
بسم الله الرحمن الرحيم

# Pelvic organ prolapse assessment

*Maryam hajhashemy*

## Pelvic organ prolapse (POP):

the herniation of the pelvic organs to or beyond the vaginal walls

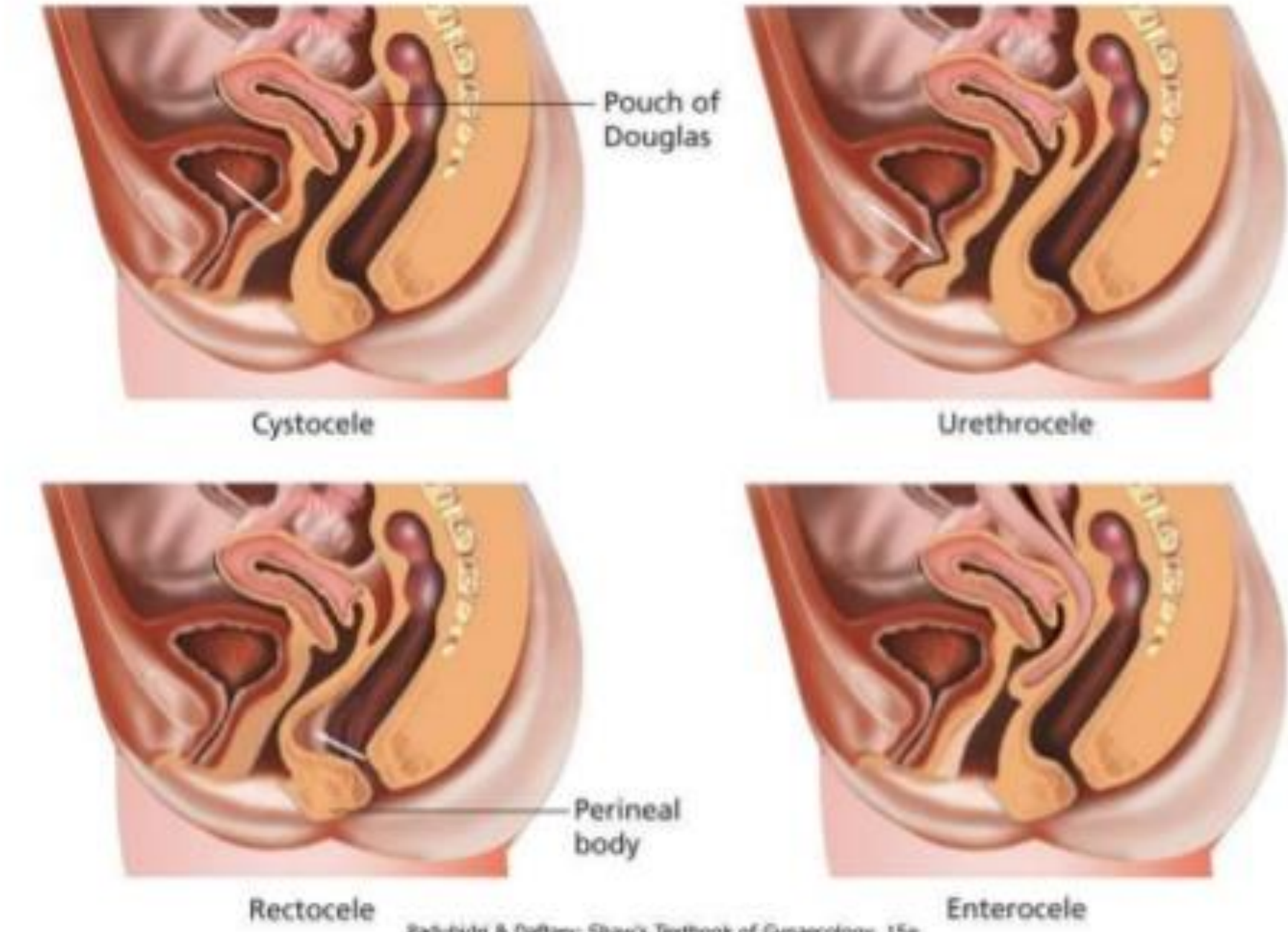
-***Anterior compartment prolapse:*** Hernia of anterior vaginal wall (often bladder)-cystocele

-***Posterior compartment prolapse:***Hernia of the posterior vaginal wall (often rectum)-rectocele

-***Enterocele:***Hernia of the intestines through the vaginal wall.

-***Apical compartment prolapse:***Descent of the apex of the vagina, often associated with enterocele.

-***Uterine procidentia:***Hernia of all three compartments through the vaginal introitus




Padubidri & Daftary: Shaw's Textbook of Gynaecology, 15e

# paravaginal defects

-Paravaginal defects occur when the anterior vaginal wall detaches from its lateral support, the arcus tendineus. The arcus tendineus is a line of connective tissue that runs from posterior (ischial spine) to anterior (symphysis pubis) anteriorly

*vagina is a continuous organ and prolapse of one compartment is often associated with prolapse of another. As an example, approximately half of anterior prolapse can be attributed to apical descent*

# prevalence

The exact prevalence of POP is difficult to ascertain

(1) different classification systems have been used for diagnosis;
(2) studies vary by whether the rate of prolapse reported is for women who are symptomatic or asymptomatic
(3) it is unknown how many women with POP do not seek medical attention

Population based studies report an 11 to 19 percent lifetime risk in women undergoing surgery for prolapse or incontinence.

These data likely underestimate the number of women with symptomatic POP, since many women do not undergo surgery.

- annual cost of ambulatory care of pelvic floor disorders in the United States from 2005 to 2006 was almost $300 million

- surgical repair of prolapse was the most common inpatient procedure performed in women older than 70 years

The distribution of the POP-Q system stages:

a bell-shaped curve:
most subjects having stage 1 or 2 support. Few subjects had either stage 0 (excellent support) or stage 3 (moderate to severe pelvic support defects)

Anterior wall :33 to 34 percent
posterior wall: 18 percent
apical defects: 14 percent

it is important to note that the vagina is a continuous organ and defects in the apex contribute to anterior and posterior vaginal wall prolapse

# RISK FACTORS

-***pregnancy and childbirth:*** Neural injury, Injury to the levator ani and coccygeus muscles, Fascial injury, Impaired connective tissue remodeling
after the first birth 4-fold and second birth 8-fold less rapidly for subsequent births third: 9-fold; fourth: 10-fold.

POP can develop during pregnancy prior to delivery. Vaginal delivery is associated with a higher incidence of POP than cesarean

The evidence suggests that the biggest increase in the prevalence of PFDs is associated with the first birth

- Advancing age

every additional 10 years of age conferred an increased risk of prolapse of 40 percent.

In contrast, ages 20 to 39 (1.6 percent); 40 to 59 (3.8 percent); 60 to 79 (3.0 percent); and ≥80 (4.1 percent).

## -Obesity

body mass index >25 have a two-fold higher risk of having prolapse

While weight gain is a risk factor for developing prolapse, it is controversial whether weight loss results in prolapse regression

Acute and chronic trauma of vaginal delivery
Estrogen deprivation
Intrinsic collagen abnormalities
Race and ethnicity
Failure to reattach the USL-Cardinal Ligament complex at hysterectomy
Alteration of vaginal axis by urethral suspension
Chronic increase in intra abdominal pressure
Heavy lifting
Coughing
Constipation

# PREVENTION

-Although vaginal childbirth is associated with an increased risk of prolapse, it is unclear that cesarean delivery will prevent the occurrence of prolapse.

-Prophylactic pelvic floor muscle exercises

-weight loss
-treatment of chronic constipation
-avoidance of jobs that require heavy lifting
-vaginal pessary*
-Raloxifen**

# CLINICAL MANIFESTATIONS

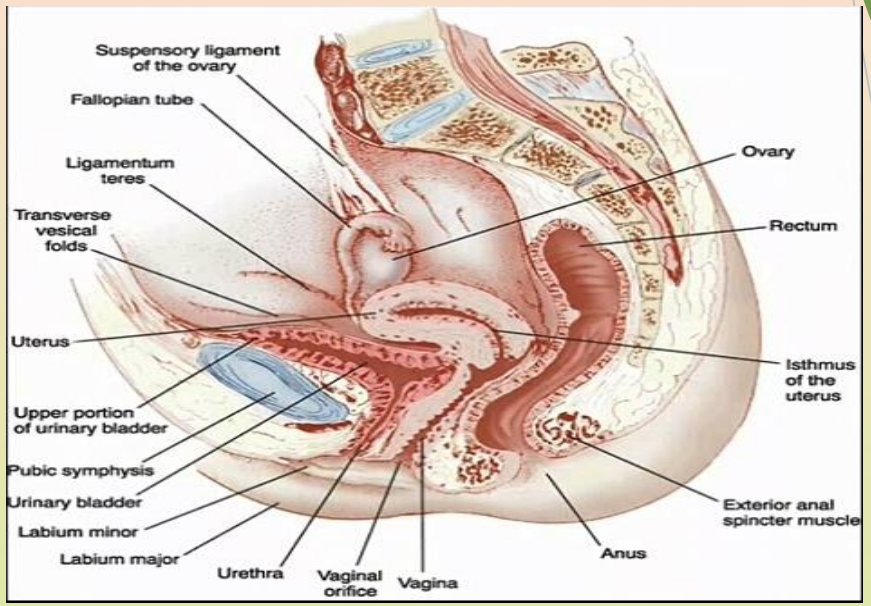
Patients with POP may present with symptoms related specifically to the prolapsed structures, such as a ***bulge*** or ***vaginal pressure*** or with associated symptoms including ***urinary***, ***defecatory*** or ***sexual dysfunction***.

Symptoms such as low back or pelvic pain have often been attributed to POP, but this association is not supported by well-designed studies.

Severity of symptoms does not correlate well with the stage of prolapse.

# EVALUATION

# Evaluation




## General evaluation :

- History:

  General History

**Pelvic Floor History**

**Assesses Urinary, Sexual, Anorectal and other symptoms (POP)- ***Pain???**

- Questionnaire
- Physical Examination

**Integration Theory**

Urinary Symptom•
Bowel Symptom•
Sexual Symptom•
Other Local Symptoms•

# Evaluation (con.)

- Physical Examination:

General Examination

Pelvic Examination:

Speculum and Bimanual Examination

**Pelvic Muscle Assessment**

Stress Test

**POP.Q** or **Baden Walker**

Anorectal Assessment :

The tone of the anal sphincter complex

- Rest
- Squeeze

# فرم 1 علایم اروژنیکولوژیک

| و نام خانوادگی: | نام پدر: | شماره پرونده : | تاریخ ویزیت : | تاریخ تولد : |
|---|---|---|---|---|

**ایت اصلی:** **بدترین علامت :**

## یم ادراری تحتانی:

SUI مدت بیماری به ماه :

UUI مدت بیماری به ماه :

Mixe ☐U=S ☐U>S ☐S>U مدت بیماری به ماه :

Frequency چند بار در روز : مدت بیماری به ماه :

Urgency چند بار در روز : مدت بیماری به ماه :

Nocturia چند بار در شب : مدت بیماری به ماه :

Recurrent Infections چند بار در سال :

**غیر طبیعی ادرار :**

Straining to void مدت بیماری به ماه :

Intermittent Stream مدت بیماری به ماه :

Incomplete Emptying مدت بیماری به ماه :

Post void Dribble مدت بیماری به ماه :

Hesitancy مدت بیماری به ماه :

Poor Flow مدت بیماری به ماه :

Hematuria مدت بیماری به ماه :

Dysuria مدت بیماری به ماه :

اپیزودهای بی اختیاری ادرار :

.....در روز .....در هفته ..... در ماه

مقدار نشت ادرار :

چند قطره ☐ خیس شدن لباس ☐ دفع کامل ☐

**استفاده از پد :**

- از 1 10 به علایم ادراری خود چه نمره ای می دهید؟ (بهترین = 1، بدترین= 10)

1 2 3 4 5 6 7 8 9 10

**درد :**

☐ درد مثانه در چه حالتی : مدت به ماه :

☐ درد واژن در چه حالتی : مدت به ماه :

☐ درد حین دفع مدت به ماه :

- از 1 10 به علایم درد خود چه نمره ای می دهید؟ (بهترین = 1، بدترین= 10)

1 2 3 4 5 6 7 8 9 10

**عملکرد حمایتی لگن :**

☐ خروج توده از واژن (پرولاپس) مدت به ماه :

☐ احساس سنگینی در لگن مدت به ماه :

☐ Vaginal noise مدت به ماه :

- از 1 10 به علایم خود چه نمره ای می دهید؟ (بهترین = 1، بدترین= 10)

1 2 3 4 5 6 7 8 9 10

## یم دفعی (گوارشی تحتانی):

علامت ندارد

یبوست مدت به ماه :

Urgency مدت به ماه :

دفع انمدادی مدت به ماه :

Splinting ☐ فشار به پرینه مدت به ماه :

☐ انگشت در واژن مدت به ماه :

☐ باز کردن مقعد مدت به ماه :

☐ بی اختیاری گاز مدت به ماه :

☐ بی اختیاری مدفوع مایع مدت به ماه :

☐ بی اختیاری مدفوع جامد مدت به ماه :

☐ پرولاپس رکتوم مدت به ماه :

- از 1 10 به علایم دفعی خود چه نمره ای می دهید؟ (بهترین = 1، بدترین= 10)

1 2 3 4 5 6 7 8 9 10

## لکرد جنسی:

فعال ☐ غیر فعال

مشکل قابل توجه ندارد.

همسر مشکل دارد ☐ ندارد ☐

عدم رضایت بیمار مدت به ماه:

عدم رضایت همسر مدت به ماه :

دیسپارونی ☐ کاهش میل جنسی ☐ خشکی واژن

اختلال برانگیختگی نرسیدن به ارگاسم مدت به ماه :

بی اختیاری حین نزدیکی ☐ بی اختیاری حین دخول مدت به ماه :

☐ بی اختیاری حین ارگاسم مدت به ماه :

☐ بی اختیاری در هرمورد مدت به ماه :

از 1 10 به علایم جنسی خود چه نمره ای می دهید؟

1 2 3 4 5 6 7 8 9 10 (بهترین = 1، بدترین= 10)

## درمانهای قبلی :

☐ نداشته ☐ ورزش Kegel ☐ فیزیوتراپی/ بیوفیدبک ☐ پساری

☐ دیلاتاسیون یورترا

| جراحی ها : | چندبار | چه سالی | درمانهای دارویی: | دوز | مدت به ماه |
|---|---|---|---|---|---|
| ☐ Burch/MMK | | | | | |
| ☐ Sling | | | ☐ دتروزیتول | | |
| ☐ TVT | | | ☐ اکسی بوتینین | | |
| ☐ TOT | | | ☐ ایمی پرامین | | |
| ☐ Bulking agant | | | ☐ α اگونیست | | |
| ☐ ترمیم قدامی | | | ☐ استروژن | | |
| ☐ ترمیم خلفی | | | | | |
| ☐ ساسپنشن کاف ، شکمی | | | | | |
| ☐ ساسپنشن کاف ، واژینال | | | | | |
| ☐ Obliterative | | | | | |
| ☐ با روش لاپاراسکوپی | | | | | |

# فرم ۳– معاینه فیزیکی و تشخیص

| نام و نام خانوادگی: | نام پدر: | شماره پرونده : | تاریخ ویزیت : | تاریخ تولد : |
|---|---|---|---|---|

معاینه جنرال : ☐ CVA Terderness شکم :

DTR : زانو: درسی فلکسیون شصت پا : مچ پا : راست ☐ چپ ☐ کف پا :

Sensation: Nml ☐ Abnm ☐

رفلکس ها : بولبو کاورنو راست ☐ چپ ☐
آنال ونیک راست ☐ چپ ☐

## معاینه پلویک :

Esst : مثبت ☐ منفی ☐
Cough : مثبت ☐ منفی ☐
PVR : ml

### POP – Q

| | | |
|---|---|---|
| Aa: | Ba: | C: |
| Gh: | Pb: | TVL: |
| Ap: | Bp: | D: |

**POP – Q Graph**

+۱۰ +۸ +۶ +۴ +۲ ۰ −۲ −۴ −۶ −۸ −۱۰

### Prolapse Staging

| | ۰ | ۱ | ۲ | ۳ | ۴ |
|---|---|---|---|---|---|
| سرویکس | | | | | |
| کاف | | | | | |
| **Ant Comportment** | | | | | |
| اپیکال ☐ سنترال ☐ چپ ☐ راست ☐ | | | | | |
| **Post.Comp** | | | | | |
| انتروسل | | | | | |

### معاینه واژینال

آتروفی : هیپرموبیلتی اورترا:

فیستول : ندارد ☐
اپیکال ☐ Ant ☐ Post ☐

تون لواتور :
قدرت : هیچ ☐ ضعیف ☐ متوسط ☐ خوب ☐
مدت : هیچ ☐ کوتاه ☐ نرمال ☐

پریته آل بادی: نزول :
نقص پریته :

### معاینه رکتال — انجام نشد ☐

| | | | |
|---|---|---|---|
| تون (استراحت) | نرمال ☐ | کم ☐ | زیاد ☐ |
| Squeeze (در حال انقباض) | نرمال ☐ | کم ☐ | زیاد ☐ |
| پرولاپس رکتوم | دارد ☐ | ندارد ☐ | |

معاینه دودستی واژن: رحم : آدنکس ها :

معاینات دیگر :

آزمایش ادرار : نرمال ☐ هماچوری : WBC : نیتریت ☐

پاراکلینیک :

سونوگرافی :

ماموگرافی:

سایر Imaging :

آزمایشات خون و غیره :

UDS :

سیستوسکوپی :

پاپ اسمیر:

# Equipment

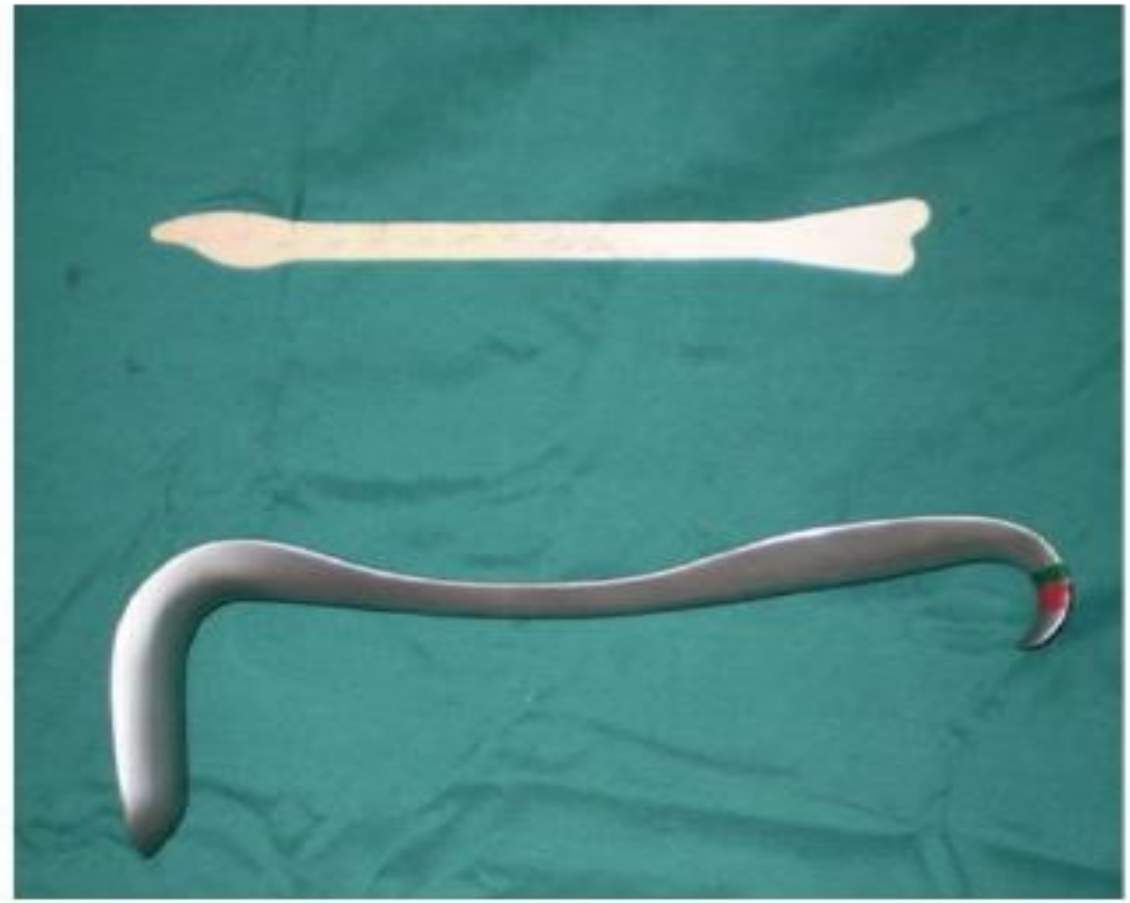
-Sims retractor (single blade speculum) or a bivalve speculum that can be easily taken apart

-a ruler or a large cotton swab or sponge forceps marked in 1 cm increments is used

# Instruments

- measuring device

- Sims speculum



# Patient positioning

-The examination is performed in each position with the woman relaxed and then straining to demonstrate the maximum degree of prolapse

-The patient is examined initially in the dorsal lithotomy position

-The examination is then repeated with the patient standing the patient places one foot on a well-supported footstool

# SPECULUM AND BIMANUAL EXAMINATION

Prolapse of each anatomic compartment is evaluated

-bimanual examination is performed in order to evaluate for any coexisting pelvic abnormalities

## Apical prolapse (prolapse of the cervix or vaginal vault)

A bivalve speculum is inserted into the vagina and then slowly withdrawn; any descent of the apex is noted.

