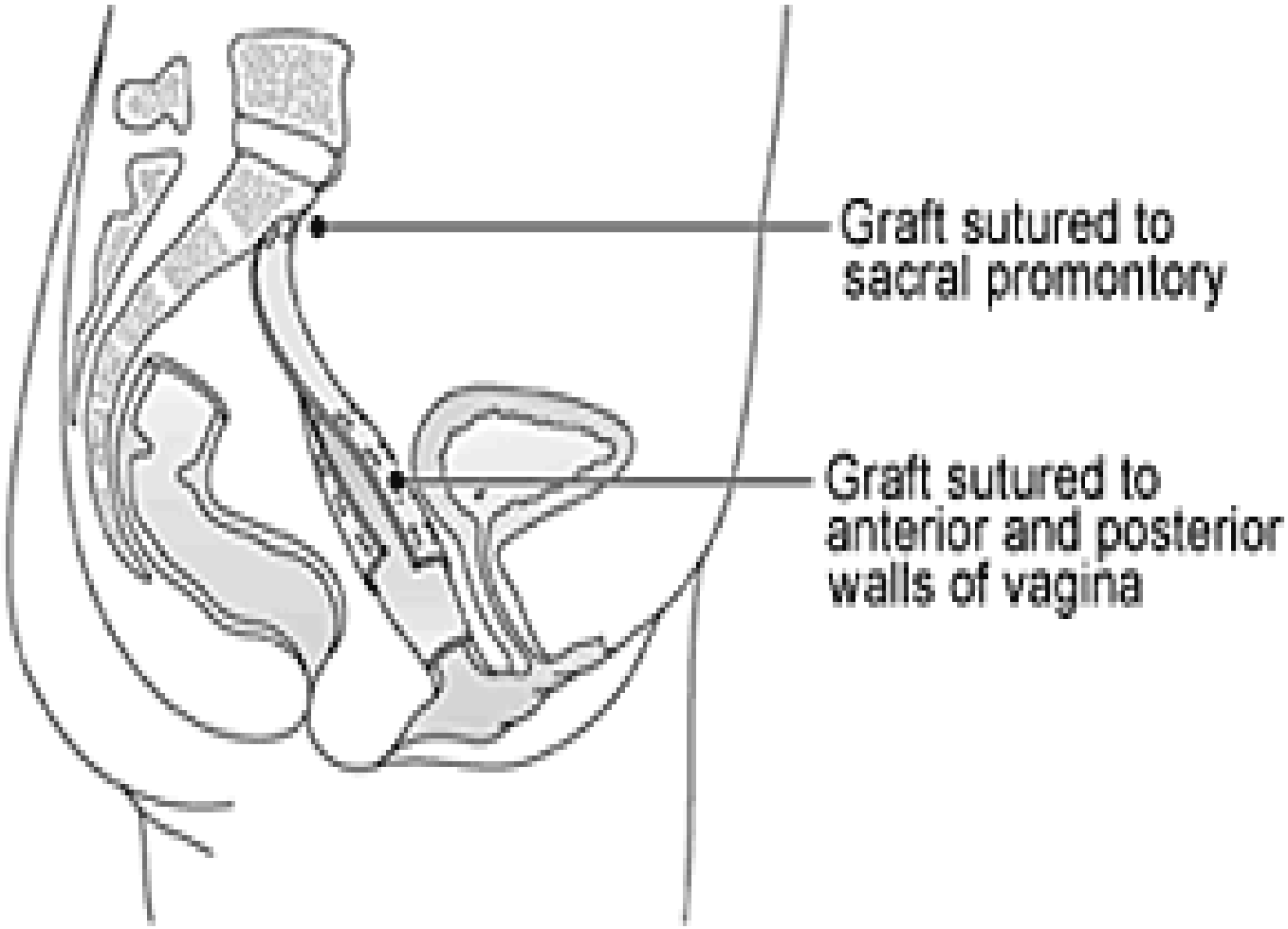
Surgical treatment

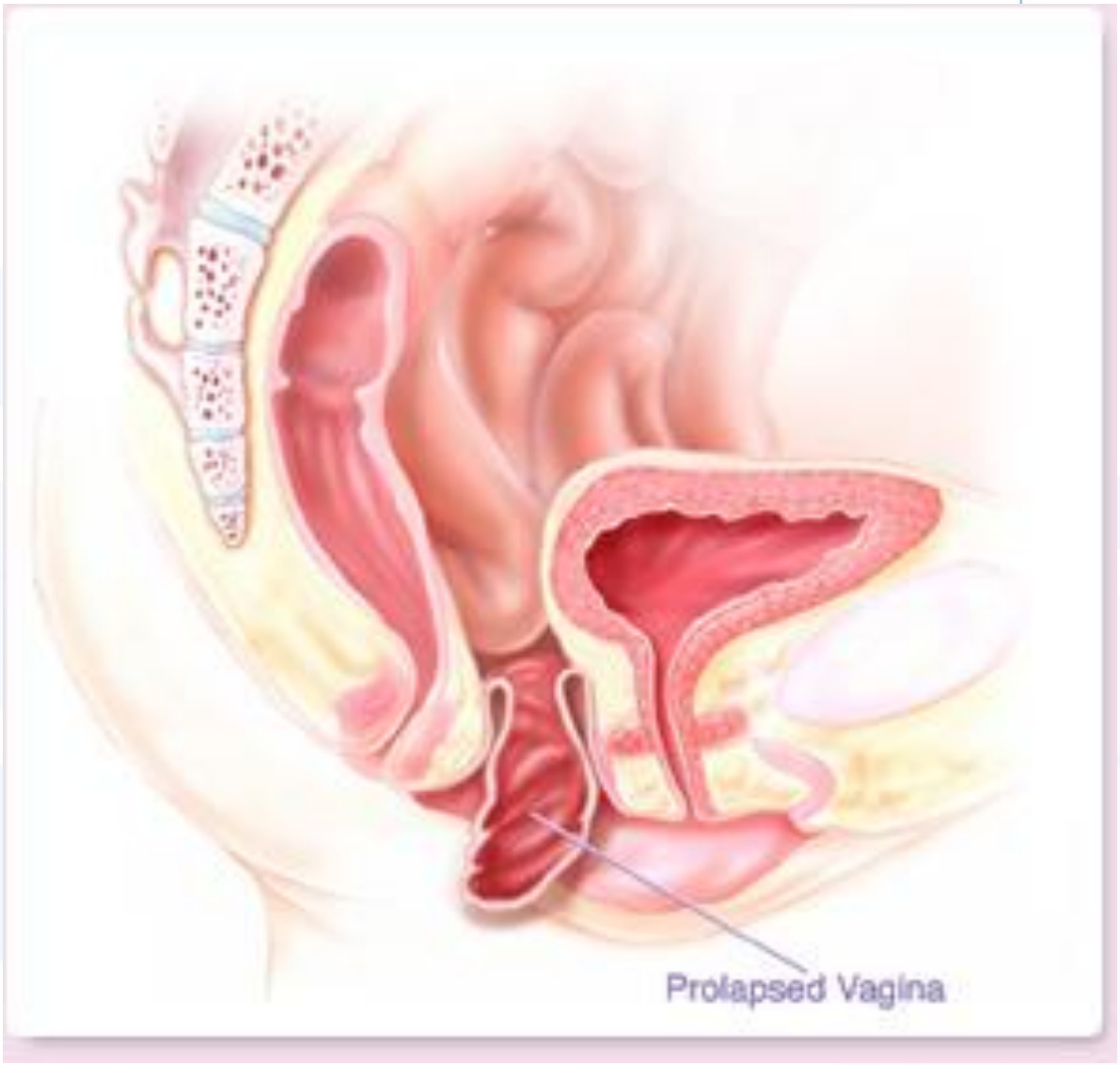
- Enterocele
  - Posterior colporrhaphy and repair of the enterocele hernia

