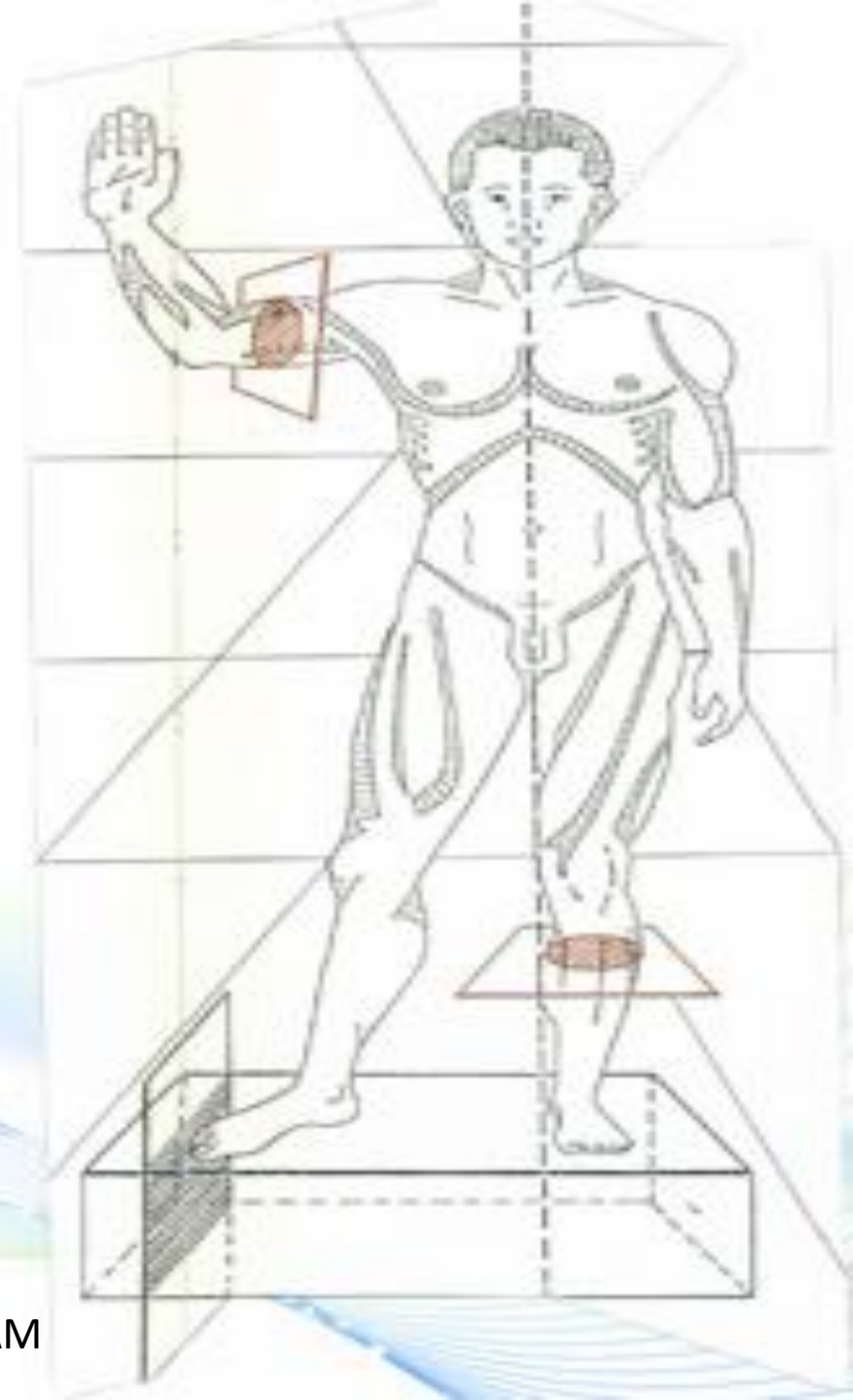


FEMALE URETHRA

Pr. M.D.EL AMRANI

Dr. BENTALEB OUSSAMA

Dr. BIBORCHI HOUSSAM



CONTENTS

I. INTRODUCTION

**II. DESCRIPTIVE
ANATOMY**

III. STRUCTURE

**IV. ANATOMICAL
RELATIONS**

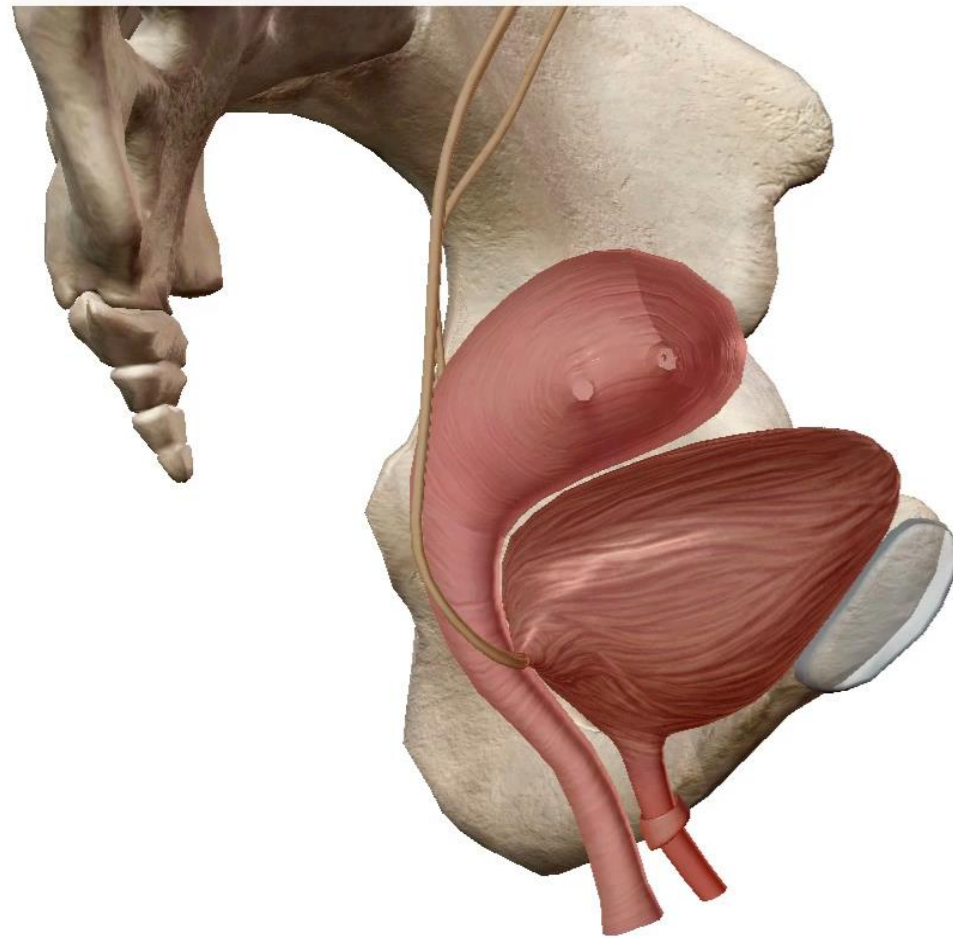
**V. BLOOD SUPPLY; LYMPH
DRAINAGE AND NERVE
SUPPLY**

