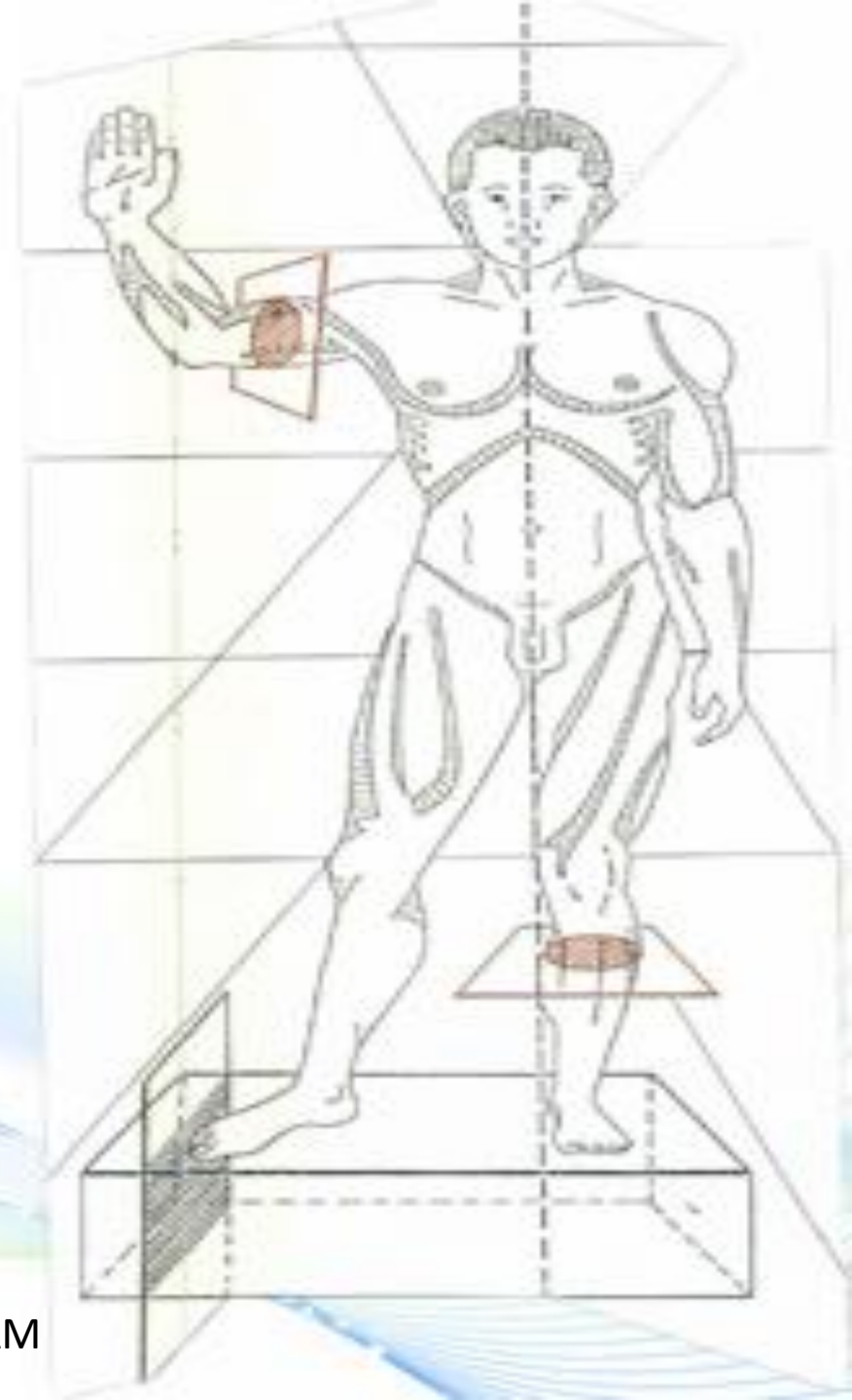
PENIS



Pr. M.D.EL AMRANI Dr. BENTALEB OUSSAMA Dr. BIBORCHI HOUSSAM

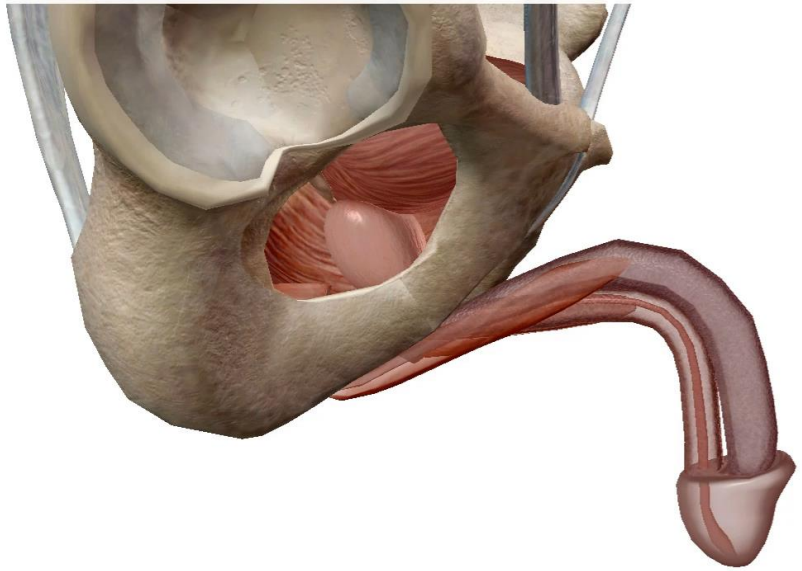
CONTENTS

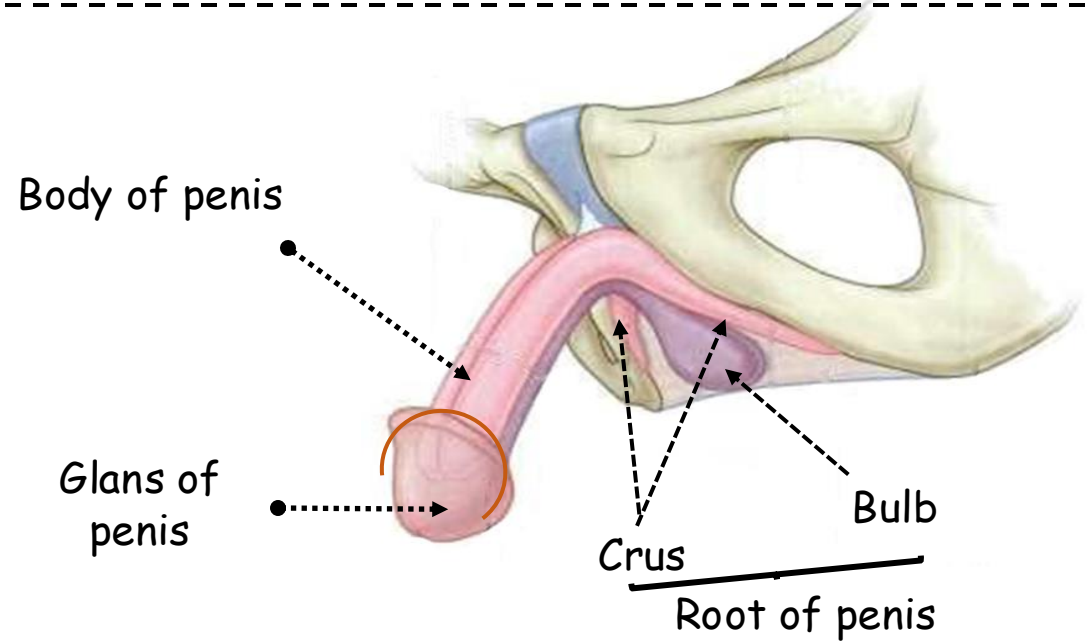
I. INTRODUCTION

- Male copulatory organ
- Terminal organ of micturition
- Located in front of the pubic symphysis
- Contains the male urethra ending into the external urethral meatus
- Root, body and glans

II. DESCRIPTIVE ANATOMY

- 2 functionally distinct parts
- **Root:**
  - -Hidden and fixed
  - -Central bulb
  - -Crus of penis on each side
- **Body:**
  - -Visible and mobile
  - -Two corpora cavernosa bound together side by side with the corpus spongiosum behind them
  - -Penile urethra
  - -Glans penis





