



# Pengantar Praktikum Sistem Reproduksi - 2

DEPARTEMEN ANATOMI  
FK UPN VETERAN JAKARTA

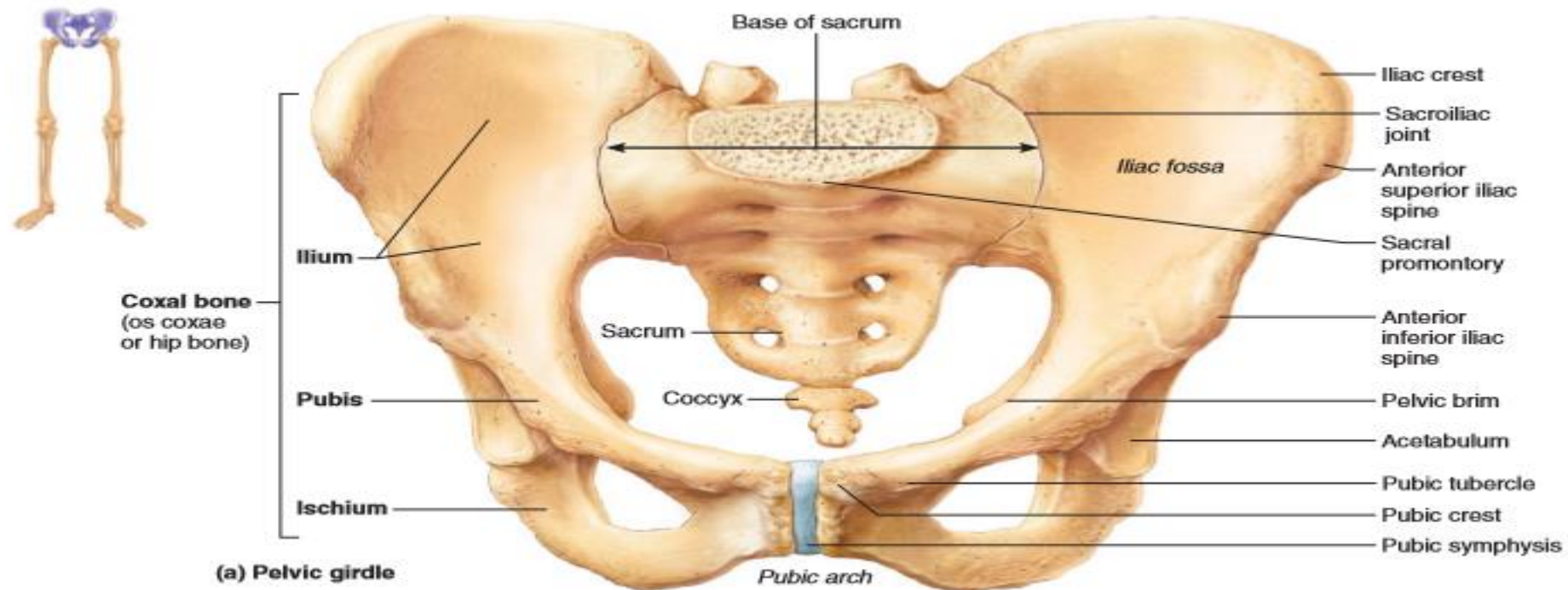
Untuk kalangan sendiri

# PELVIS



Tulang panggul terdiri dari:

1. **Ossa coxae** (tulang pangkal paha) yang meliputi:
  - *Os ilium* (tulang usus)
  - *Os ischium* (tulang duduk)
  - *Os pubis* (tulang kemaluan)
2. **Os sacrum** ( tulang kelangkang)
3. **Os coccygeus** ( tulang tungging)



