

# IN THE NAME OF GOD

General anatomy

For paramedicine student

By

Dr. Saeednia

# Urinary System

Kidney

Renal pelvis

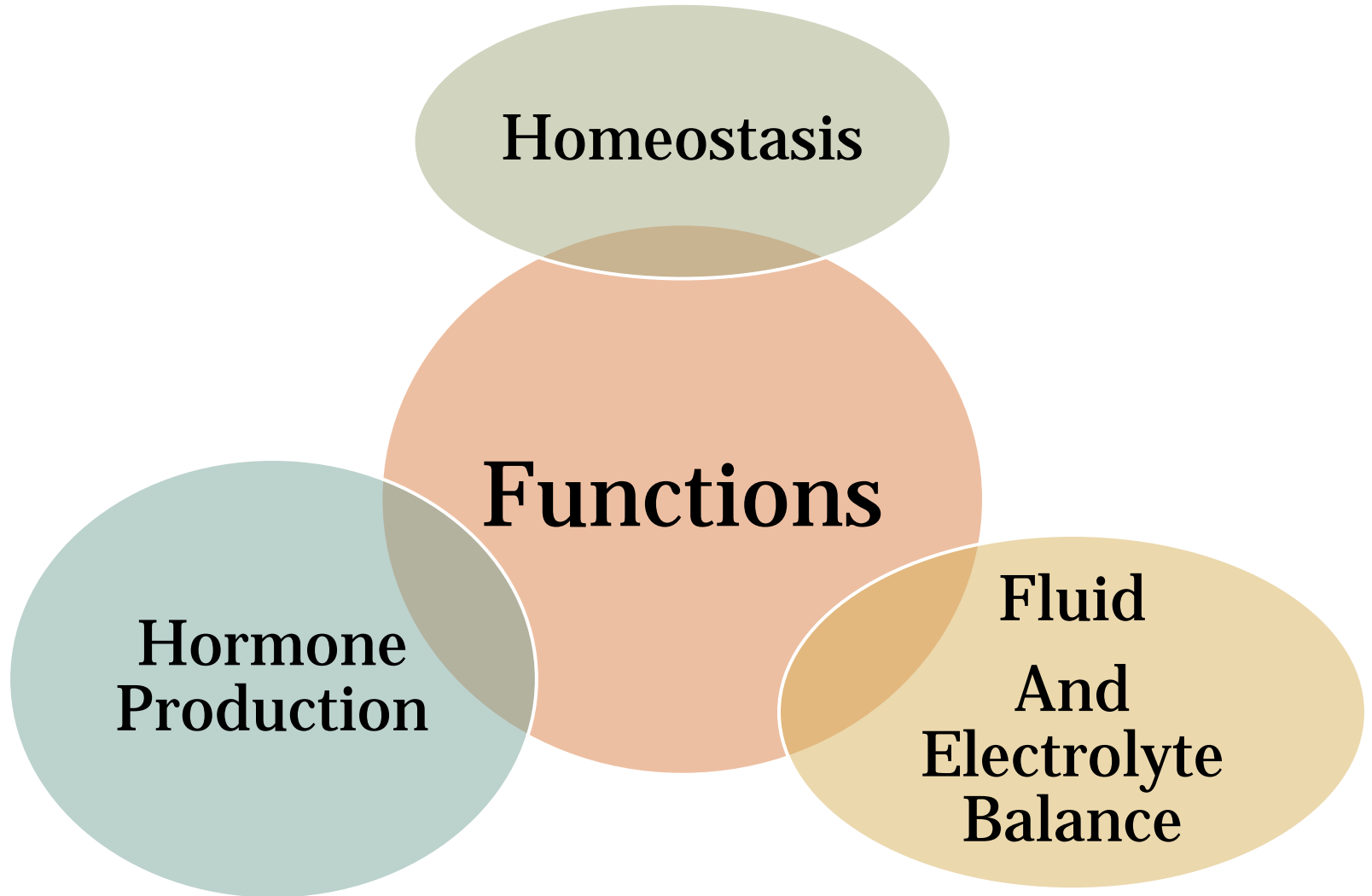
Covering of kidney

Ureter

Urinary bladder

Urethra

# Urinary System functions



# Urinary System

## ***Kidney***

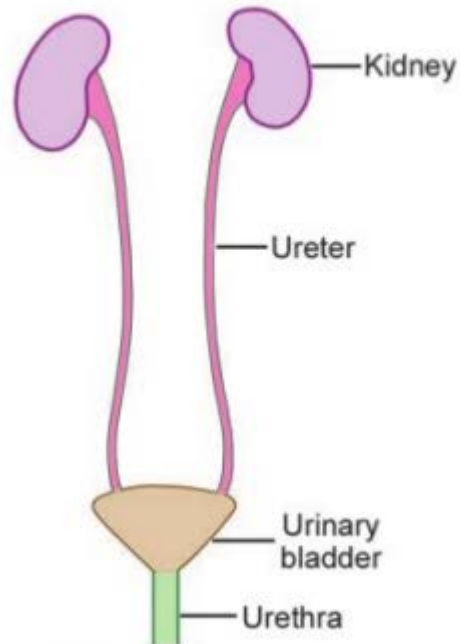
Renal pelvis

Covering of kidney