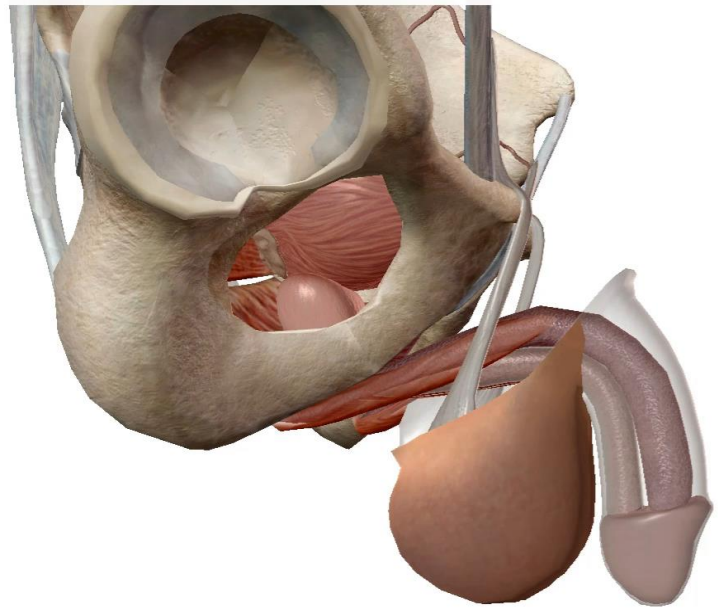
OVERVIEW OF THE ROOT AND BODY OF PENIS

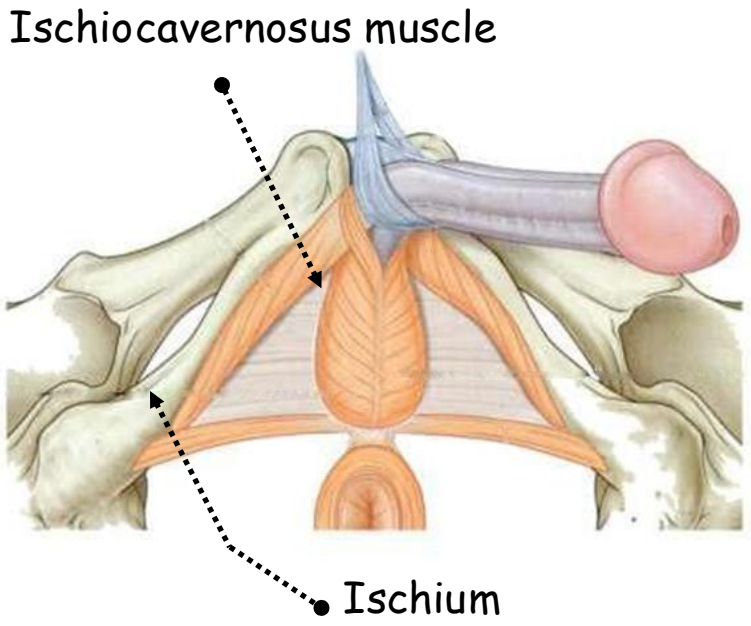
A. ROOT OF PENIS

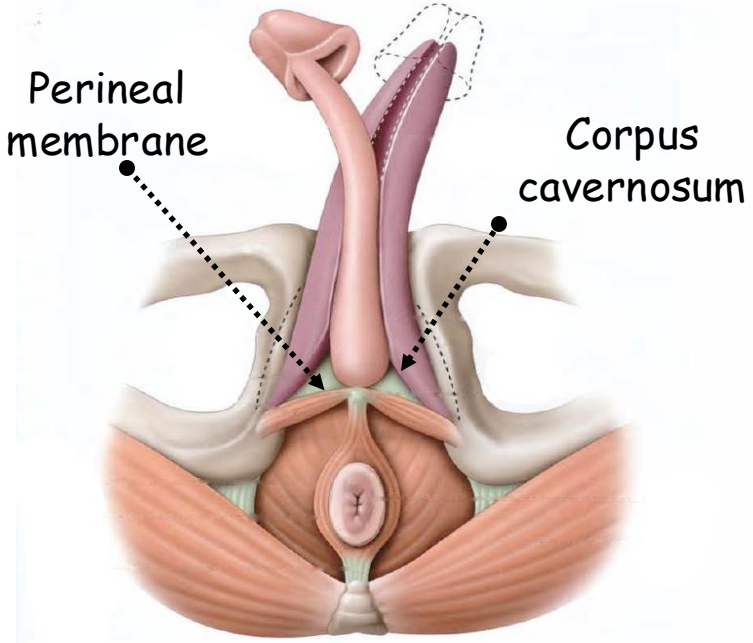
- Located in the superficial perineal pouch
- Attached to the inferior surface of the perineal membrane

1. Crus of penis:

- Attached to the angle between the perineal membrane and the everted margin of the pubic ramus
- Receives the deep artery of the penis near its anterior end
- Continues forwards to become the corpus cavernosum
- Provided with overlying muscle, the ischiocavernosus muscle



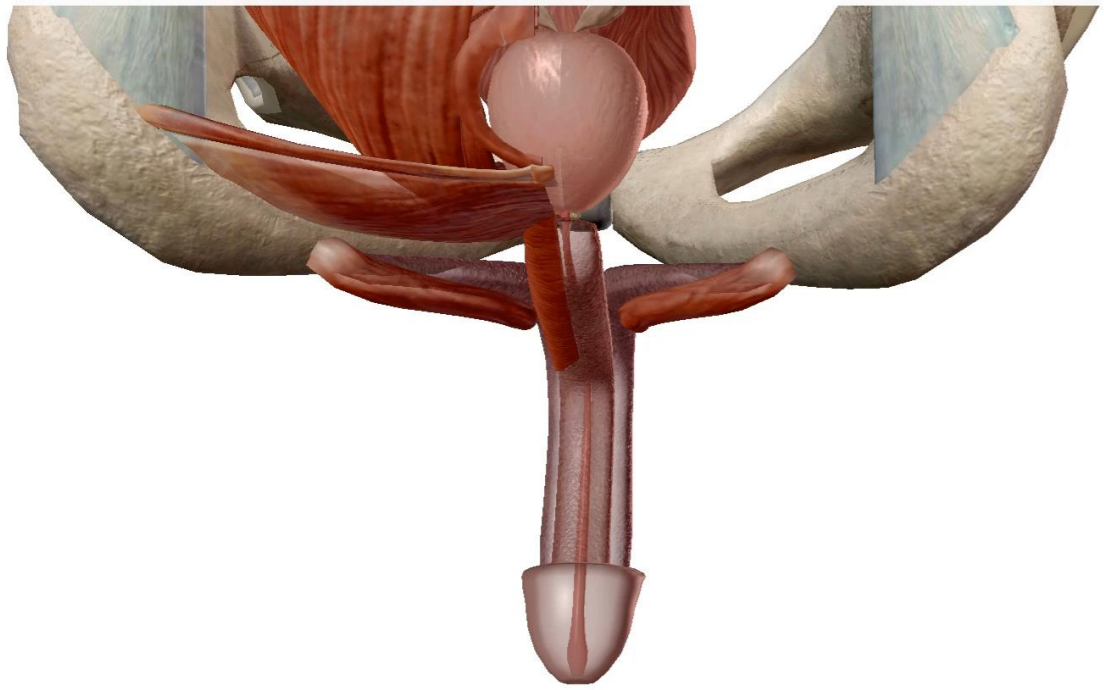


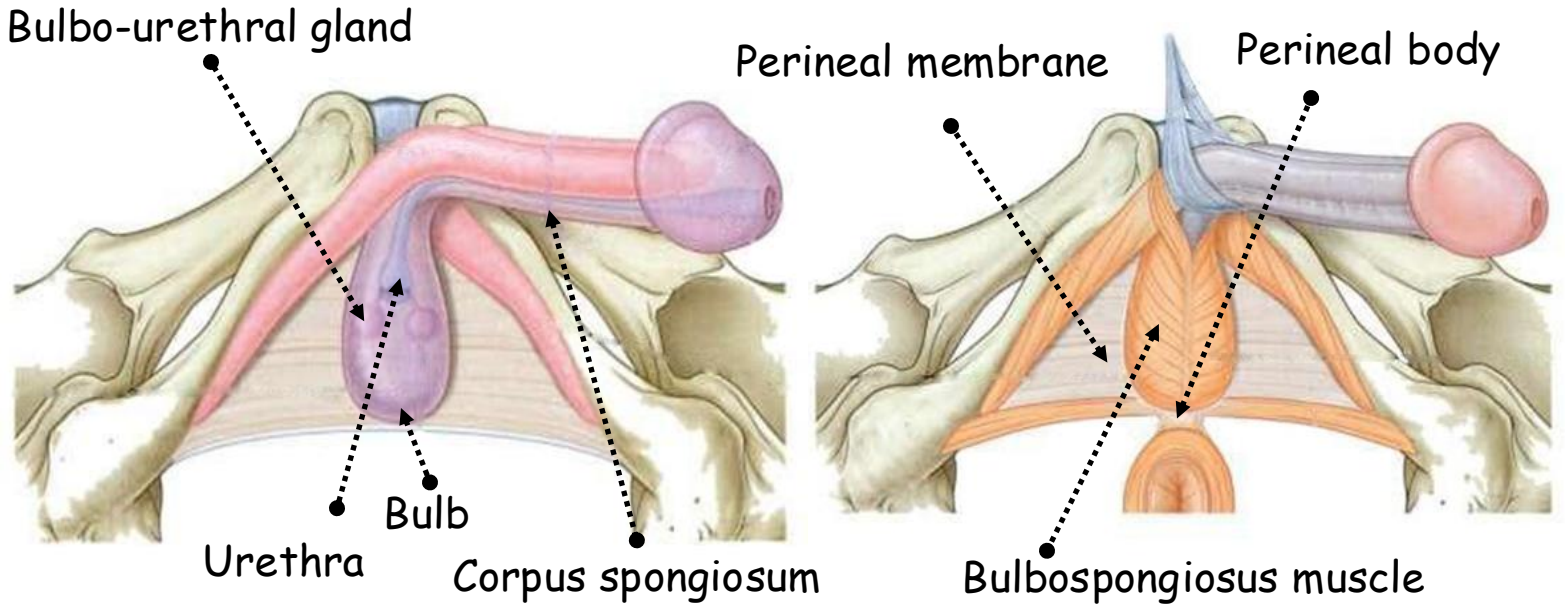


OVERVIEW OF THE CRUS OF PENIS

2. Bulb:

- Posterior end of the corpus spongiosum
- Attached to the inferior surface of the perineal membrane
- Central
- Provided with overlying muscle, the bulbospongiosus muscle
- The urethra enters near the front of the bulb so that most of the bulge of the bulb is behind and below the urethra
- The arteries of the bulb enter it near the urethra, which in this region receives the ducts of the bulbourethral glands
- Slight palpable midline notch on its under surface and extends back towards the perineal body