VI. CONCLUSION



I. INTRODUCTION

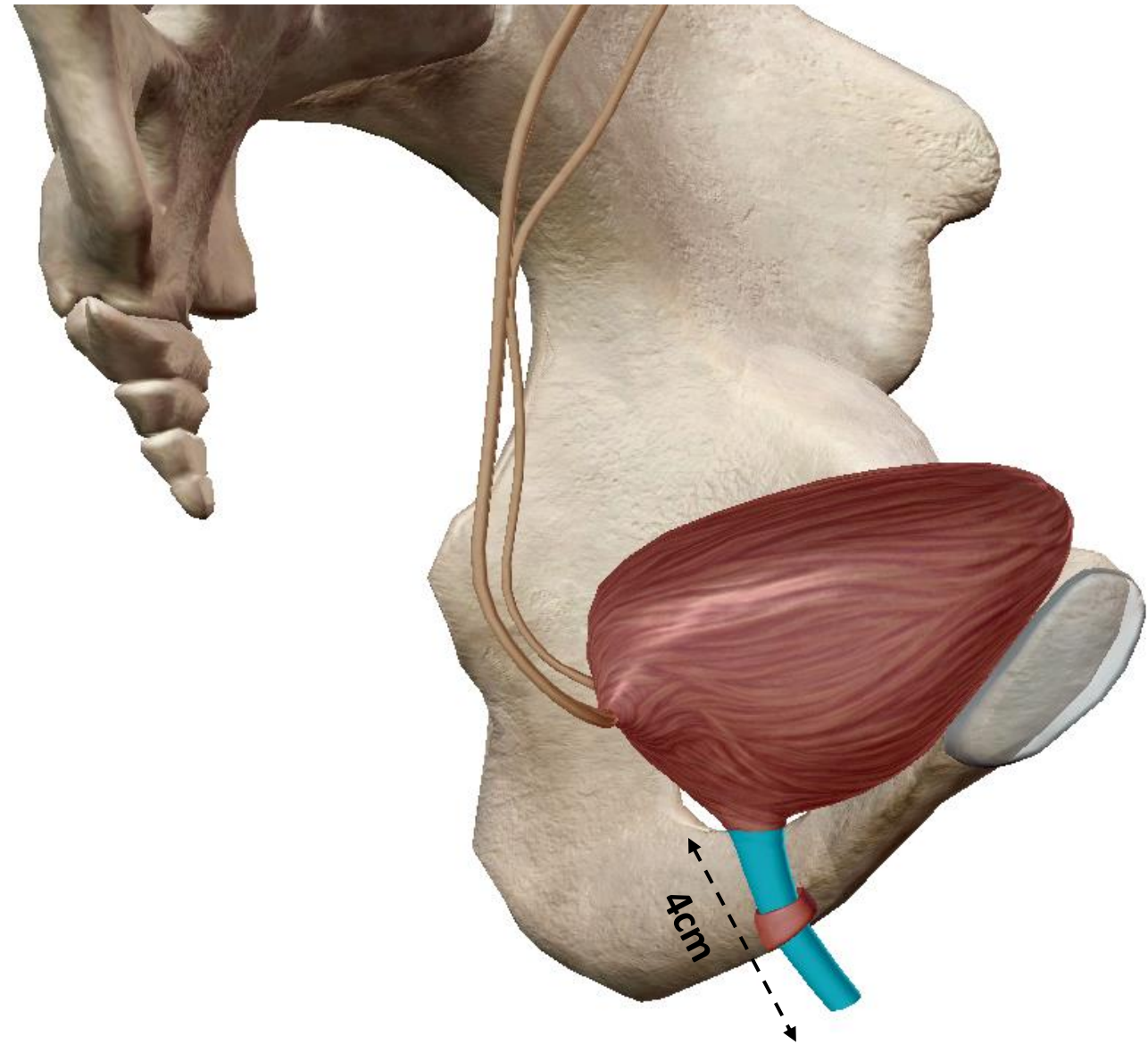
- Musculomembranous duct
- Extends from the neck of the bladder to the external urethral meatus in the vestibule of the vulva
- Not simply in front of the vagina but embedded within the vaginal wall
- Short course
- Major role in micturition: urine excretion



II. DESCRIPTIVE ANATOMY

A. DIMENSIONS

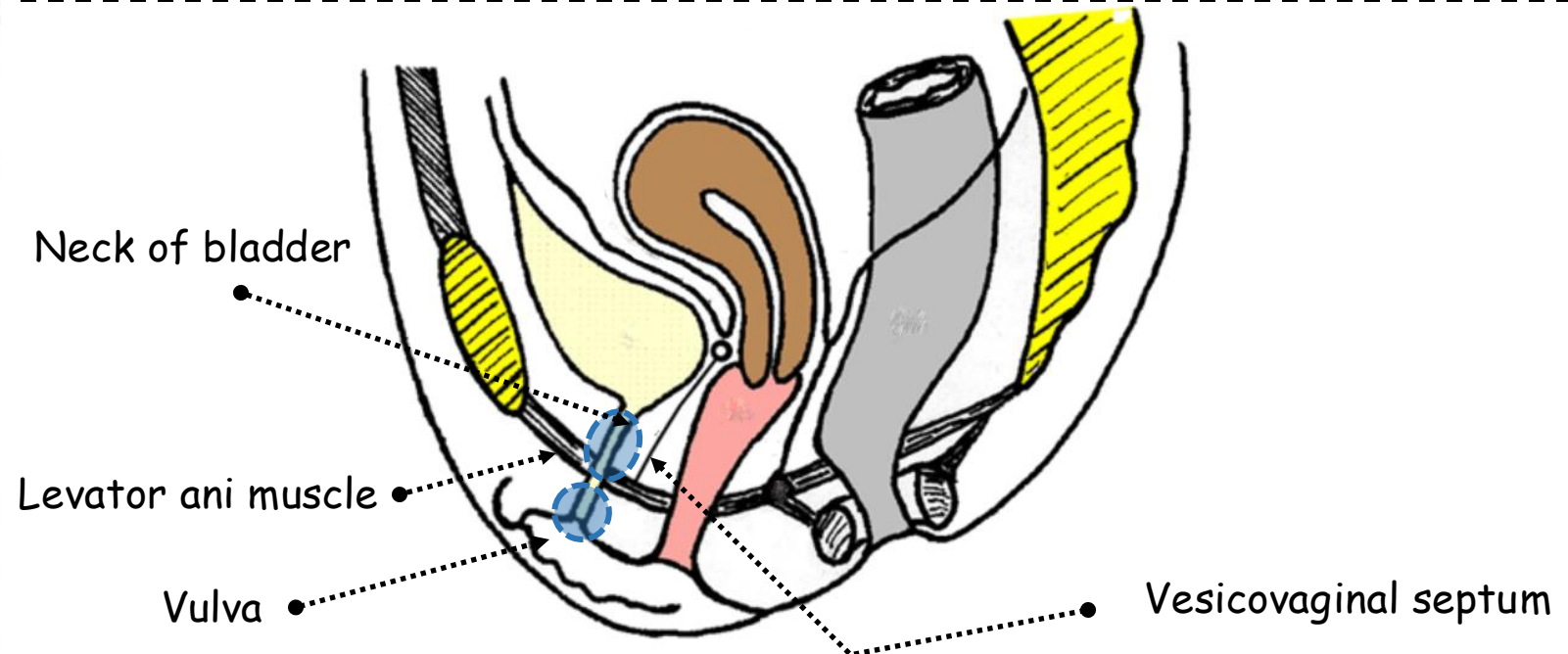
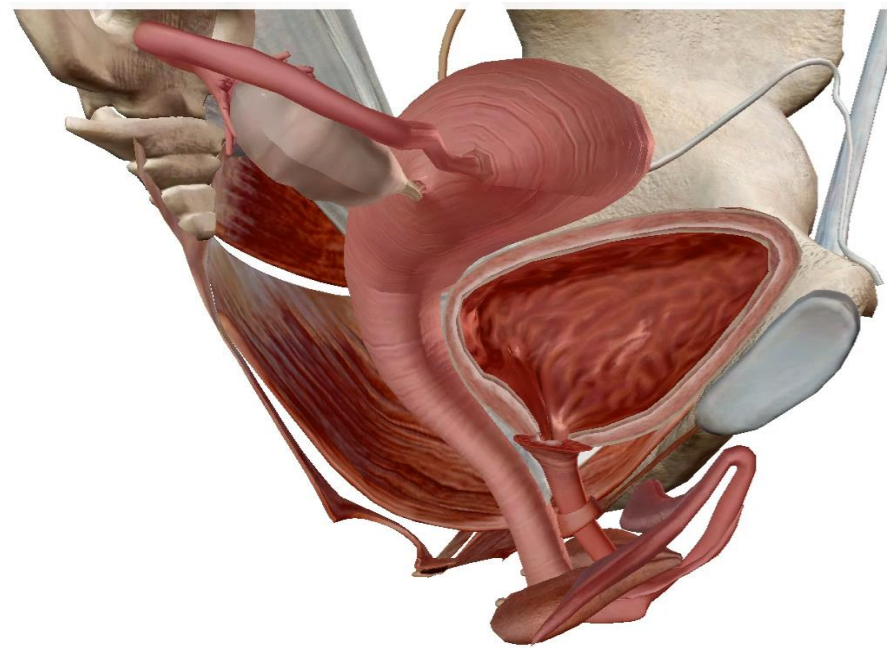
- Length: 4 cm
- Internal diameter: 7 mm
- Later stages of pregnancy: 10 cm



LATERAL VIEW OF THE FEMALE URETHRA

B. ORIENTATION

- Short straight tube
- Passes from the neck of the bladder at the lower angle of the trigone to the external urethral meatus in the vestibule of the vagina in front of the vaginal orifice and 2.5 cm behind the clitoris
- As it leaves the bladder, fibres of the pubovaginalis part of levator ani lie adjacent to it embedding it to the vaginal wall through the vesicovaginal septum
- All except its uppermost end is embedded within the vaginal wall
- No internal urethral sphincter in the female
- Urethral sphincter is thickest near the middle of the urethra