POSTERIOR

ANTERIOR



Gluteal lines

Anterior

Inferior

Posterior

Iliac crest

Ala

ILIUM

Anterior superior  
iliac spine

Anterior inferior  
iliac spine

Body of ilium

Acetabulum

Acetabular notch

Superior ramus  
of pubis

Pubic tubercle

Obturator  
foramen

Inferior ramus  
of pubis

Posterior  
superior  
iliac spine

Posterior  
inferior  
iliac spine

Greater sciatic notch

Body of ischium

Ischial spine

Lesser sciatic notch

Ischial tuberosity

Ramus of ischium

PUBIS

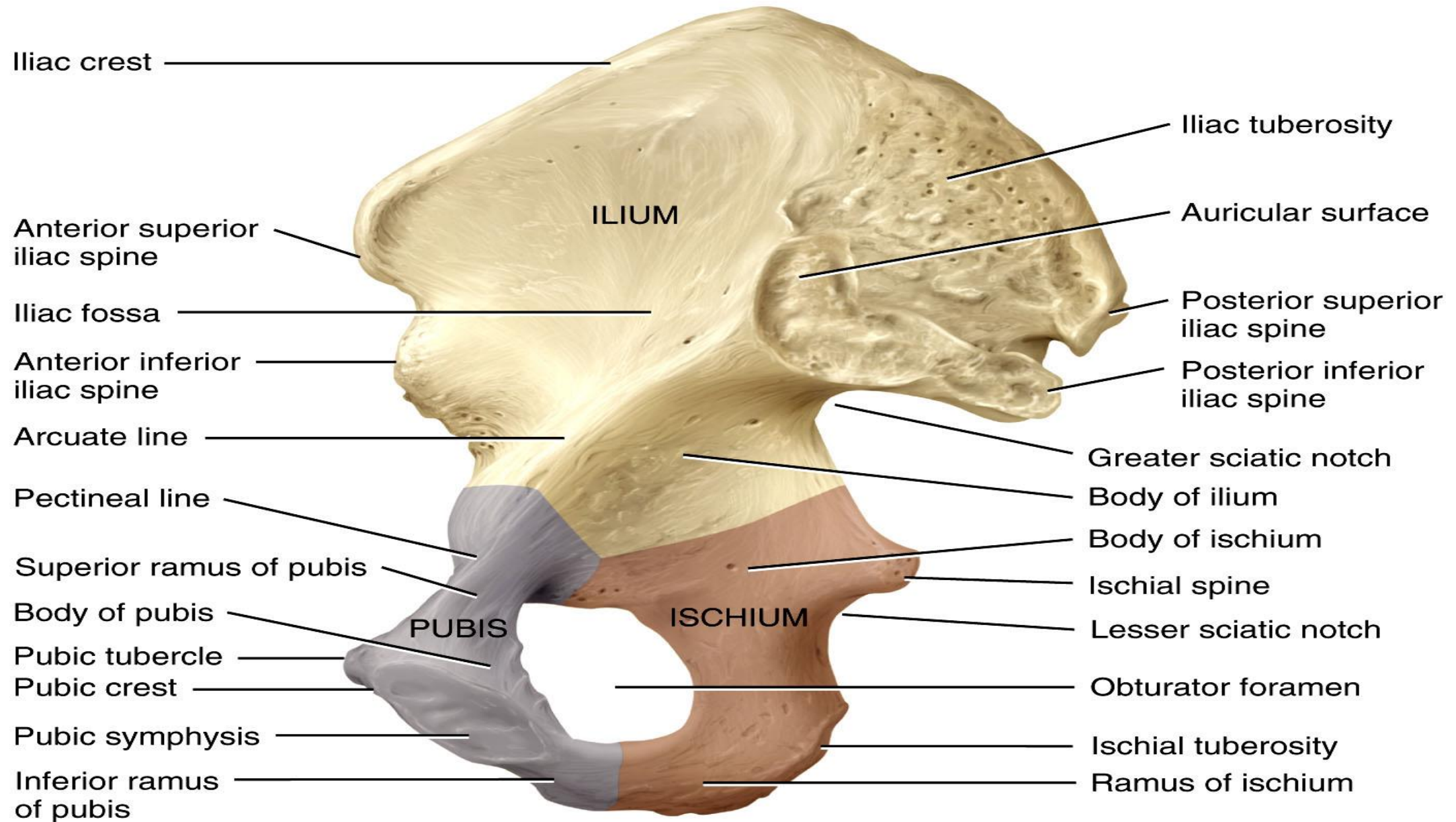
ISCHIUM

(b) Detailed lateral view

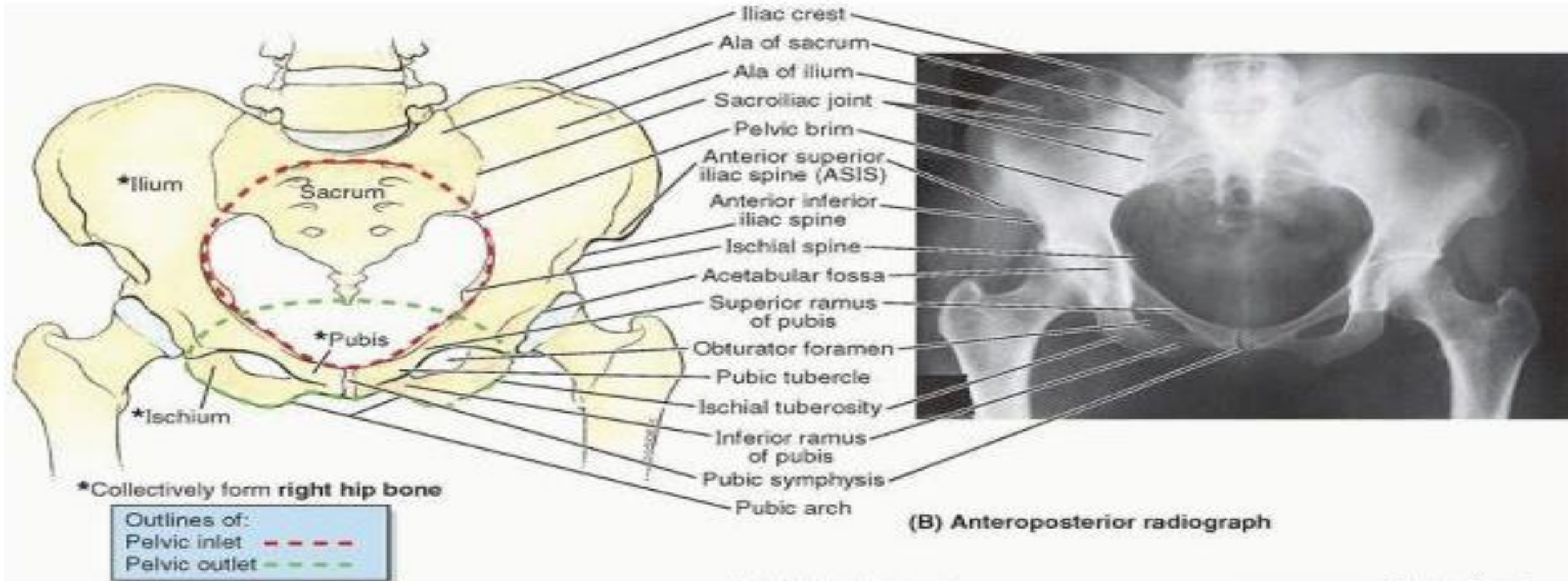


ANTERIOR

POSTERIOR

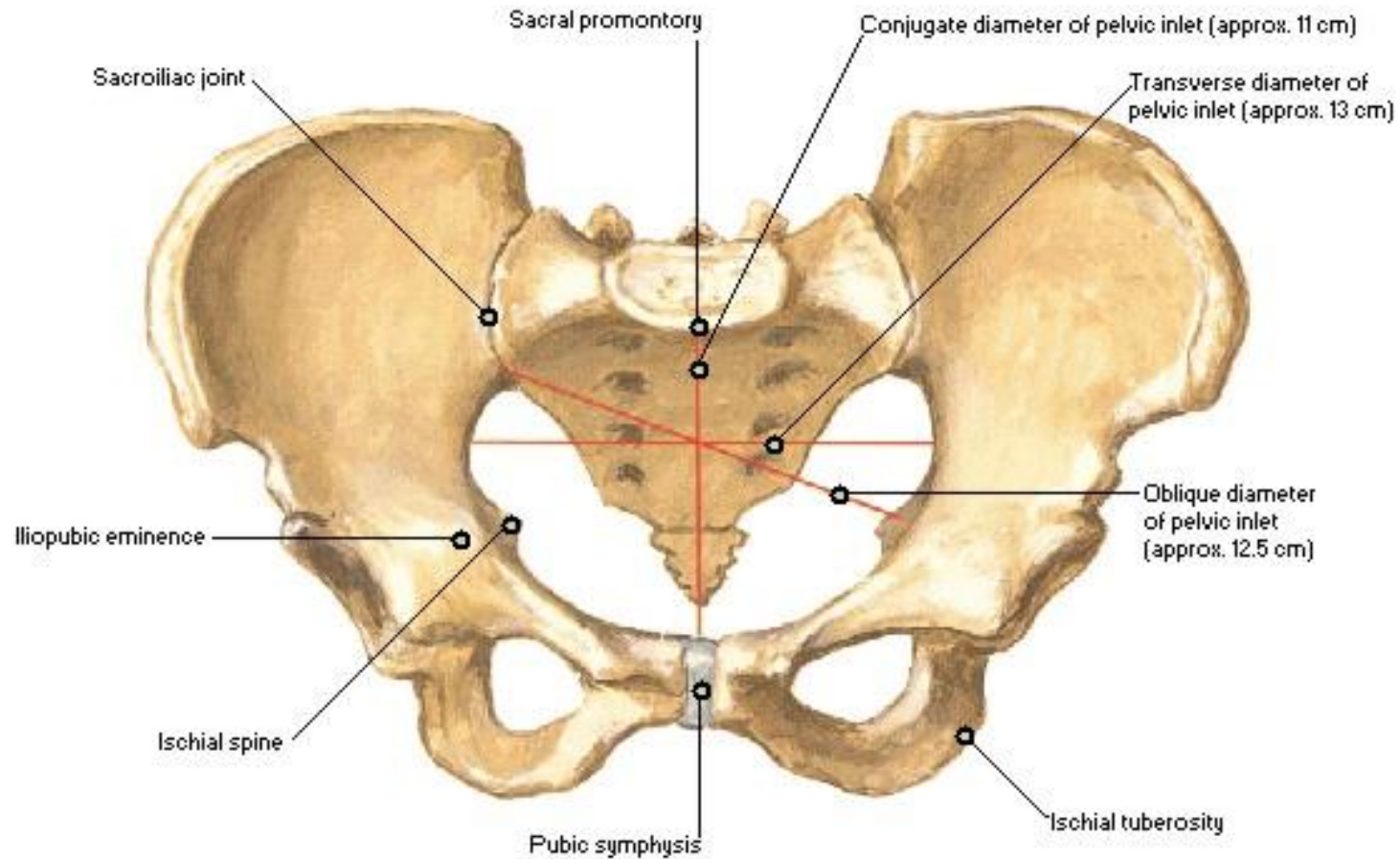


(c) Detailed medial view



# Female Pelvis

## Measurements - Anterior View



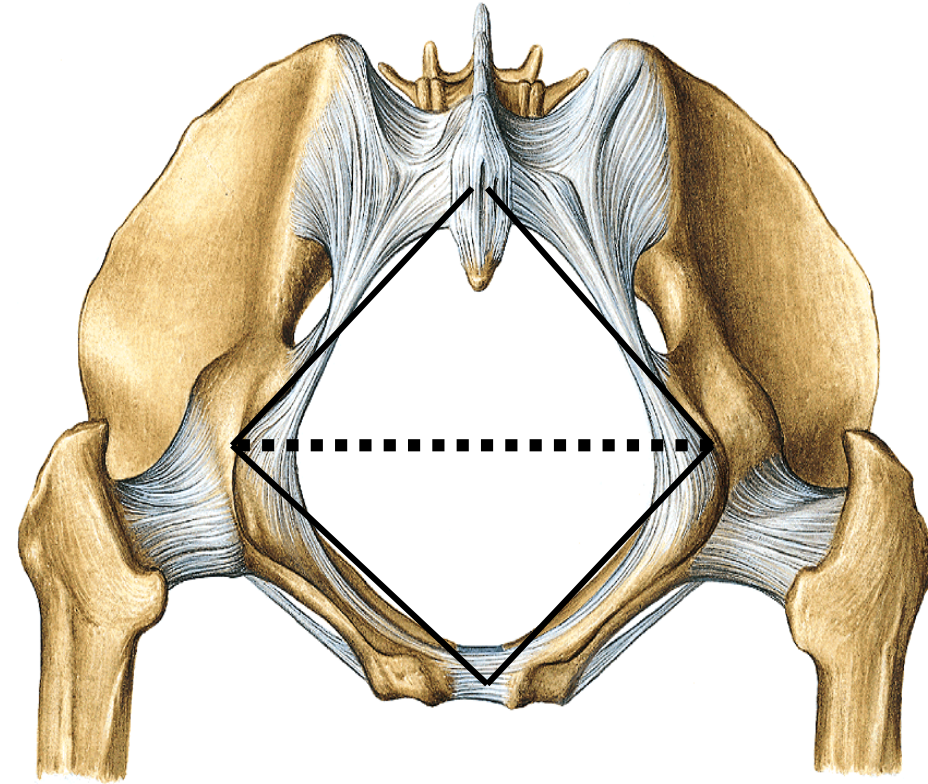


# Pelvis verum

- Cavum pelvis
- Pintu masuk: apertura pelvis superior (Pintu Atas Panggul=PAP)
- Pintu keluar: apertura pelvis inferior (Pintu Bawah Panggul=PBP)

→ 2Δ:

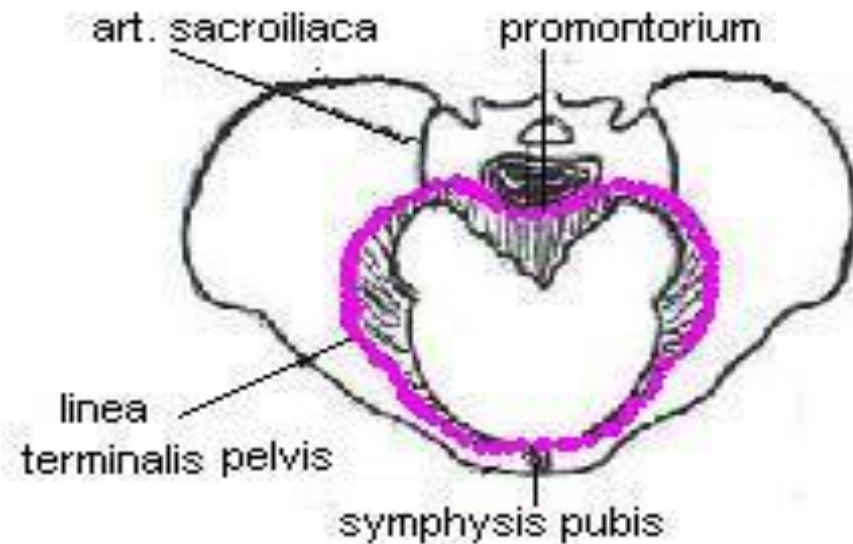
- Ventral: trigonum urogenitale  
→ ramus inf. Os.pubis, ramus inf. Os.ischii, pc: symphysis os.pubis
- Dorsal: trigonum anale  
→ 2 lig. Sacrotuberosa, pc: os.coccygis



# PAP



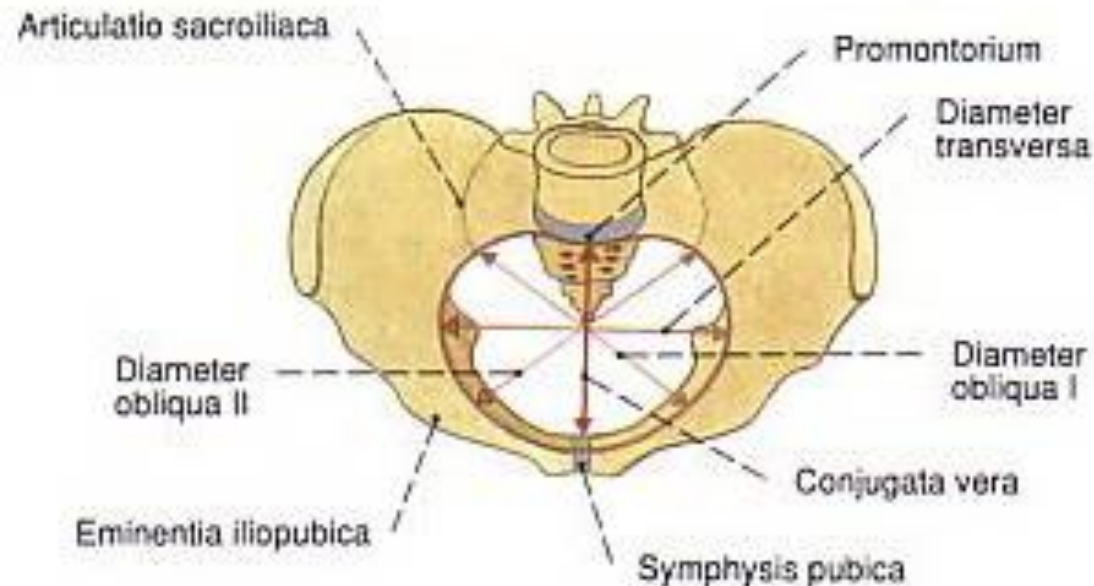
- Dorsal:  
promontorium sacralis
- Lateral:  
linea terminalis pelvis
  - Linea arcuata os.ilii (linea iliopectinea)
  - Pars lateral os sacrum
  - Pecten os pubis
  - Crista/tuberculum pubica
- Anterior:  
symphysis os pubis