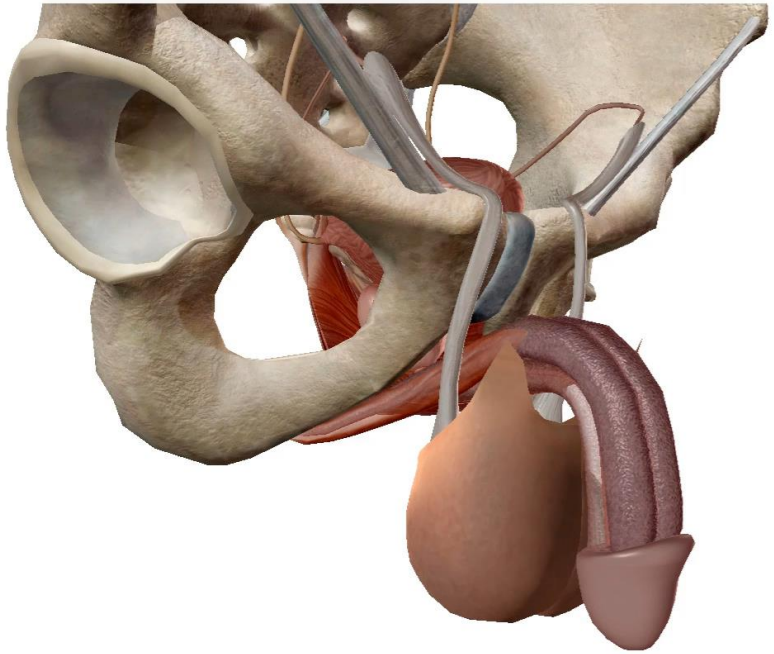


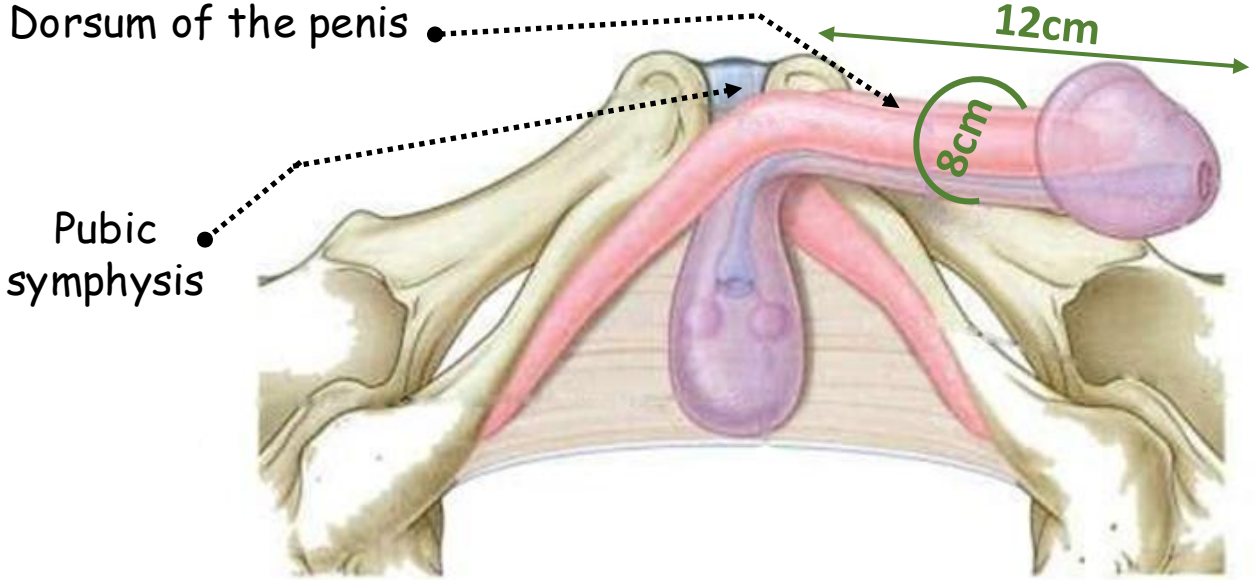


OVERVIEW OF THE BULB OF PENIS

B. BODY OF PENIS

- At the front of the root area, below the subpubic angle, the two corpora cavernosa are bound together side by side with the corpus spongiosum behind them when the penis is dependent but ventral to them when erect to form the body of the penis
- Anterior face: dorsum of the penis
- When the penis is dependant:
  - -10-12 cm long
  - -8-9 cm wide

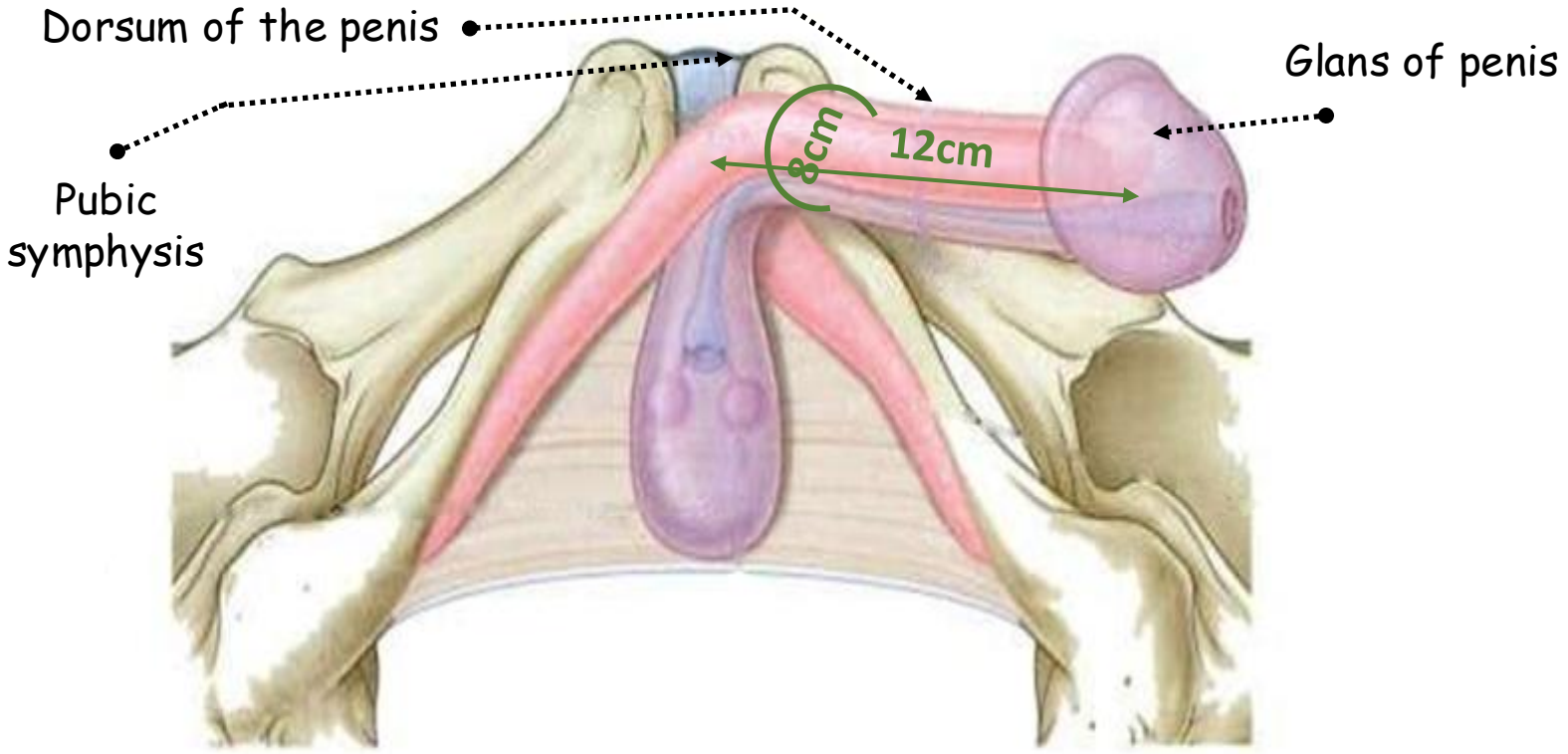




OVERVIEW OF THE BODY OF PENIS

C. GLANS OF PENIS

- Expanded opposite end
- Corona of glans penis
- External urethral meatus



OVERVIEW OF THE BODY OF PENIS

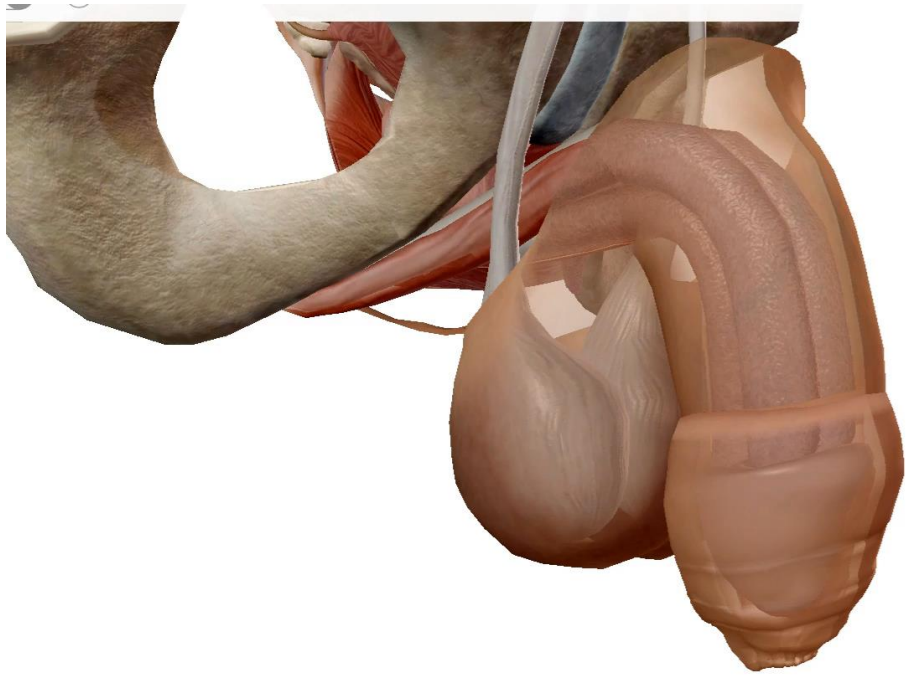
III. SUPPORTS

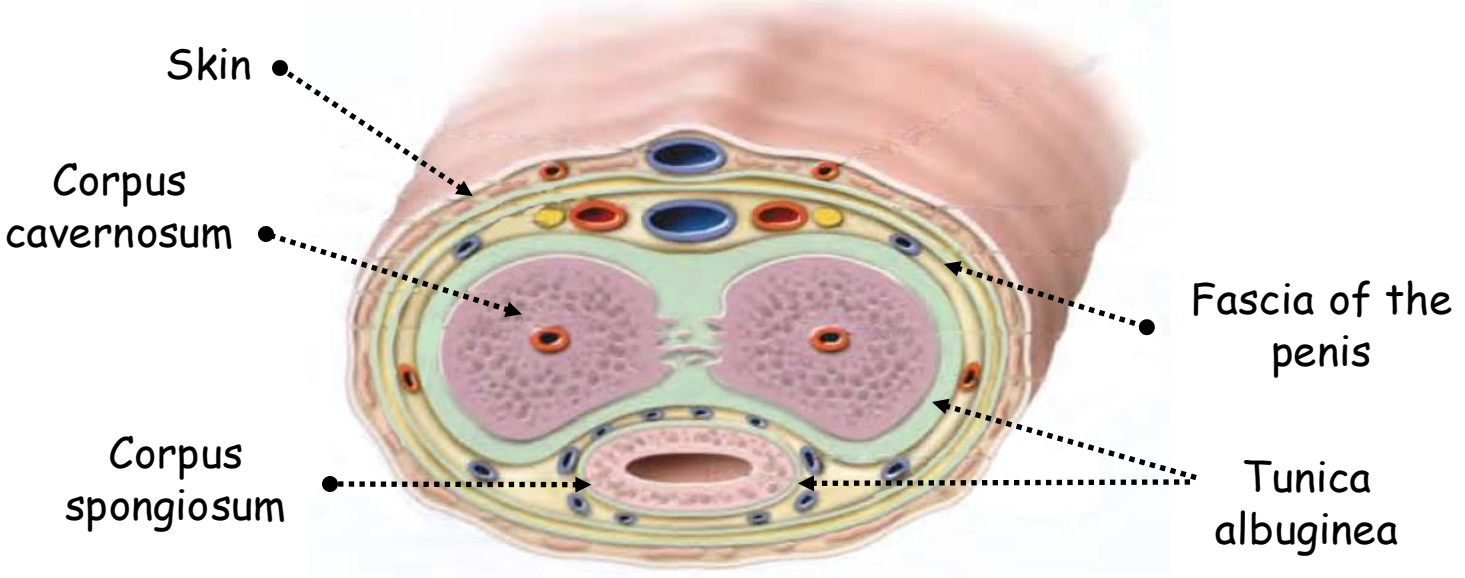
A. TUNICA ALBUGINEA

- Not to be confused with the tunica albuginea of the testis
- Tough fibrous membrane surrounding the corpus spongiosum and the two corpora cavernosa
- That of the corpus spongiosum enlarges distally to enclose the glans
- Fibrous sheaths of the corpora are fused together and form a septum with vertical comb-like strands