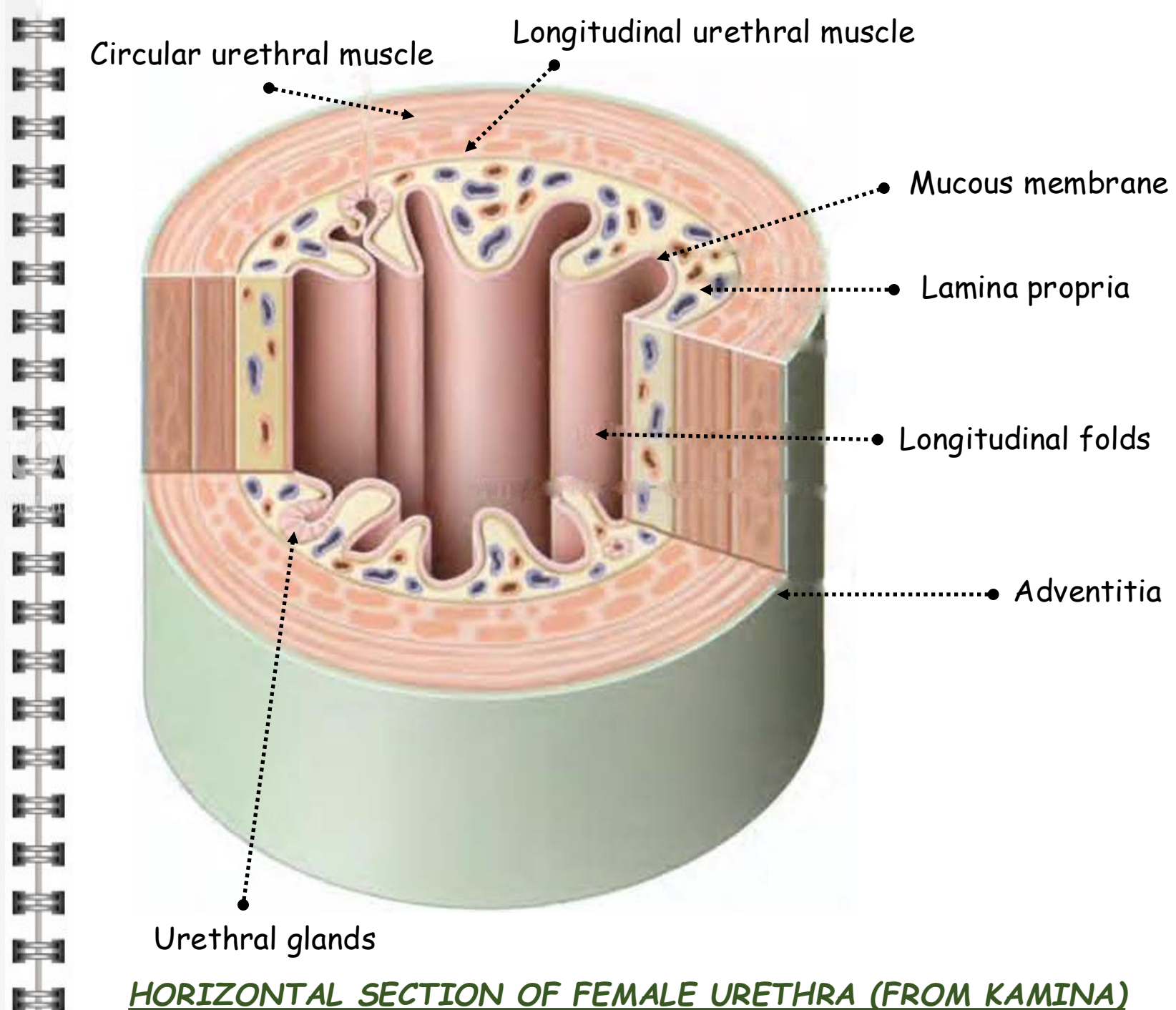


SAGITTAL SECTION OF FEMALE PELVIS MINOR

III. STRUCTURE

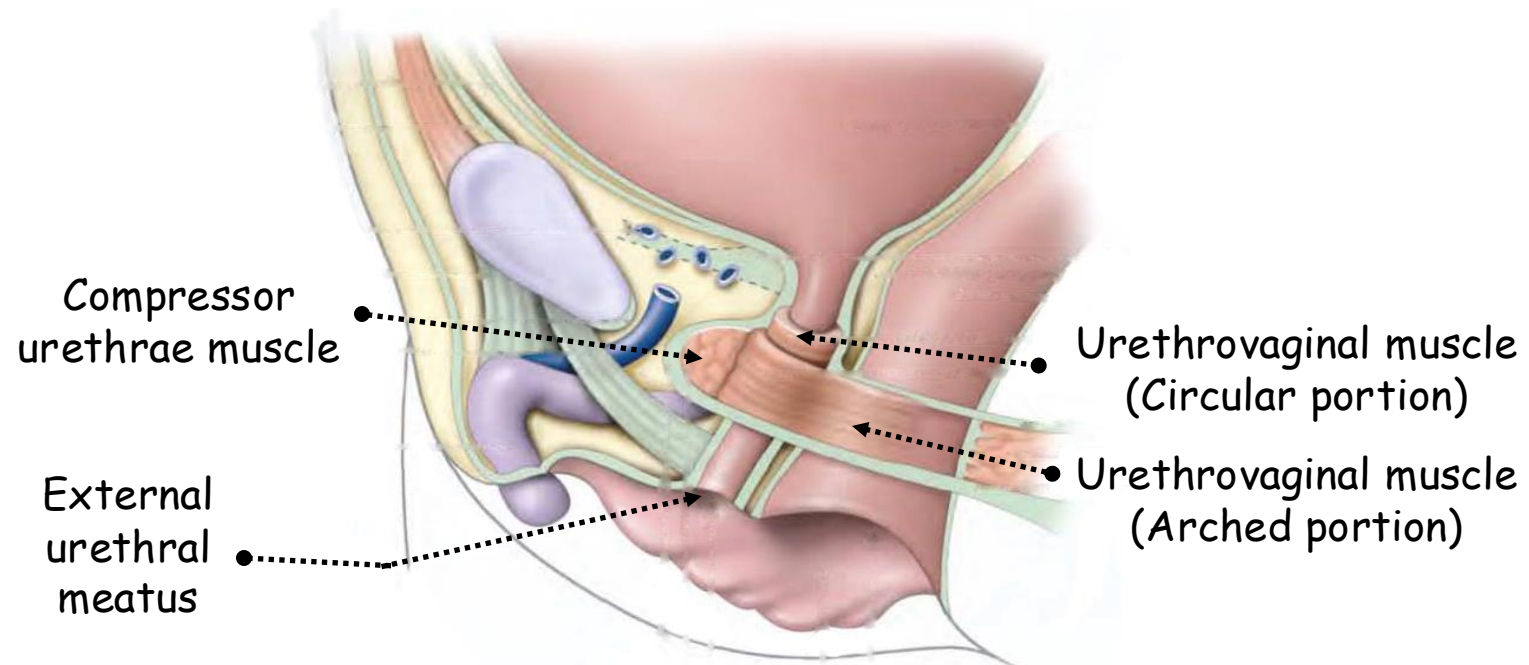
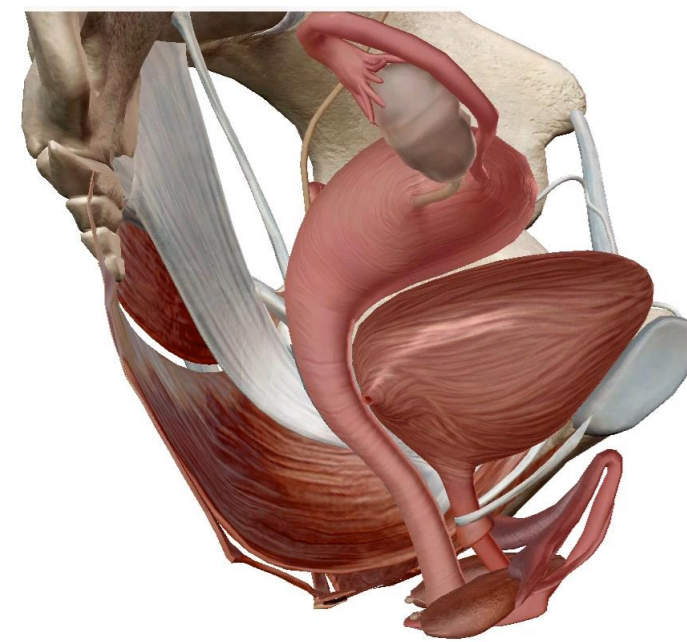
A. URETHRAL WALL