# Apertura Pelvis Superior/PAP

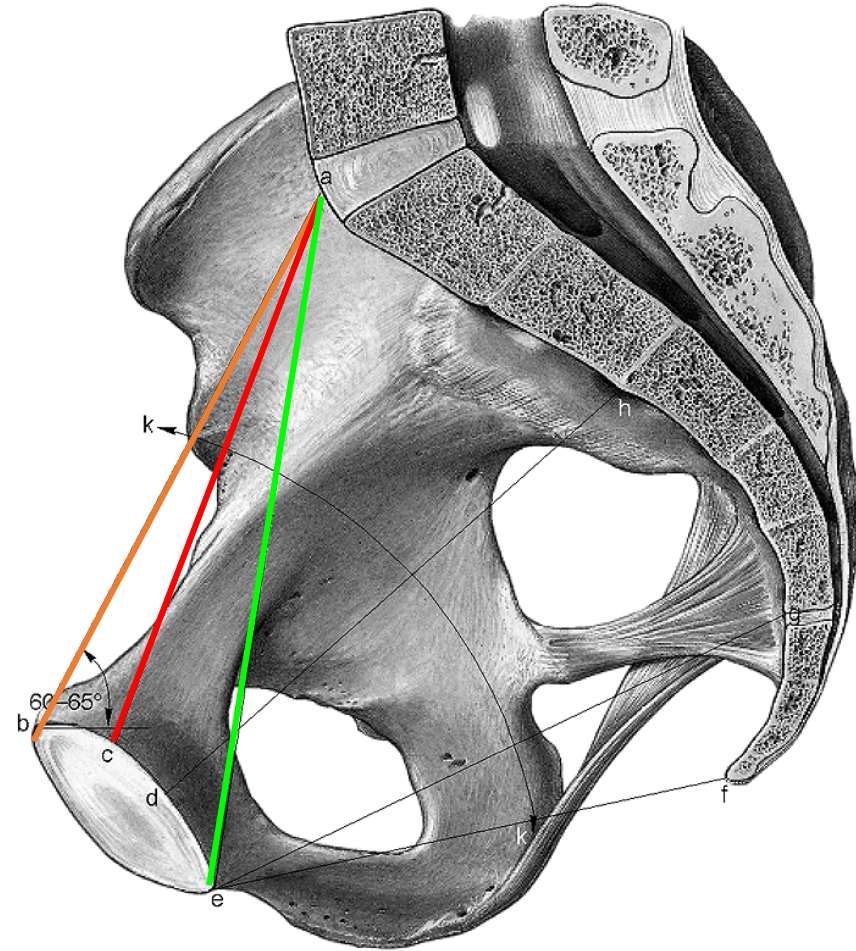
- Ø anteroposterior (conjugata vera/interna):
  - Ttk tgh promontorium sacralis – tepi atas symphysis pubis
- Ø obliqua:
  - eminentia iliopubica – art.sacroiliaca contralateral
- Ø transversa:
  - jarak terjauh garis melintang PAP
- Distansia interspinarum: jarak antara kedua spina ishiadica

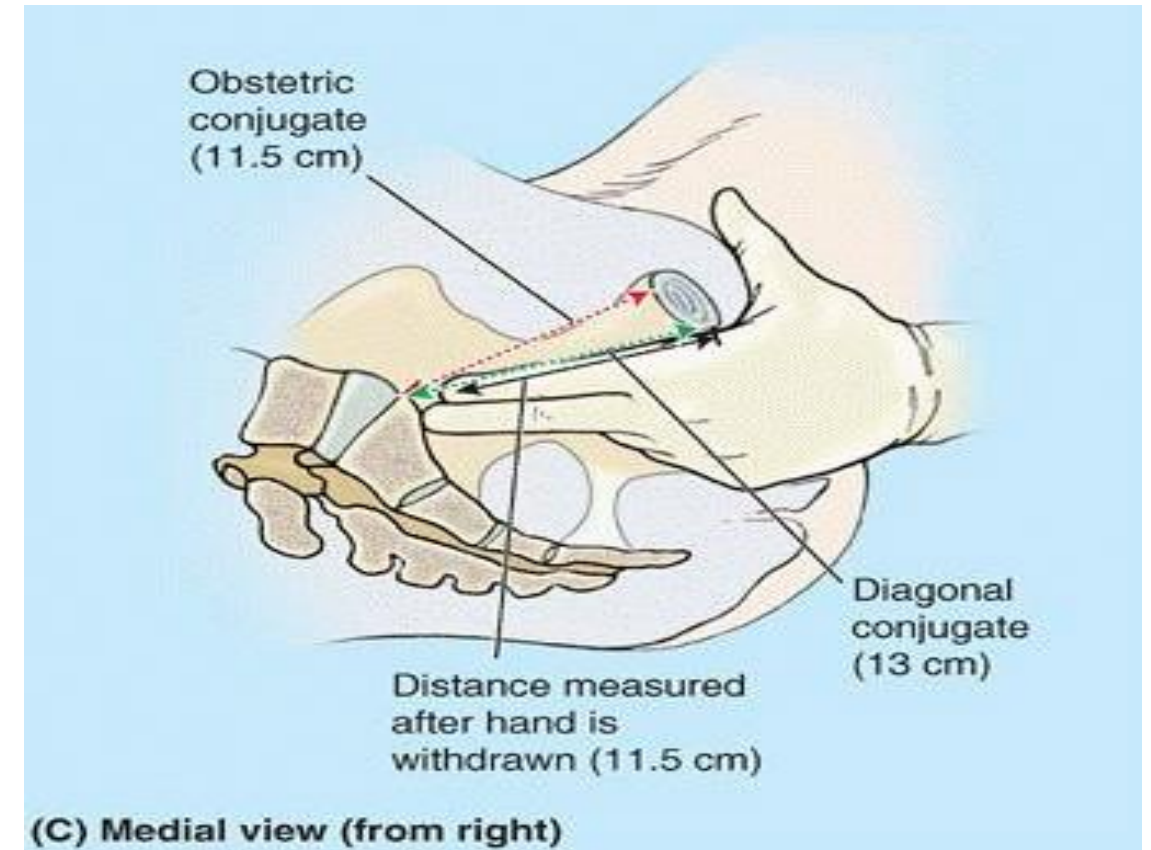
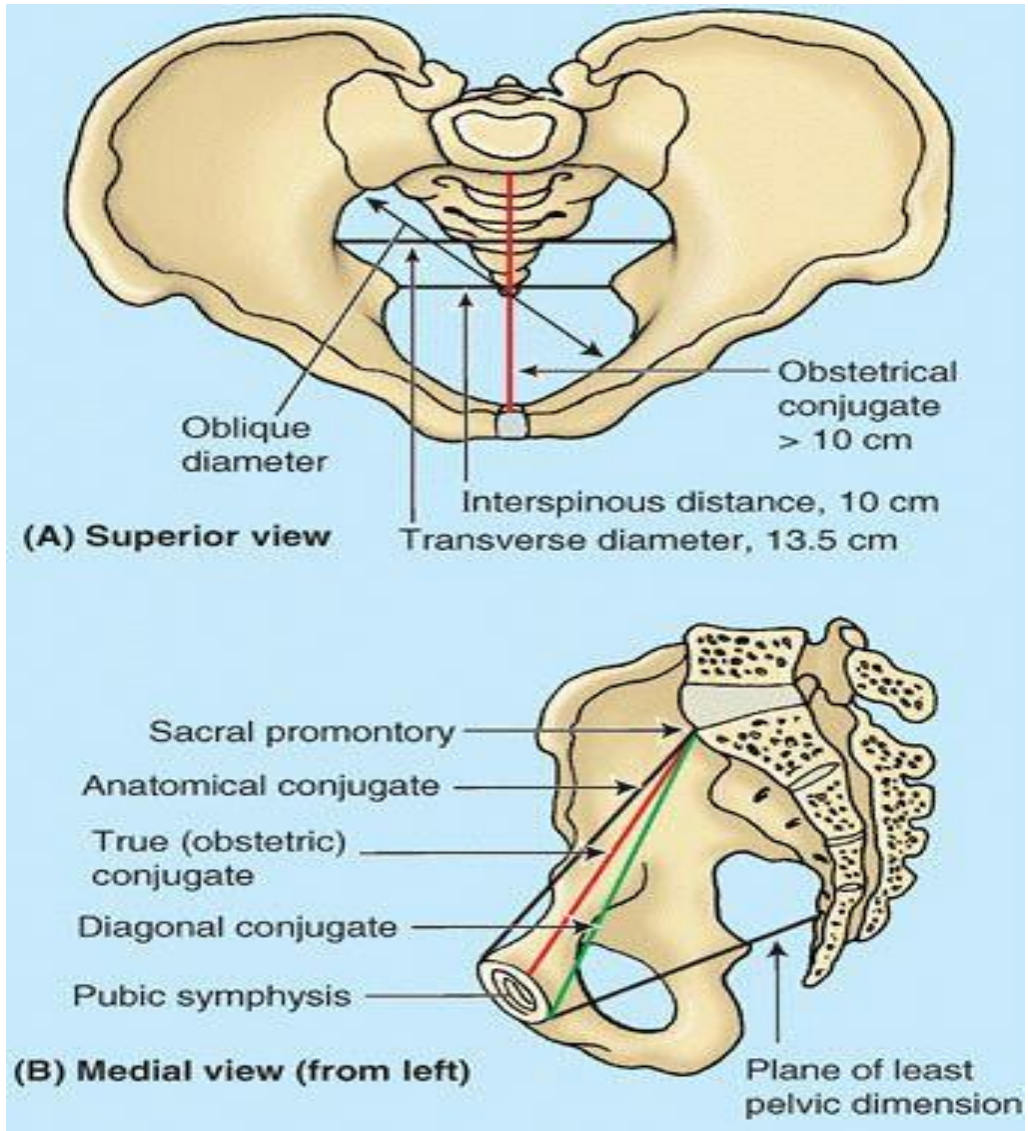


# Ukuran-ukuran panggul



- **Conjugata vera**: tepi atas symphysis pubis – promontorium sacralis
- **Conjugata diagonalis**: tepi bawah symphysis pubis – promontorium sacralis
- **Conjugata obstetrica**: bagian dalam symphysis pubis – promontorium sacralis

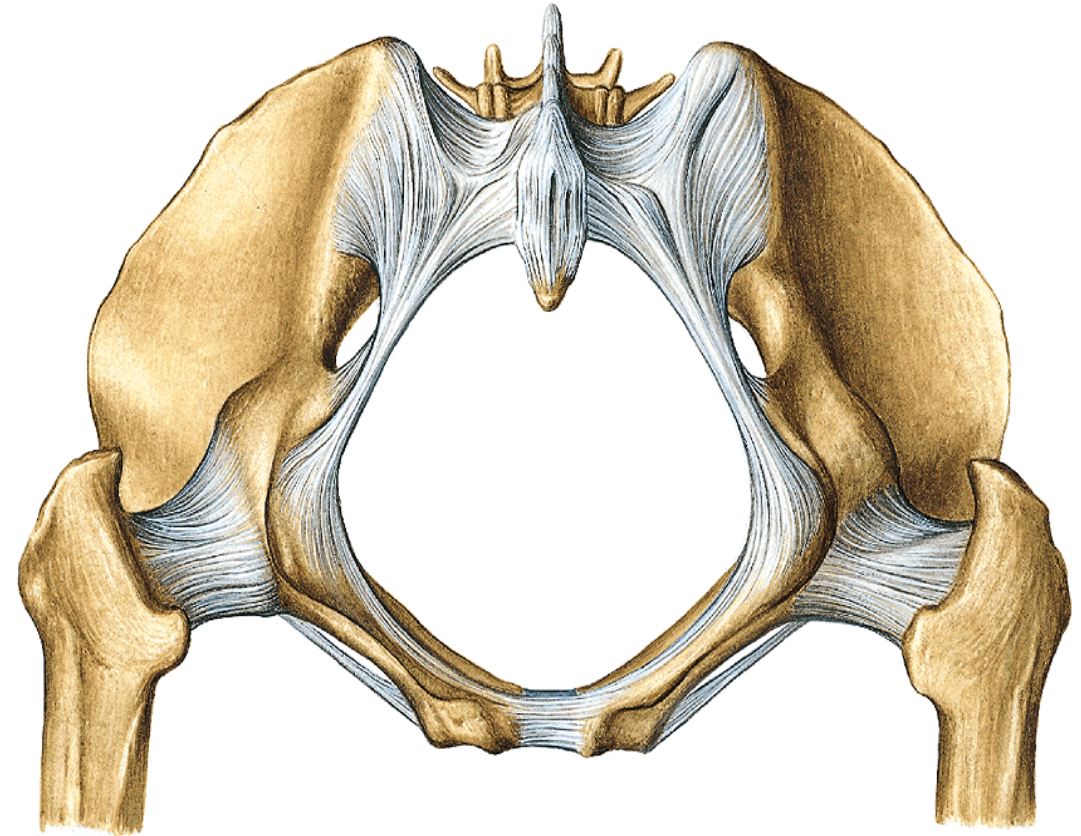






# Ukuran-ukuran panggul: PBP

- Ø antero-posterior:
  - ujung os.caccygis – titik tengah tepi bawah symphysis pubis
- Ø transversa (bituberal):
  - antara ke2 tuber ischiadica
- Ø obliqua:
  - titik tengah lig.sacrotuberosum – batas os.ischii & os.pubis sisi lawan