B. FASCIA OF THE PENIS

- Cylindrical prolongation of Colles' fascia
- Buck's fascia
- Loosely surrounds the three corpora thus fused together
- Beneath lie in the midline the deep dorsal vein with a dorsal artery on each side and more laterally a dorsal nerve





HORIZONTAL SECTION OF THE BODY OF PENIS (FROM KAMINA)

C. SKIN

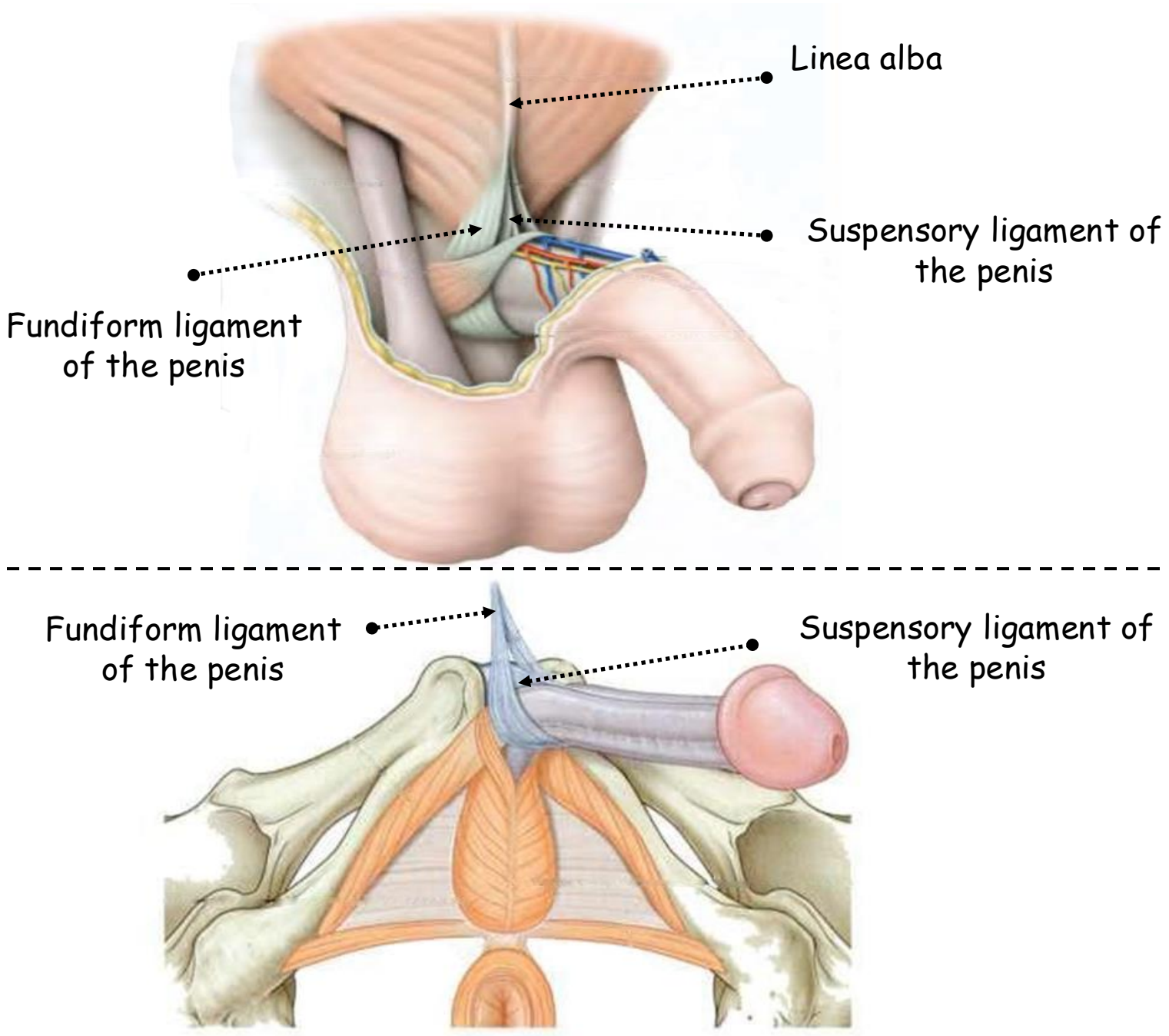
- Hairless
- Prolonged forwards in a fold, the prepuce
- Invests the corona of the glans and some or all of the rest of the glans
- Beneath the skin in the midline is the superficial dorsal vein which is accompanied by lymphatics from skin and the anterior part of the urethra

D. SUSPENSORY LIGAMENT OF THE PENIS

- Triangular sheet of fibrous tissue that attaches the fused sheaths to the under surface of the pubic symphysis

E. FUNDIFORM LIGAMENT OF THE PENIS

- Attaches the fused sheaths to linea alba passing by mons pubis



OVERVIEW OF THE SUPPORTS OF PENIS

IV. STRUCTURE

A. CORPUS CAVERNOSUM AND CORPUS SPONGIOSUM

- Erectile tissu
- Vascular cavities separated by muscular strands
- Cavernous muscles
- Very abundant in the corpus cavernosum

B. TUNICA ALBUGINEA

1. Corpus cavernosum:

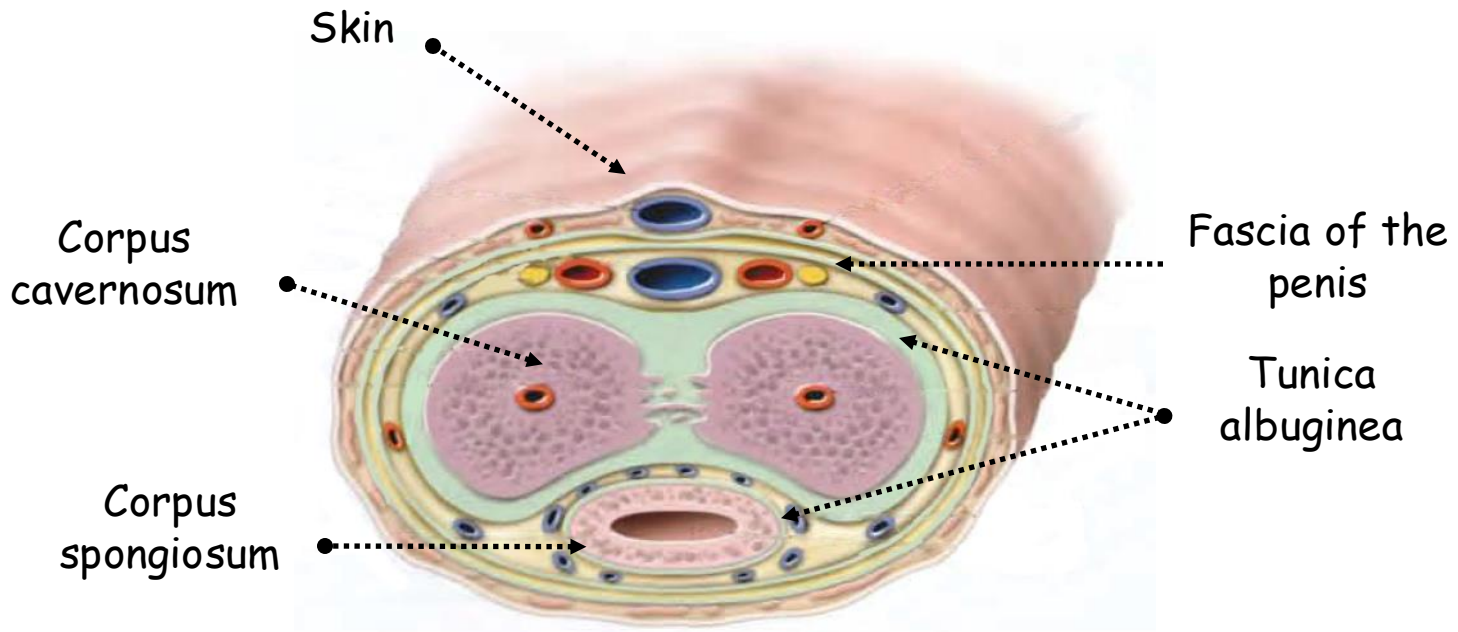
- Thick and rich in collagen fibres
- Intercavernous anastomosis between the two corpora cavernosa through holes in the middle part of the intercavernous septum

2. Corpus spongiosum:

- Thin and rich in elastic fibres
- Wider vascular cavities

C. GLANS OF PENIS

- Squamous epithelium



HORIZONTAL SECTION OF THE BODY OF PENIS (FROM KAMINA)