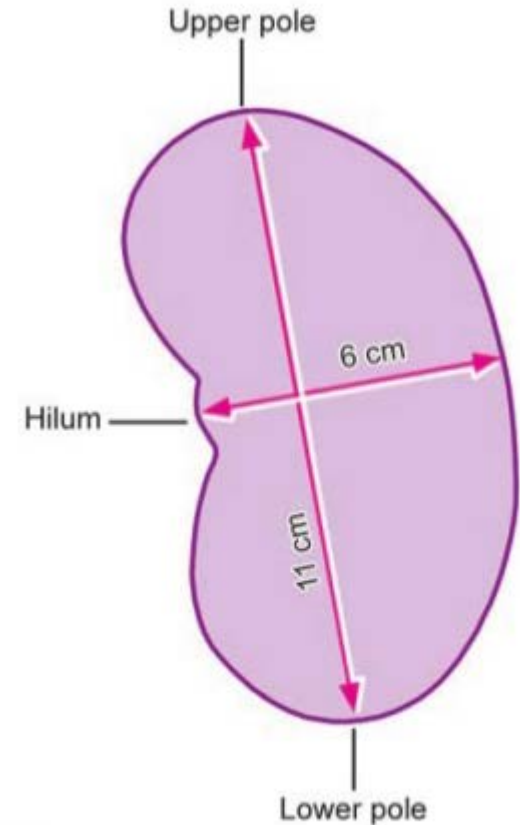
Ureter

Urinary bladder

Urethra

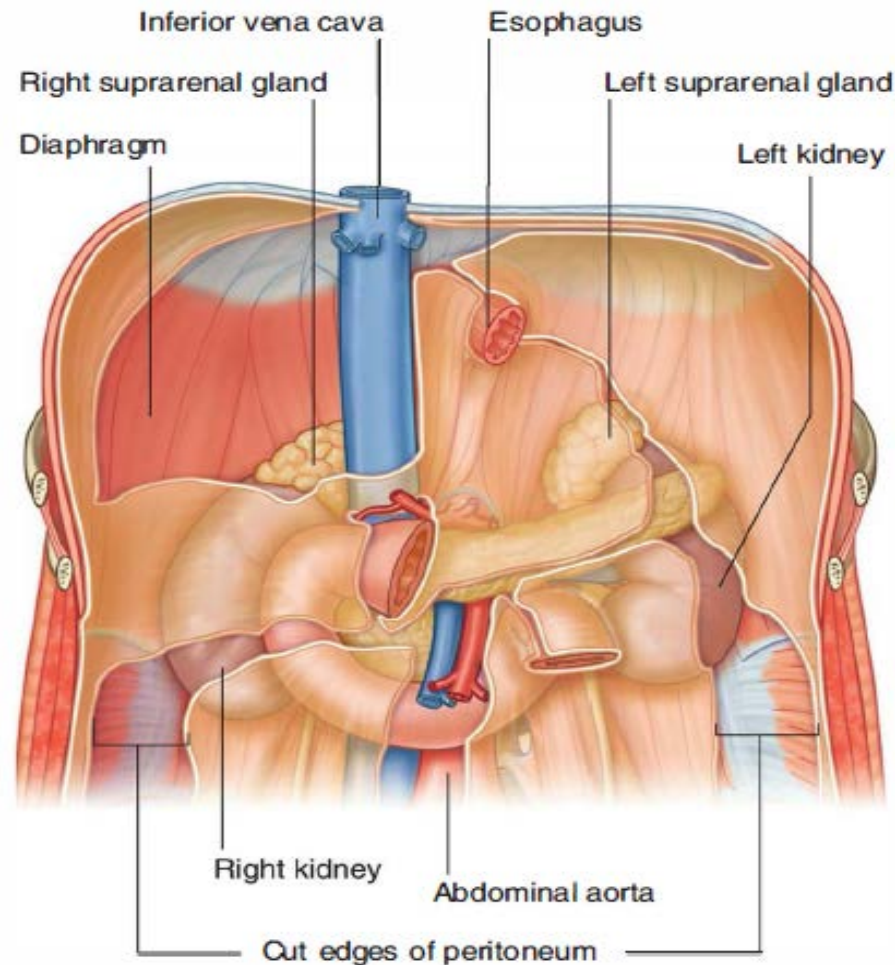


**30.1:** The urinary organs



**30.2:** Approximate dimensions of a kidney. The anteroposterior diameter is about 3 cm

# Kidney : Retroperitoneal Position



**Fig. 4.137** Retroperitoneal position of the kidneys in the posterior abdominal region.

# Kidney

➤ **Surfaces**