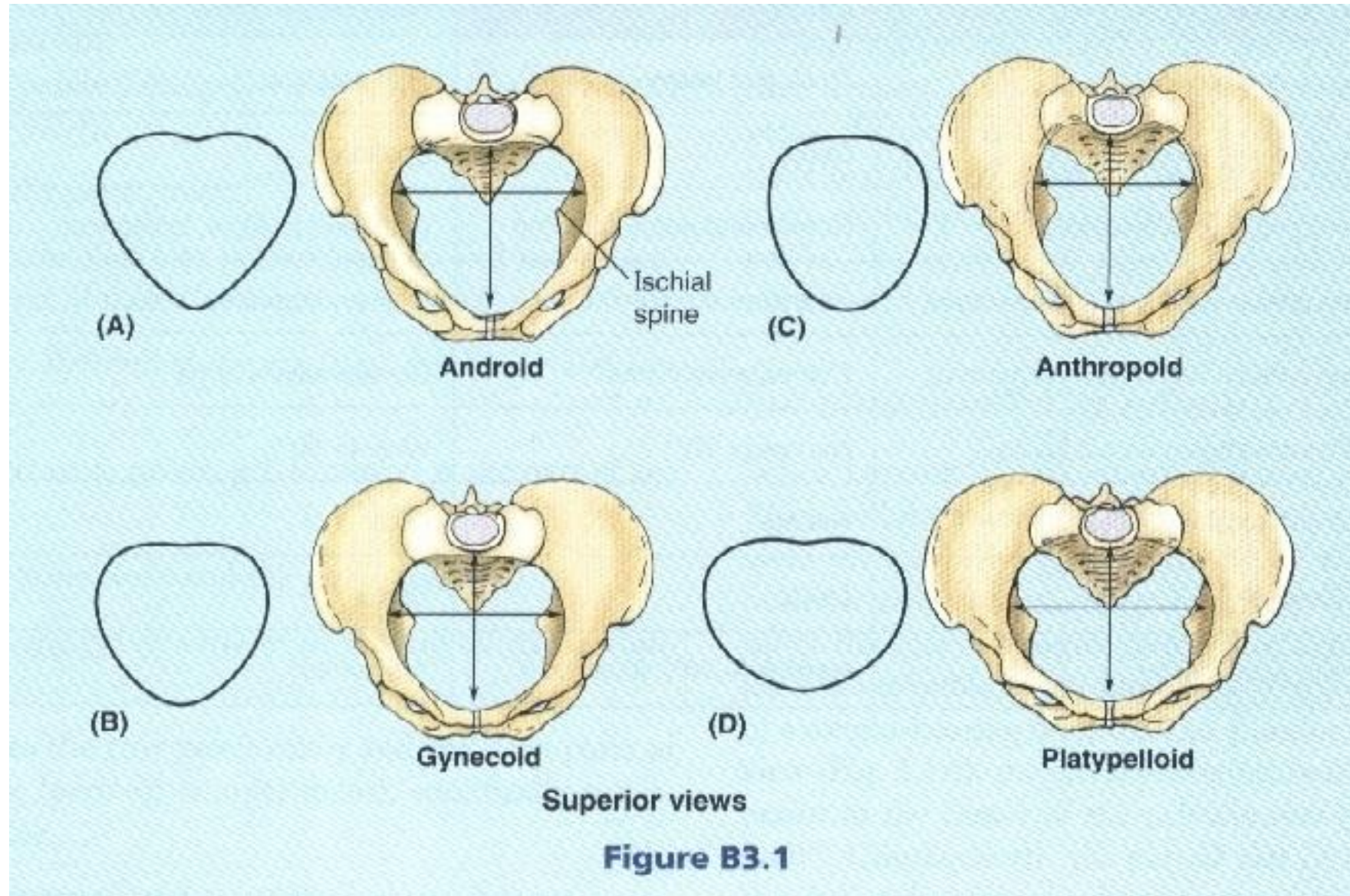
# Panggul ♂/♀



|                             | ♂                                      | ♀                                      |
|-----------------------------|----------------------------------------|----------------------------------------|
| Pelvis verum                | Segmen pendek<br>dr kerucut<br>panjang | Segmen panjang<br>dr kerucut<br>pendek |
| Angulus<br>subpubic         | Sempit ( $<70^\circ$ )                 | Lebar ( $>80^\circ$ )                  |
| Dinding pelvis<br>spurium   | Curam, SIAS ke<br>medial               | Dangkal, SIAS ke<br>ventral            |
| Ukuran2 Ø                   | kecil                                  | besar                                  |
| PAP                         | Btk jantung                            | oval                                   |
| Apertura pelvis<br>inferior | Kecil & lonjong                        | Besar, bundar                          |

# Pengelompokan bentuk panggul

(Caldwell & Molog)