- 4 mm thick
- 4 layers
- **Mucous membrane:**
 - Lined by **transitional** epithelium
 - Macroscopic aspect: **longitudinal** folds, pinkish coloured
- **Lamina propria:**
 - Urethral glands: **mucous**
 - Veinous plexus
- **Urethral muscle:**
 - Continuous with the **vesical** muscle
 - Inner layer : longitudinal
 - Outer layer : circular
- **Adventitia:**
 - Thin layer of **lax** connective tissue
 - Continuous with the **vesical** fascia and the superior fascia of urogenital diaphragm



B. URETHRAL SPHINCTER

- Circular skeletal muscle fibres
- The compressor urethrae muscle and the urethrovaginal muscle
- Outside the visceral muscle
- Thickest near the middle of the urethra, and thicker in front than at the sides or back
- Attached to the pubic rami and perineal body
- Supplied by the perineal nerve



SAGITTAL SECTION OF THE FEMALE UROGENITAL PERINEUM

IV. ANATOMICAL RELATIONS

A. SUPRADIAPHRAGMATIC PART

- Front:
 - Retropubic venous plexus in the retropubic space of Retzius
 - Pubovesical ligaments
- Outside:
 - Pubovaginalis part of levator ani
 - Anterior recess of the ischiorectal fossa
- Back:
 - Anterior vaginal wall

Retropubic space

Pubovesical ligaments

Vagina

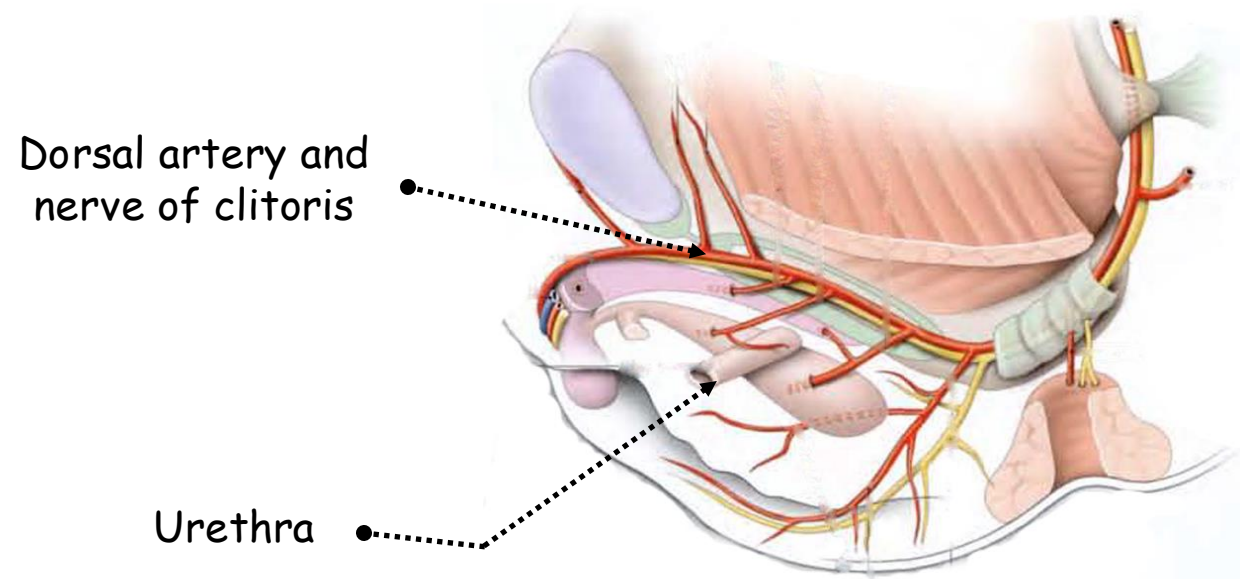
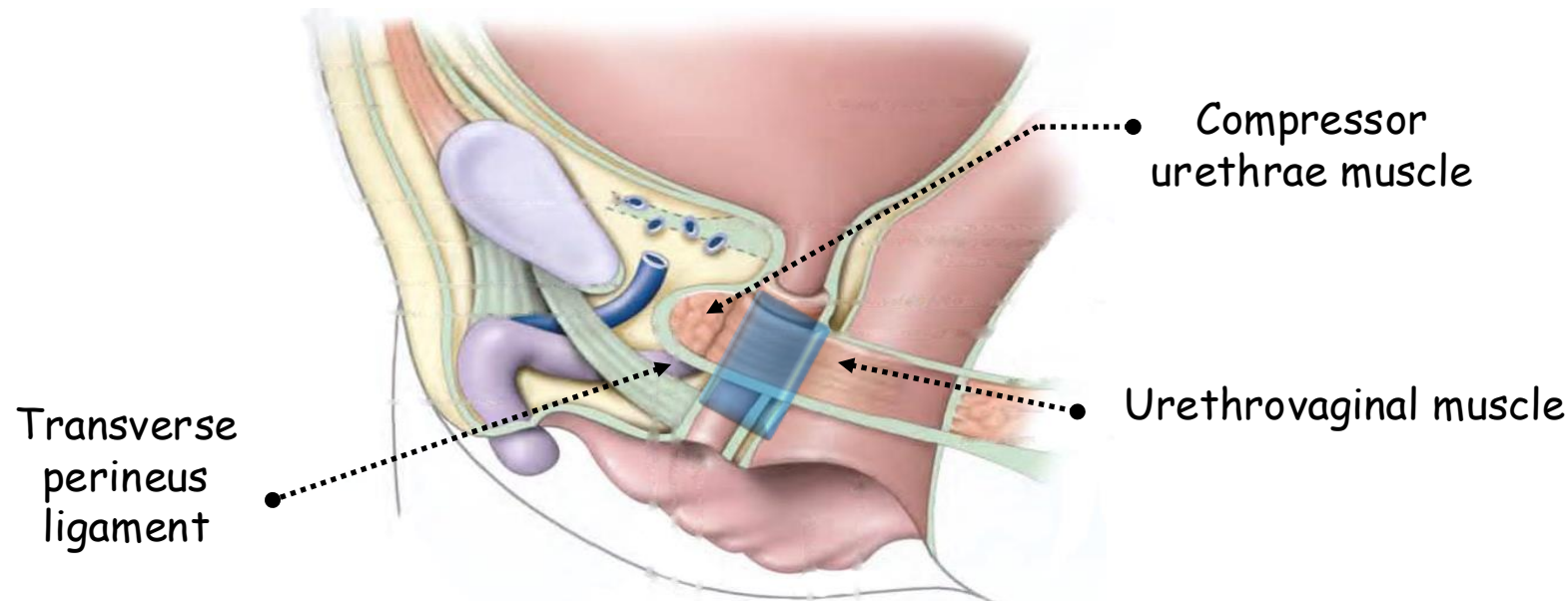
Urethra

Pubovaginalis muscle

SAGITTAL SECTION AND PERINEAL VIEW SHOWING THE FEMALE URETHRA (FROM KAMINA)