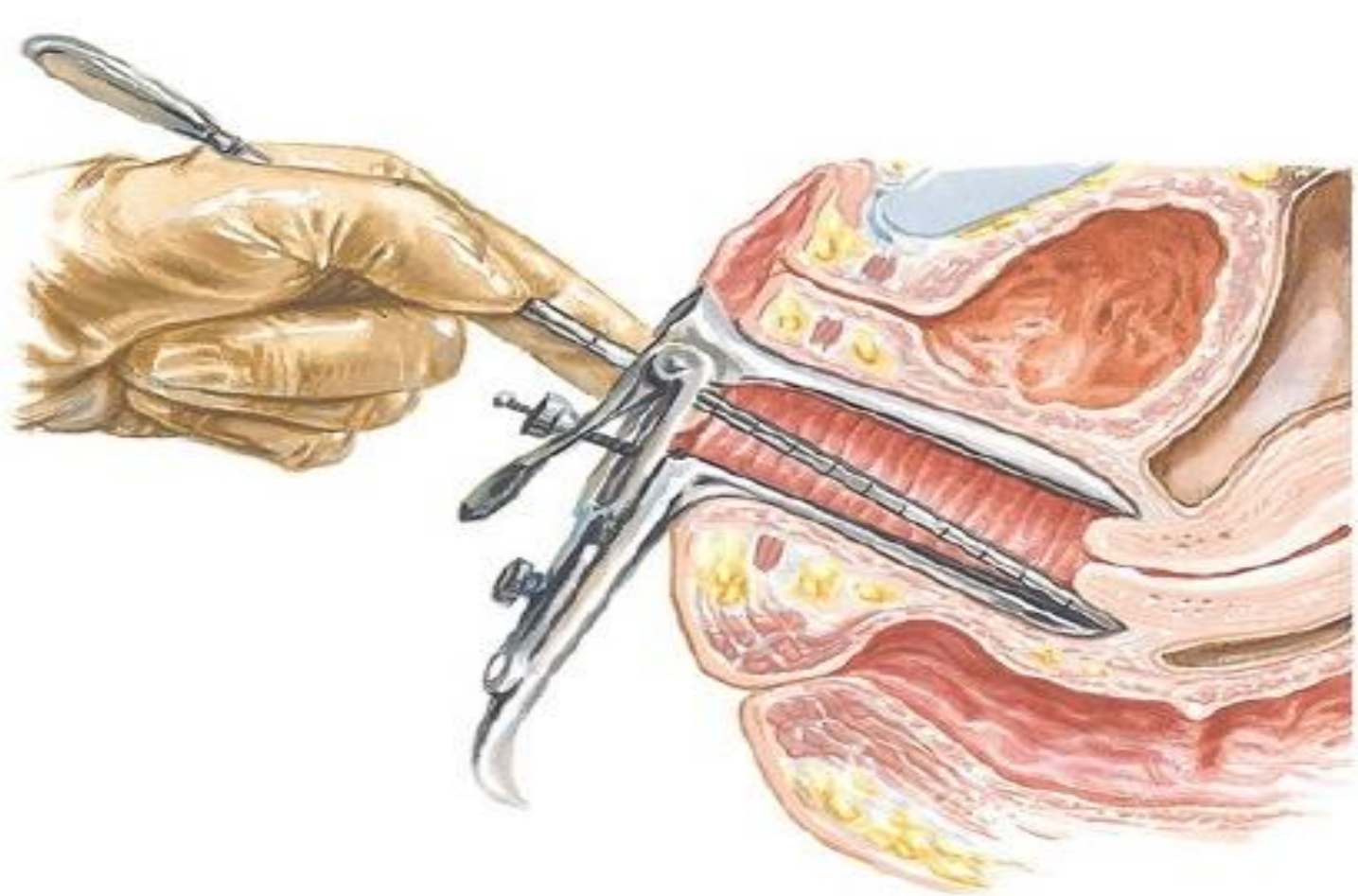
## Anterior vaginal wall

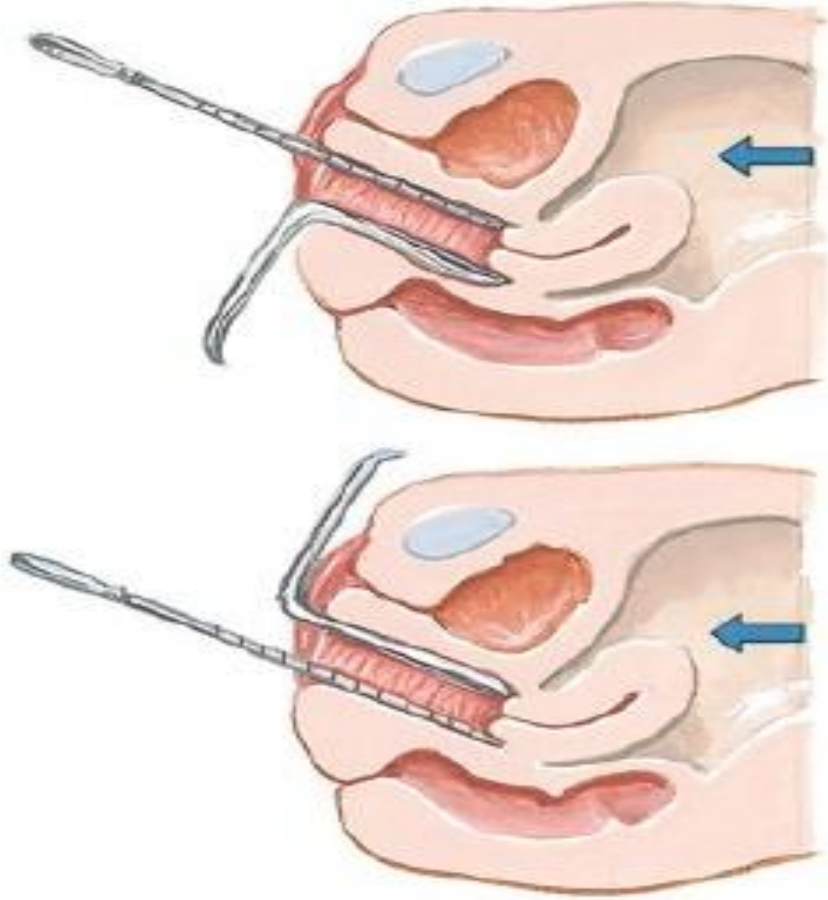
A Sims retractor or the posterior blade of a bivalve speculum is inserted into the vagina with gentle pressure on the posterior vaginal wall to isolate visualization of the anterior vaginal wall.

## Posterior vaginal wall

A Sims retractor or the posterior blade of a bivalve speculum into the vagina with gentle pressure on the anterior vaginal wall to isolate visualization of the posterior vaginal wall.

# Vaginal Dimensions





# CLASSIFICATION OF PELVIC ORGAN PROLAPSE

Historically, the severity of prolapse was graded using a variety of classification systems that were not easily reproduced or communicated in a standard way among clinicians

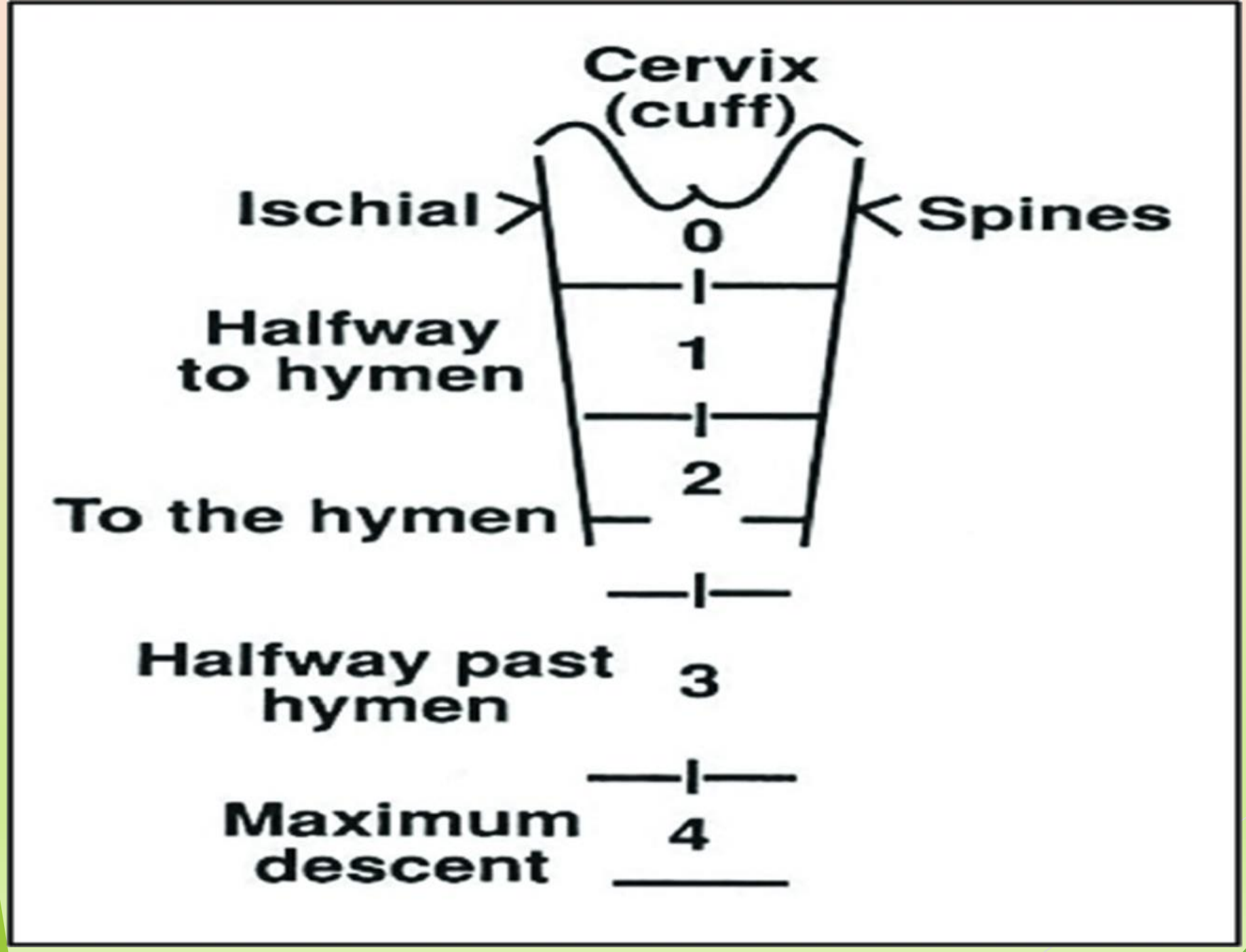
Baden-Walker system
Pelvic Organ Prolapse Quantitation (POPQ)
Simple POP-Q
SLmax

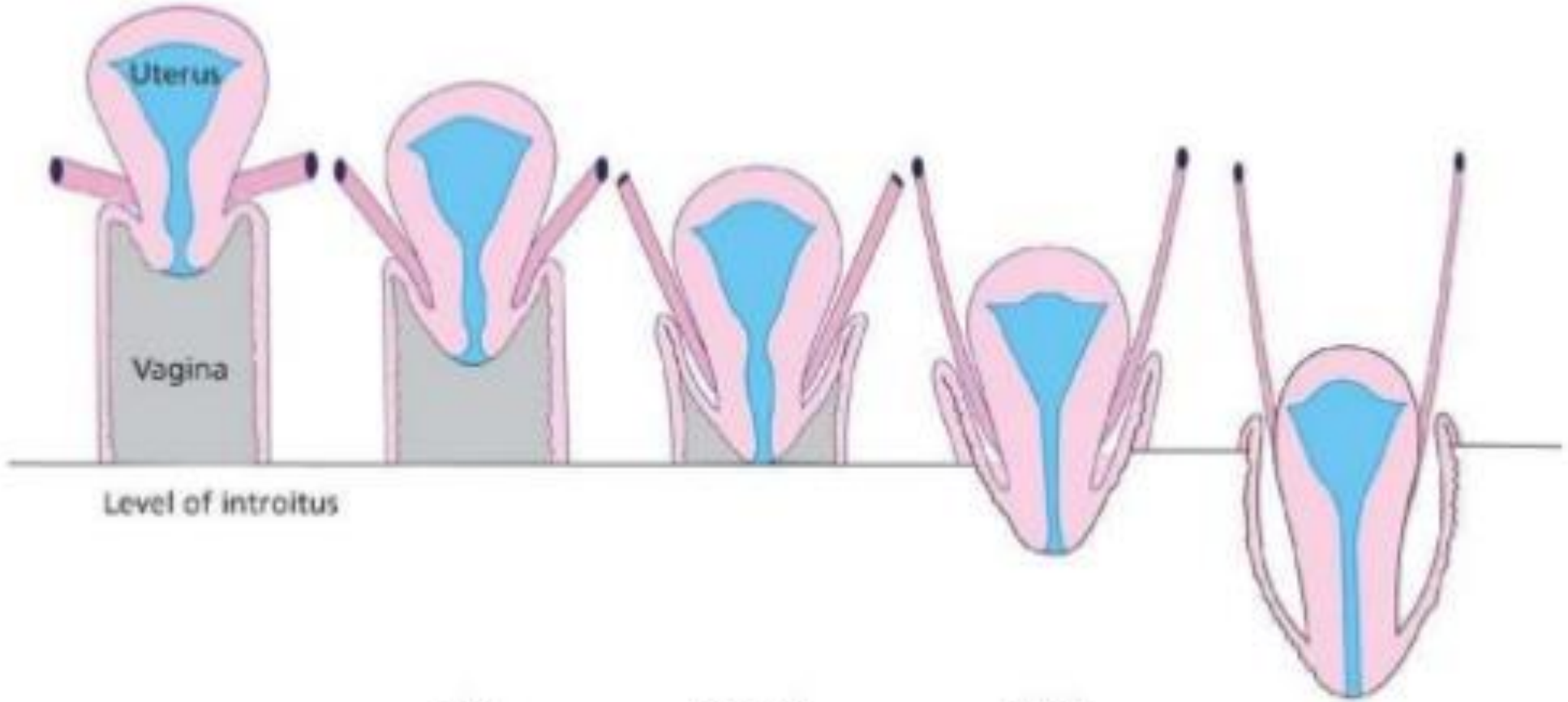
# Baden-Walker system

-there are no clear demarcations among the cut-off stages, the Baden-Walker system lacks the precision and reproducibility of the POPQ system

The system has five degrees

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

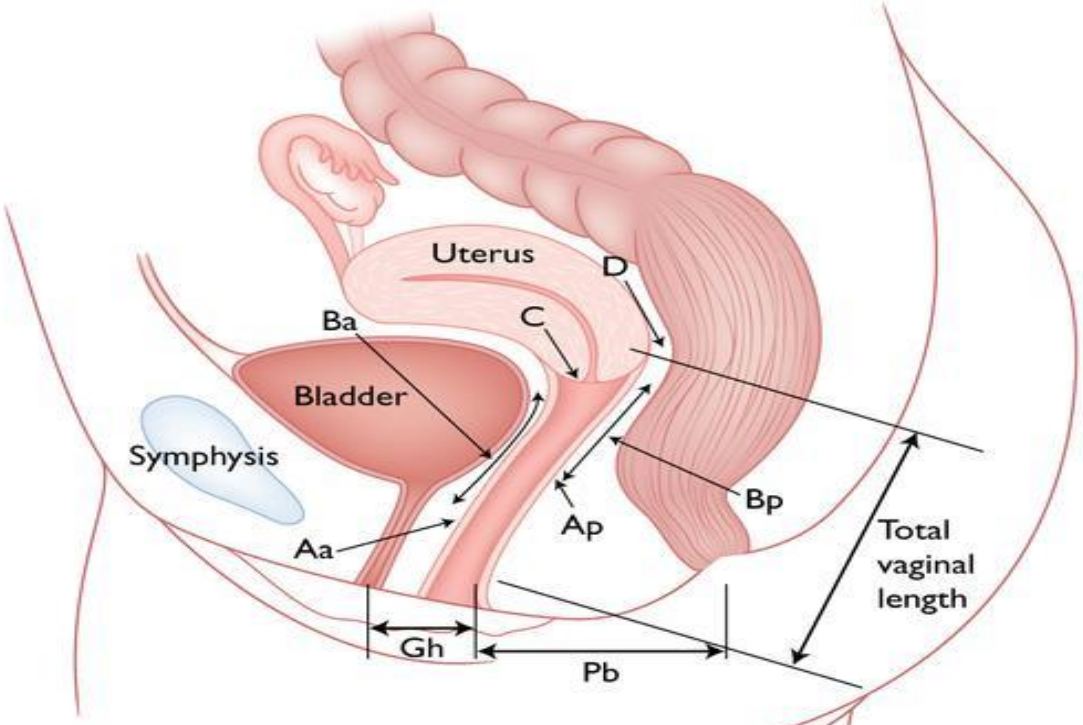

Cervix
(cuff)
Ischial
Spines
0
Halfway
to hymen
1
2
To the hymen
Halfway past
hymen
3
Maximum
descent
4



# P O P – Q

## Pelvic Organ Prolapse - Quantification

# POP- Q




**Pelvic Organ Prolapse Quantification**

Six sites of measurement:

Aa: Point 3 cm proximal to external urinary meatus (corresponding to urethrovesical junction)

Ba: Any point of anterior vaginal wall (protruding beyond Aa)

Ap: Point on posterior vaginal wall 3 cm above hymen

Bp: Any point of maximum posterior wall descent

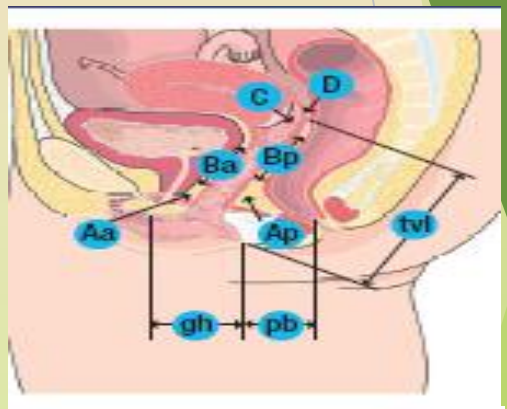
C: Cervix or vaginal cuff (posthysterectomy)

D: Posterior fornix

Gh: Genital hiatus

Pb: Perineal body





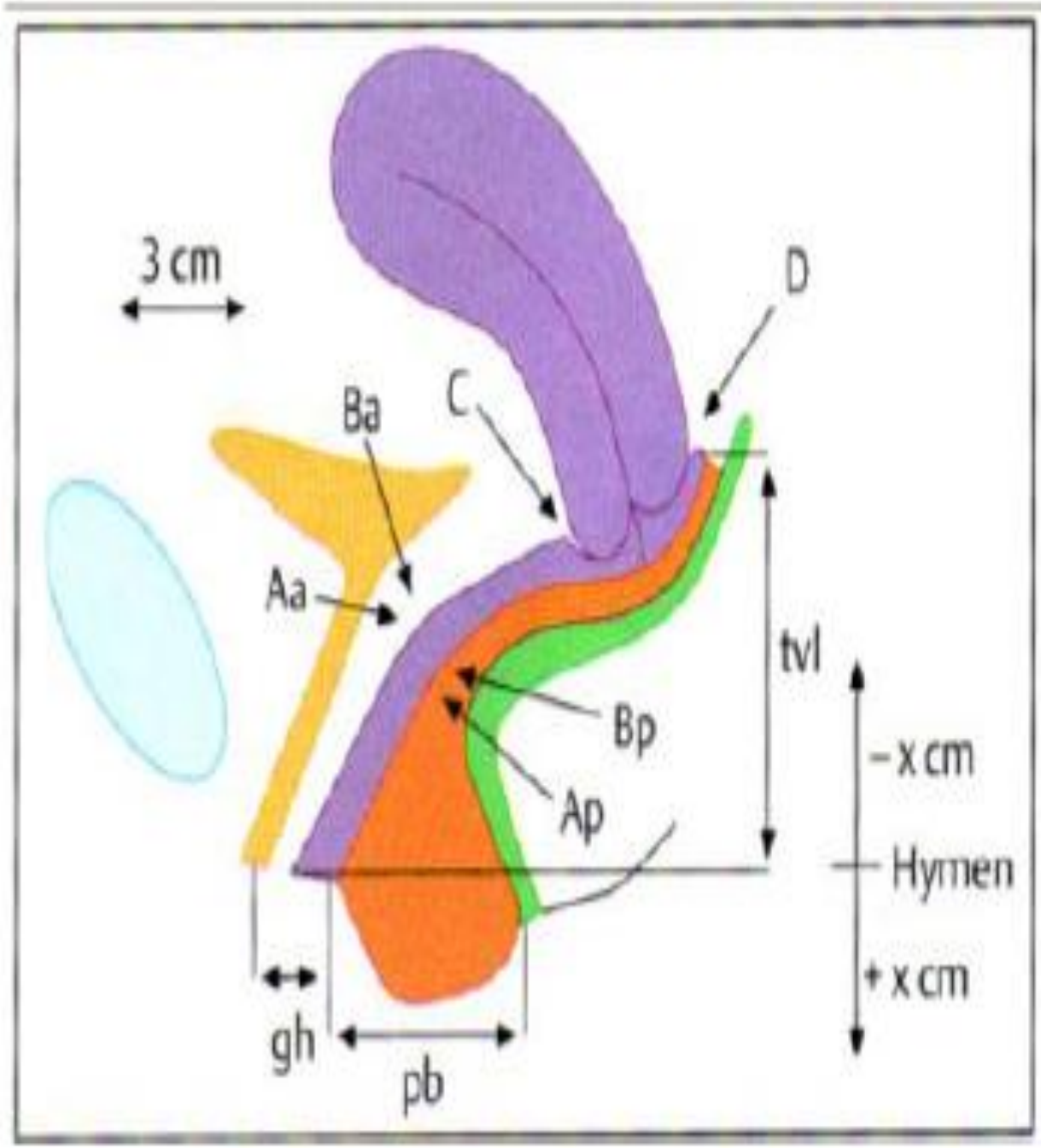

| | | |
|---|---|---|
| anterior wall Aa | anterior wall Ba | cervix or cuff C |
| genital hiatus gh | perineal body pb | total vaginal length tvl |
| posterior wall Ap | posterior wall Bp | posterior fornix D |