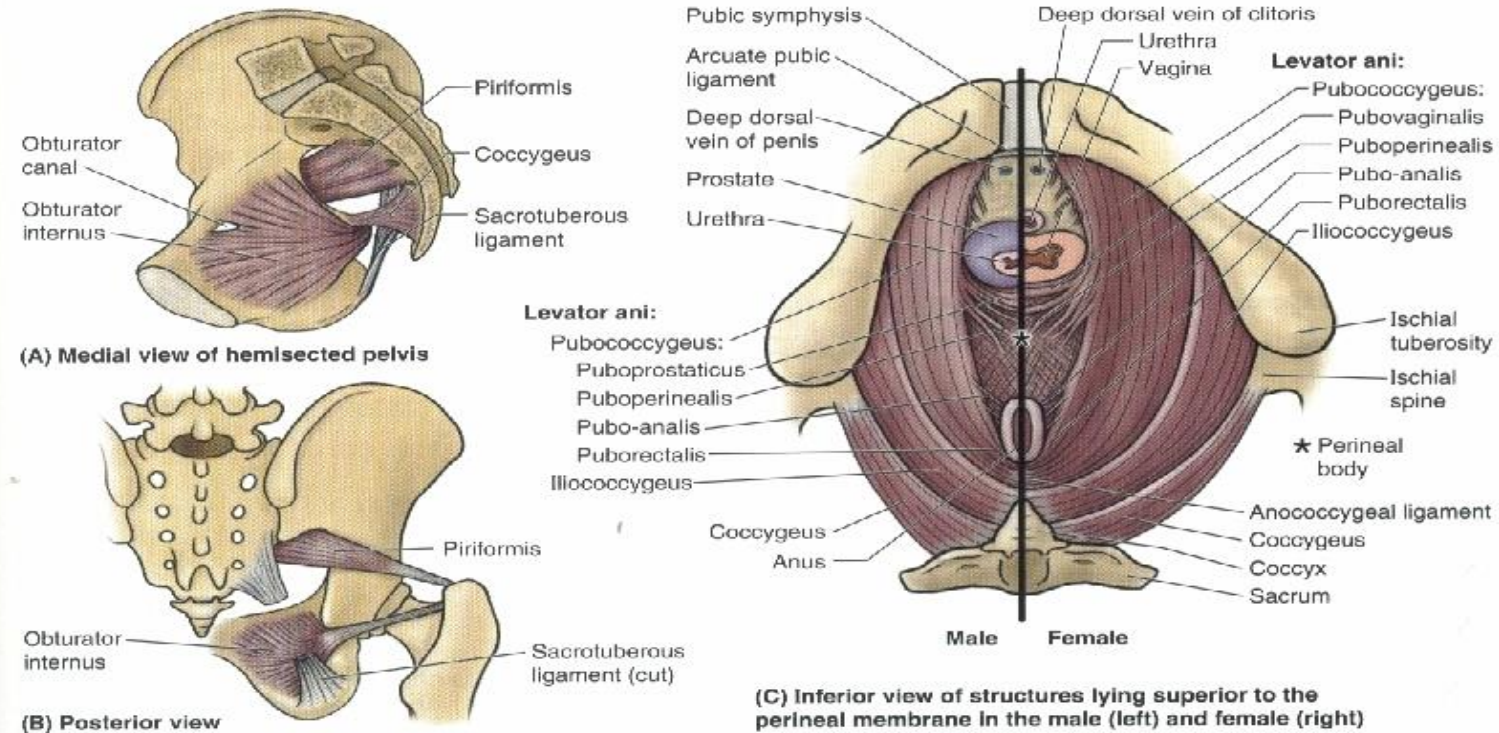




# Otot-otot Pelvis

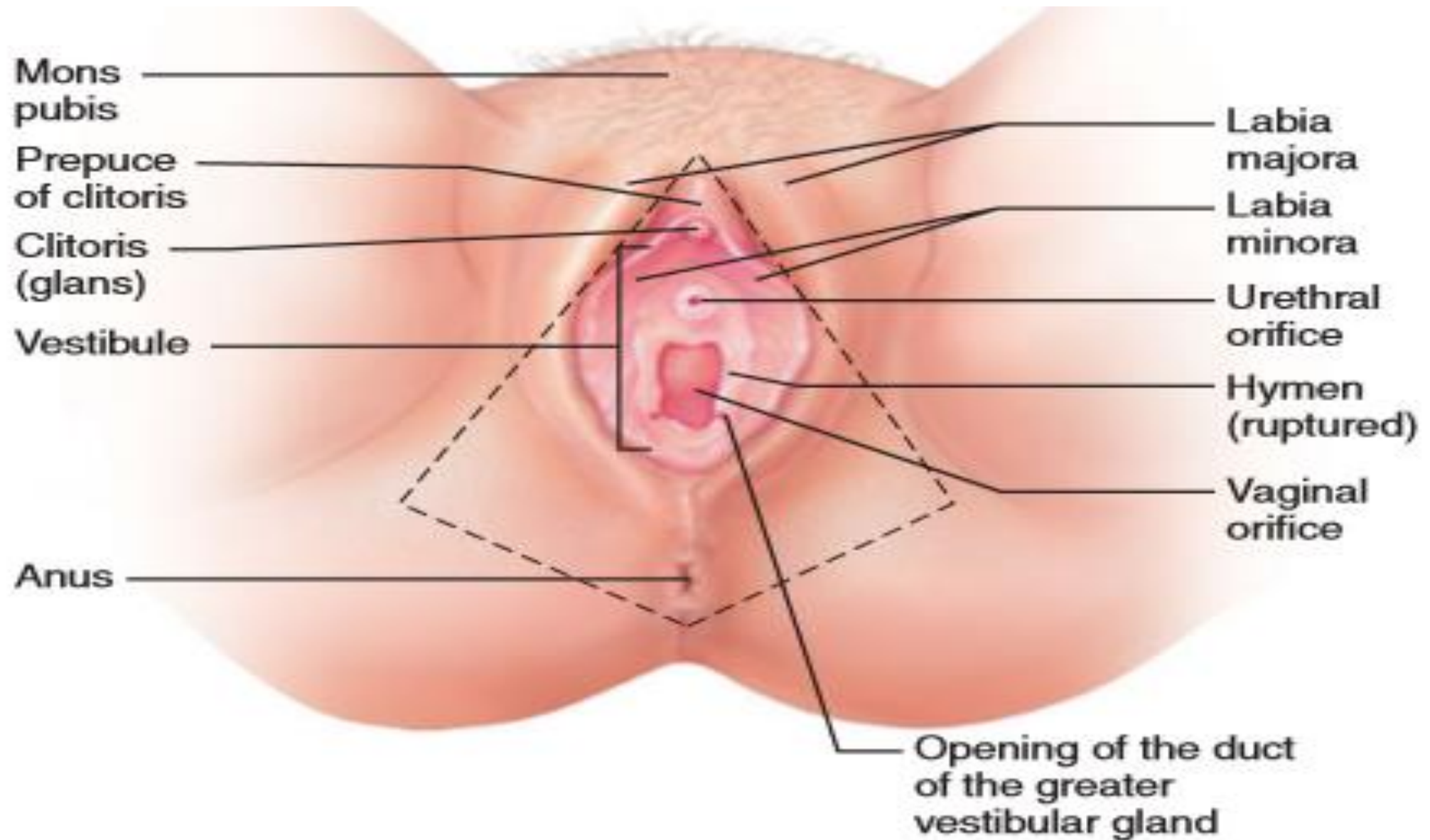
- Otot tungkai
  - M. piriformis
  - M.obturator internusmenutupi ddg dorsal dan lateral panggul
- Diafragma pelvis
  - M.levator ani
  - M.coccygeus

**Table 3.2. Muscles of the Pelvic Walls and Floor**



| Boundary            | Muscle                                        | Proximal Attachment                                                                                   | Distal Attachment                                                                                 | Innervation                                                                               | Main Action                                                                            |
|---------------------|-----------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Lateral wall        | Obturator internus                            | Pelvic surfaces of ilium and ischium; obturator membrane                                              | Greater trochanter of femur                                                                       | Nerve to obturator internus (L5, S1, S2)                                                  | Rotates thigh laterally; assists in holding head of femur in acetabulum                |
| Posterolateral wall | Piriformis                                    | Pelvic surface of S2–S4 segments; superior margin of greater sciatic notch and sacrotuberous ligament | Greater trochanter of femur                                                                       | Anterior rami of S1 and S2                                                                | Rotates thigh laterally; abducts thigh; assists in holding head of femur in acetabulum |
| Floor               | Coccygeus (ischio-coccygeus)                  | Ischial spine                                                                                         | Inferior end of sacrum                                                                            | Branches of S4 and S5 spinal nerves                                                       | Forms small part of pelvic diaphragm that supports pelvic viscera; flexes coccyx       |
|                     | Levator ani (pubococcygeus and iliococcygeus) | Body of pubis; tendinous arch of obturator fascia; ischial spine                                      | Perineal body; coccyx; anococcygeal ligament; walls of prostate or vagina, rectum, and anal canal | Nerve to levator ani (branches of S4), inferior anal (rectal) nerve, and coccygeal plexus | Helps support pelvic viscera and resists increases in intra-abdominal pressure         |

# Genitalia Eksterna





# Diafragma pelvis

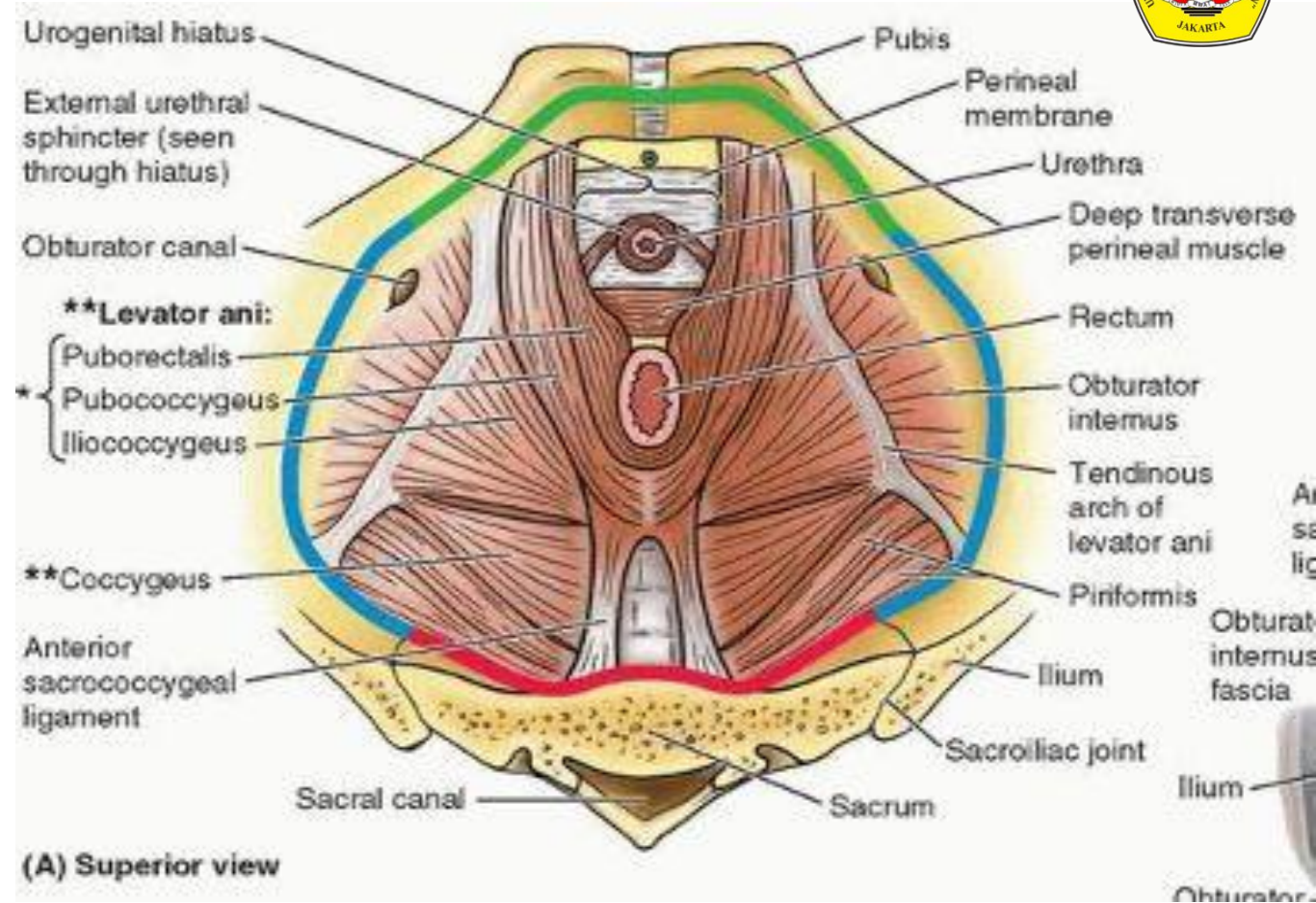
- Pars muscularis:
  - M.levator ani
  - M.coccygeus
  - Fascia diafragmatis pelvis sup. & inf.
- Pars membranosa:
  - Letak di caudal pars muscularis
  - Menutupi trigonum urogenitale

# Pars membranosa

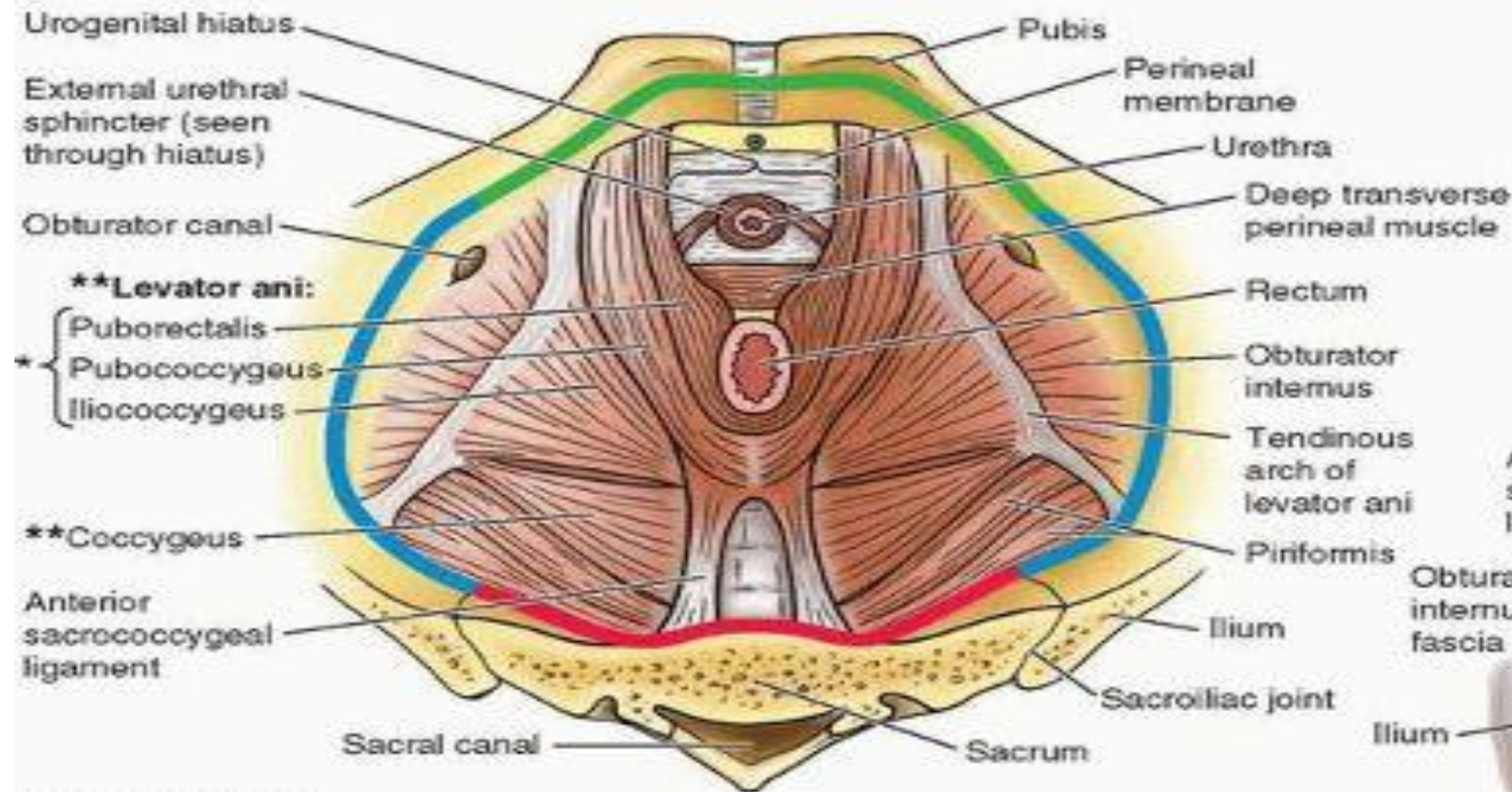
- Lapisan muskulofibrosa kaudal m.levator ani dlm  $\Delta$  urogenitale
- 2 lbr fascia:
  - f.diaphragmatis urogenitalis superior
  - f.diaphragmatis urogenitalis inferior
- Diantara ke2 lbr fascia (*kantong perinealis profundus*):
  - m.transversus perinei profundus
  - m.sphincter urethrae
- Ventral permukaan luar:
  - m.transversus perinei superficialis