B. DIAPHRAGMATIC PART

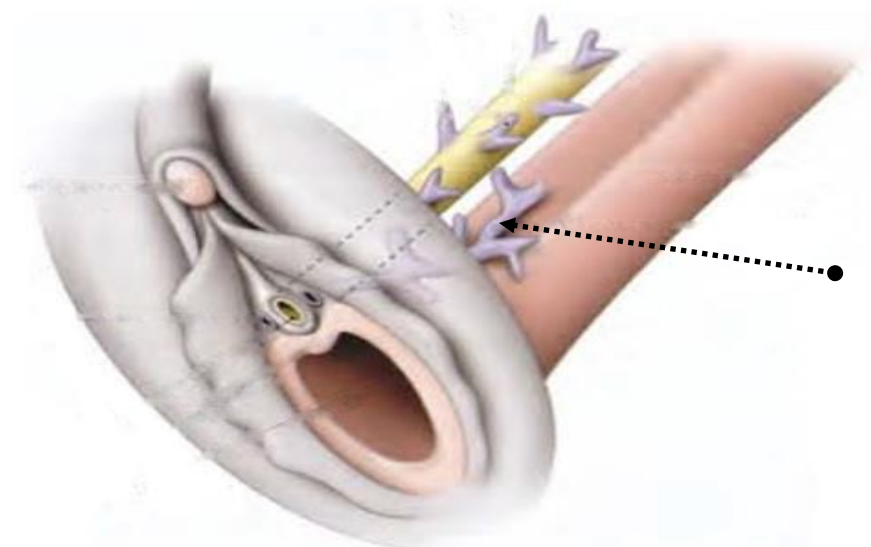
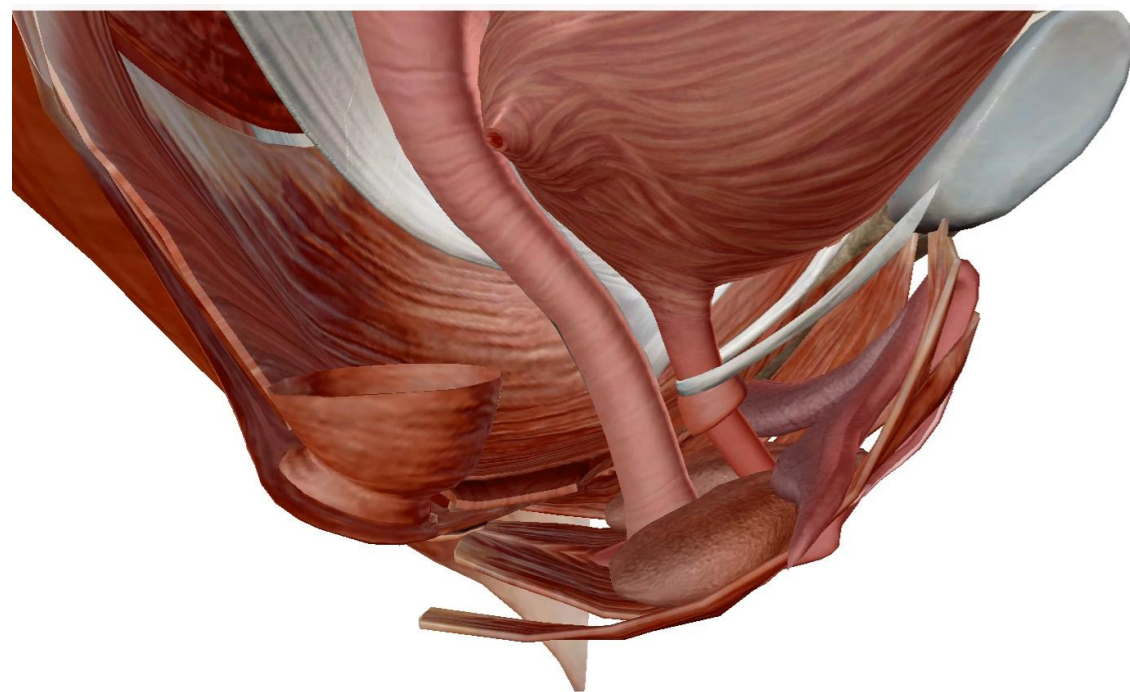
- Urethral sphincter
- Front:
 - Compressor urethrae muscle
 - Transverse perineus ligament
- Outside:
 - Urethrovaginal muscle
 - Dorsal artery and nerve of clitoris



SAGITTAL SECTION OF FEMALE UROGENITAL PERINEUM

C. INFRADIAPHRAGMATIC PART

- Front:
 - Clitoris
 - Dorsal vein of clitoris
 - Expansion of suspensory ligament of clitoris
- Outside:
 - Paraurethral glands
 - Bulbs of vestibule
 - Crus of clitoris
- Back:
 - Anterior vaginal wall

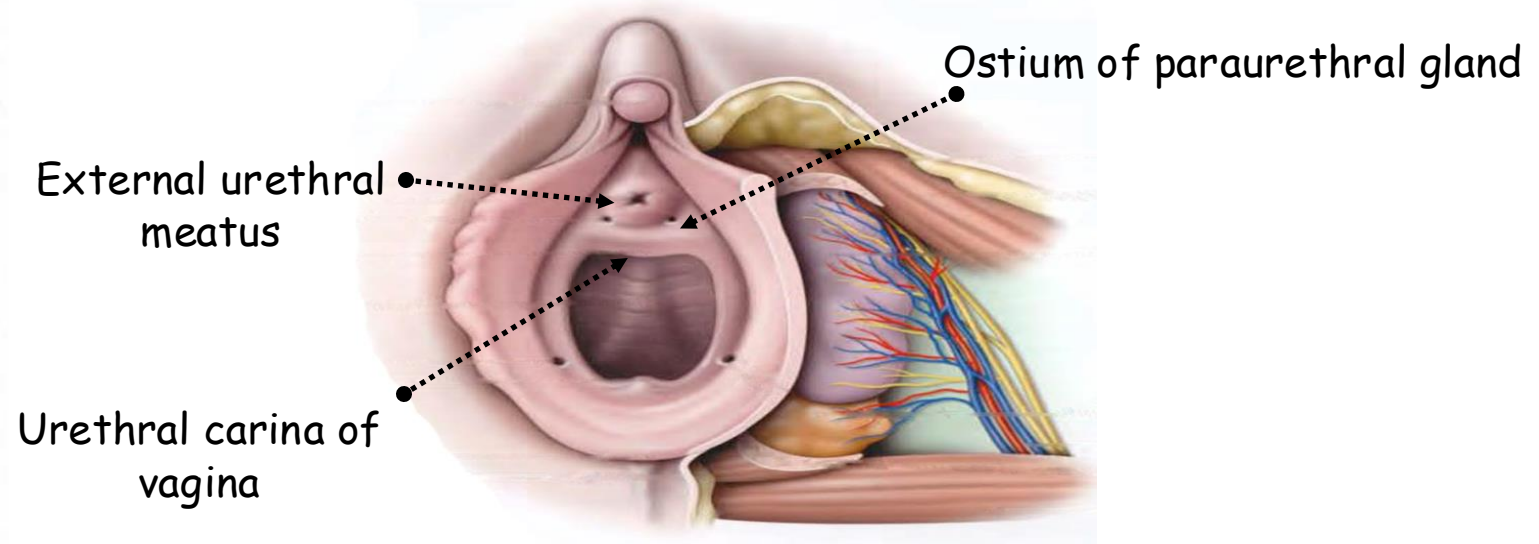
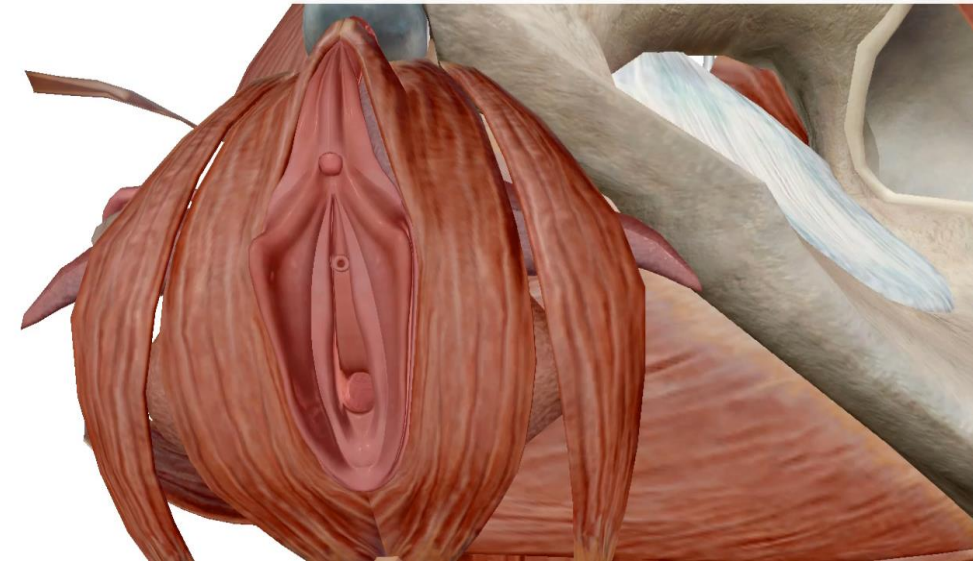


• Paraurethral gland

ANTEROLATERAL VIEW OF THE INFRADIAPHRAGMATIC PART OF FEMALE URETHRA (FROM KAMINA)

D. EXTERNAL URETHRAL MEATUS

- Front:
 - Glans of clitoris
 - Frenulum of clitoris
- Back:
 - Urethral carina of vagina
- Outside:
 - Paraurethral glands and their ostia