- Measurements: centimeters

- Hymen fixed point of reference
  - Plane of hymen defined as „zero"
  - above = negative number
  - below = positive number

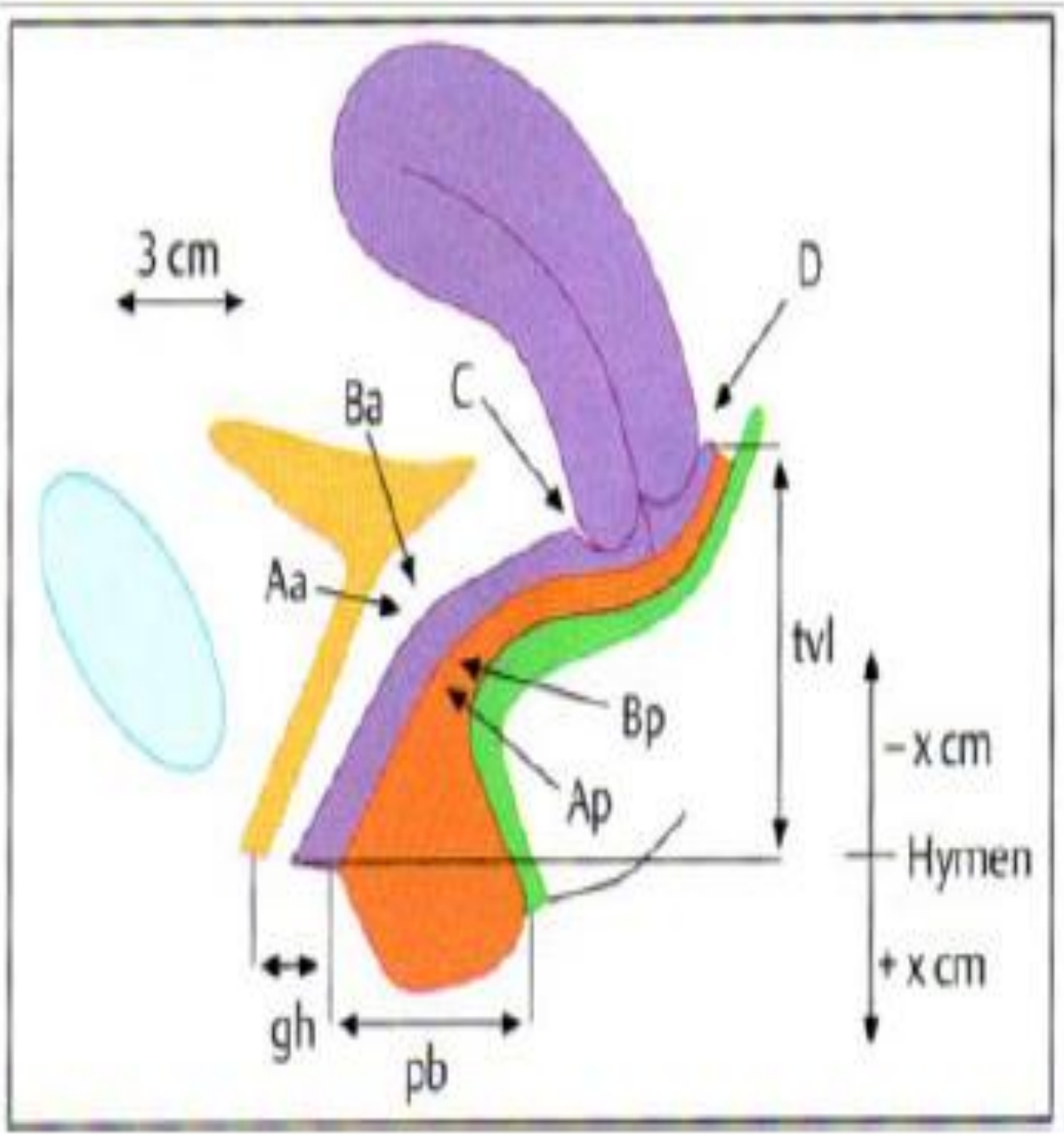
# 6 points

- anterior: Aa, Ba
- Apex: C, D
- posterior: Ap, Bp



# 3 measurements

- gh - genital hiatus
- pb - perineal body
- tvl - total vaginal length



# POINT A

- Anatomical defined
- Midline of anterior/posterior vaginal wall
- 3 cm proximal to external urethral meatus urethrae or hymen

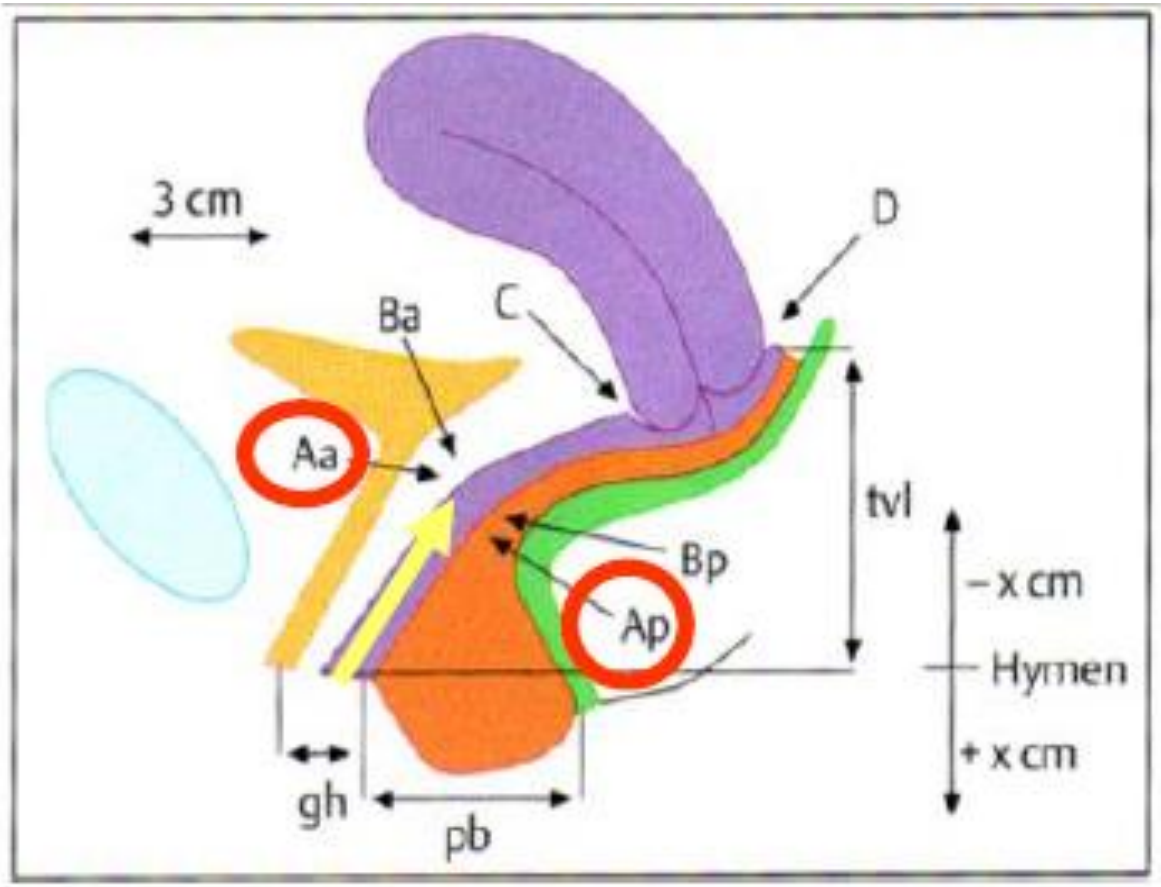
- Range of position = -3 to +3

# Aa (=anterior) / Ap (=posterior)

- Midline anterior vaginal wall, 3cm above external urethral meatus,

  approximate location of urethrovesical junction

- Midline posterior vaginal wall, 3cm proximal to the hymen

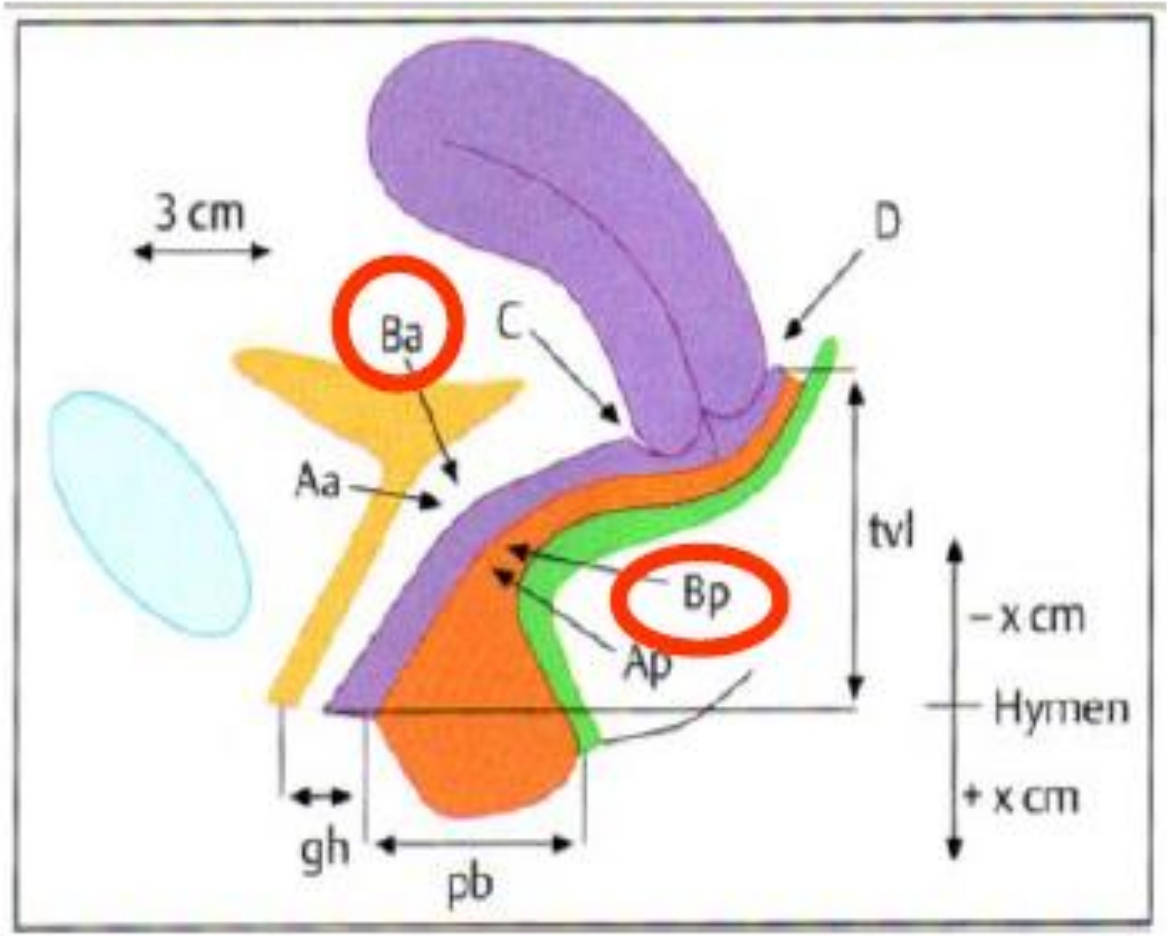


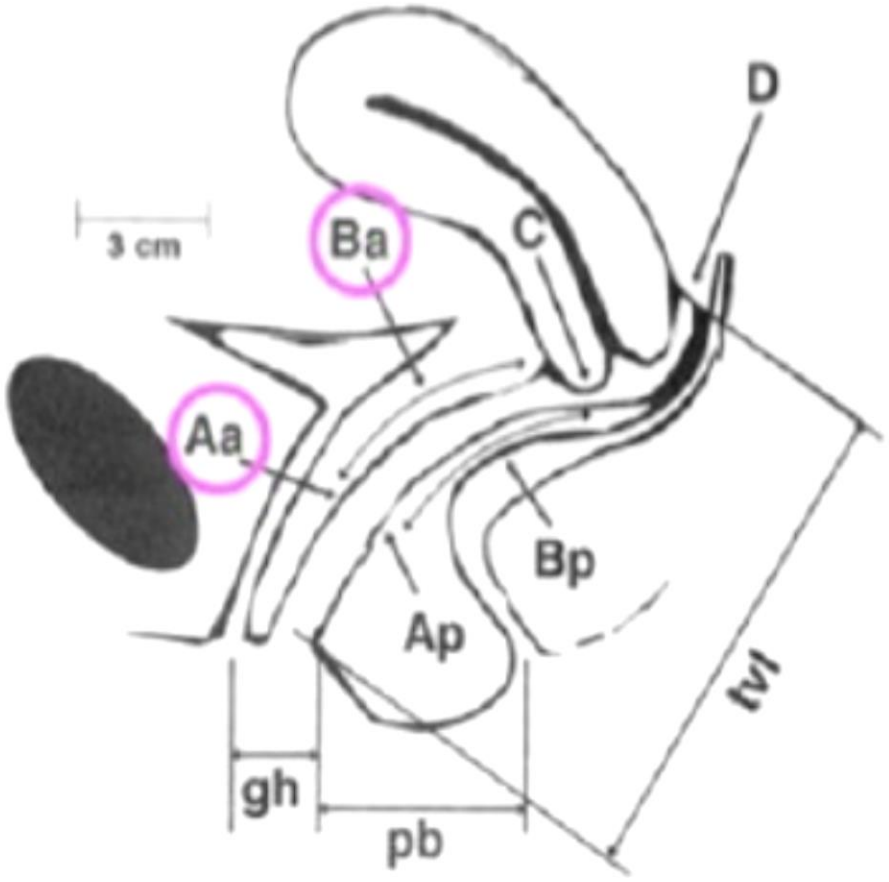
# POINT B

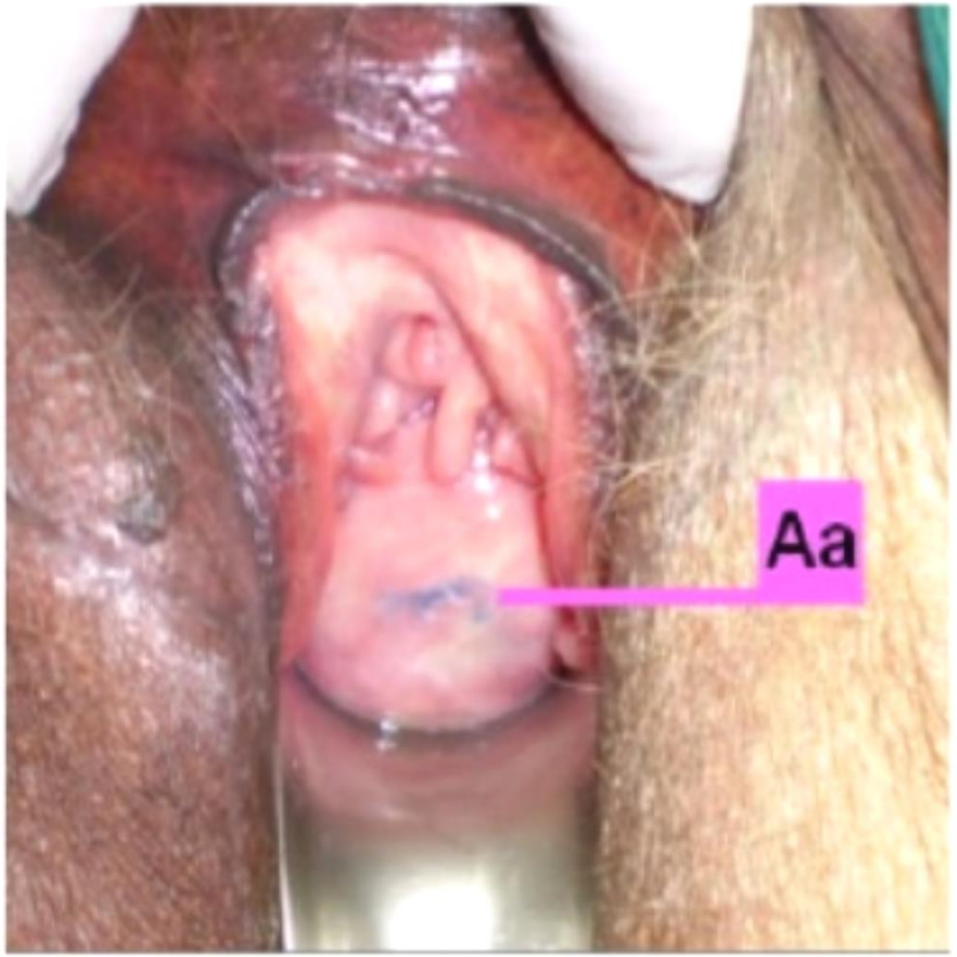
- Dynamic / variable point
- Most distal position of any upper vaginal wall between the anterior fornix or cuff and A
- Value –3 cm in absence of prolapse

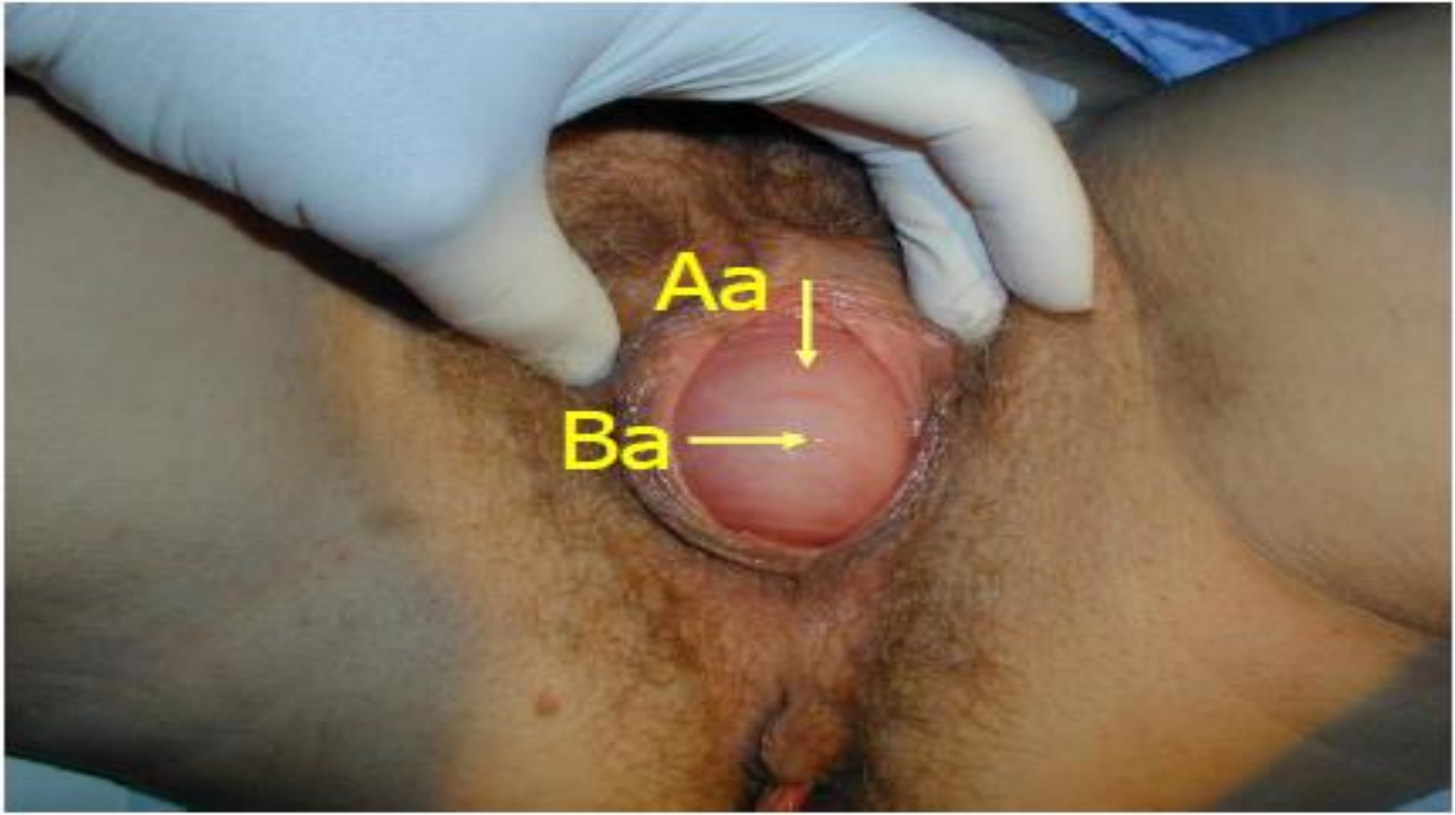
# Ba (=anterior) / Bp (=posterior)

- Dynamic or variable points
- Most distal point of any part of anterior or posterior vaginal wall from the vaginal cuff or cervix to point A