V. BLOOD SUPPLY; LYMPH DRAINAGE AND NERVE SUPPLY

A. ARTERIES

- Three pairs of arteries which are all branches of the internal pudendals

1. Internal pudendal artery:

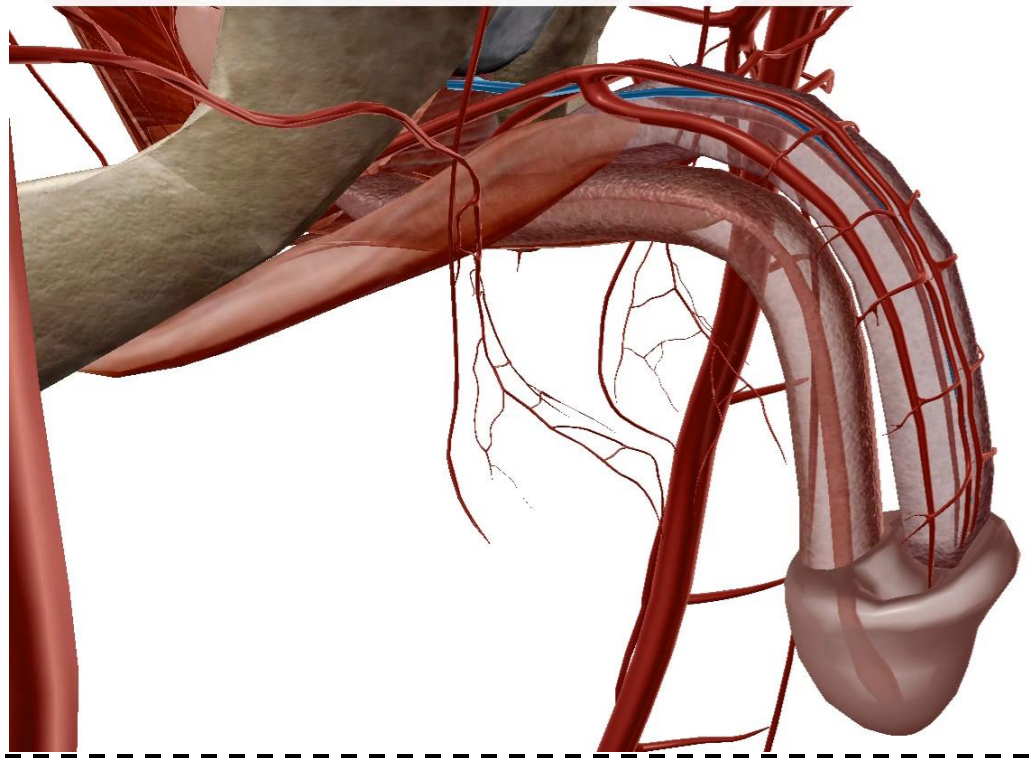
- Enters the deep perineal pouch from the anterior end of the pudendal canal and passes forwards along the ischiopubic ramus above the perineal membrane, with the dorsal nerve of penis above it and the perineal nerve below it and finally crosses the perineal membrane
- Ends giving the deep artery of penis and the dorsal artery of penis

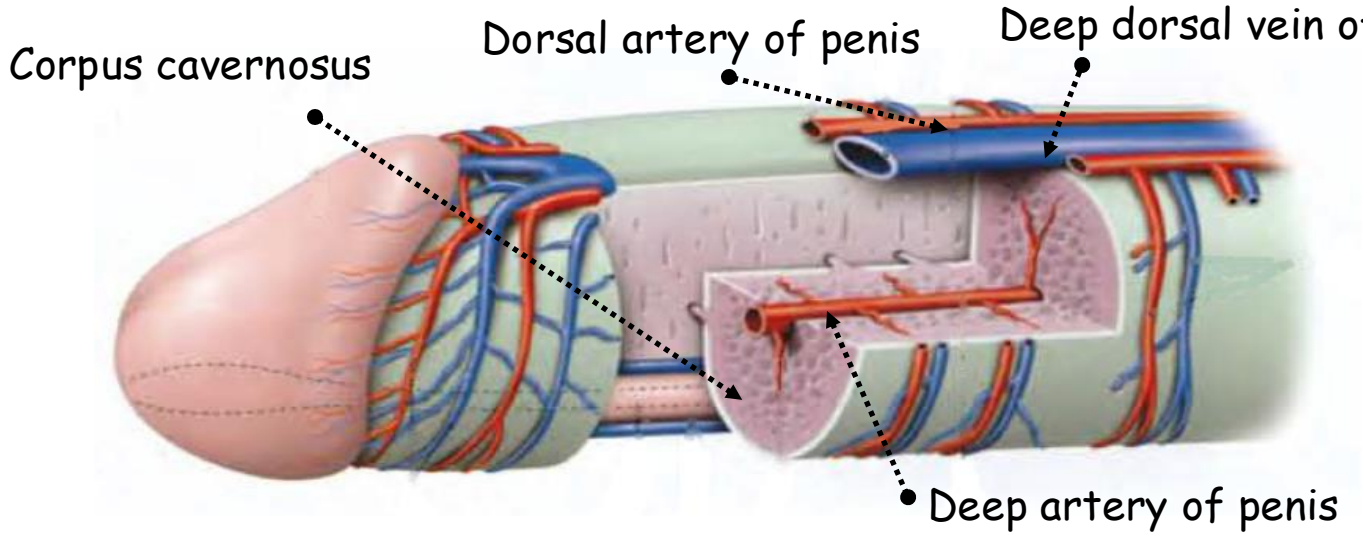
2. Deep artery of penis:

- Supplies the corpus cavernosum

3. Dorsal artery of penis:

- Supplies skin, fascia and glans

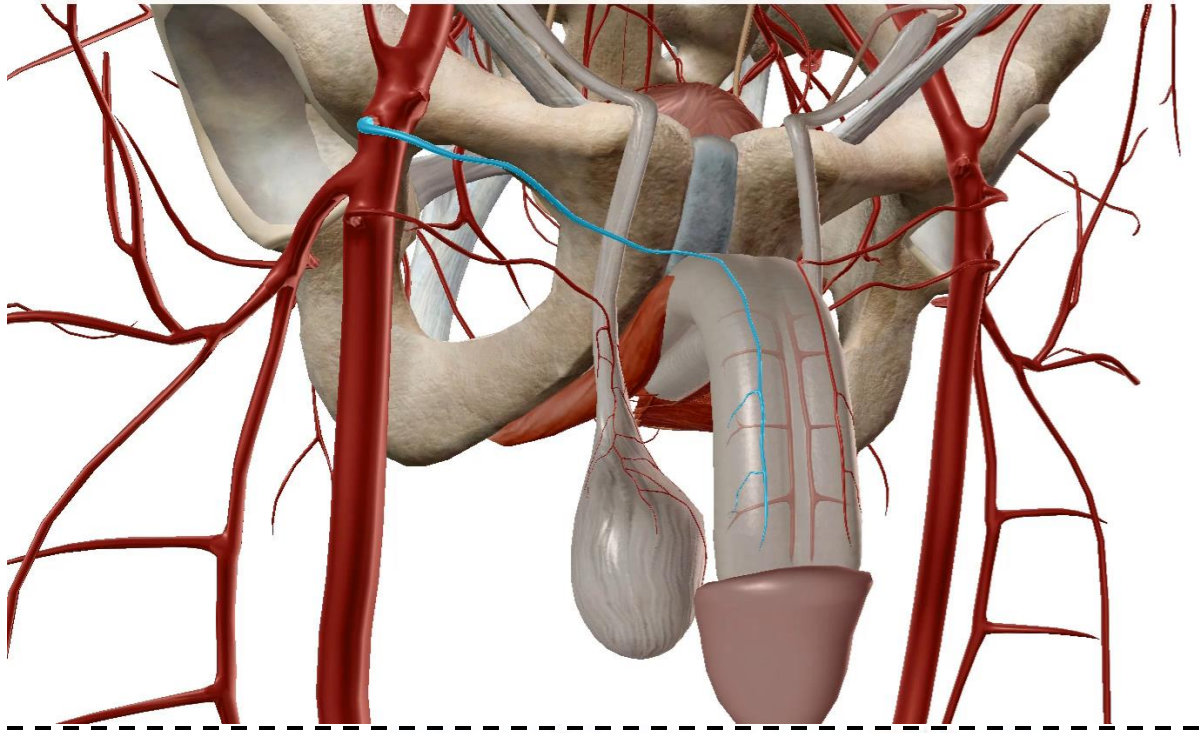


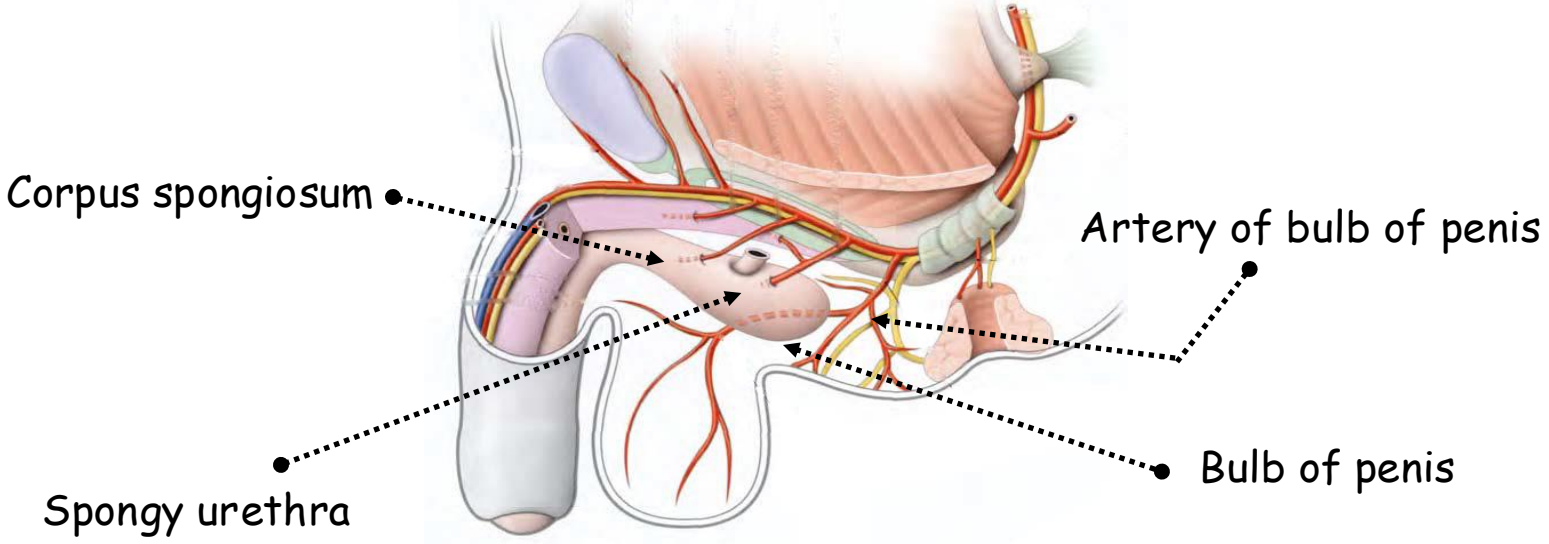


LATERAL VIEW SHOWING THE BLOOD SUPPLY OF PENIS (FROM KAMINA)

4. Artery of bulb of penis:

- Supplies the corpus spongiosum including the glans
- Anastomosis via the continuity of corpus spongiosum and glans between the artery of the bulb and the dorsal artery
- The deep artery remains separate, supplying the corpus cavernosum only and forming a closed system whose sole function is erection