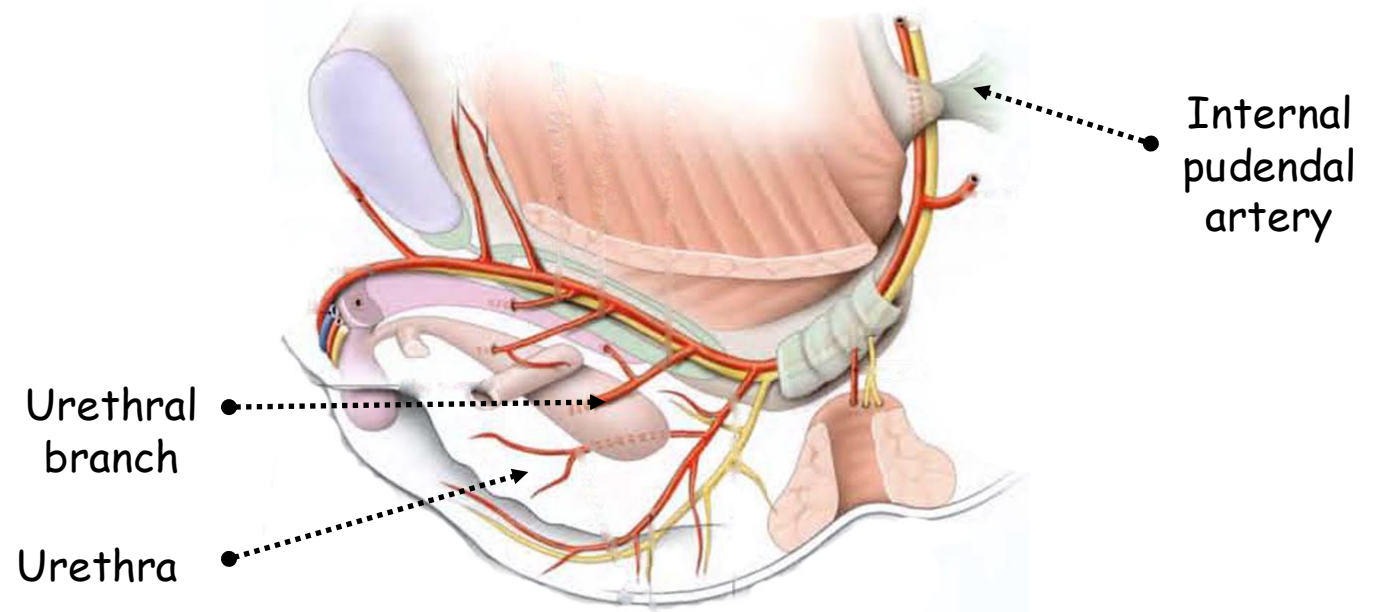
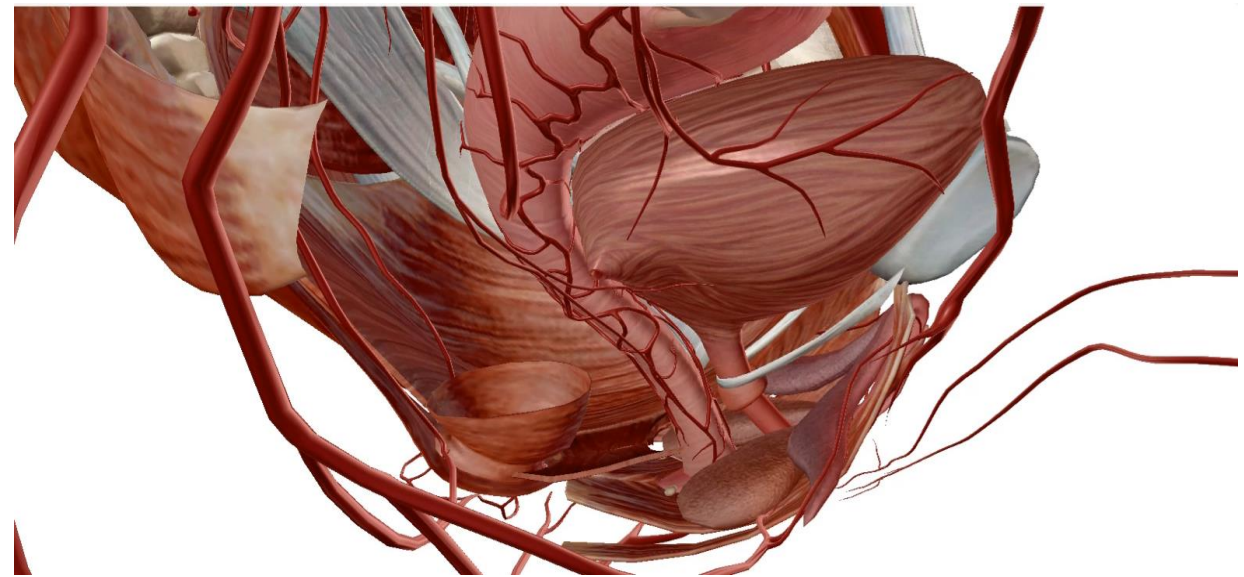


INFERIOR VIEW OF THE VULVA SHOWING THE EXTERNAL URETHRAL MEATUS (FROM KAMINA)

V. BLOOD SUPPLY; LYMPH DRAINAGE AND NERVE SUPPLY

A. ARTERIES

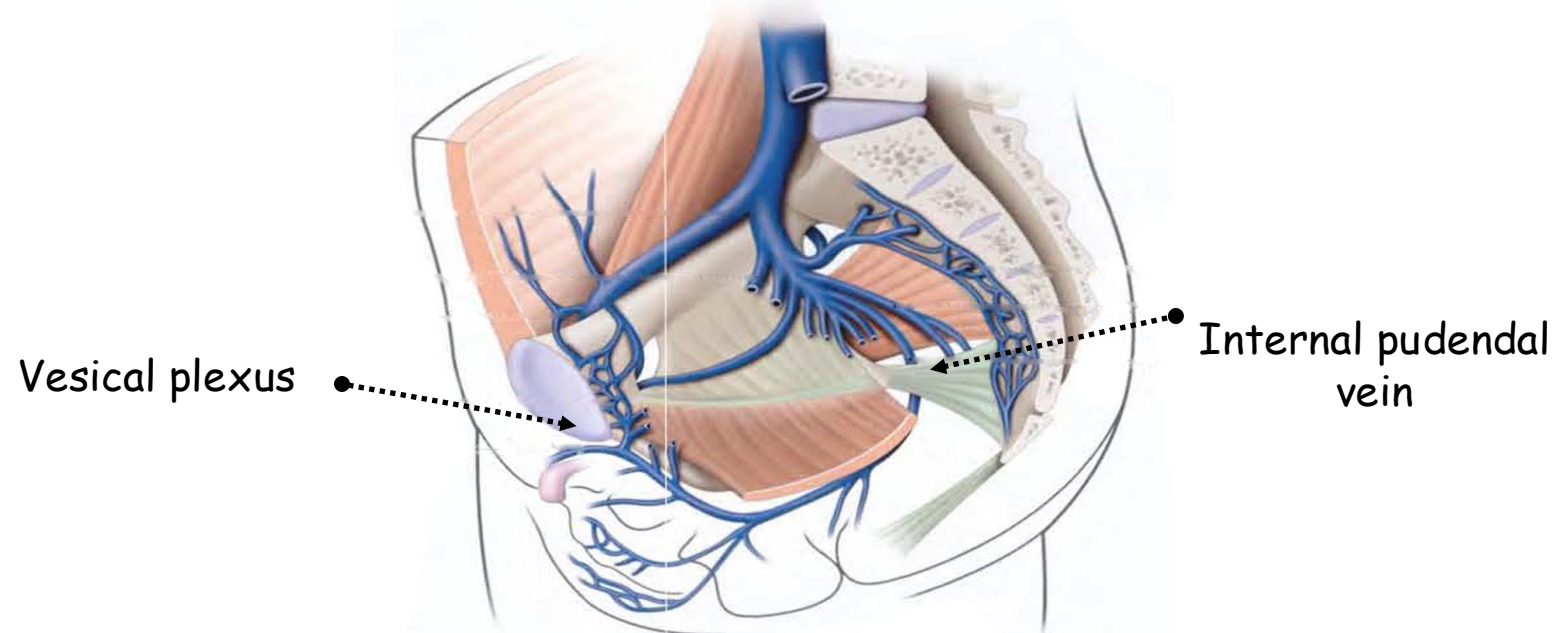
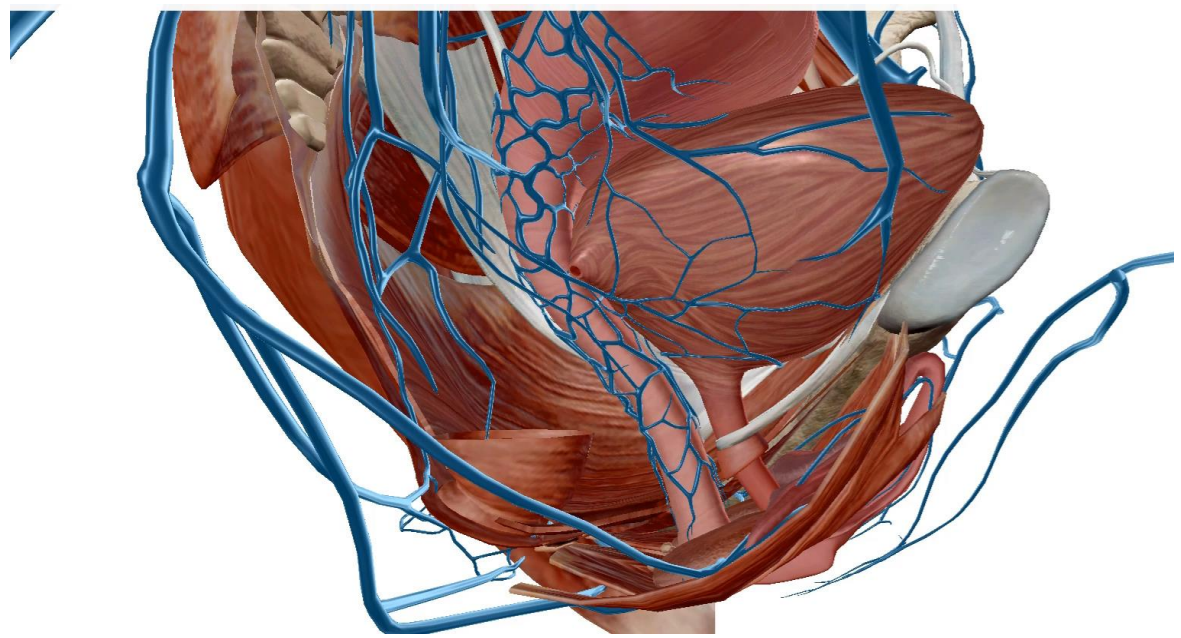
- **Upper part:**
 - Inferior vesical artery
 - Uterine artery
- **Lower end:**
 - Internal pudendal artery