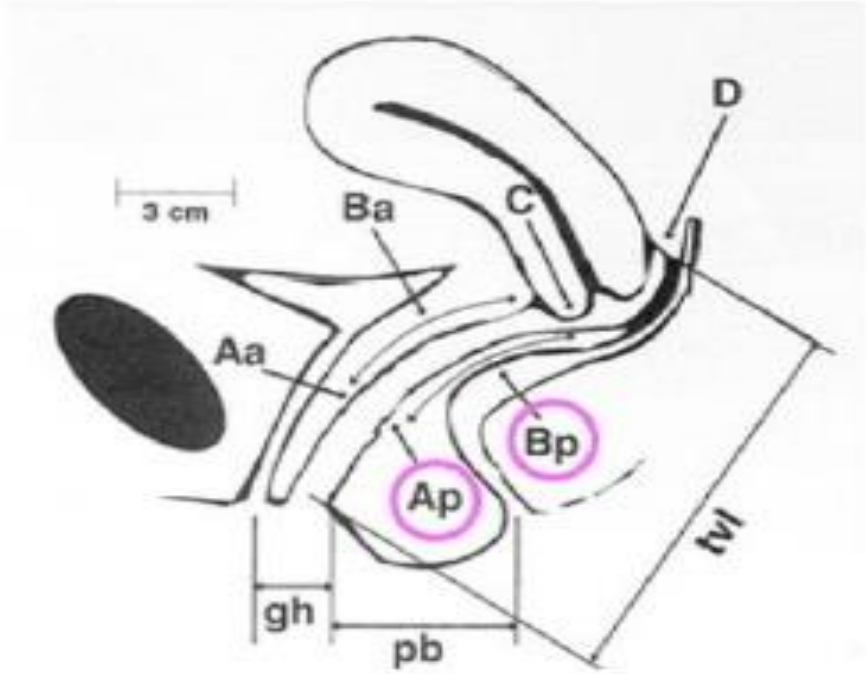

3 cm
Ba
C
D
Aa
Bp
Ap
tvl
gh
pb

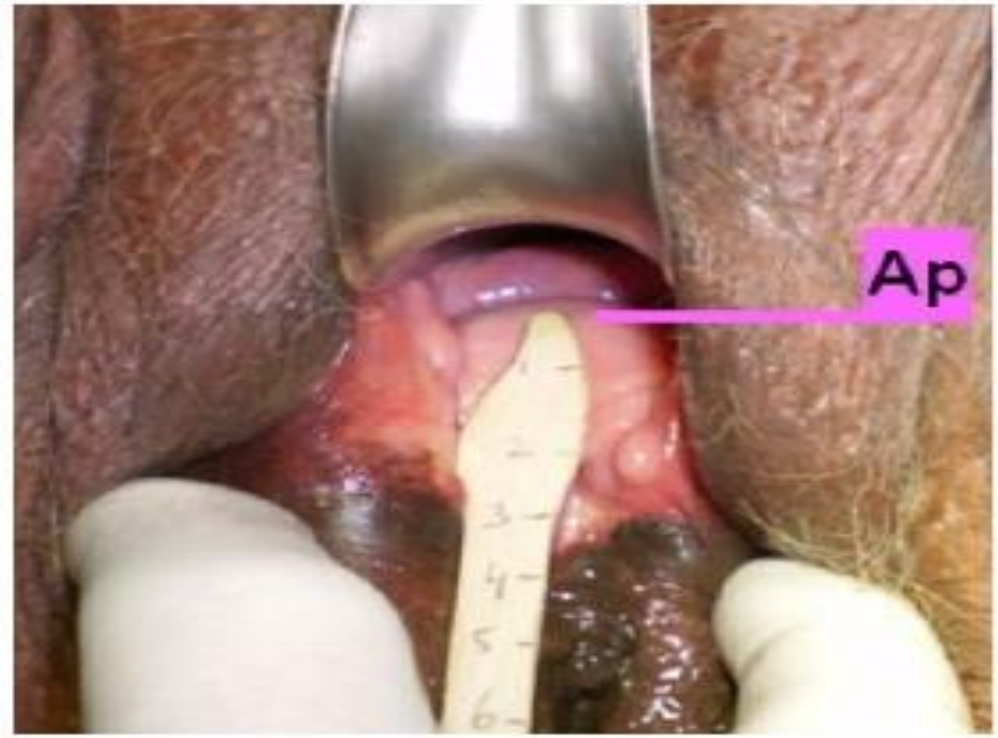

Aa


Aa
Ba

# Order of exams

## Step 4: Posterior wall (Ap:3 cm – Bp:6 cm)

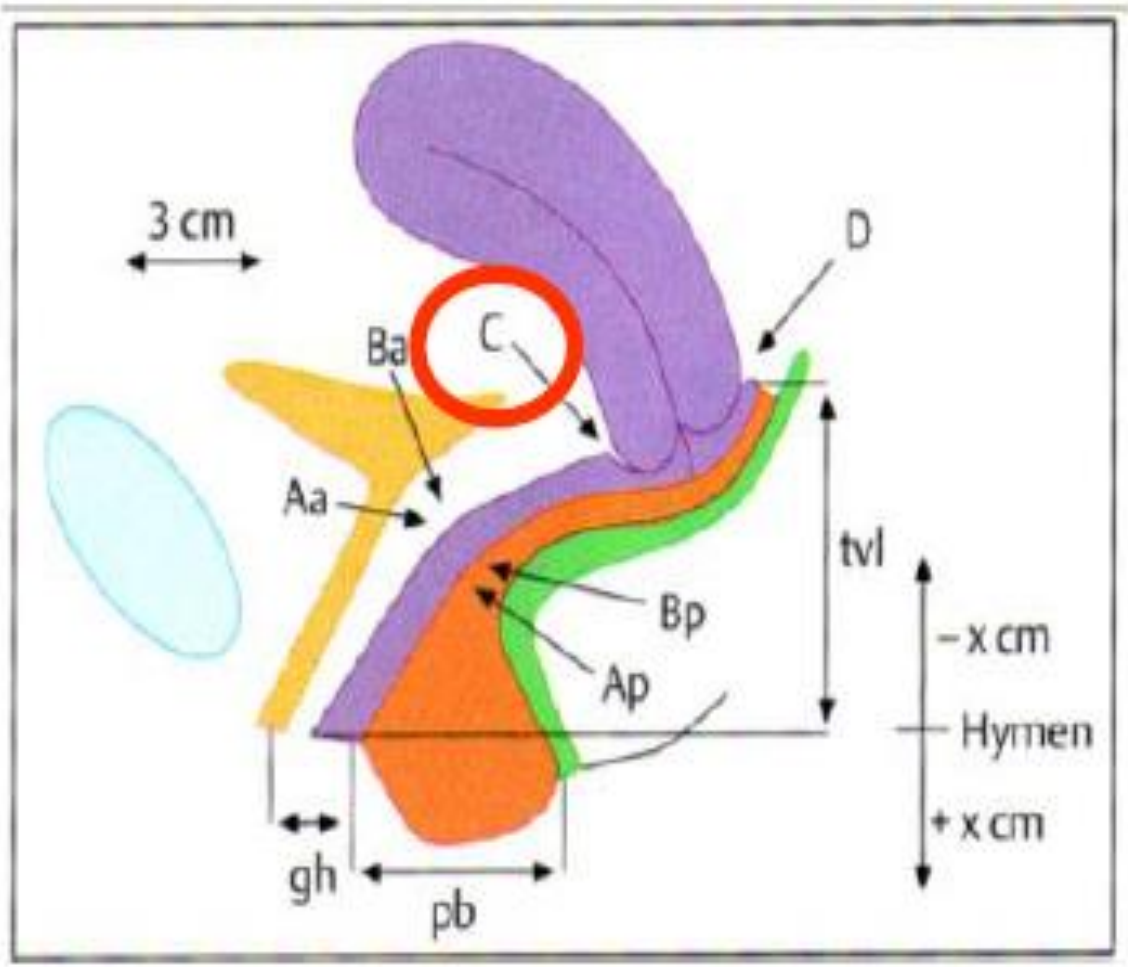


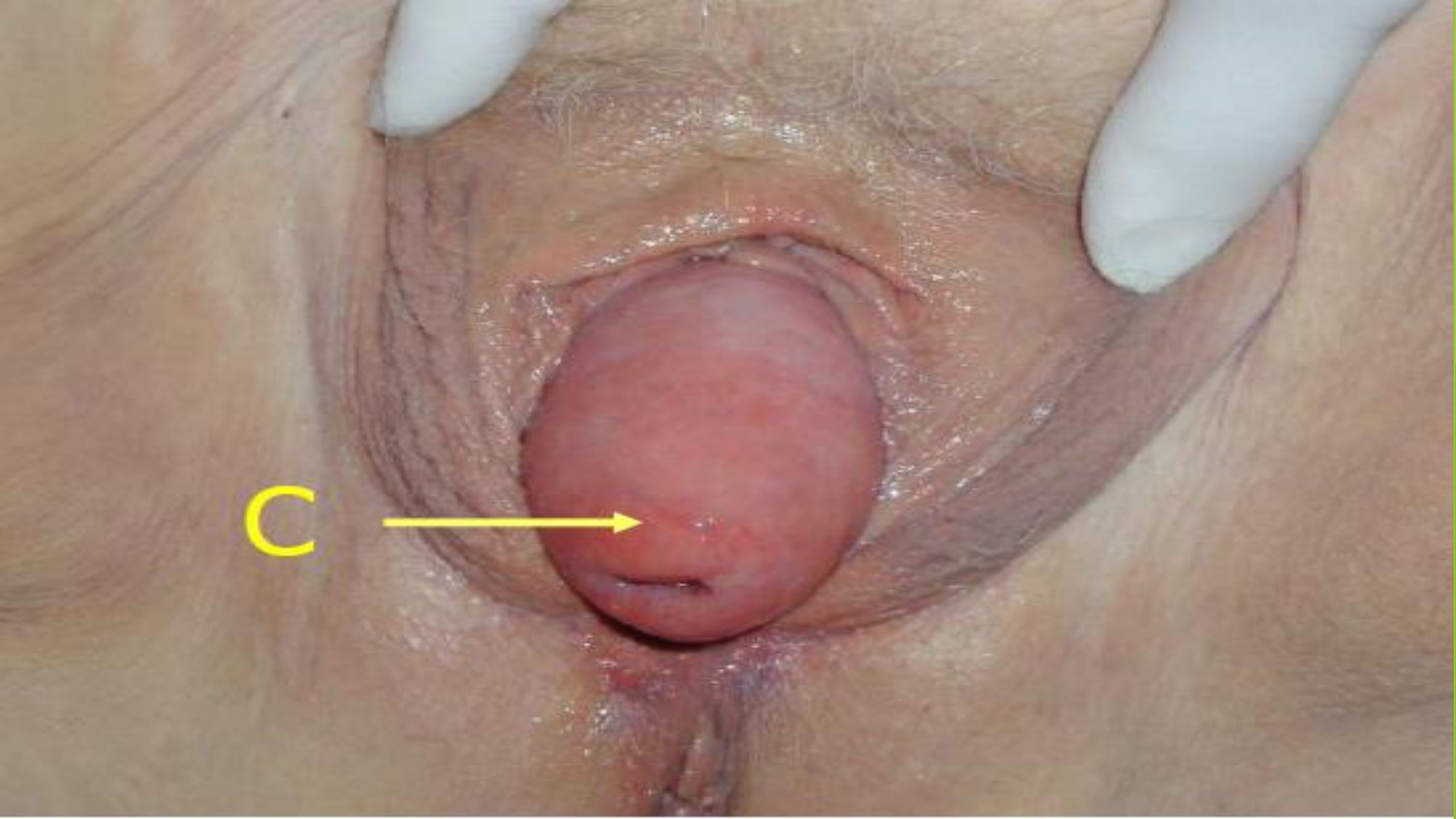



# C = Cervix, Cuff

Most distal edge of the cervix or

Leading edge of the vaginal cuff (hysterectomy scar)




C

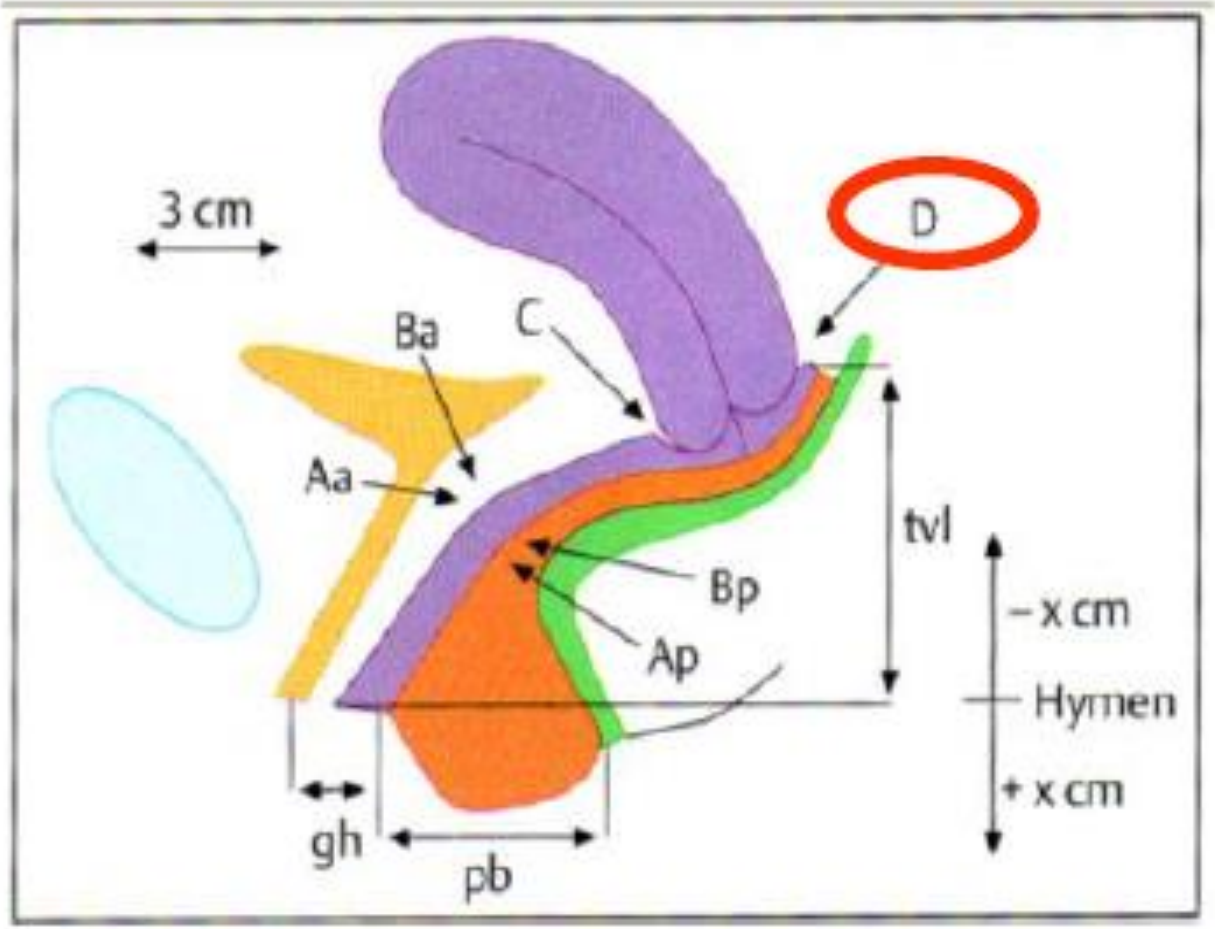
# D = Douglas

Posterior fornix or Pouch of Douglas

Represents the level of uterosacral ligament attachment to the posterior cervix

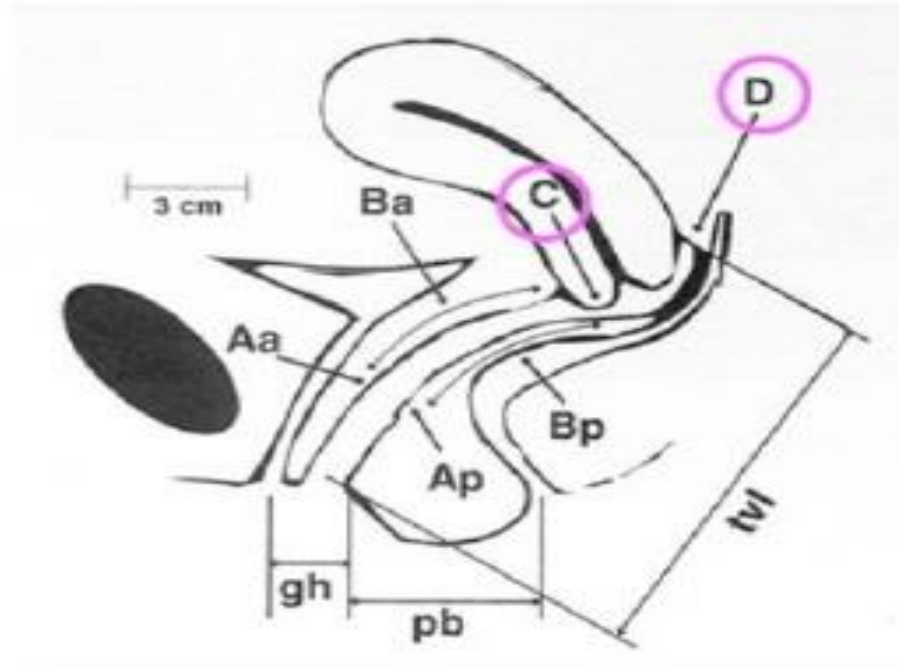
(Diff.:Suspensory failure/cervix elongation)

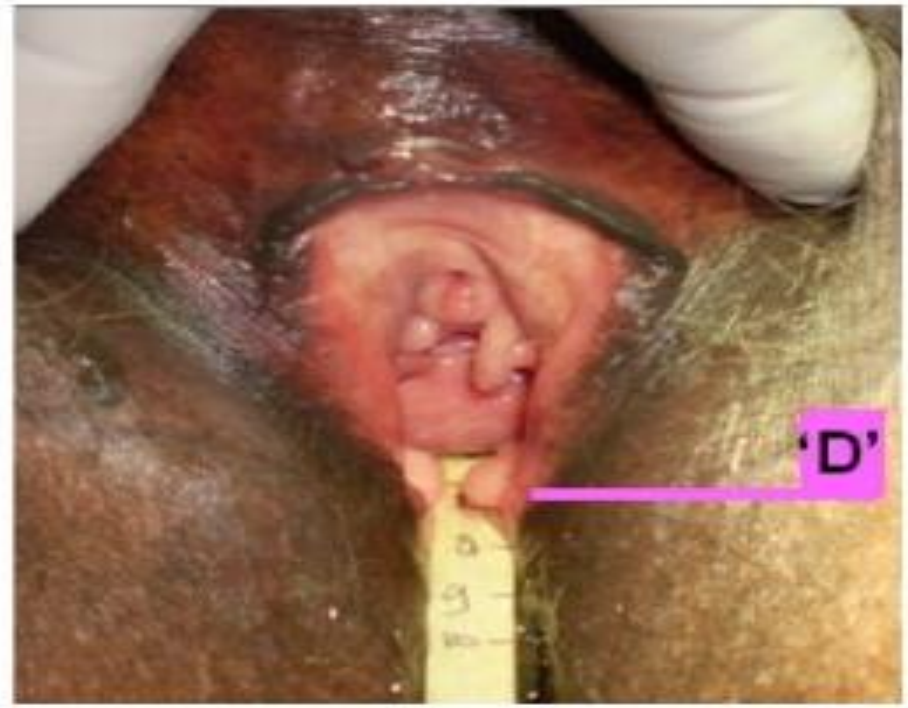
No cervix = no „D" !