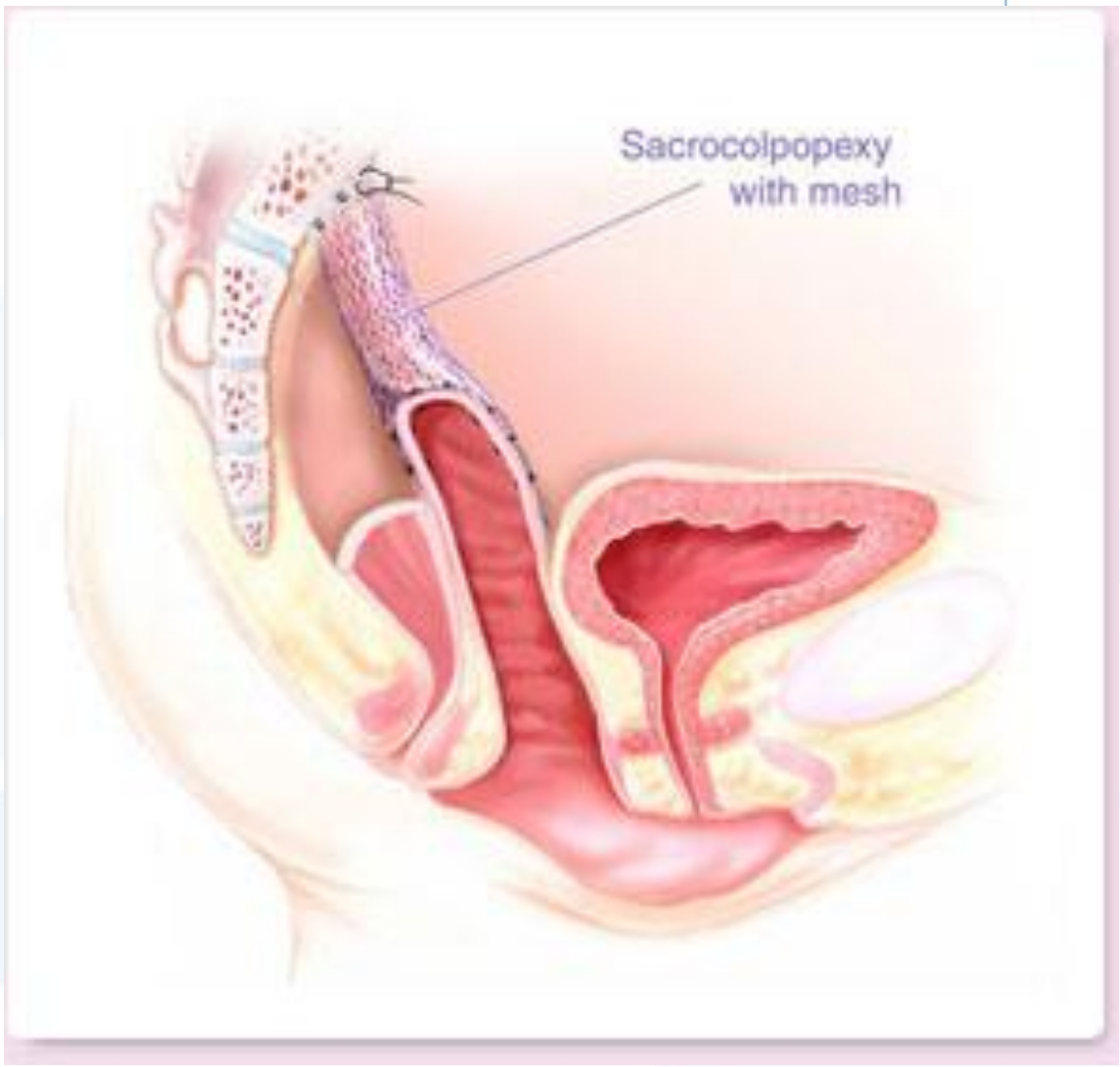
Surgical treatment

- Vault prolapse
  - Vaginal repair – anterior and posterior colporrhaphy plus suspension of vault to sacrospinous ligament (Richter's procedure)
  - Abdominal repair – suspension of vault to the sacrum with mesh (sacrocolpopexy)


Sacral promontory
Prolapsed vagina


Graft sutured to sacral promontory
Graft sutured to anterior and posterior walls of vagina


Prolapsed Vagina


Sacrocolpopexy
with mesh

Surgical treatment

- Genital prolapse frequently presents as a mixture of organs or structures prolapsing
- Uterine prolapse with cystocele and rectocele will need vaginal hysterectomy as well as anterior and posterior colporrhaphy + Richter's procedure

Surgical treatment

- *Surgery for prolapse* sometimes needs to be combined with *surgery for incontinence*

- The use of mesh

Why Use Mesh?

- Reinforcement of the repair
- To reduce the recurrence rate of prolapse which is estimated to be around 30%

Procedures

- Anterior repair
- Posterior repair
- Abdominal sacrocolpopexy
- TVT, TOT slings
- IVS

The Ideal Prosthesis

- Biocompatible
- Inert
- No allergic or inflammatory response
- Sterile
- Non carcinogenic
- Resistant to mechanical stress or shrinkage

Different Grafts

- Biological
  - Autologous (from patient)
  - Allograft (human donar)
  - Xenograft (animal)
- Synthetic prosthesis
  - Type I-IV

Biological Mesh

Type	Component	Trade name
Xenograft	Porcine small intestine	SIS
	Bovine pericardium	Pelvicol
Allograft	Dura mater	
	Fassia lata	
Autologous	Rectus sheath	
	Fassia lata	
	Vaginal mucosa	

Synthetic Mesh

Type	Component	Name	Fibre	Pore size
I	Polypropolene	Prolene, Marlex	Monofilament	Macro
	Polypropolene/ polyglactin 910	Vypro	Mono/multifilament	Macro
	Polyglactin 910	Vicryl	Multifilament	

Synthetic Mesh

Type	Component	Name	Fibre	Pore size
II	Expanded PTFE	Gore-Tex	Multifilament	Micro
III	Polyethelene	Mersilene	Multifilament	Micro/ Macro
IV	Polypropylene sheet	Cellgard (not in gyne)	Monofilament	Sub micro

Synthetic Mesh

- Pore size
  - Influences flexibility, fibroblast infiltration, leucocyte passage and mechanical anchorage
  - Great emphasis on pore size > 75 µm
  - Interstices between multifilament grafts should be > 10 µm
- Current evidence favors the use of type I

Anterior Compartment

- Evidence available suggesting less recurrence when mesh used in anterior repair

Middle Compartment

- Abdominal sacrocolpopexy: common procedure for recurrent vault prolapse
- Prosthesis placed between sacrum and vaginal vault
- Erosion lowest with poypropylene, highest with Gore-Tex

Posterior Compartment

- Currently too little evidence to support the use of mesh in the posterior compartment

Problems with Mesh

- What is the ideal one?
- Erosion
- Expensive
- Long term follow-up

Prevention of vaginal prolapse

- At time of abdominal hysterectomy:
  - Suspension of vault to utero-sacral ligaments
- At vaginal hysterectomy:
  - Utero-sacral ligaments suspended to each other and to the posterior vaginal vault – McCall culdoplasty

Thank you