# Pars muscularis

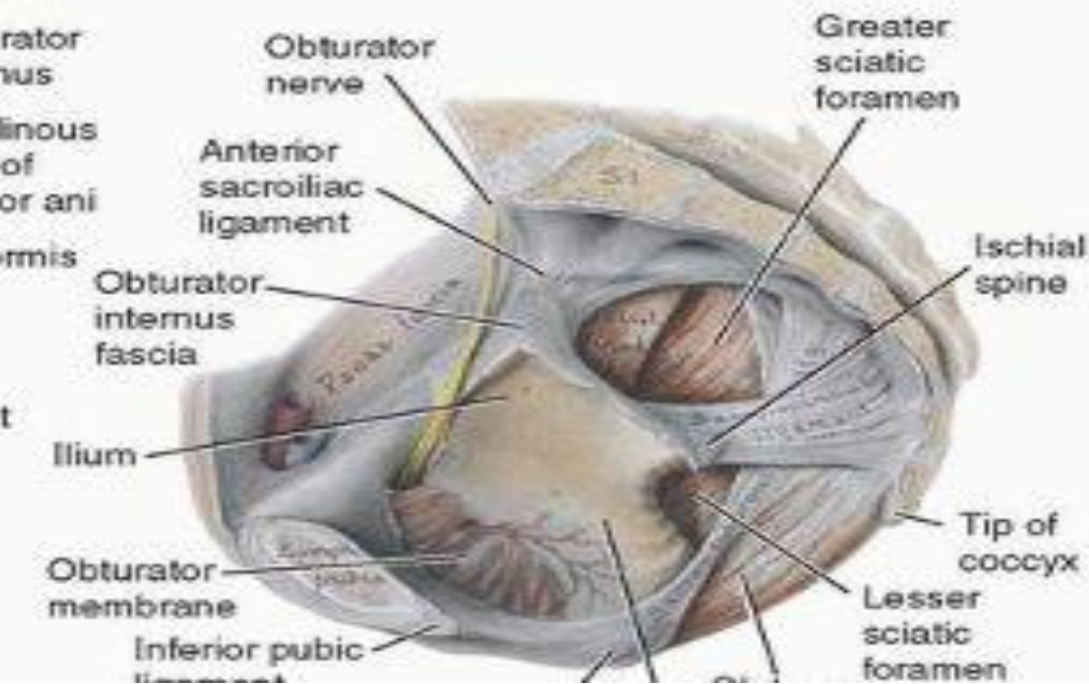
- M. levator ani:
  - Serabut2 ant. : m. levator prostate/ m. sphincter vaginae
  - Serabut2 intermedia: m. puborectalis, m. pubococcygeus\*
  - Serabut2 posterior: m. iliococcygeus\*
- M. coccygeus







| Key                                  |                          |
|--------------------------------------|--------------------------|
| <span style="color: green;">■</span> | Anteroinferior wall      |
| <span style="color: blue;">■</span>  | Lateral wall             |
| <span style="color: red;">■</span>   | Posterosuperior wall     |
| <b>**</b>                            | Pelvic diaphragm (floor) |
| <b>*</b>                             | Levator ani muscle       |



(A) Superior view

Ureter

Internal iliac artery

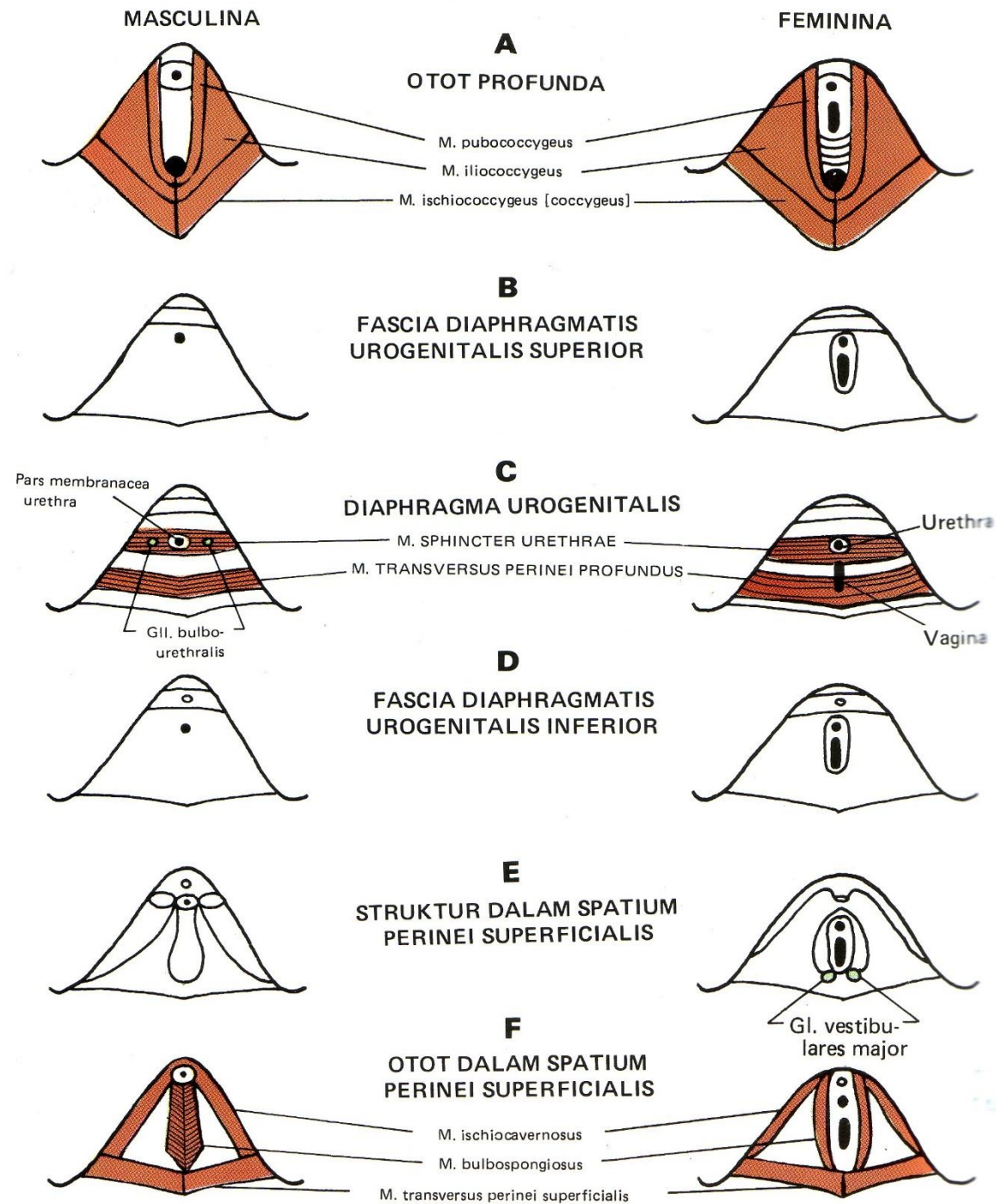
## Persarafan & f/ m.levator ani

- Persarafan:
  - N.sacralis IV, N.rectalis inferior, Cbg perinealis N.pudendus
- Fx m.levator ani:
  - Konstriksi rectum, vagina
  - Fiksasi badan perineal
  - Bersama m.coccygeus :
    - Tahan & fiksasi alat2 rongga panggul
    - Memelihara dan mengatur tekanan intra abd

## Persarafan & f/ m.coccygeus

- Persarafan
  - N.sacralis IV dan V
- Fx m.coccygeus:
  - Menarik ke depan dan menyangga os coccygis setelah defekasi/bersalin
  - Bersama m.levator ani dan m.piriformis, menekan bag.post rongga panggul dan PBP (jg jalan lahir)