# Order of exams

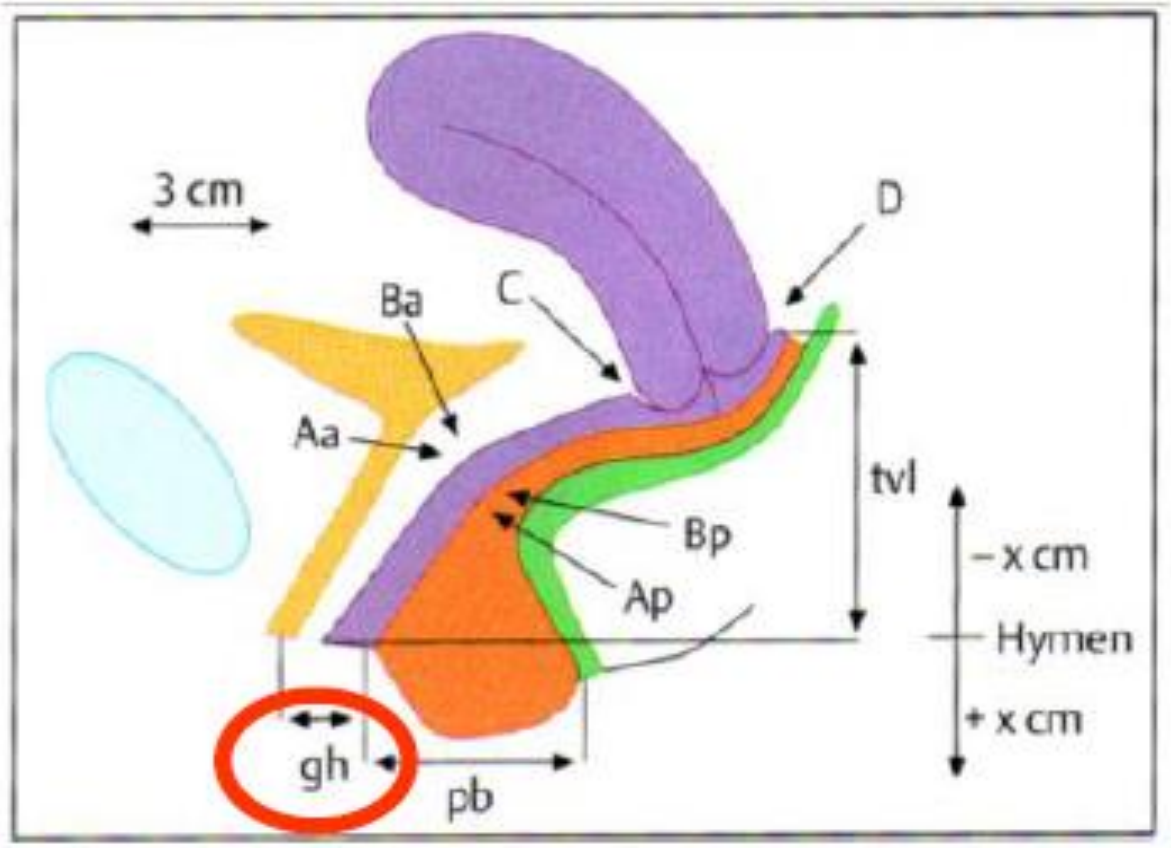
## Step 2 : Vaginal Lenght ( D : 10 cm )



# gh = genital hiatus

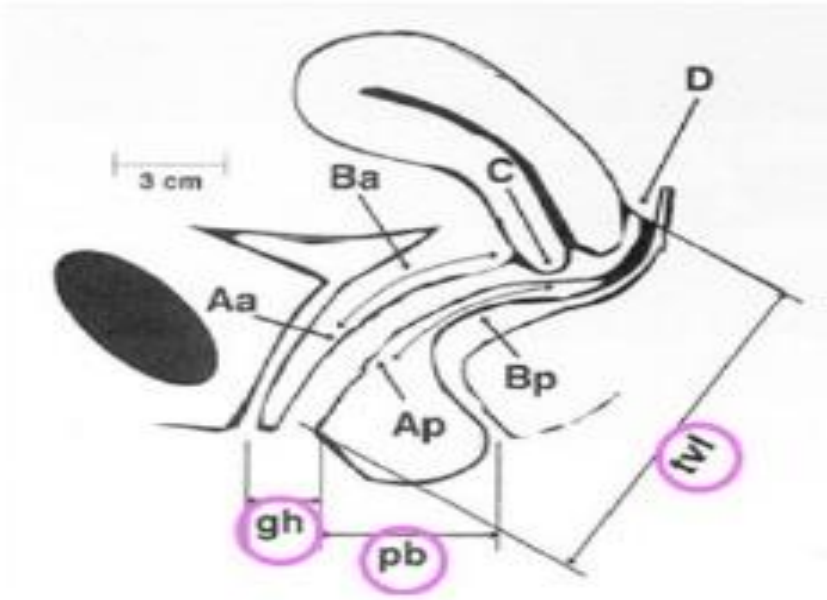
Middle of external urethral meatus to the posterior hymen

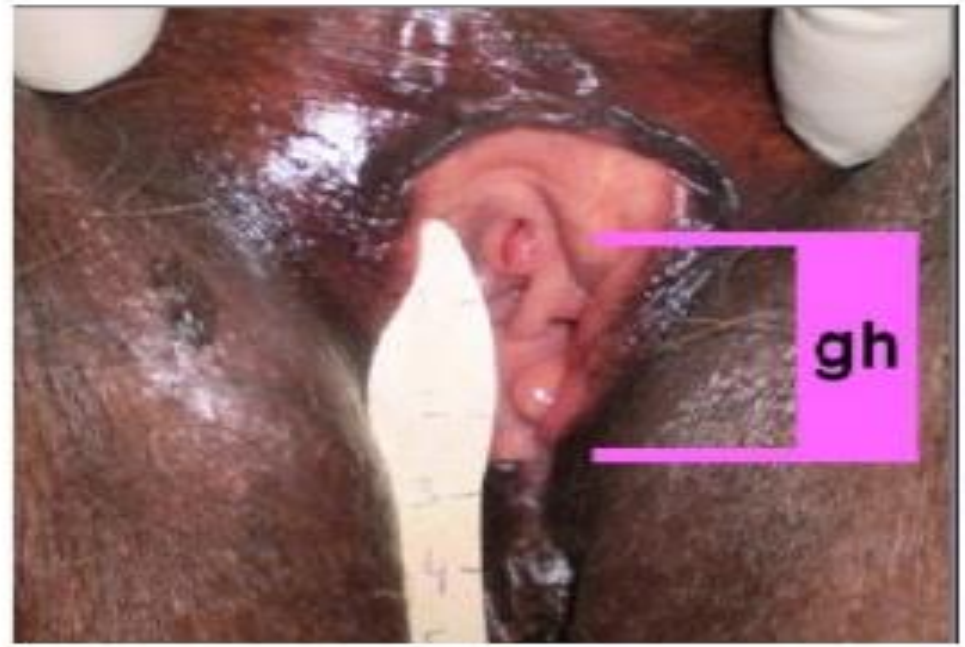


# Order of exams

Step 1 : Genital Hiatus (gh : 3 cm)

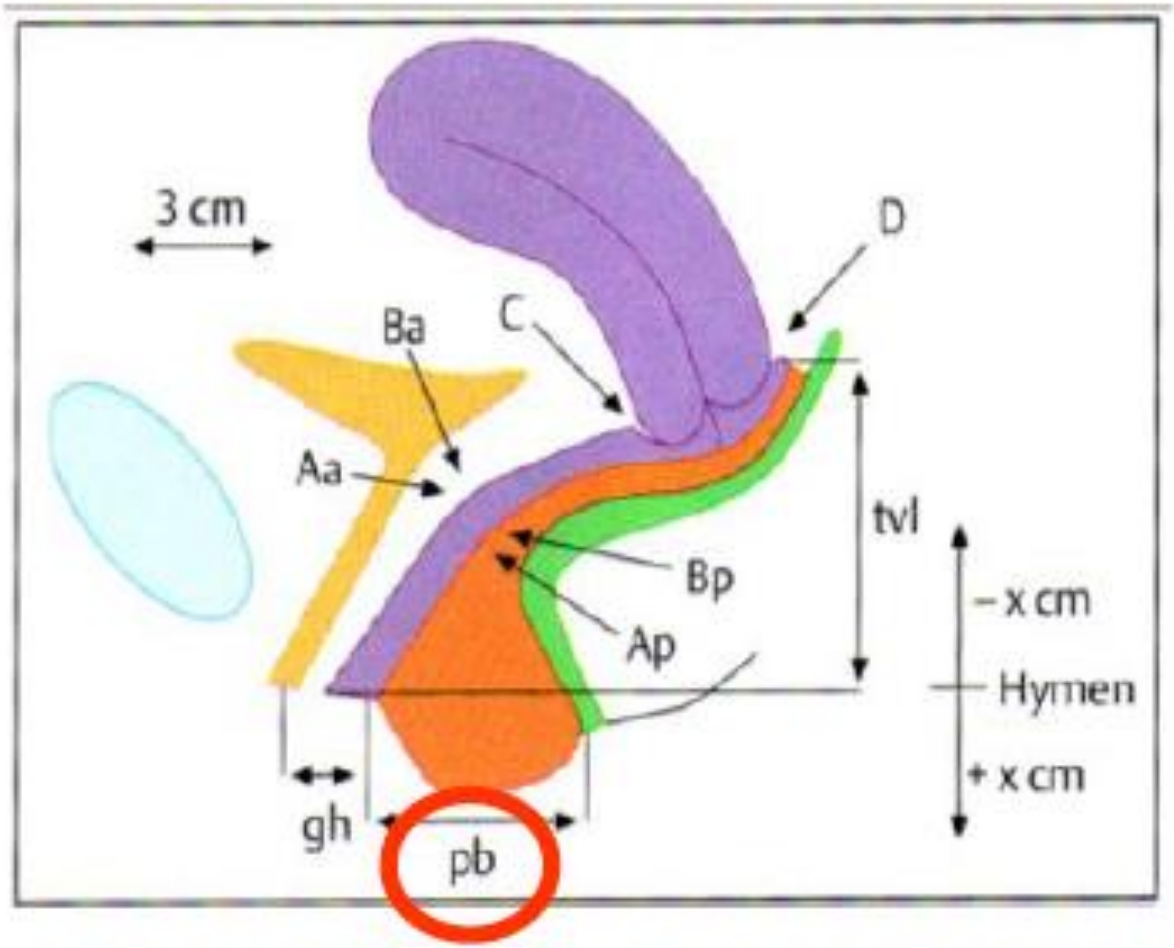
Perineal Body (pb: 2cm)



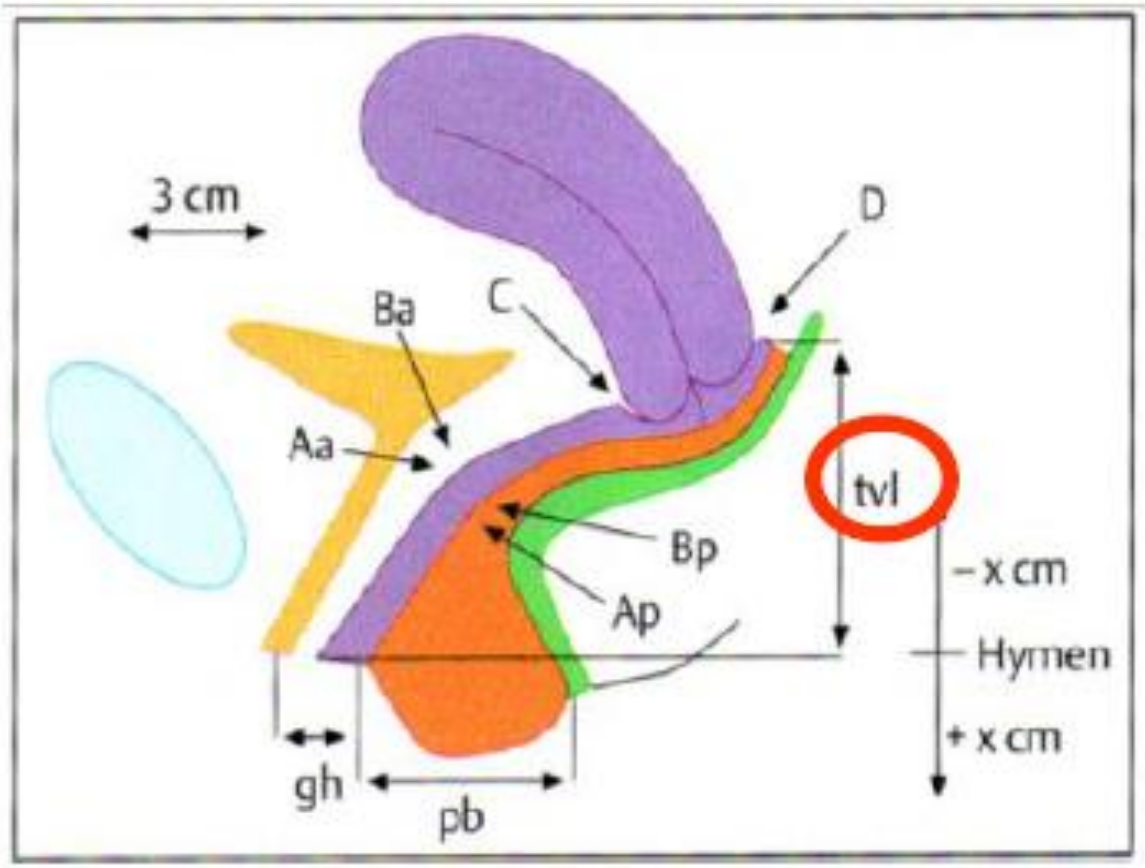
# pb = perineal body

Posterior margin of genital hiatus to midanal opening

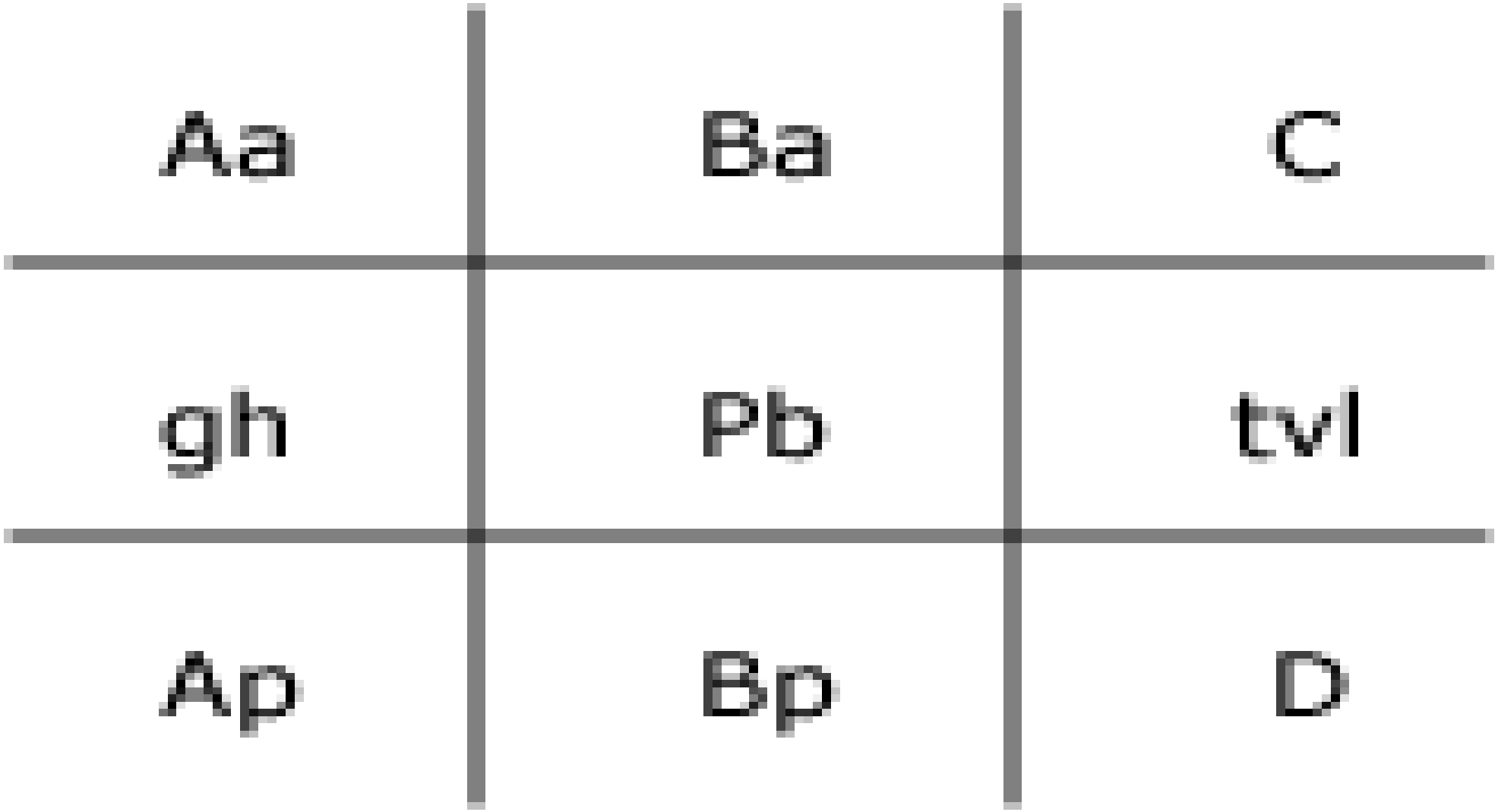


# tvl = total vaginal length

- Greatest depth of the vagina in cemtimeters
- C and D in normal position

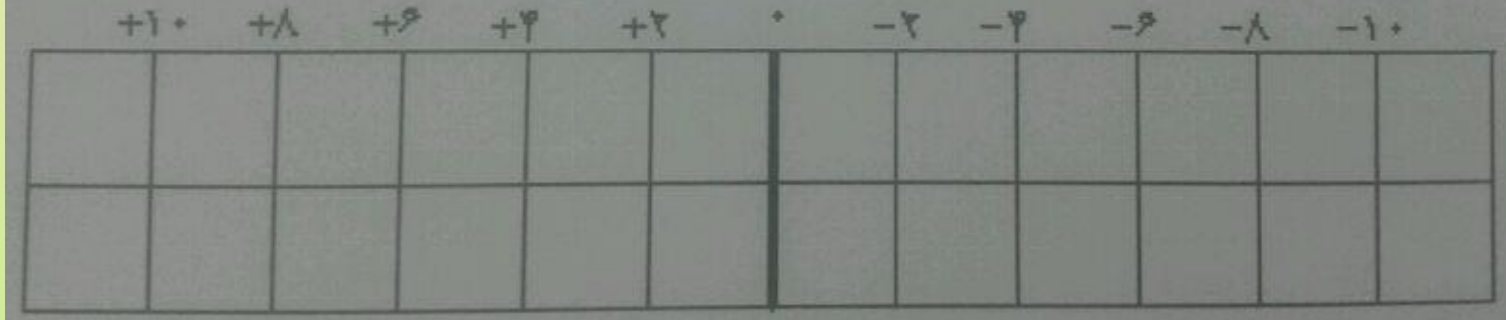



Measurement without straining !


Aa
Ba
C
gh
Pb
tvl
Ap
Bp
D

| POP – Q | | |
|---|---|---|
| Aa: | Ba: | C: |
| Gh: | Pb: | TVL: |
| Ap: | Bp: | D: |

**POP – Q Graph**



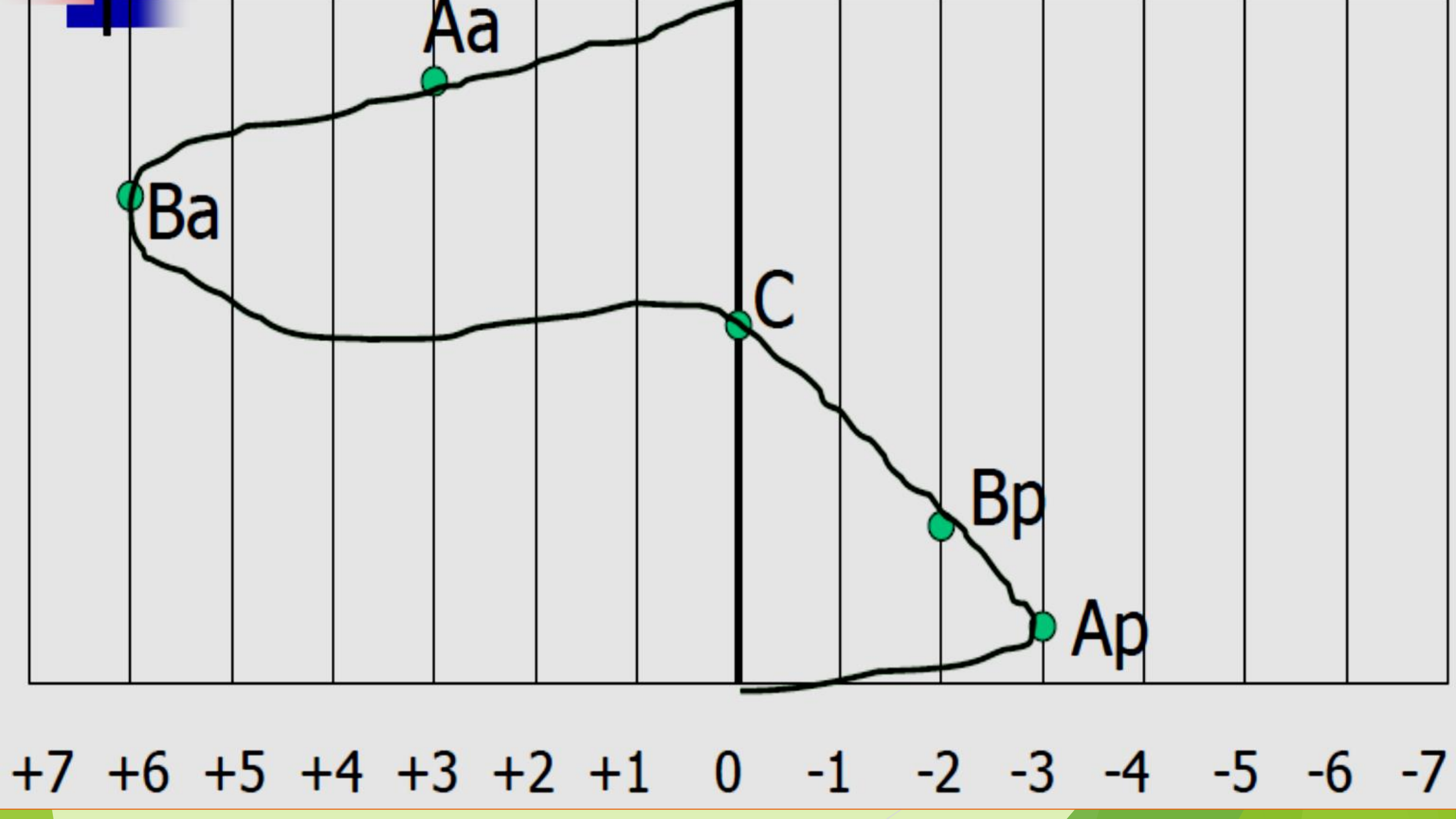
**I. Sagittal**

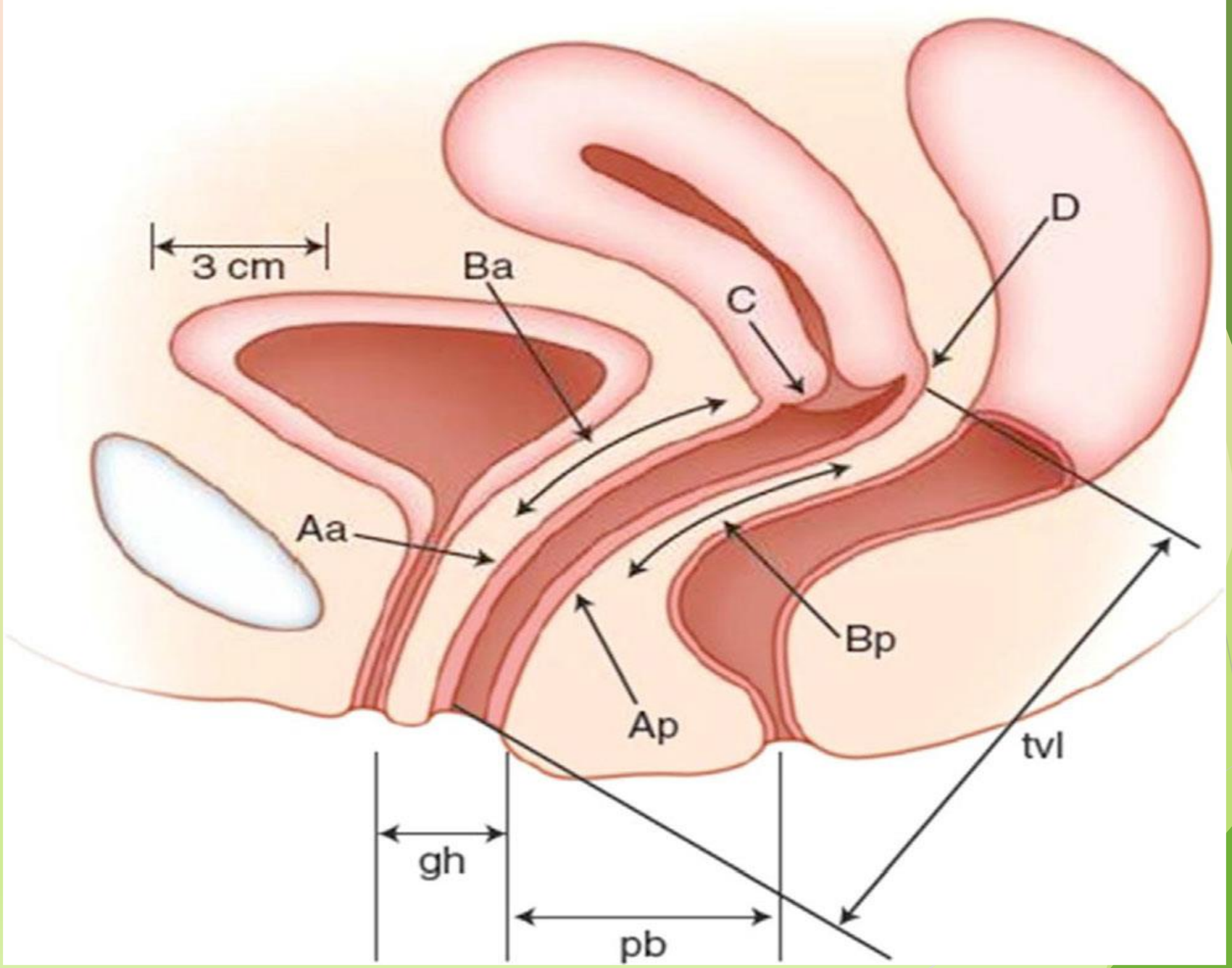
Distal = plus  Hymeneal ring = 0  Proximal = minus