SAGITTAL SECTION OF PELVIS MINOR SHOWING THE INTERNAL PUDENDAL ARTERY (FROM KAMINA)

B. VEINS

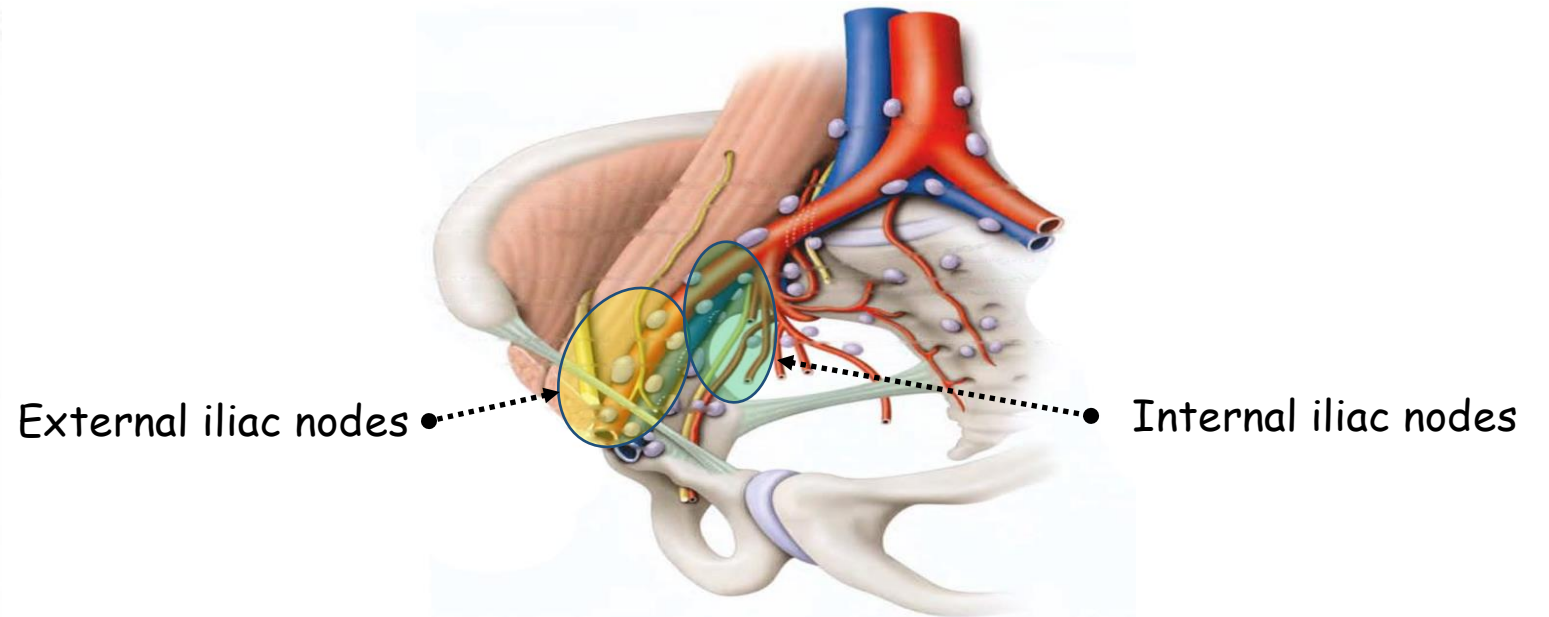
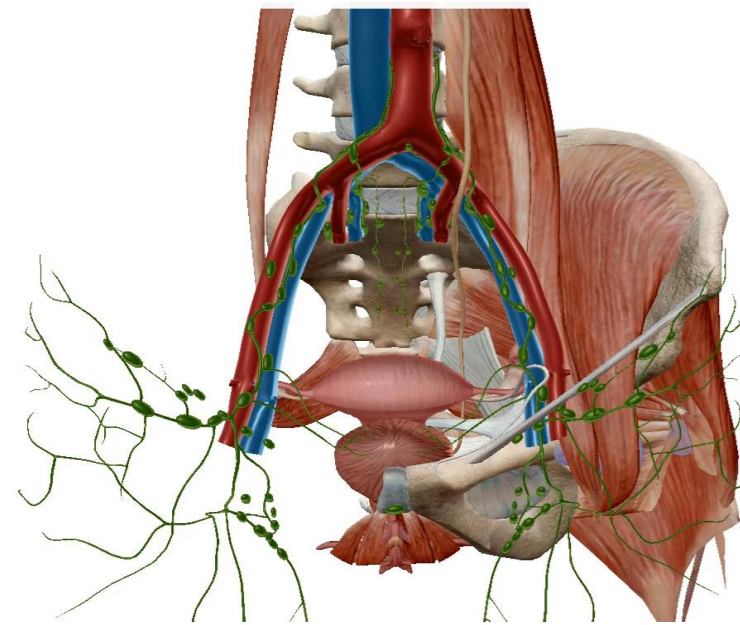
- Veins drain to the vesical plexus and the internal pudendal vein



SAGITTAL SECTION OF PELVIS MINOR SHOWING VEINS OF PELVIS AND PERINEUM (FROM KAMINA)