LATERAL VIEW SHOWING THE BLOOD SUPPLY OF PENIS (FROM KAMINA)

B. VEINS

- Partly by way of veins that accompany the arteries and join the internal pudendal veins
- Mostly by the deep dorsal vein of penis

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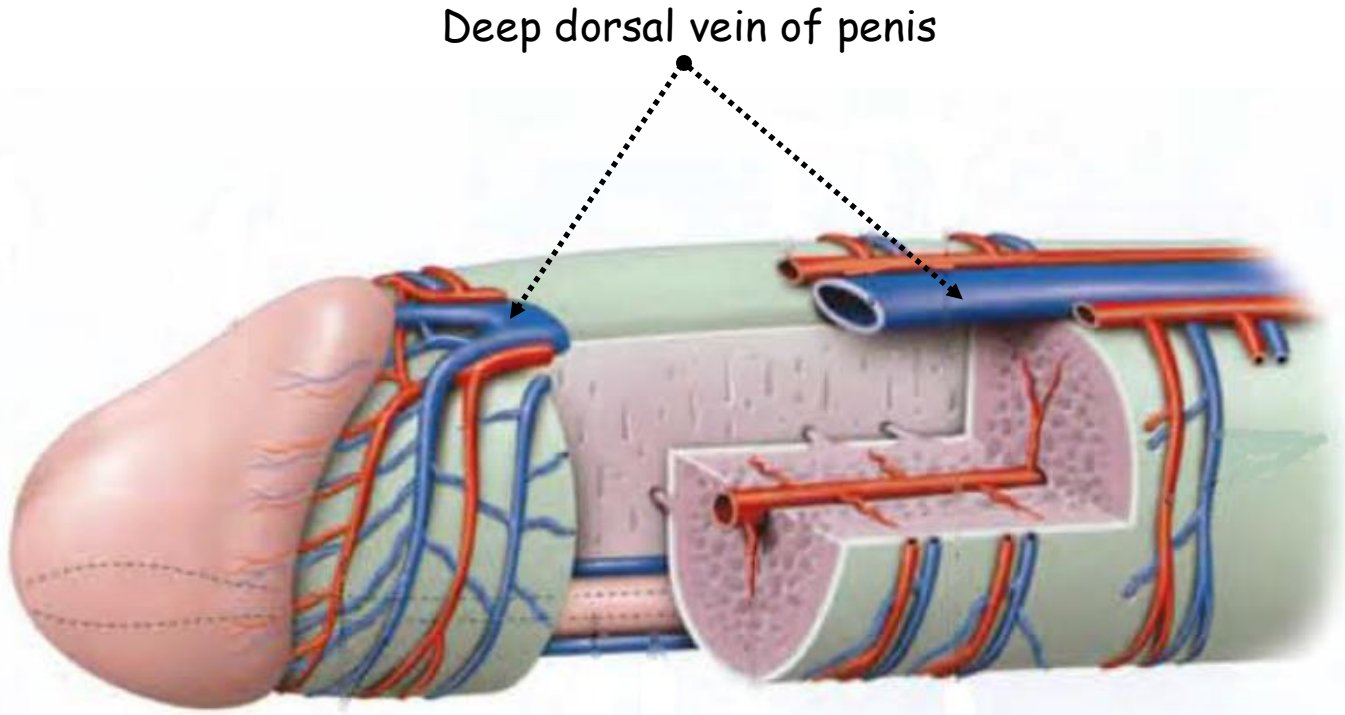
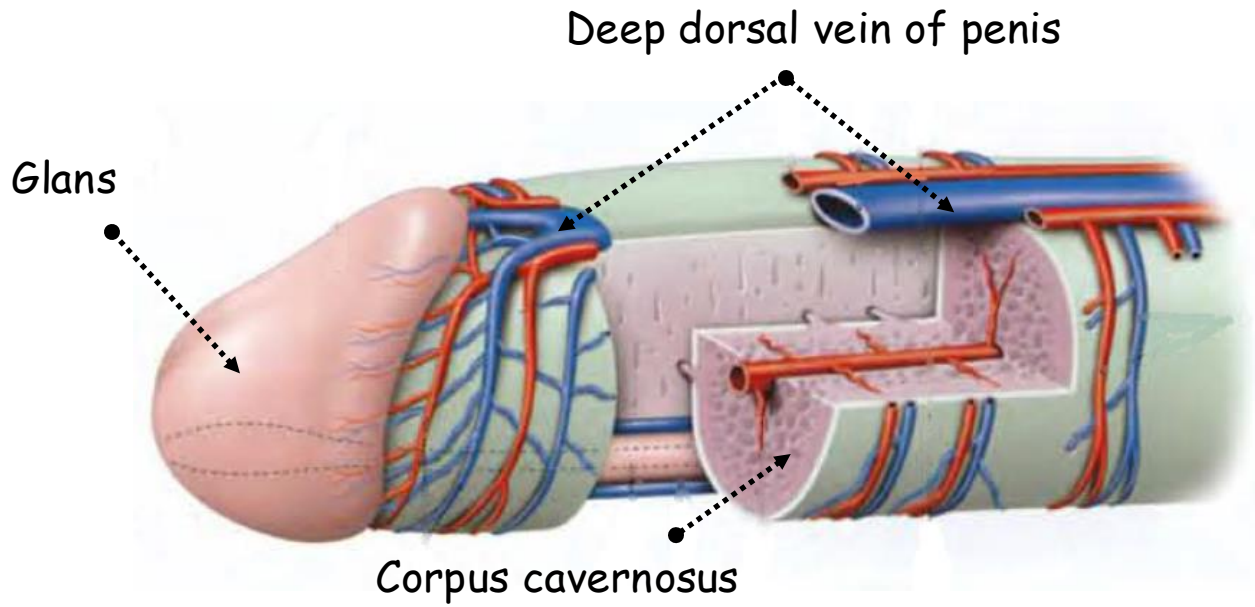
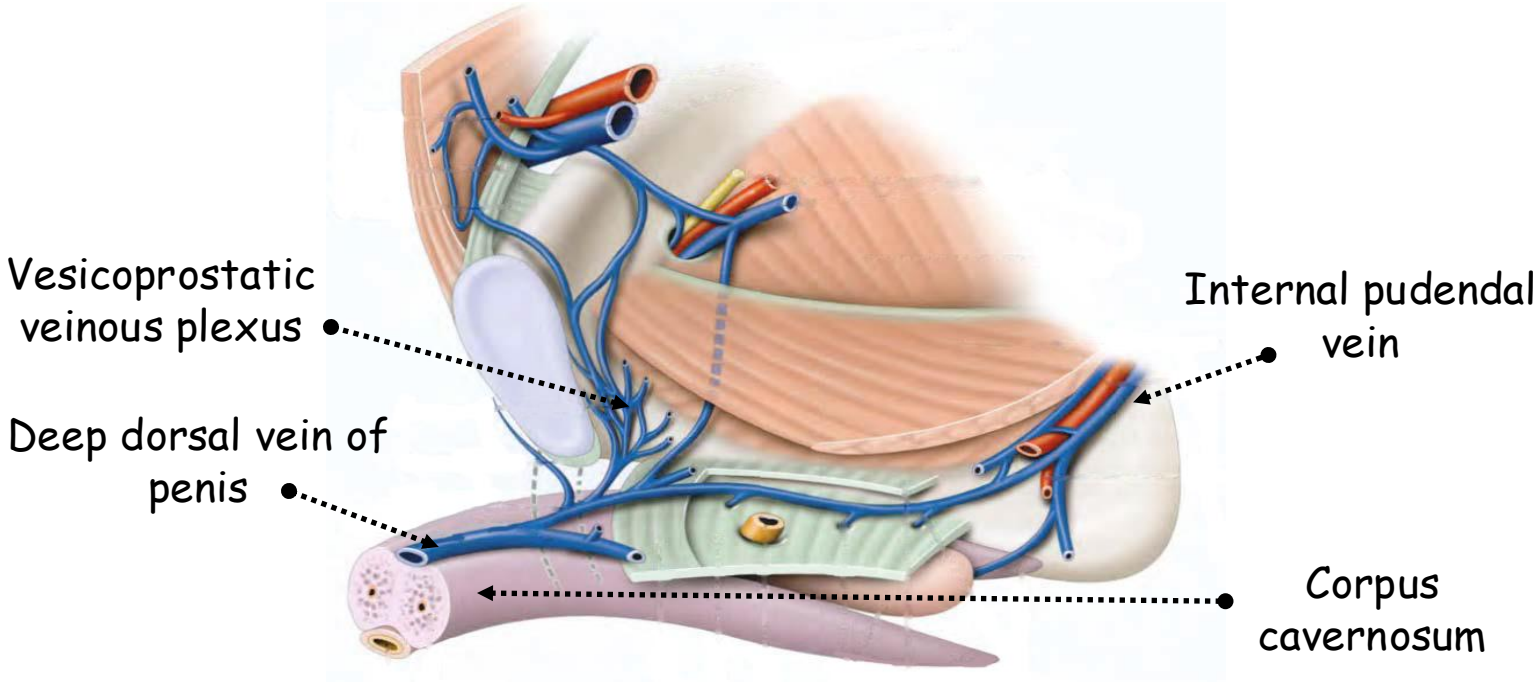


LATERAL VIEW SHOWING THE VEINS OF PENIS (FROM KAMINA)

- **Deep dorsal vein of penis:**

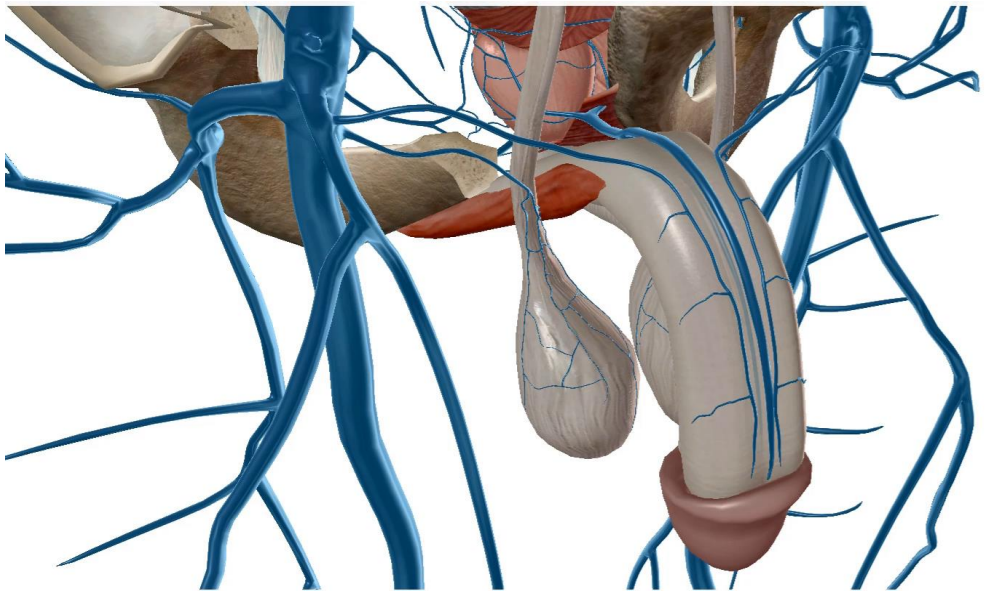
  -Pierces the suspensory ligament, passes above the perineal membrane and enters the vesicoprostatic veinous plexus