# Lapisan penutup pintu bawah panggul





# PERINEUM

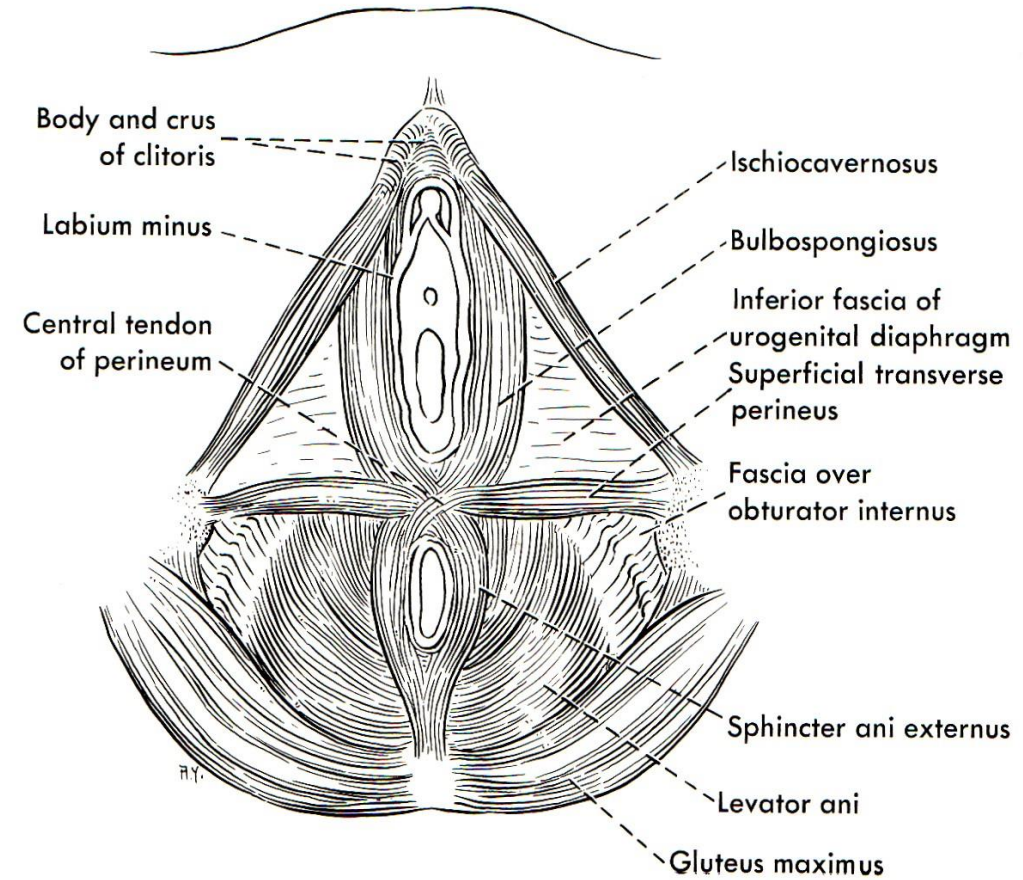
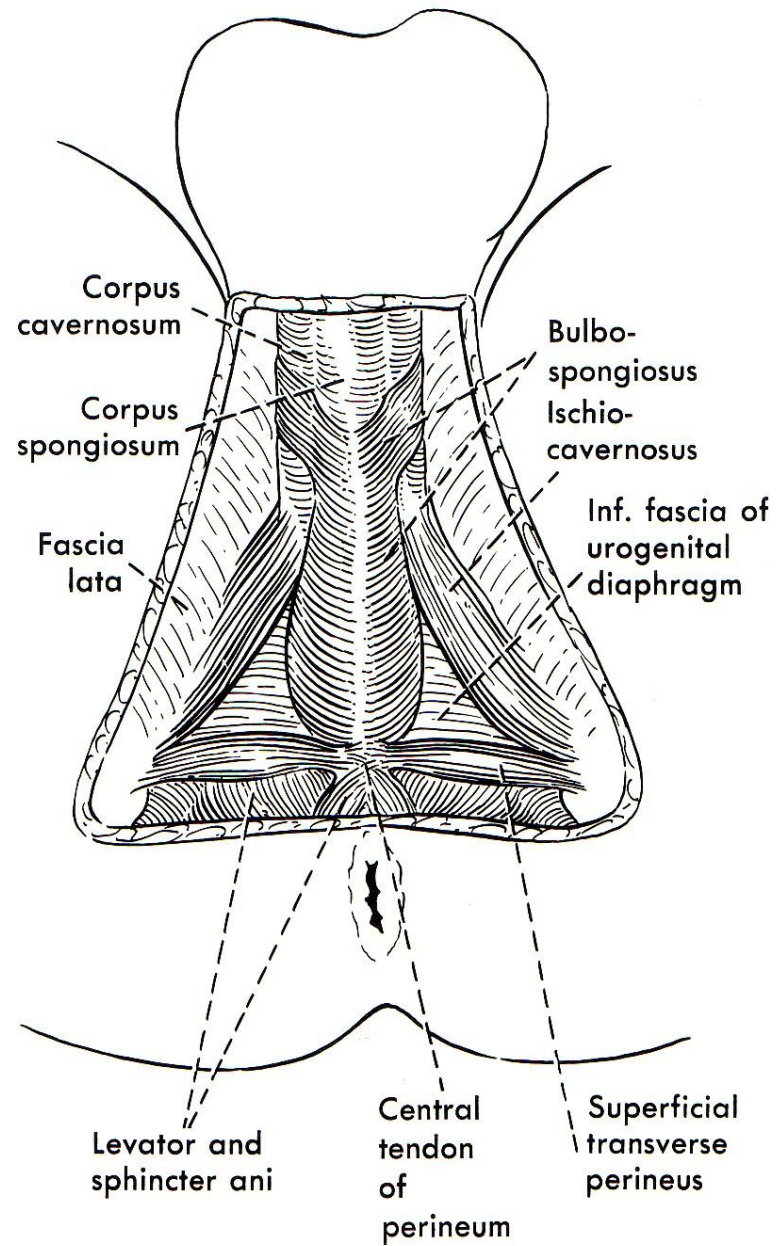
- Menutupi permk.inferior diafragma pelvis
- Batas2 perineum = batas2 PBP
- 2 bagian:
  - Regio/trigonom anale
    - berisi muara canalis analis
    - Tersusun dari:
      - Fascia perinealis supf
  - Regio/trigonom urogenetale
    - berisi bag.extena alat ug
    - Tersusun 2 lapis:
      - Diafragma ug\*
      - Fascia perinealis supf

# Spatium interfasciale

Spatium interfasciale (antara fascia Ø urogenitalis inf – fascia collesi)

→ *kantong perinealis superficialis*, tdpt:

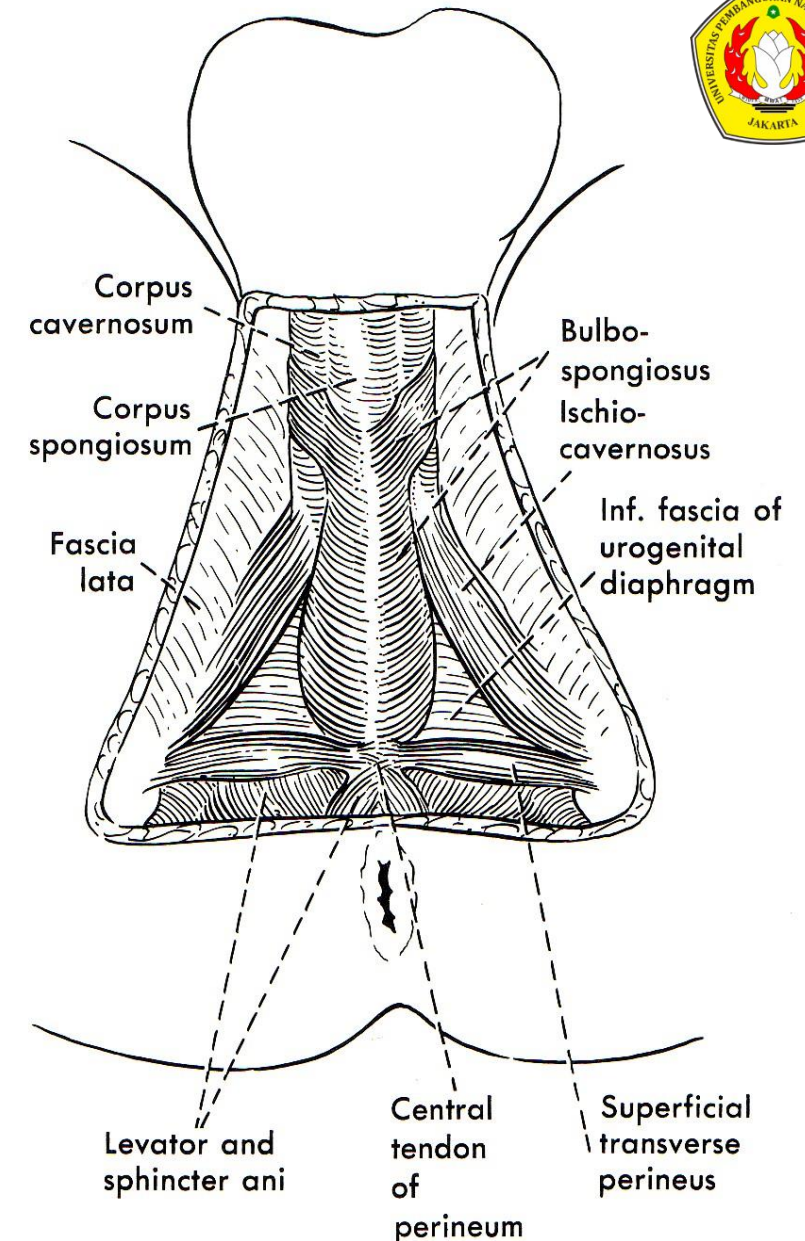
- Crura corporis cavernosi penis dg m.ischiocavernosi
- Corpus spongiosum urethrae (bulbus penis) dg m.bulbospongiosus
- M.transfersus perinei superficialis
- a,v,n. perineale





# Centrum Tendineum Perinei

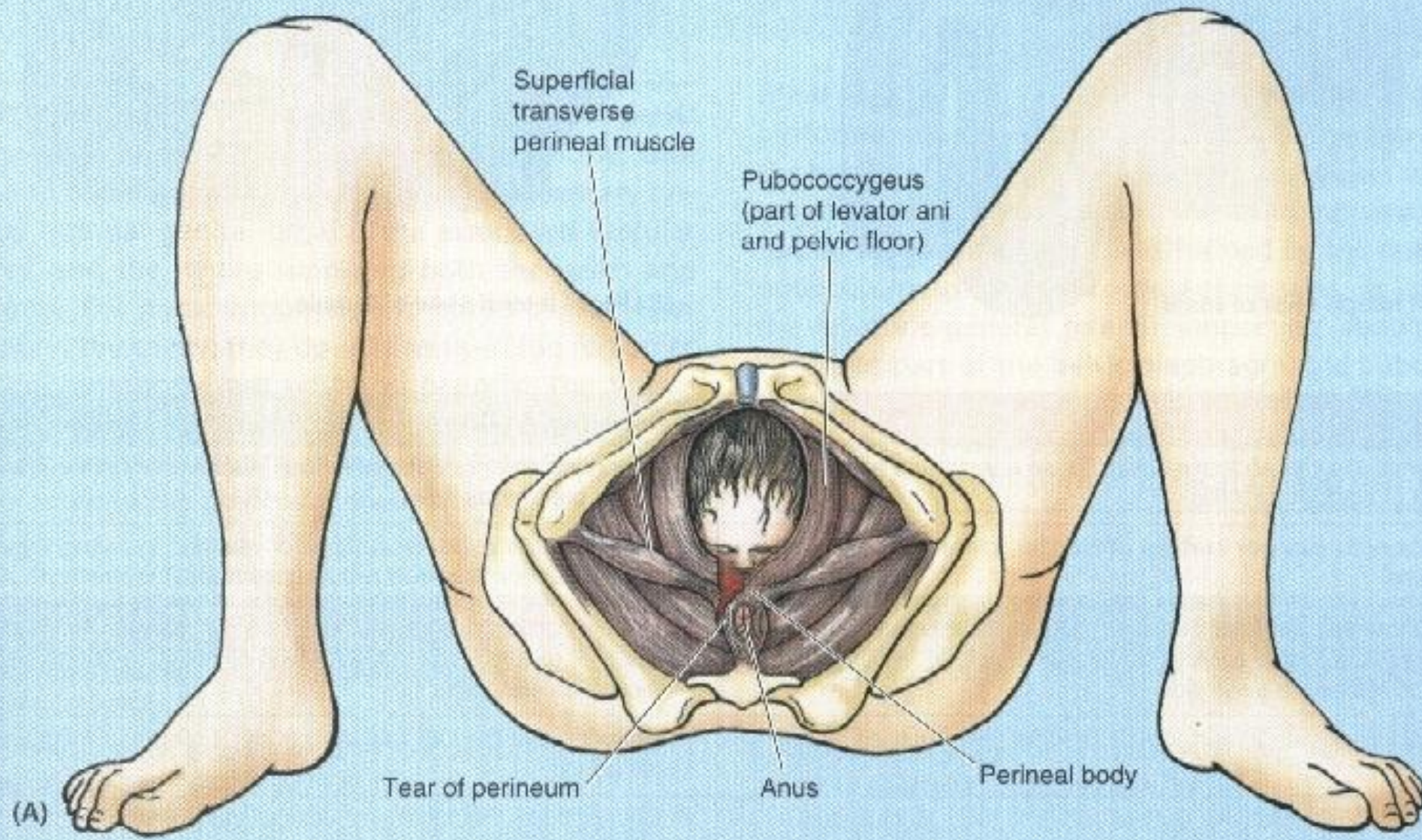
- Nodus fibromuskular, btk limas
  - Pd sudut batas canalis analis
  - dan organ ug dgn septum rectovesicale
  - Otot yg berkumpul:
    - M. levator prostatae (m.pubovaginalis)
    - M.sphincter urethrae
    - M.transversus perinei (suprficialis dan profundus)
    - M.sphinter ani externus (suprficialis dan profundus)
    - M.bulbospongiosus \*
- \* mengosongkan urethrae, berperan saat miksi, ereksi, ejakulasi