C. LYMPH DRAINAGE

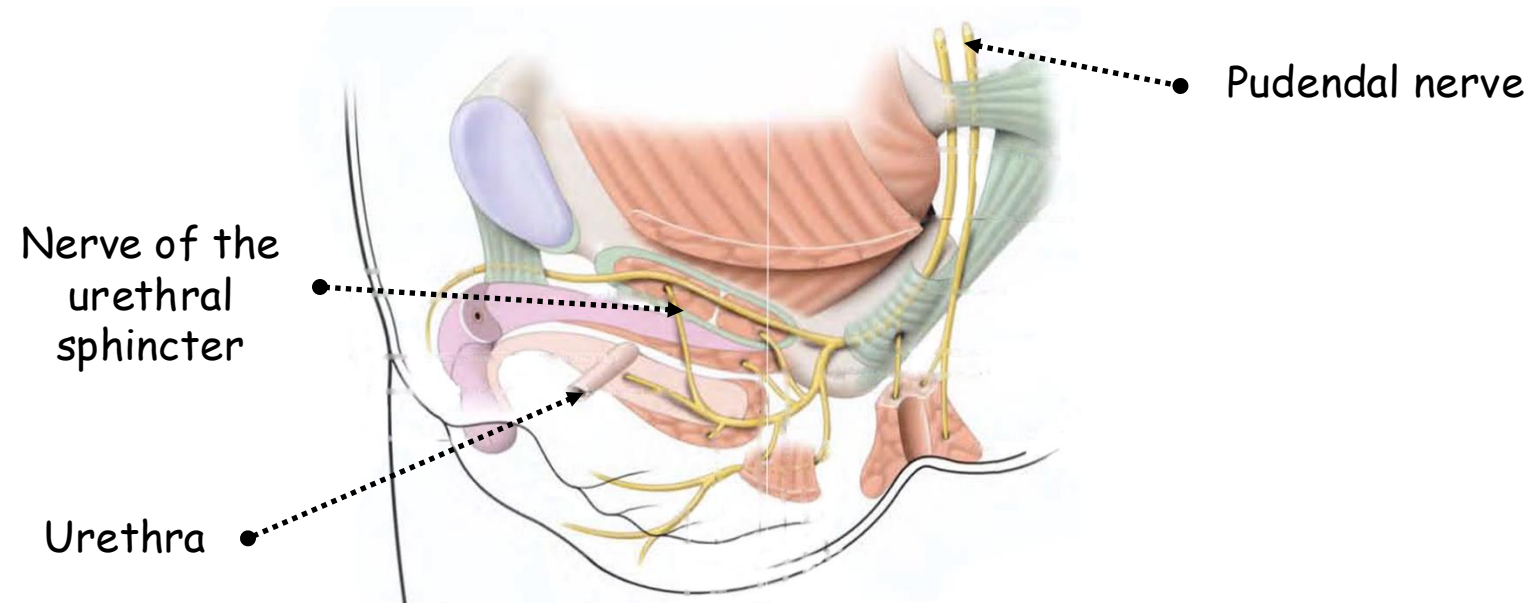
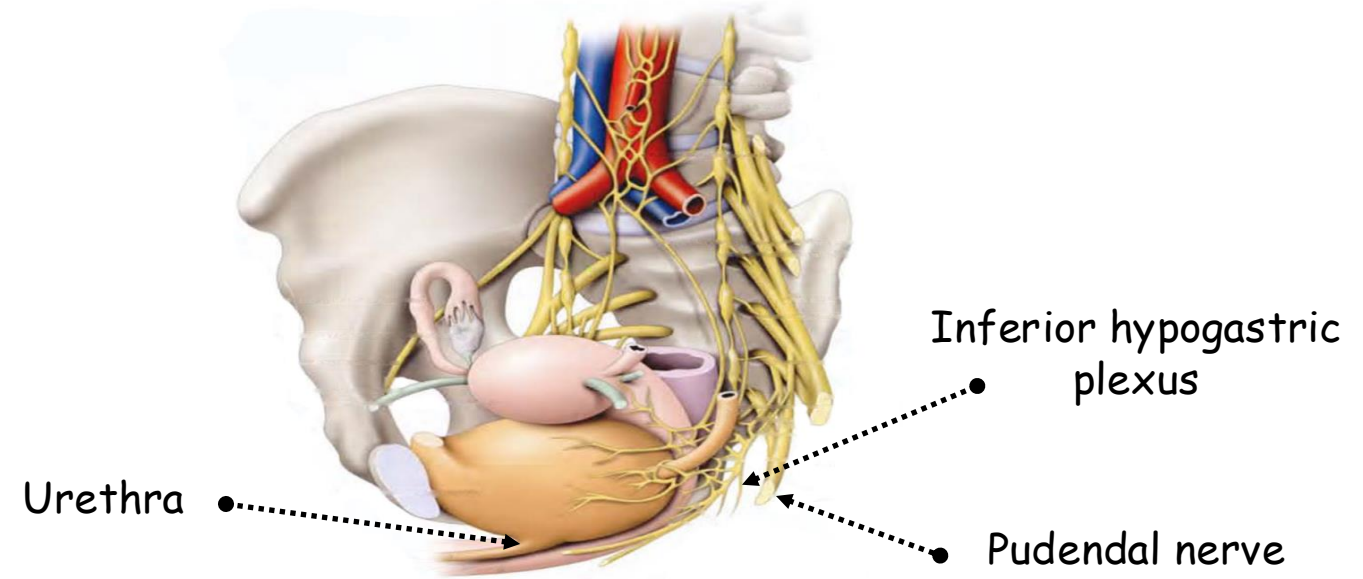
- Internal iliac nodes
- External iliac nodes



ANTERIOR VIEW OF PELVIS MINOR SHOWING THE LYMPHATICS OF PELVIS (FROM KAMINA)

D. NERVES

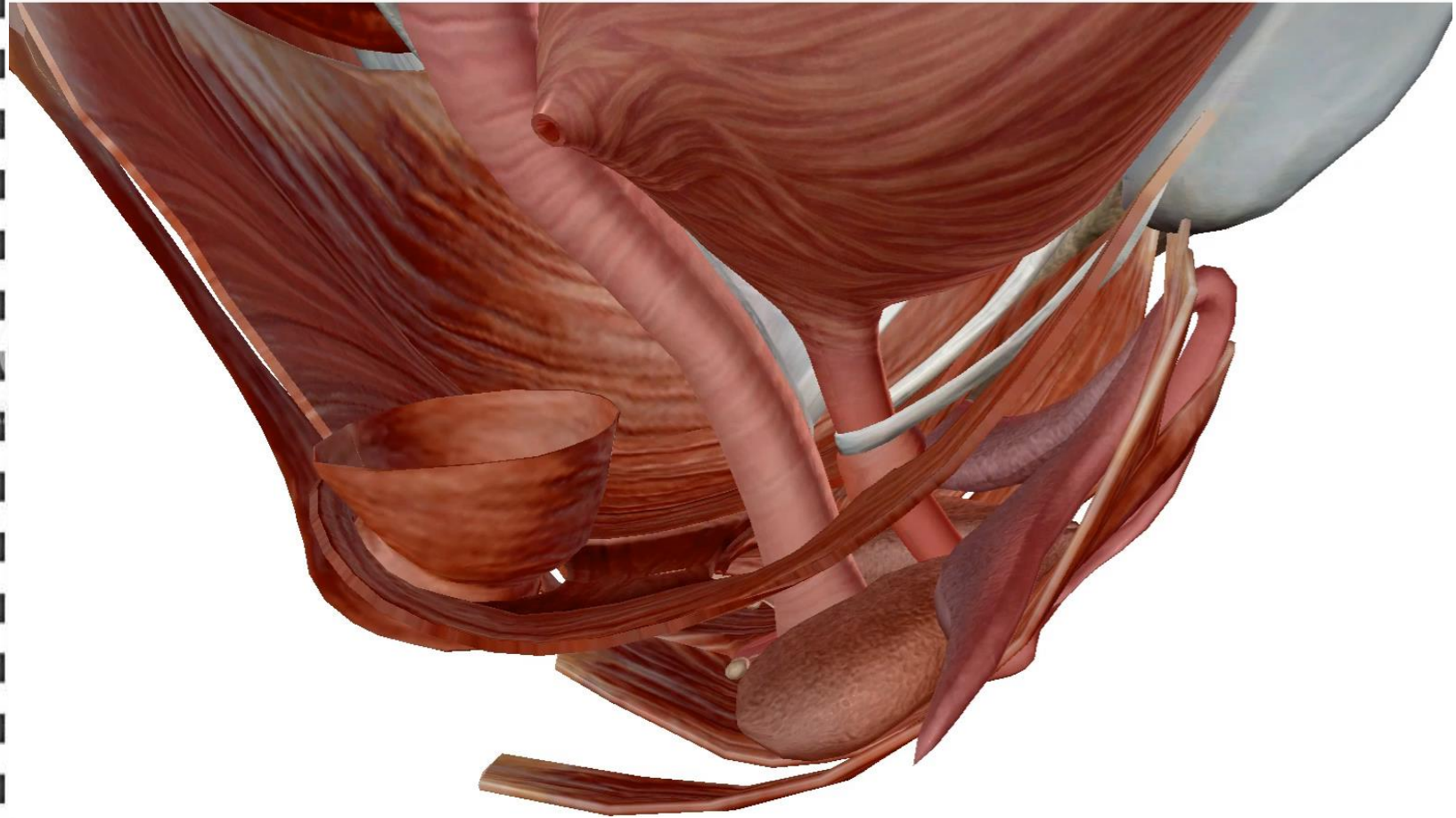
- Inferior hypogastric plexus
- Perineal nerve



LATERAL VIEW OF PELVIS MINOR SHOWING THE PELVIC NERVES

VI. CONCLUSION

- Musculomembranous duct
- Urine excretion
- Short
- Pelvic and perineal organ
- Numerous anatomical relations
- Pelvipерineal blood supply
- Urethral sphincter





كلية الطب
والصيدلة - مراكش
FACULTÉ DE MÉDECINE
ET DE PHARMACIE - MARRAKECH