| | |
|---|---|
| 3 + 2 + 1 + 0 - 1 - 2 - 3 | **aA** |
| 10 + 9 + 8 + 7 + 6 + 5 + 4 + 3 + 2 + 1 + 0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 | **bA** |
| 10 + 9 + 8 + 7 + 6 + 5 + 4 + 3 + 2 + 1 + 0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 | **C** |
| 10 + 9 + 8 + 7 + 6 + 5 + 4 + 3 + 2 + 1 + 0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 | **D** |
| 10 + 9 + 8 + 7 + 6 + 5 + 4 + 3 + 2 + 1 + 0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 | **bP** |
| 3 + 2 + 1 + 0 - 1 - 2 - 3 | **aP** |

aA = A point in the midline of the anterior vaginal wall 3 cm. proximal to the hymen
bA = The most distal point of the anterior vaginal wall
C = Cervix or vaginal cuff (post-hysterectomy)
D = Posterior cul de sac
bP= The most distal point of the posterior vaginal wall
aP= A point in the midline of the posterior vaginal wall 3 cm. proximal to the hymen

TVL = Total vaginal length (prolapse completely reduced) = 10 9 8 7 6 5 4 3 2 1 cm.
Paravaginal Defects: Right ( ) Left ( )


Aa
Ba
C
Bp
Ap
+7 +6 +5 +4 +3 +2 +1 0 -1 -2 -3 -4 -5 -6 -7


3 cm
Ba
C
D
Aa
Bp
Ap
tvl
gh
pb

# POPQ staging

-*Stage 0* – No prolapse. Points Aa, Ap, Ba, and Bp are all –3 cm and point D (if uterus is present) or C (posthysterectomy) equals or nearly equals TVL (–TVL cm to –[TVL–2] cm).

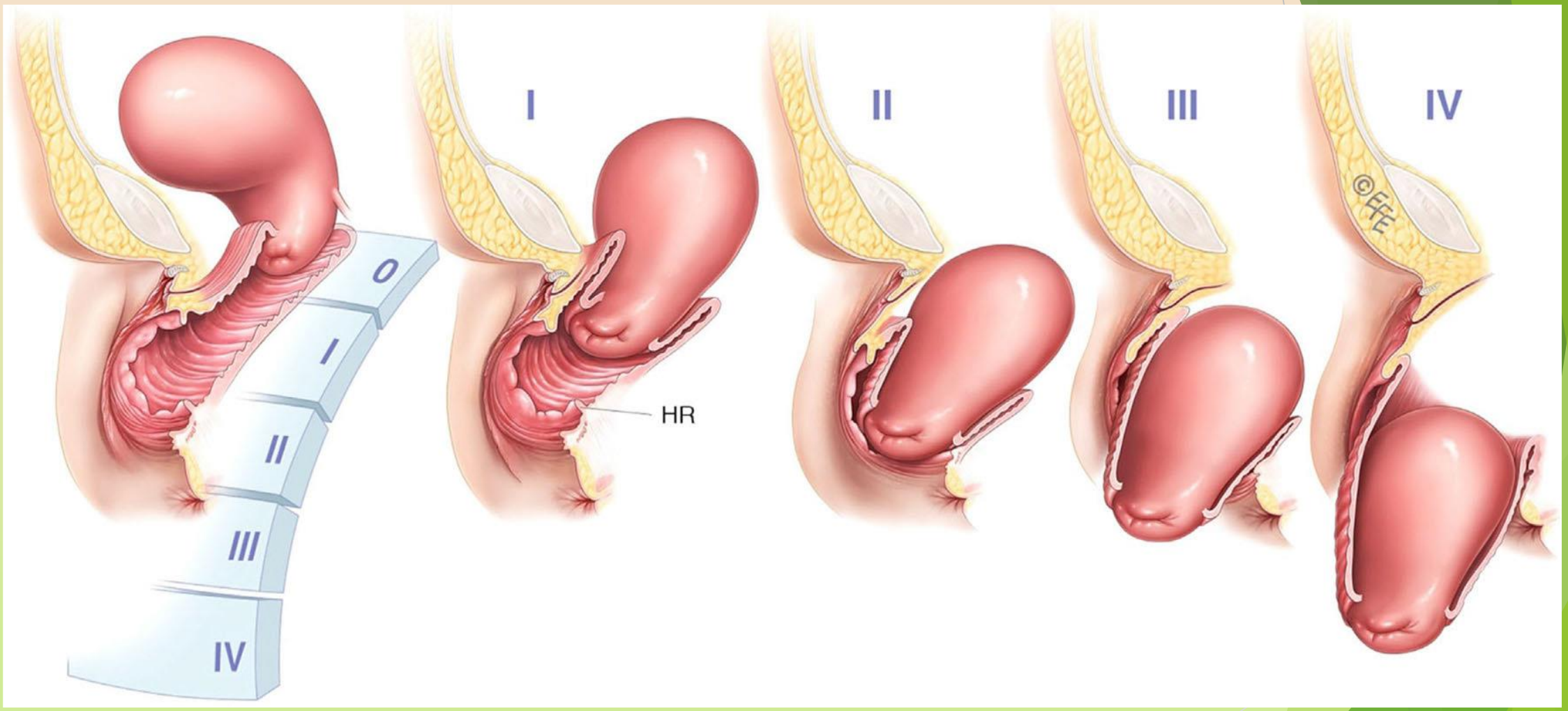
-*Stage I* – The requirements for stage 0 are not met, but the most distal portion of the prolapse is >1 cm proximal to the level of the hymenal plane

-*Stage II* – The most distal portion of the prolapse is between ≤1 cm proximal to the hymenal plane and ≥1 cm distal to the hymenal plane

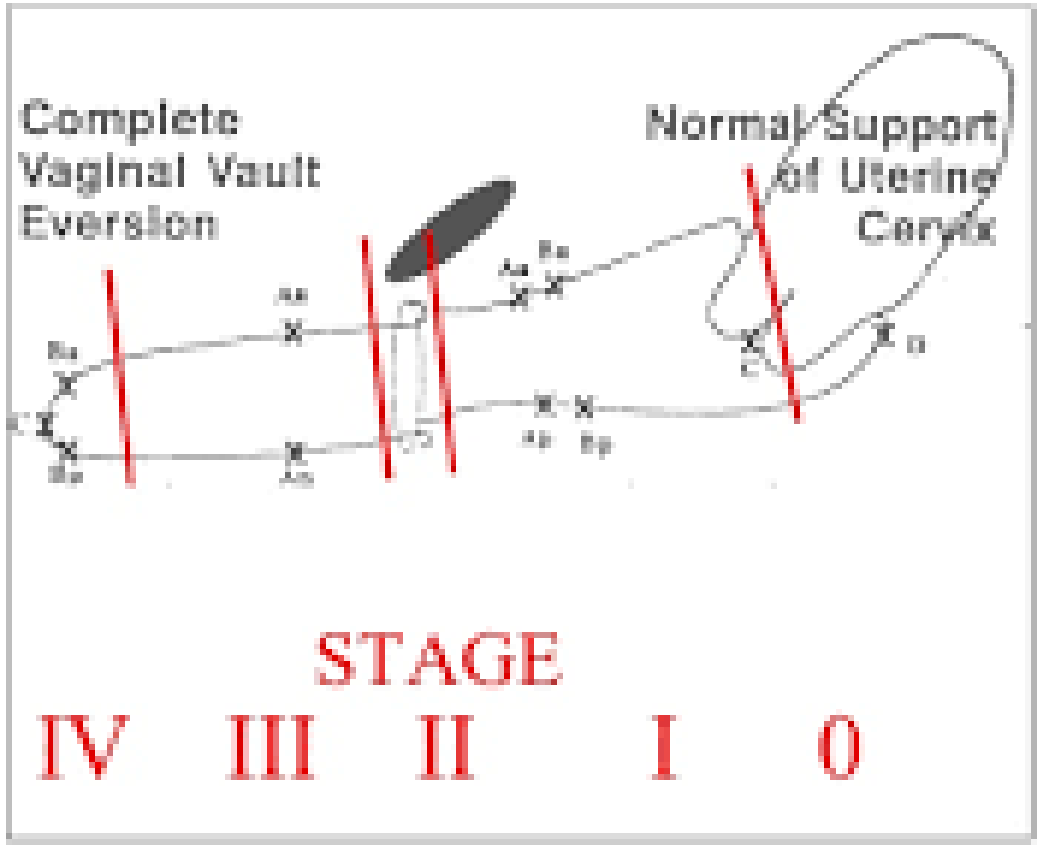
-*Stage III* – The most distal portion of the prolapse is between >1 cm distal to the hymenal plane, but no further than 2 cm less than the total vaginal length

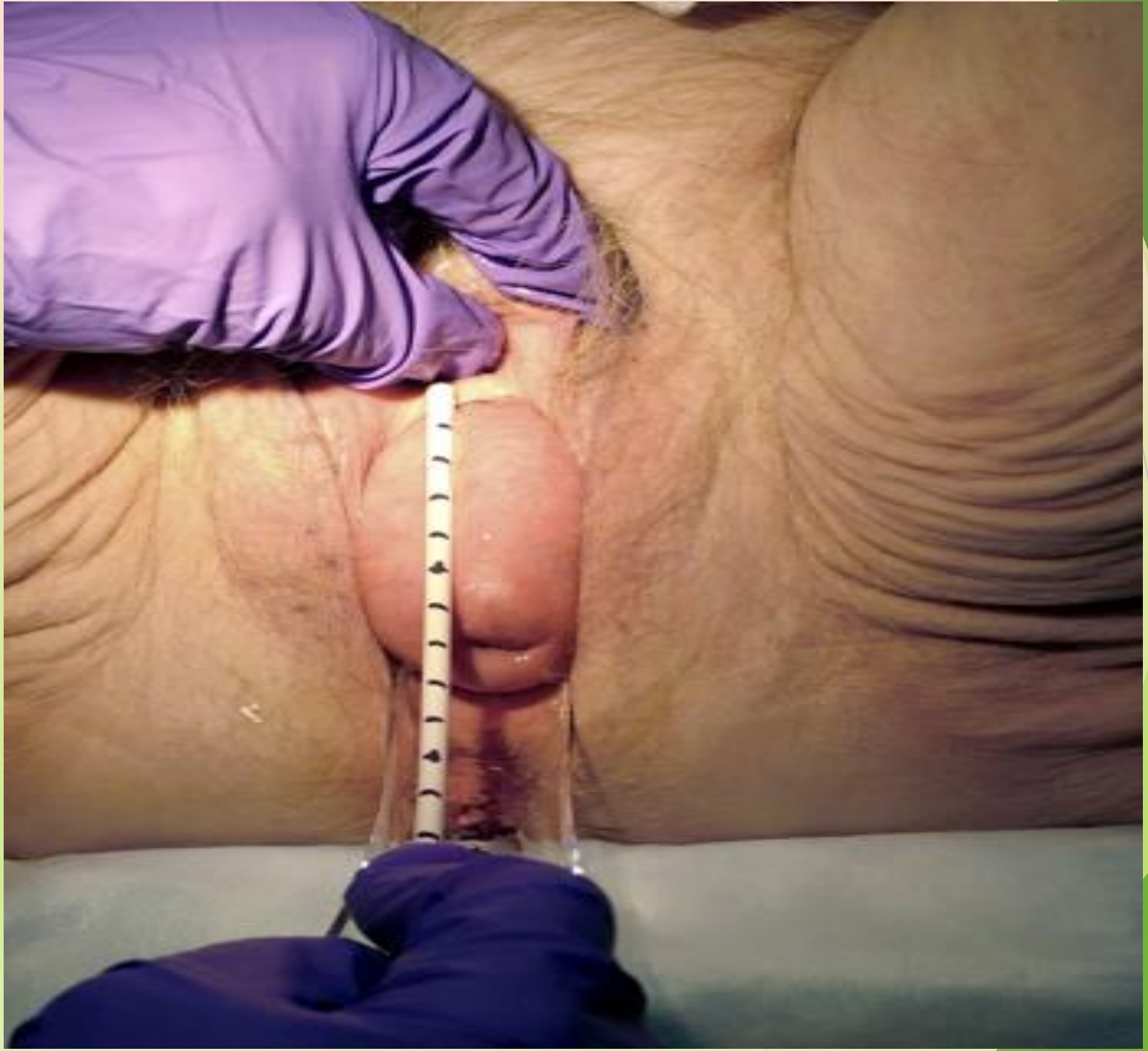
-*Stage IV* – Eversion of the total length of the vagina. The protrusion extends to or beyond (TVL-2) cm

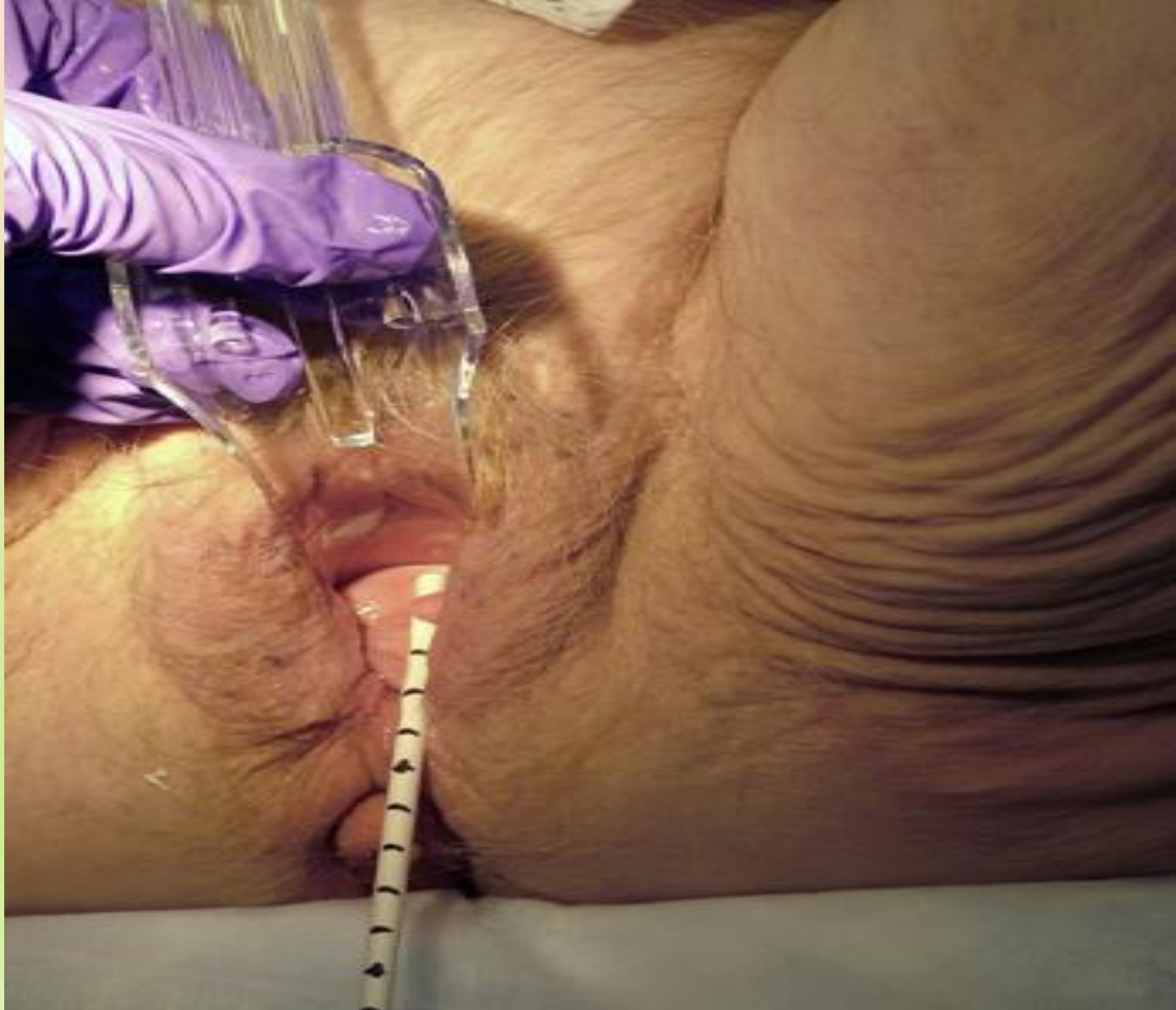
- Stage 0 = no prolapse
  - Aa, Ba, Ap, Bp are all at −3
  - C or D between tvl and < tvl −2cm
- Stage I = most distal portion>1cm above the level of hymen
- Stage II = <1cm proximal to or distal to the plane of hymen
- Stage III = >1cm below the plane of the hymen
- Stage IV = complete eversion, distal portion at least (tvl -2 cm)