# Episiotomi

- Proses persalinan, cegah robekan centrum tendineum, struktur2 sekitar perineum
- Luka pembedahan, mudah ditutup → sayatan perineum
- Sayatan dimulai pd mukosa vagina dan kulit perivaginal di garis tgh dan diteruskan ke arah:
  - Medio latero posterior
  - Posterior/Mediana



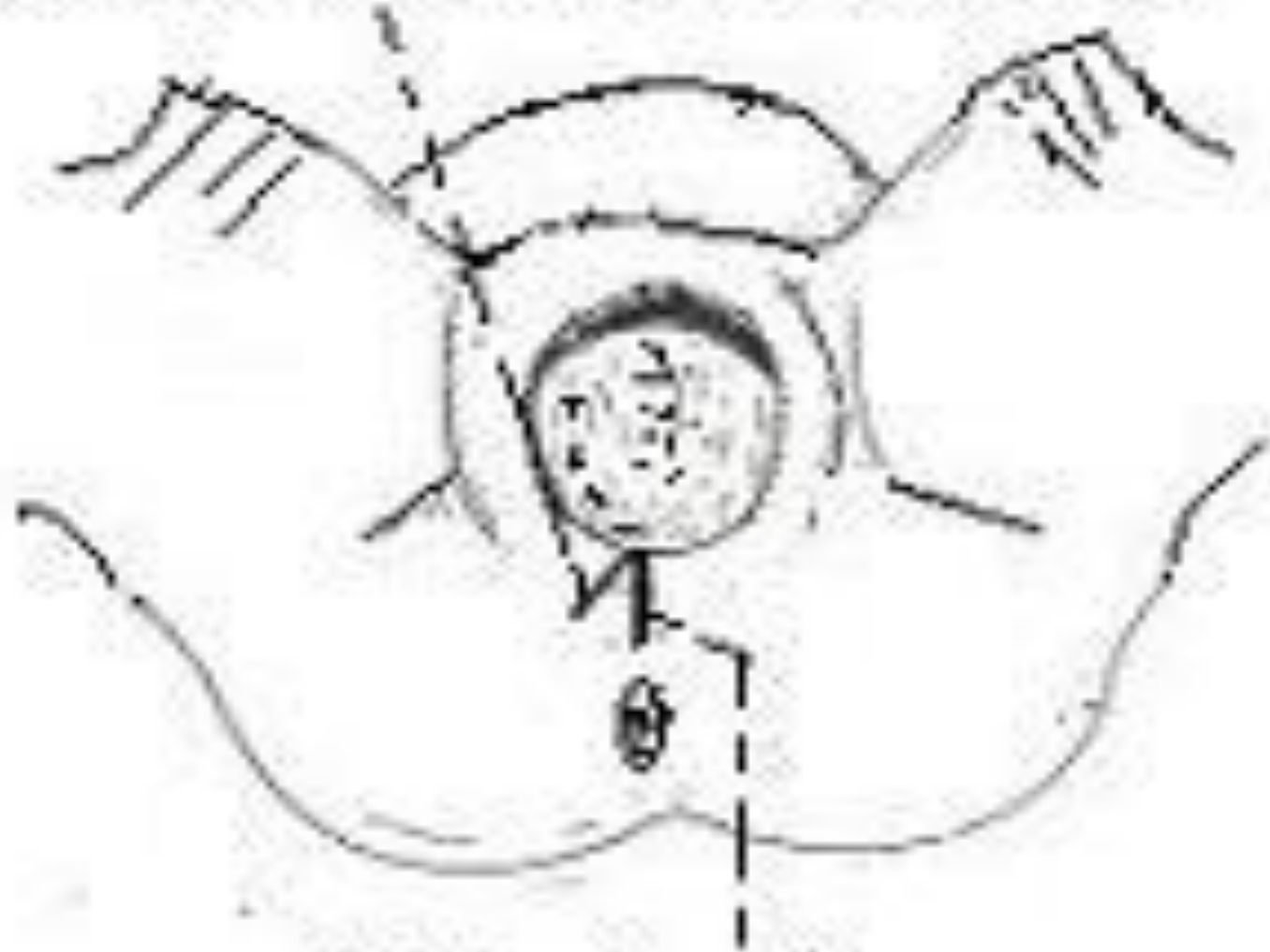


Lithotomy position

**Figure B3.5**



episiotomi medio-latero-posterior



episiotomi mediana

# Episiotomi

## Medio latero posterior

- Dpt diperluas, dpt 2 sisi → >sukar diperbaiki
- Memotong :
  - Mucosa vagina
  - Kulit yg tutupi fosa ischiorectalis
  - M.bulbospongiosus
  - M.transversus perinei superficialis
  - Fascia & m.transversus perinei profunda (bg Ø ug)
  - Kadang2 serabut bg bwh m.pubococcygeus

# Episiotomi

## Mediana

- Luka mudah ditutup
- Relatif < nyeri
- Centrum tendineum dipotong
- Tidak blh meluas sd serabut2 bg dalam m.sphincter ani externus



## Arteri2 pelvis

- A.iliaca communis
- A.iliaca externa

Arteri2 pelvis verum:

- A.iliaca interna
- A. rectalis superior
- A.ovarica
- A.sacralis media

## Vena2 pelvis

- V.iliaca externa
- V.iliaca interna
- V.sacralis media

## Persarafan pelvis

- Plexus sacralis
- Plexus lumbalis
- Saraf2 otonom

## KGB pelvis

→ sesuai pemb.drh. Yg berhub.

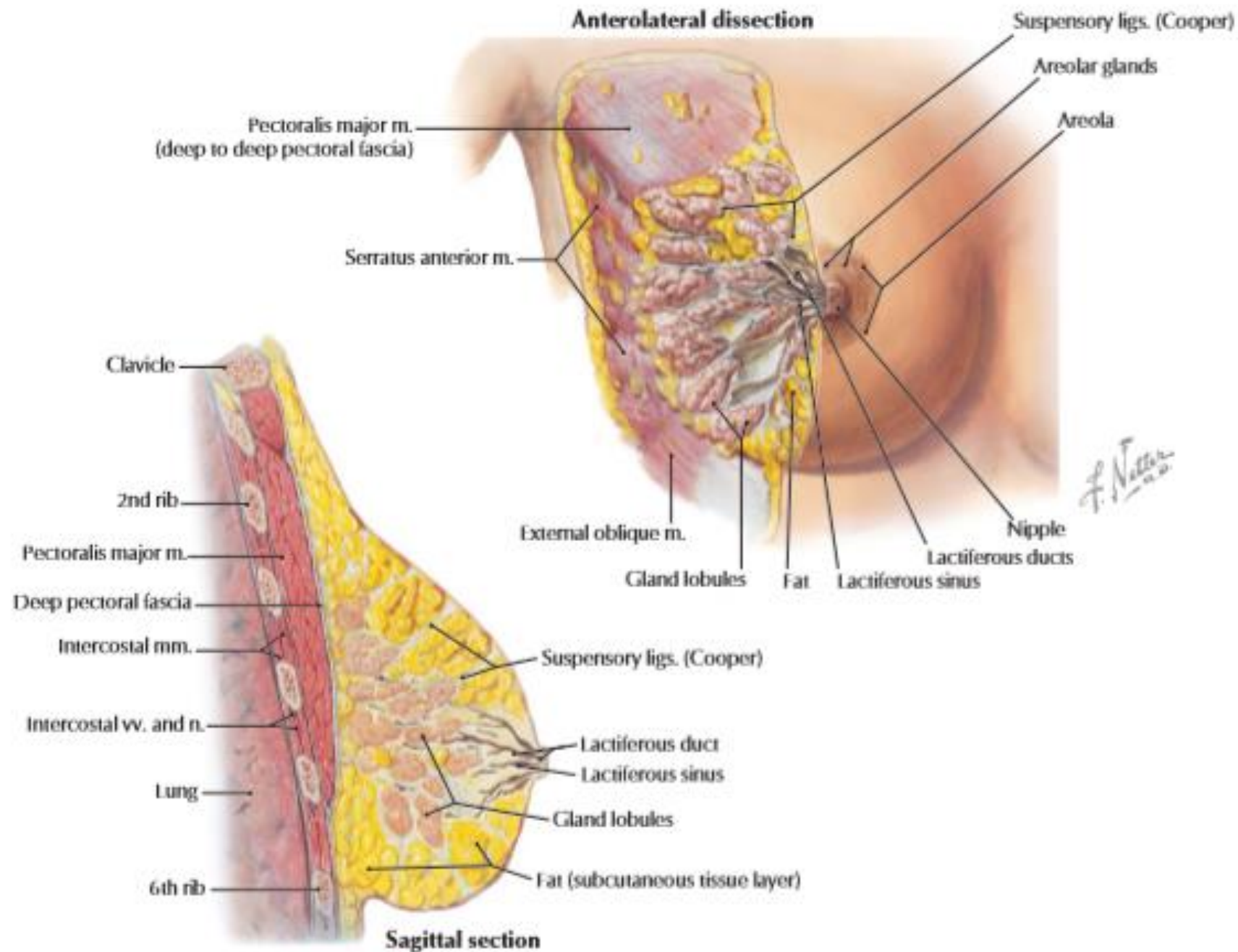
- KGB iliaca externa
- KGB iliaca interna
- KGB iliaca communis

# Pendarahan perineum

- A.pudenda interna (cab terminal t'kecil truncus anterior a.iliaca interna)
- A.v.pudenda interna & n.pudendus (Nn.sacrales 2-4) tinggalkan panggul: m.piriformis – m.coccygeus (foramen infrapiriforme)
  - perineum, lwt foramen ischiadicum minus
  - ant.dlm canalis pudendalis (4 cm cranial tuber ischiadicum)

## Cabang2 a.pudenda interna

- A.penis (♂ only)
  - A.bulbi urethrae → bulbus penis & otot2 sekitar, posterior corpus spongiosum, gl.bulbourethralis
  - A.urethralis → corpus spongiosum, glans penis, urethra & jar erektile sekitar
  - A.dorsalis penis: dorsum penis, pd 2 sisi v.dorsalis penis → glans penis, kulit, corpora cavernosum & spongiosum (anastomosis dg a.profunda penis)
  - A.profunda penis → crus penis, corpus cavernosum



**FIGURE 3-8** Anterolateral and Sagittal Views of the Female Breast



Terima Kasih