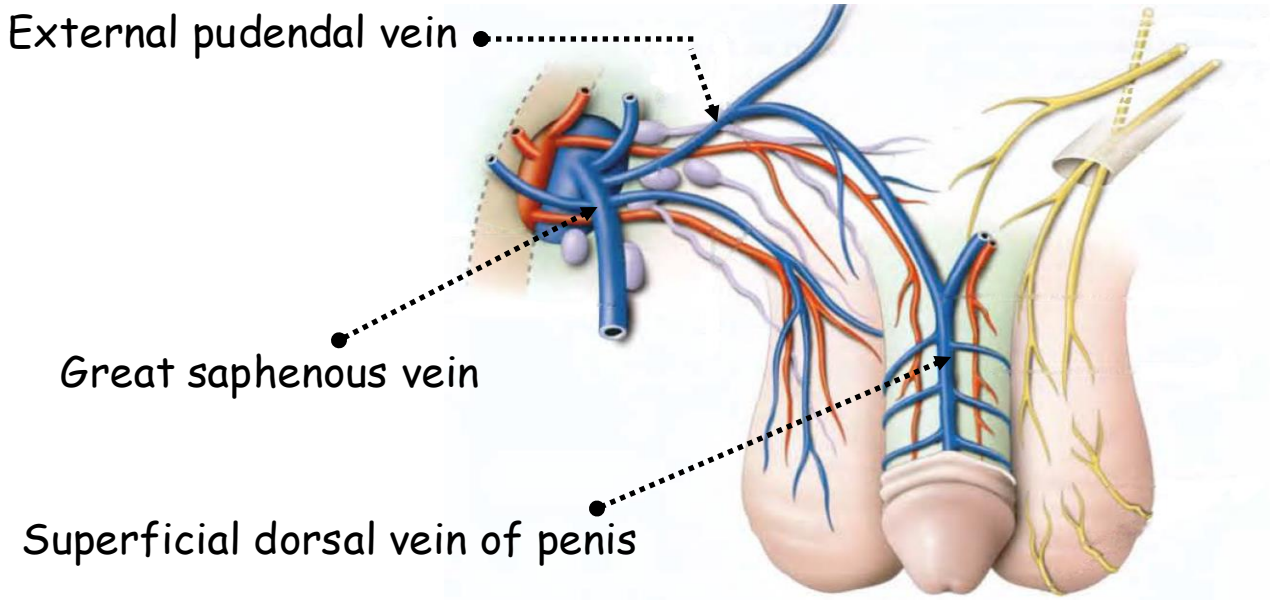




LATERAL VIEW SHOWING THE VEINS OF PENIS (FROM KAMINA)

- **Superficial dorsal vein of penis:**
  -Drains the dorsal skin of the penis and divides to join the superficial external pudendal and great saphenous





ANTERIOR VIEW SHOWING THE SUPERFICIAL DORSAL VEIN OF PENIS (FROM KAMINA)

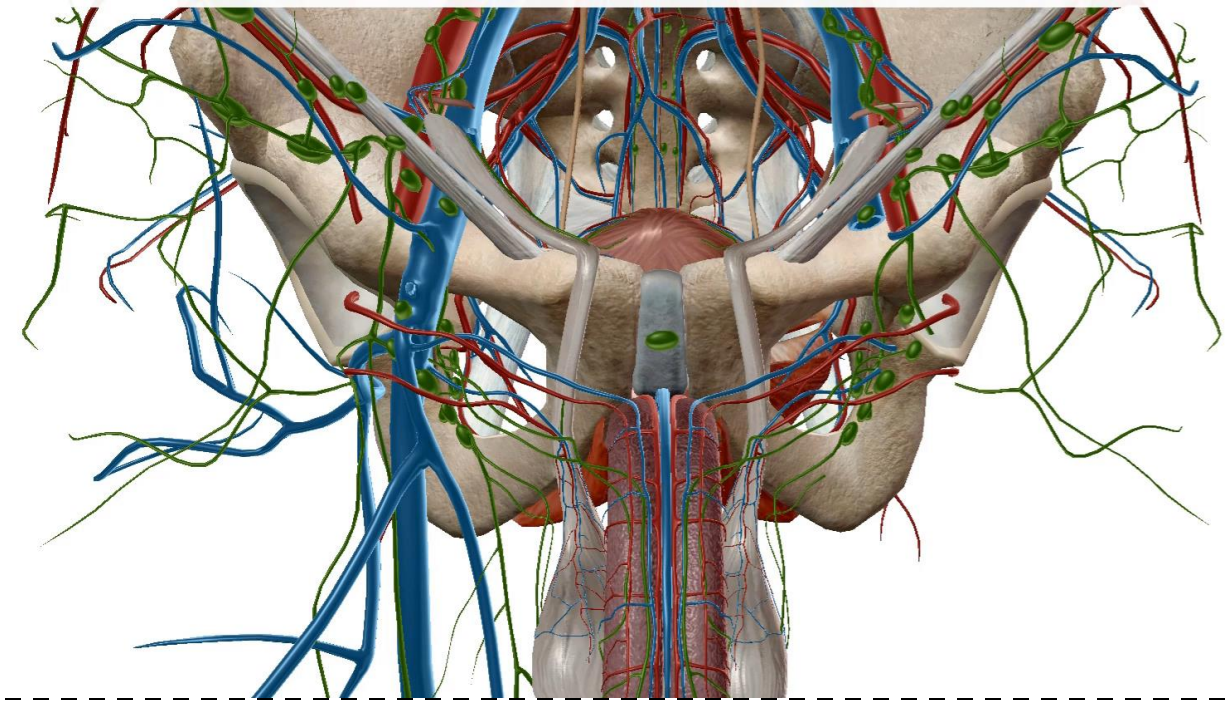
C. LYMPH DRAINGE

1. Penile skin:

- Superficial inguinal nodes

2. Glans and corpora:

- Deep inguinal nodes
- The internal iliac nodes are rarely involved unless the inguinal nodes are first affected



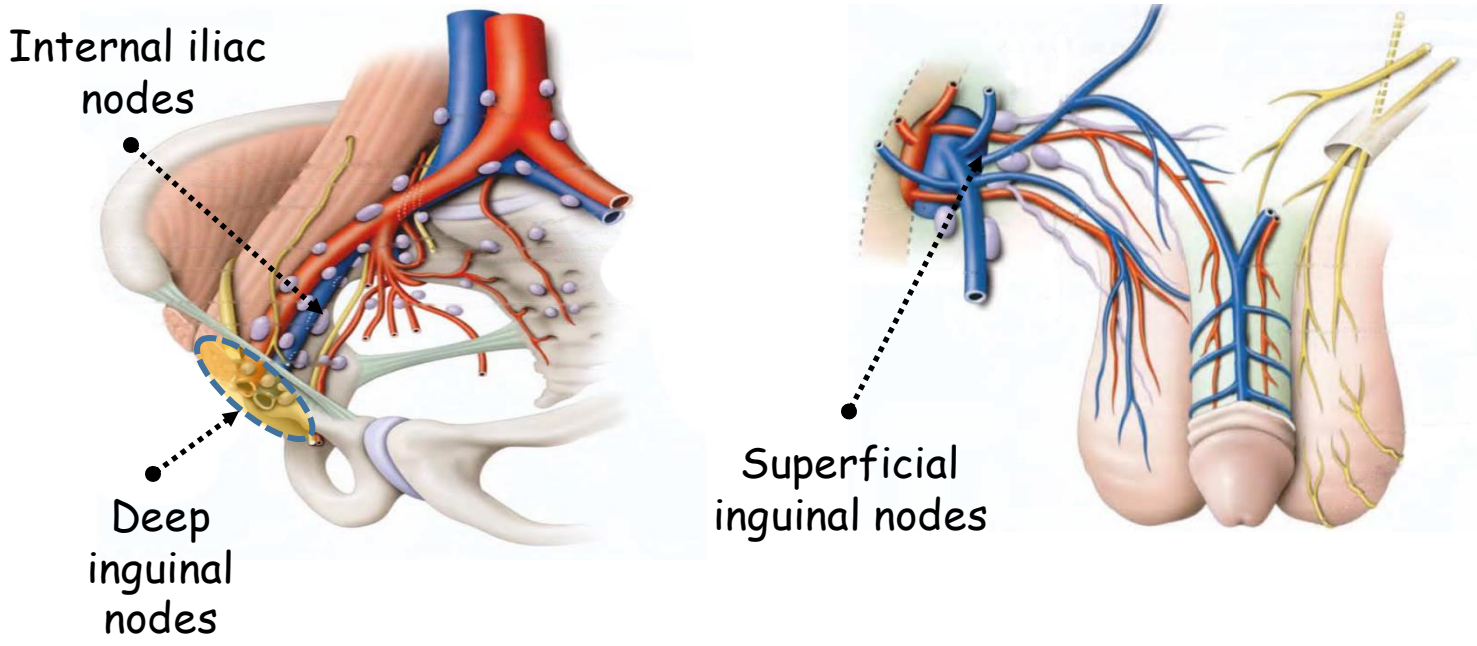


FIGURE SHOWING THE LYMPH DRAINAGE OF PENIS (FROM KAMINA)