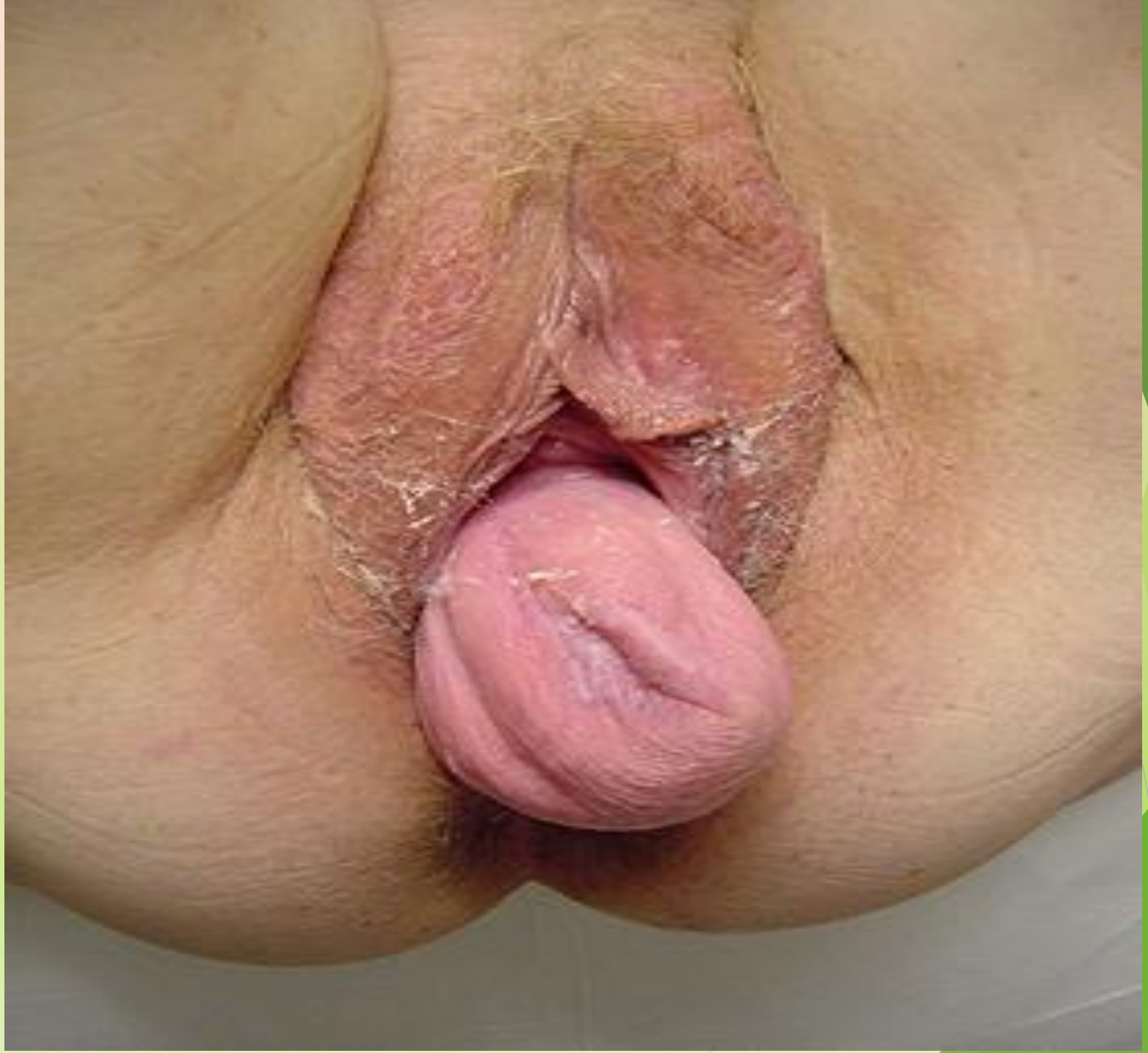

0
I
II
III
IV
I
II
III
IV
HR
©EFE

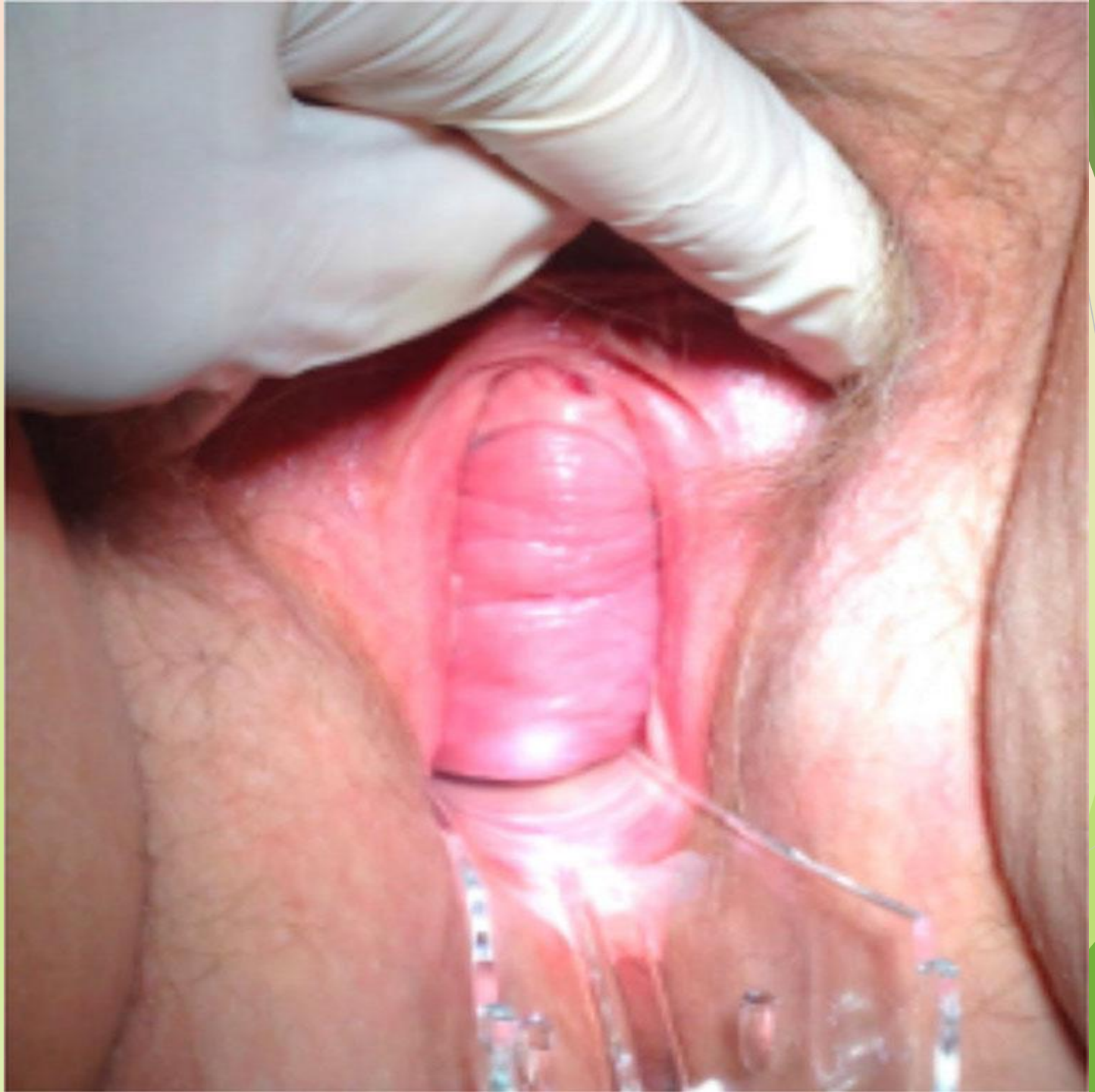
# ICS Pelvic Organ Prolapse Quantification (POPQ)











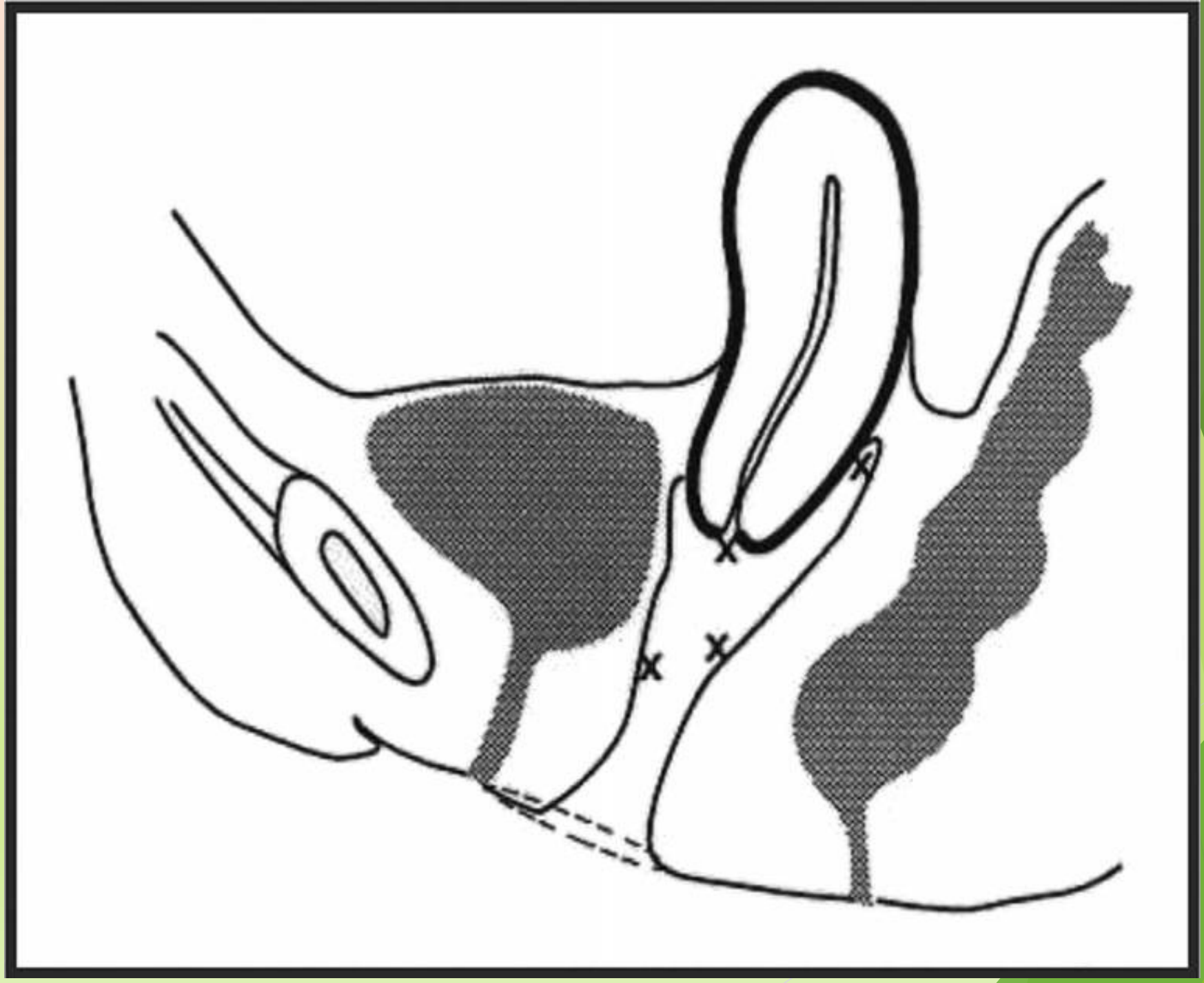
# S-POPQ

-may be an easier classification system to use in routine clinical practice

-It was developed by the International Urogynecology Association to provide a less cumbersome exam tool

-The S-POPQ stages prolapse for the anterior and posterior vaginal walls, the apex/cuff of the vagina and the cervix

-The S-POPQ has been validated against the original staging system of the POPQ and has been found to be highly correlated



-Stage 1: Prolapse where the given point remains at least 1 cm above the hymenal remnants

-Stage 2: Prolapse where the given point descends to the introitus, defined as an area extending from 1 cm above to 1 cm below the hymenal remnants

-Stage 3: Prolapse where the given point descends greater than 1 cm past the hymenal remnants, but does not represent complete vaginal vault eversion or complete uterine procidentia

-Stage 4: Complete vaginal vault eversion or complete uterine procidentia

# Slmax

-SLmax, also known as maximum vaginal descent, describes prolapse as a single summary score. This measure is calculated as a single score for comparison of prolapse between populations and is not meant to replace the more detailed POPQ

-The minimum value is -3 by definition, and the measure was shown to correlate well with POPQ measurements and results of the Pelvic Organ Prolapse Distress Inventory

# POPQ system

-The POPQ system is an objective, site-specific system for describing and staging POP in women

-The POPQ system involves quantitative create a "topographic" map of the vagina. These anatomic points can then be used to determine the stage of the prolapse

-The POPQ system is the POP classification system of choice of the International Continence Society (ICS), the American Urogynecologic Society (AUGS), and the Society of Gynecologic Surgeons

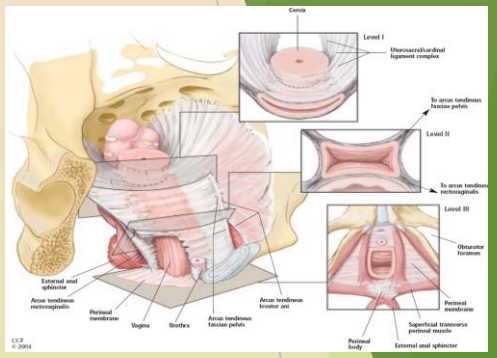
-It has proven interobserver and intraobserver reliability and is the system used most commonly in the medical literature

## Table 2. Evaluation/Staging of Pelvic Organ Prolapse

| *Baden-Walker system* | | *Pelvic organ prolapse-quantification system* | |
|---|---|---|---|
| *Grade* | *Description* | *Stage* | *Description* |
| 0 | Normal position for each respective site, no prolapse | 0 | No prolapse |
| 1 | Descent halfway to the hymen | I | > 1 cm above the hymen |
| 2 | Descent to the hymen | II | ≤ 1 cm proximal or distal to the plane of the hymen |
| 3 | Descent halfway past the hymen | III | > 1 cm below the plane of the hymen, but protrudes no farther than 2 cm less than the total vaginal length |
| 4 | Maximal possible descent for each site | IV | Eversion of the lower genital tract is complete |

*Adapted with permission from Onwude JL. Genital prolapse in women.* Clin Evid (Online). *2007. http://clinicalevidence.bmj.com/ceweb/conditions/who/0817/0817_T1.jsp. Accessed March 1, 2010, with additional information from references 1 and 13.*

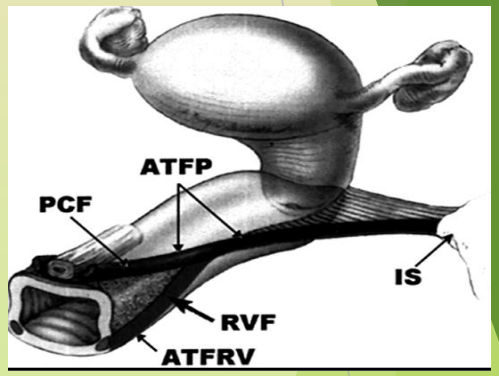
# Relation between Delancey levels & POP-Q



**Level I : apex(D)and cervix(C)**

Upper paracolpium suspends apex to pelvic walls and sacrum

Damage results in prolapse of vaginal apex




**Level II : midvaginal points**

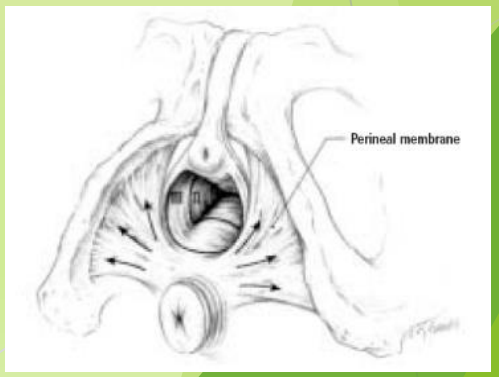
Anterior wall : Ba or B ant

Posrerior wall : Bp or B post

Vaginal attachment to arcus tendineus fascia and levator ani muscle fascia

Pubocervical and rectovaginal fasciae support bladder and anterior rectum

Avulsion results in cystocele or rectocele




**Level III : distal vagina(perineum and urethro vesical neck)**

Anterior wall : Aa or A ant

Posrerior wall : Ap or A post

Fusion of vagina to perineal membrane, body and levators

Damage results in deficient perineal body or urethrocele

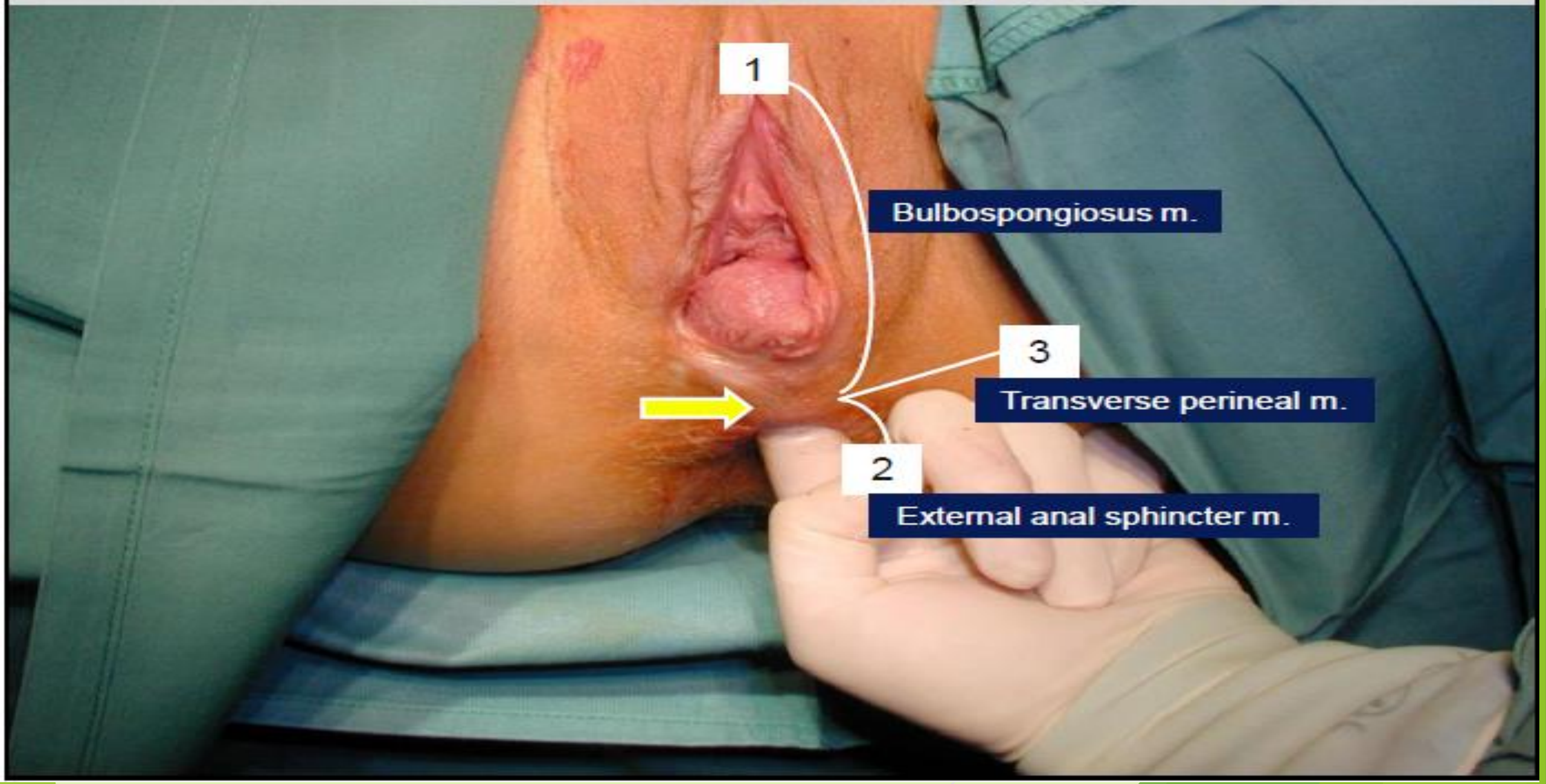
# Simulated apical support

-Repeating the speculum examination with simulated apical support with a large cotton swab or ring forceps approximates the results following apical prolapse repair.

-Reduction of apical prolapse temporarily corrects anterior and posterior vaginal wall prolapse in many women

-This examination technique may help a clinician decide whether a vaginal pessary may be helpful or, in preoperative patients, whether to perform apical prolapse relapse repair.

# Perineal body



# RECTOVAGINAL EXAMINATION

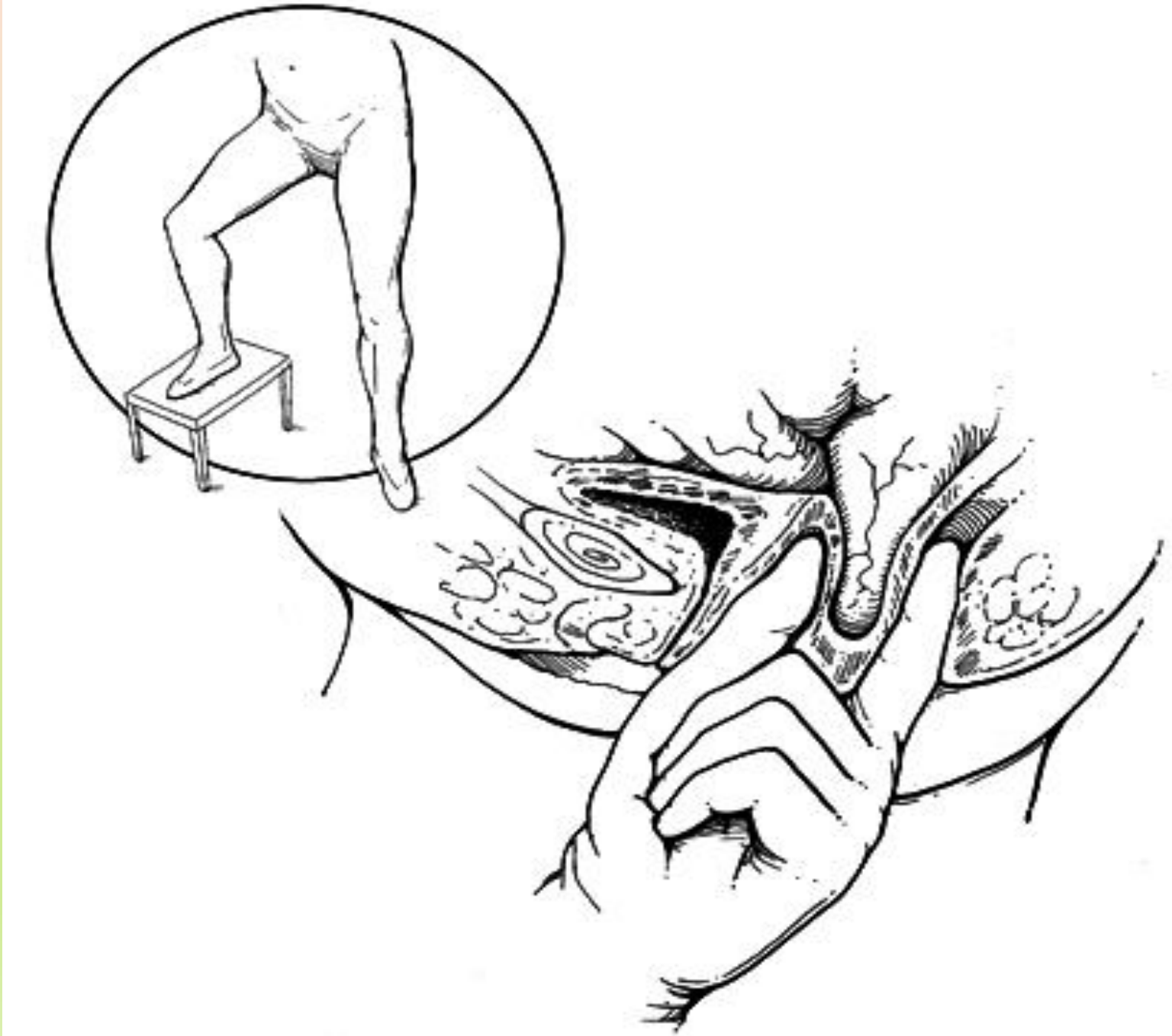
-Diagnose an enterocele

-Differentiate between a high rectocele and an enterocele

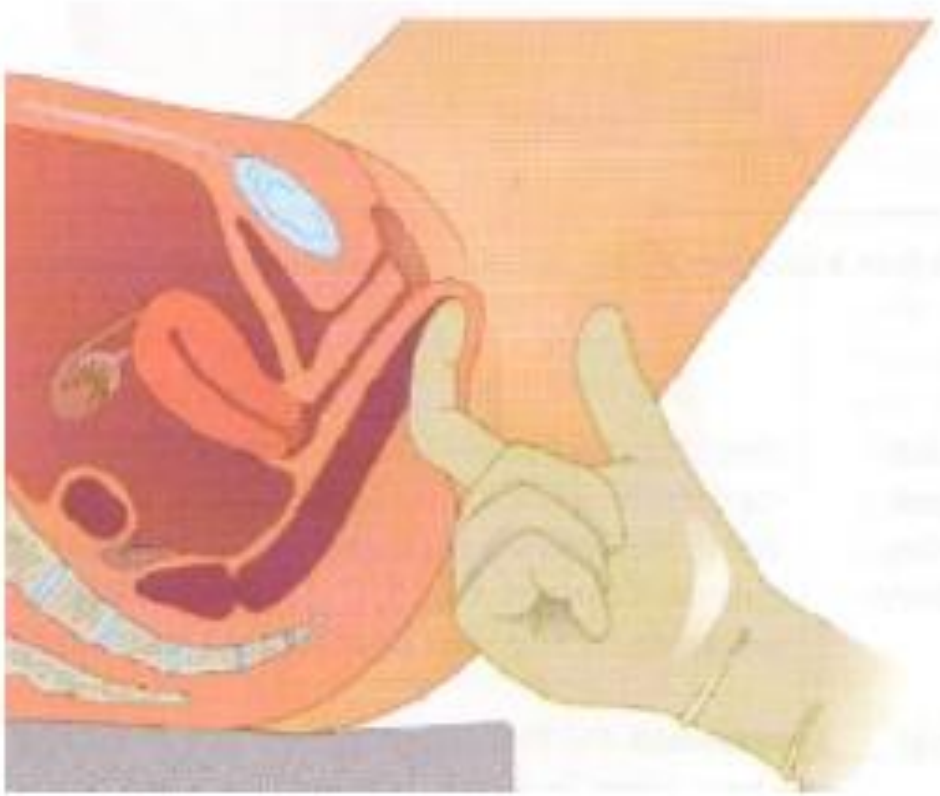
-Assess the integrity of the perineal body