D. NERVES

- **Somatic:**

  -Skin of penis and bulbospongiosus and ischiocavernosus muscles

  -Pudendal nerves respectively via dorsal nerve of penis and perineal nerve

  -Dermatome: S2

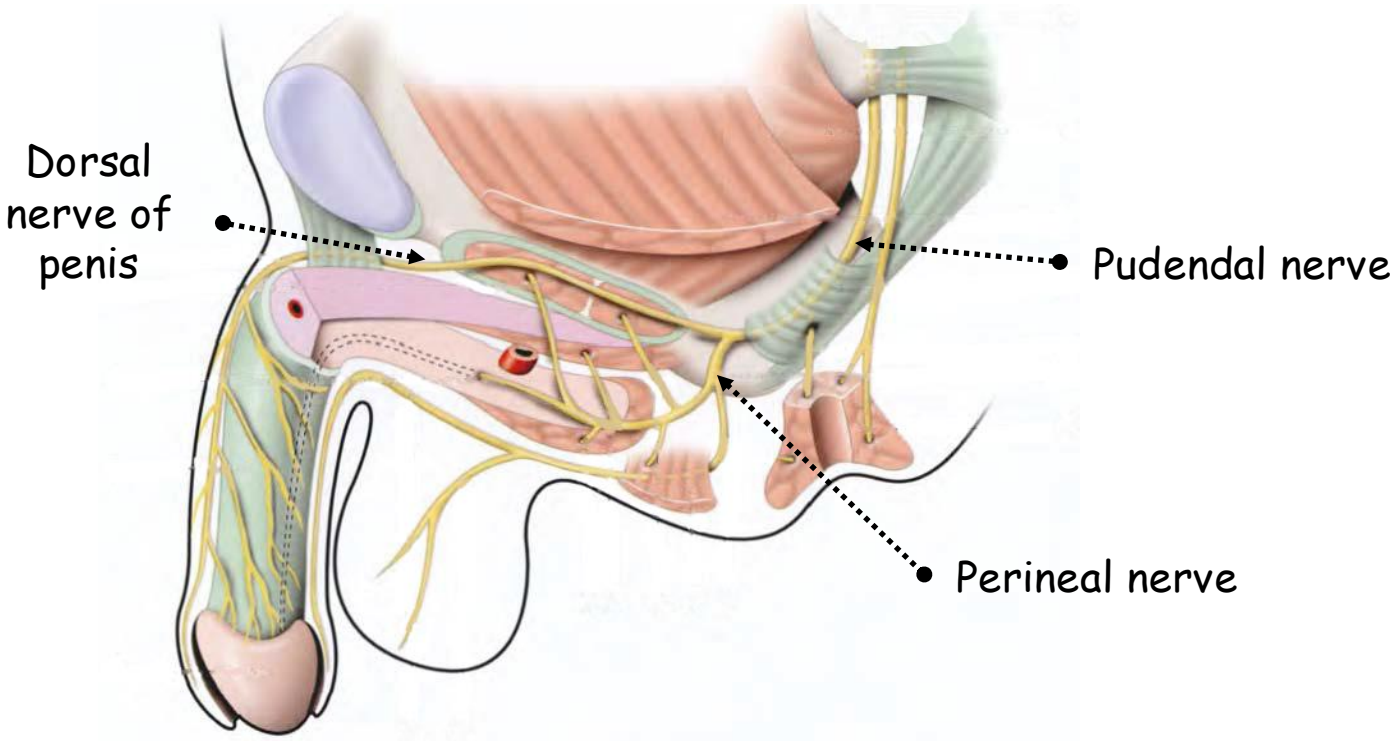


FIGURE SHOWING THE SOMATIC NERVE SUPPLY OF PENIS (FROM KAMINA)

- **Sympathetic:**

  -Initial stages of ejaculation

  -Superior and inferior hypogastric plexuses

  -Cavernous nerves of penis

  -Derived from L1 segment of the spinal cord

- **Parasympathetic:**

  -Allow increased blood flow for erection

  -Pelvic splanchnic nerves

  -S2 and S3

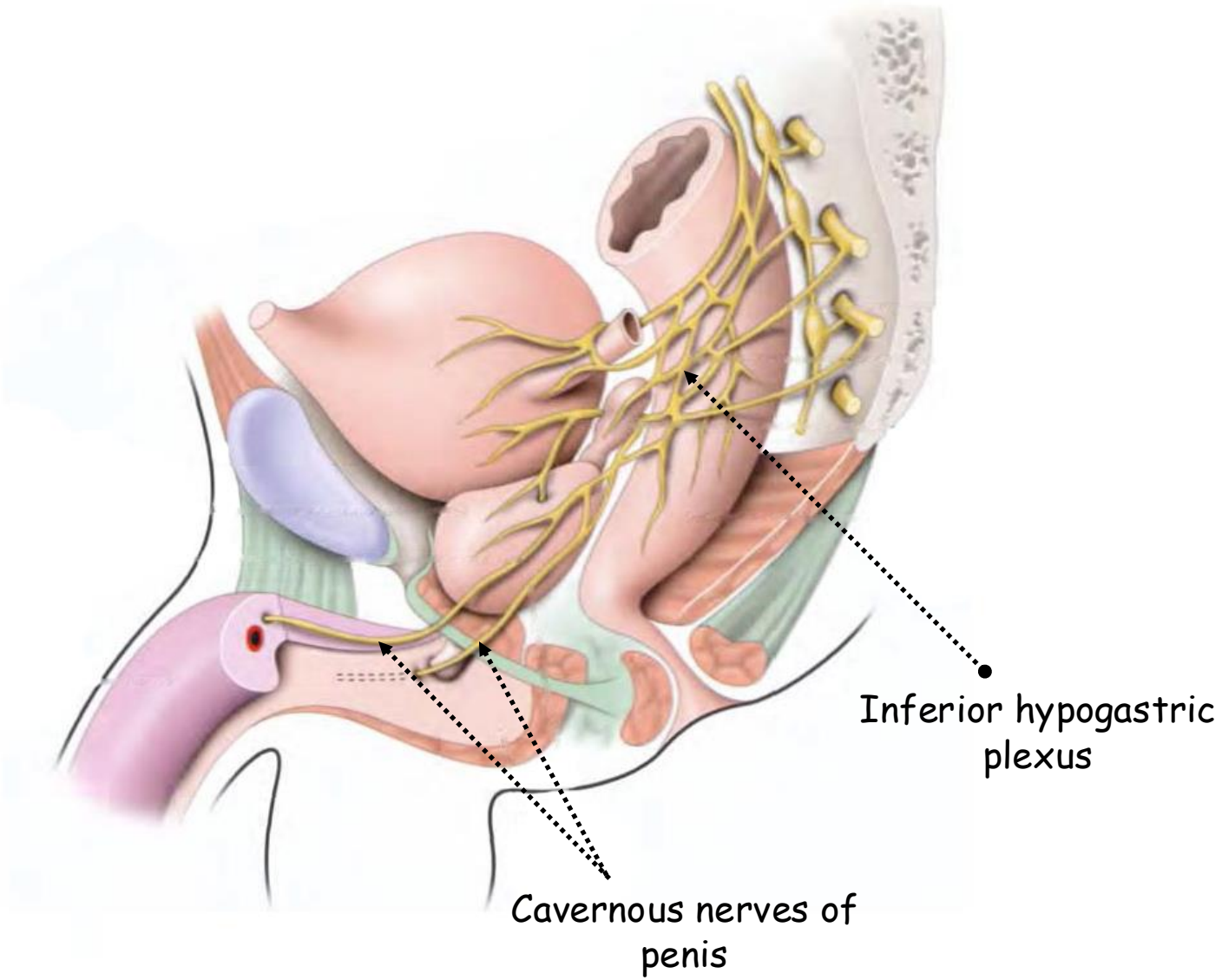
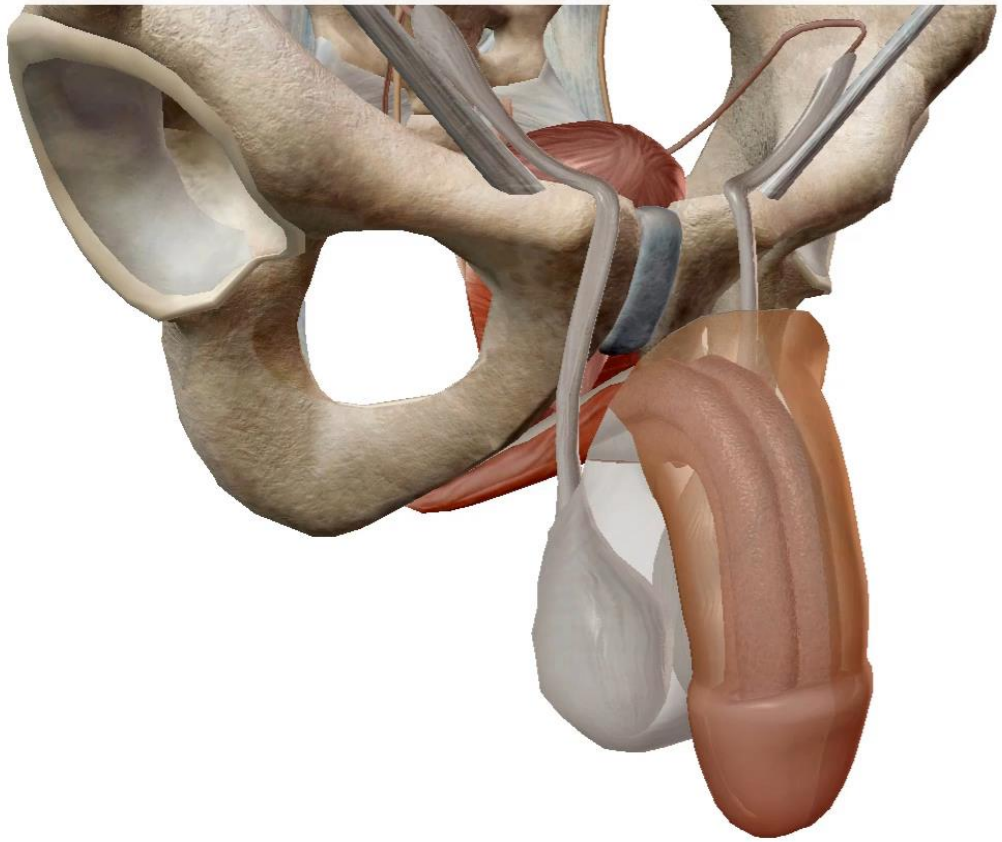


FIGURE SHOWING THE AUTONOMIC NERVE SUPPLY OF PENIS (FROM KAMINA)

VII. CONCLUSION

- Copulation and micturition organ
- Root, body and glans
- Highly supported organ
- 2 blood supply levels: deep and superficial
- Inguinal nodes
- Somatic and autonomic nerve supply



MARRAKECH
جامعة القاضي عياض
UNIVERSITÉ CADI AYYAD

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