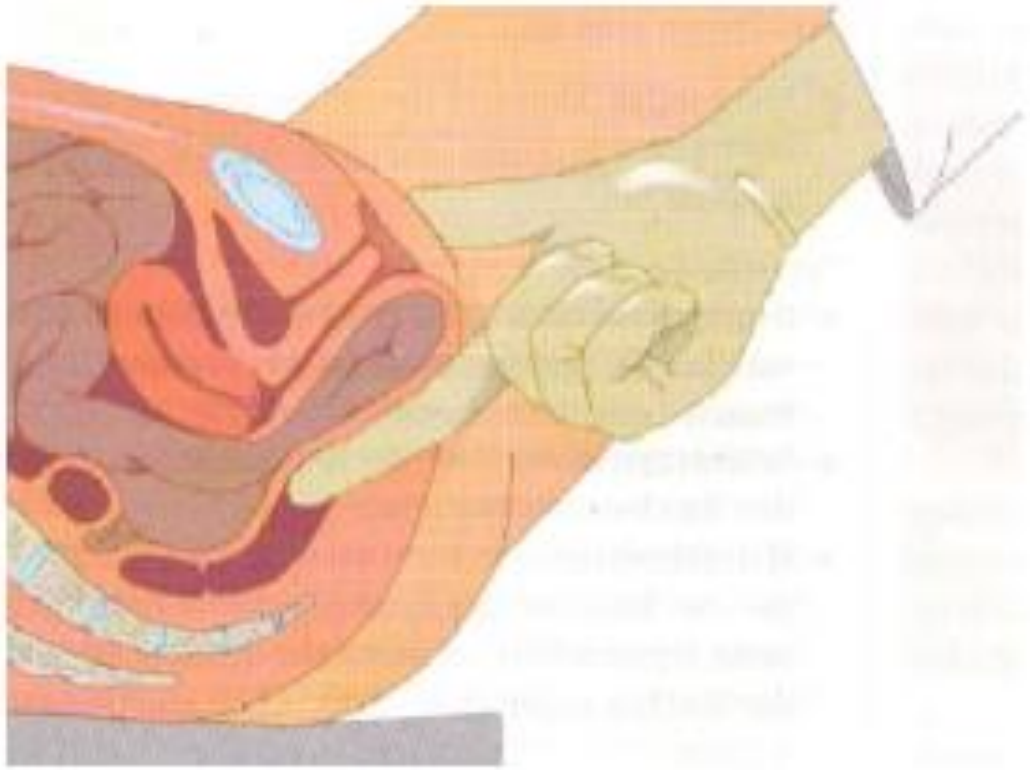
-Detect rectal prolapse

The best method for detecting an enterocele is to perform the rectovaginal exam with the patient standing; the small bowel can be palpated in the cul-de-sac between thumb and forefinger



# DD: Rectocele vs. Enterocele





## Neurologic evaluation

Sensory of the lumbosacral dermatomes for light touch and sharp touch is performed using a small cotton swab and a sharp point

bulbocavernosus reflex is elicited by gently tapping or squeezing the clitoris

The anocutaneous reflex (anal wink sign) is triggered by stroking the skin immediately surrounding the anus and observing a reflexive contraction of the external anal sphincter

Any abnormalities of speech or gross motor function should be noted while taking the medical history.

Sacral nerve route motor function is further evaluated by active extension and flexion of the knee, ankle, and toes. Strength is assessed by move each joint against resistance. The patellar and plantar reflexes are also assessed.

# Pelvic floor muscle testing

-inspection to evaluate integrity and symmetry
-Palpation through the vagina or rectum to assessing pelvic floor squeeze strength and levator muscle thickness
-tone and strength of the pelvic floor muscles assessed by asking the patient to contract the pelvic floor muscles around the examining fingers

***Four conditions have been defined:***
-normal pelvic floor muscles can voluntarily contract and relax
-overactive pelvic floor muscles do not relax
-underactive pelvic floor muscles cannot voluntarily contract
-non-functioning is when there is no pelvic floor muscle action palpable.

# DIFFERENTIAL DIAGNOSIS

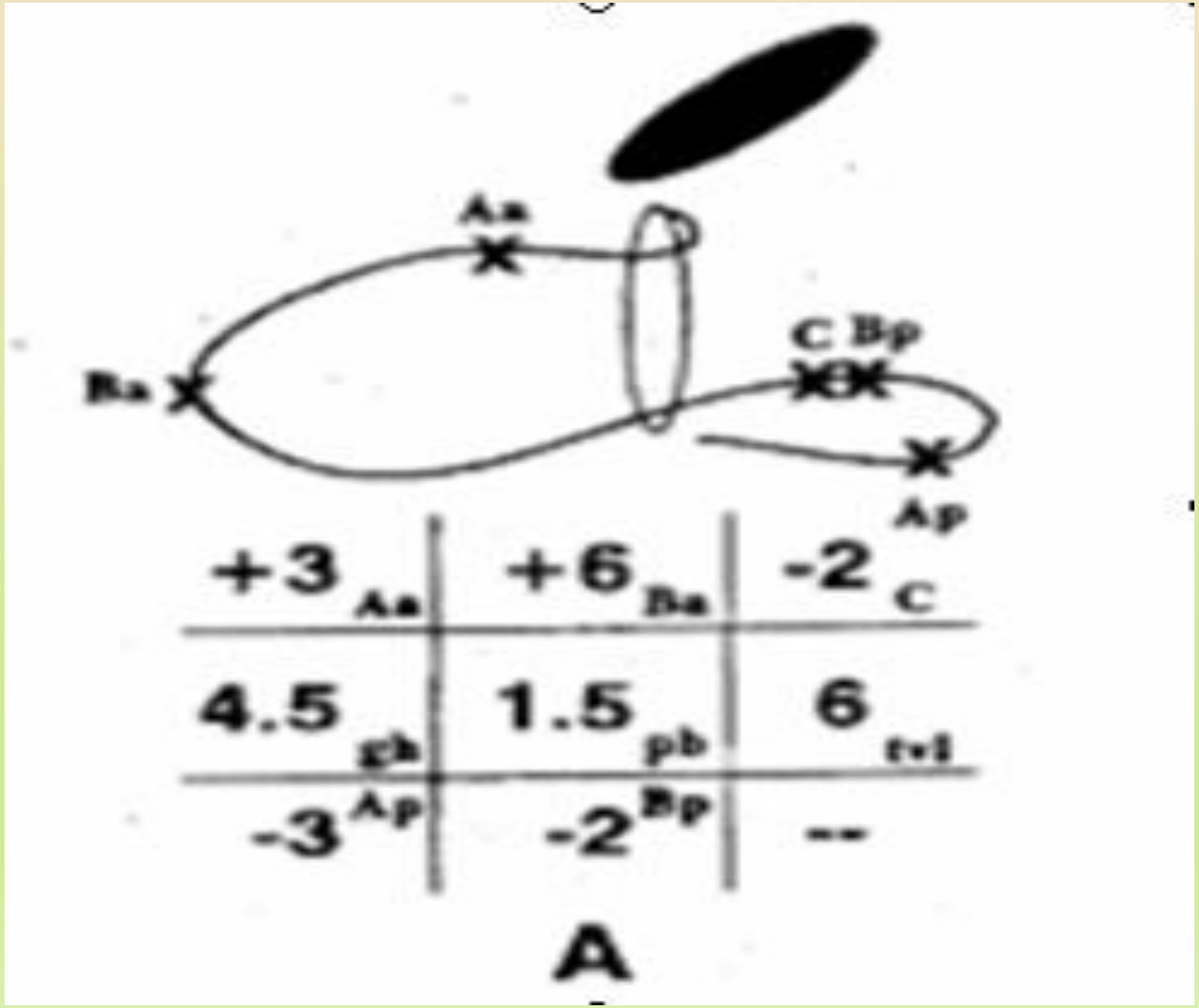
pelvic mass should be excluded with pelvic examination, and if appropriate, imaging studies

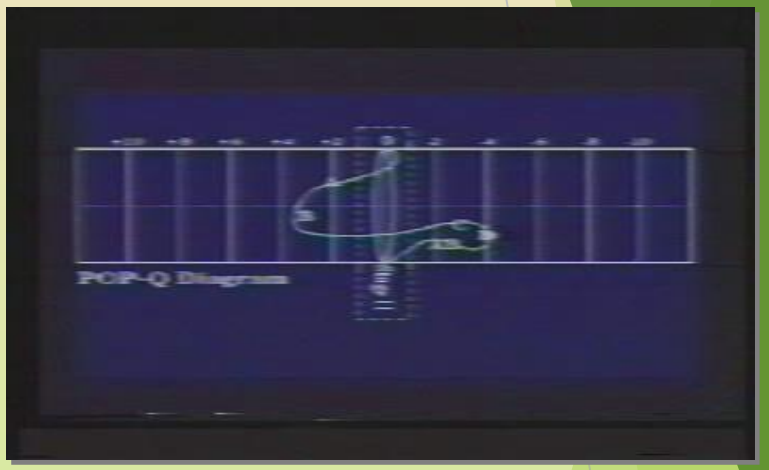
Common conditions include adnexal masses uterine masses

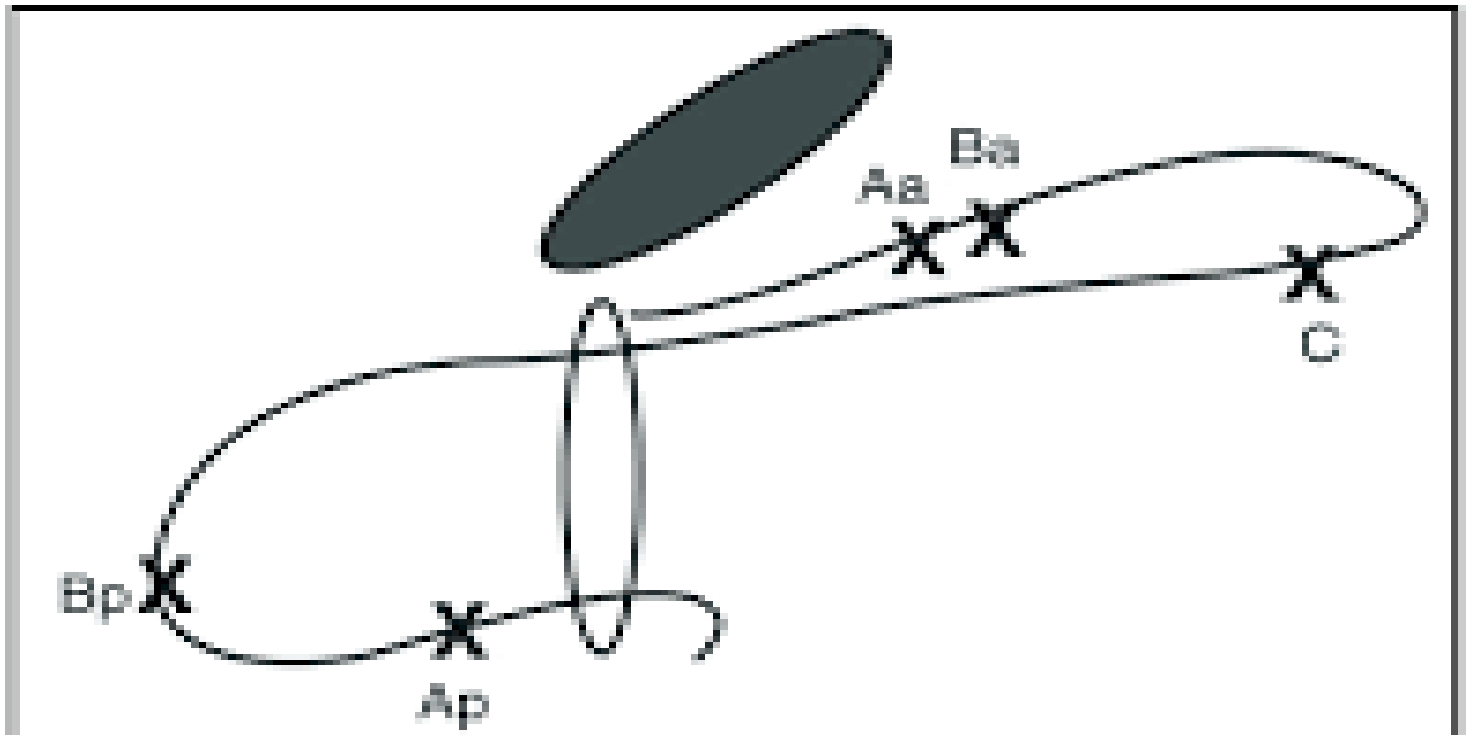
Women with genital tract bleeding should also undergo appropriate evaluation to identify the source of bleeding and exclude malignancy.

# Cystocele (Anterior Wall Defects)

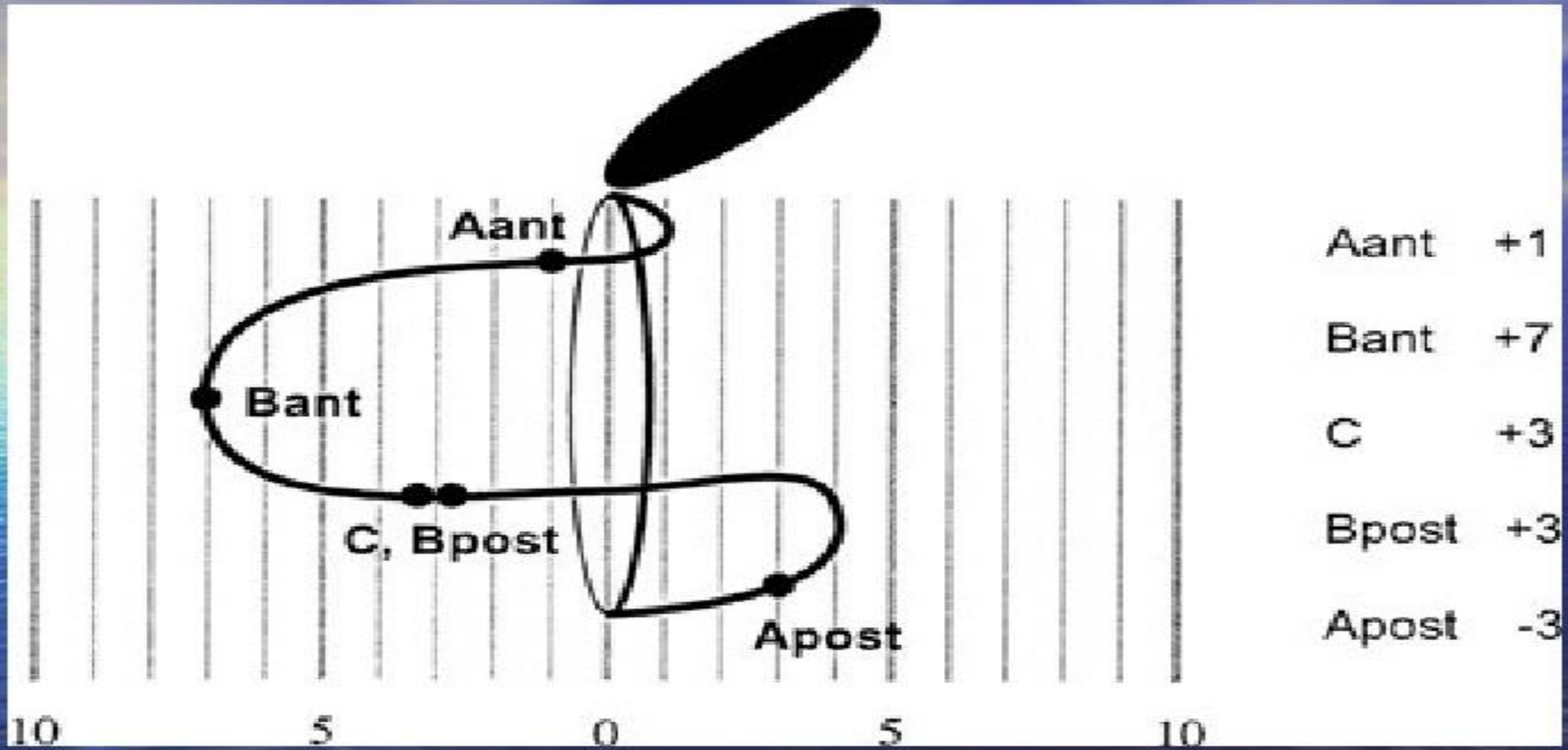
POP- Q






| −3 Aa | −3 Ba | −6 C |
|---|---|---|
| 4.5 gh | 1 pb | 8 tM |
| +2 Ap | +5 Bp | — |


Aant
Bant
C, Bpost
Apost
10
5
0
5
10
Aant +1
Bant +7
C +3
Bpost +3
Apost -3

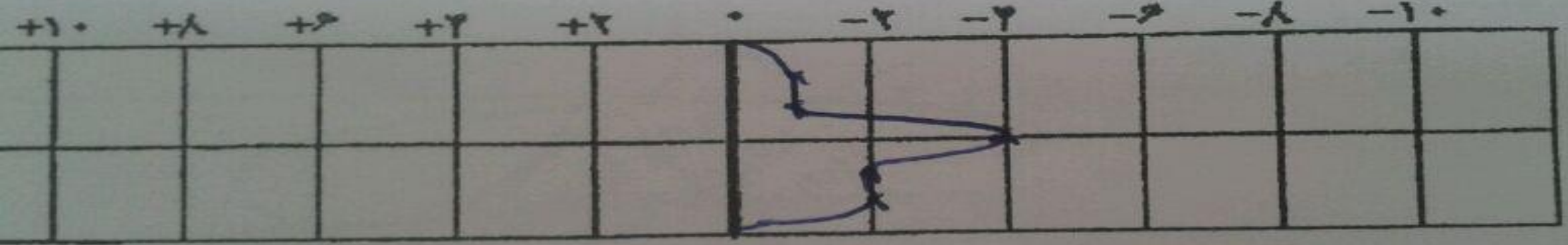
ونیک ☐ راست ☐ چپ

| POP – Q | | |
|---|---|---|
| Aa: -١ | Ba: -١ | C: -٤ |
| Gh: ٦ | Pb: ٤ | TVL: ١٠ |
| Ap: -٢ | Bp: -٢ | D: -٥ |

**POP – Q Graph**

| | | |
|---|---|---|
| Gh: ٦ | Pb: ٤ | TVL: ١٠ |
| Ap: -٢ | Bp: -٢ | D: -٥ |

**- Q Graph**




| معاینه رکتال | | | |
|---|---|---|---|
| تون (استراحت) | نرمال ☑ | کم ☐ | زیاد ☐ |
| Squeeze (در حال انقباض) | نرمال ☑ | کم ☐ | زیاد ☐ |

☐ انجام نشد

PVR : ml

## Prolapse Staging

| | ۰ | ۱ | ۲ | ۳ | ۴ |
|---|---|---|---|---|---|
| سرویکس | | | ✓ | | |
| کاف | | | | | |
| Ant Comportment | | | ✓ | | |

آپیکال ☐ سنترال ☐ چپ ☐ راست ☐

| | | | | | |
|---|---|---|---|---|---|
| Post.Comp | | ✓ | | | |
| انتروسل | | ✓ | | | |