➤ **Borders**

➤ **Poles**

➤ **Hilume**

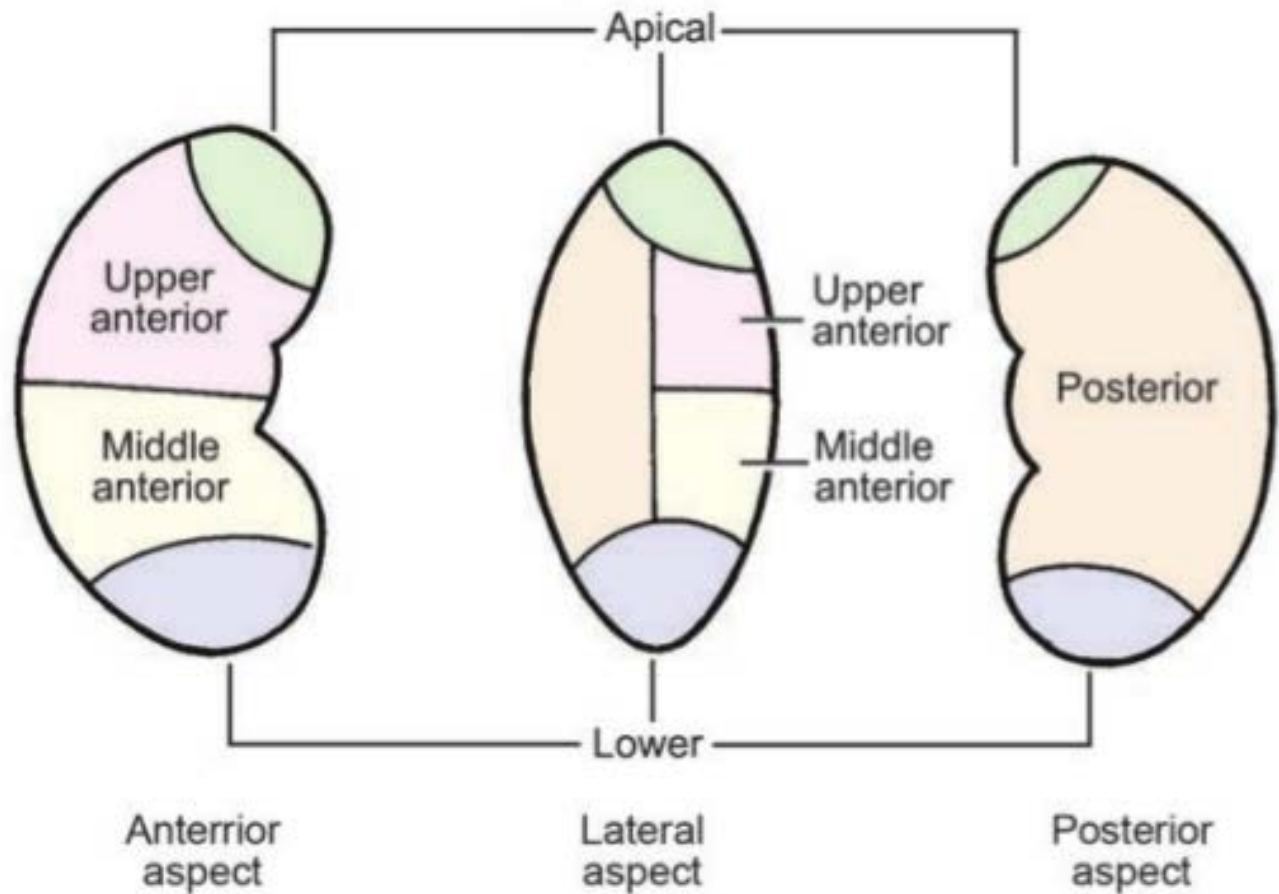
➤ **Relationships to other structures**

➤ **Internal structure :**

A. **Cortex**

B. **Medulla**

C. **Sinus**



**30.13:** Scheme to show the segments of the kidney

# Kidney

› Surfaces

› Borders

› Poles

› **Hilum**

› Relationships to other structures

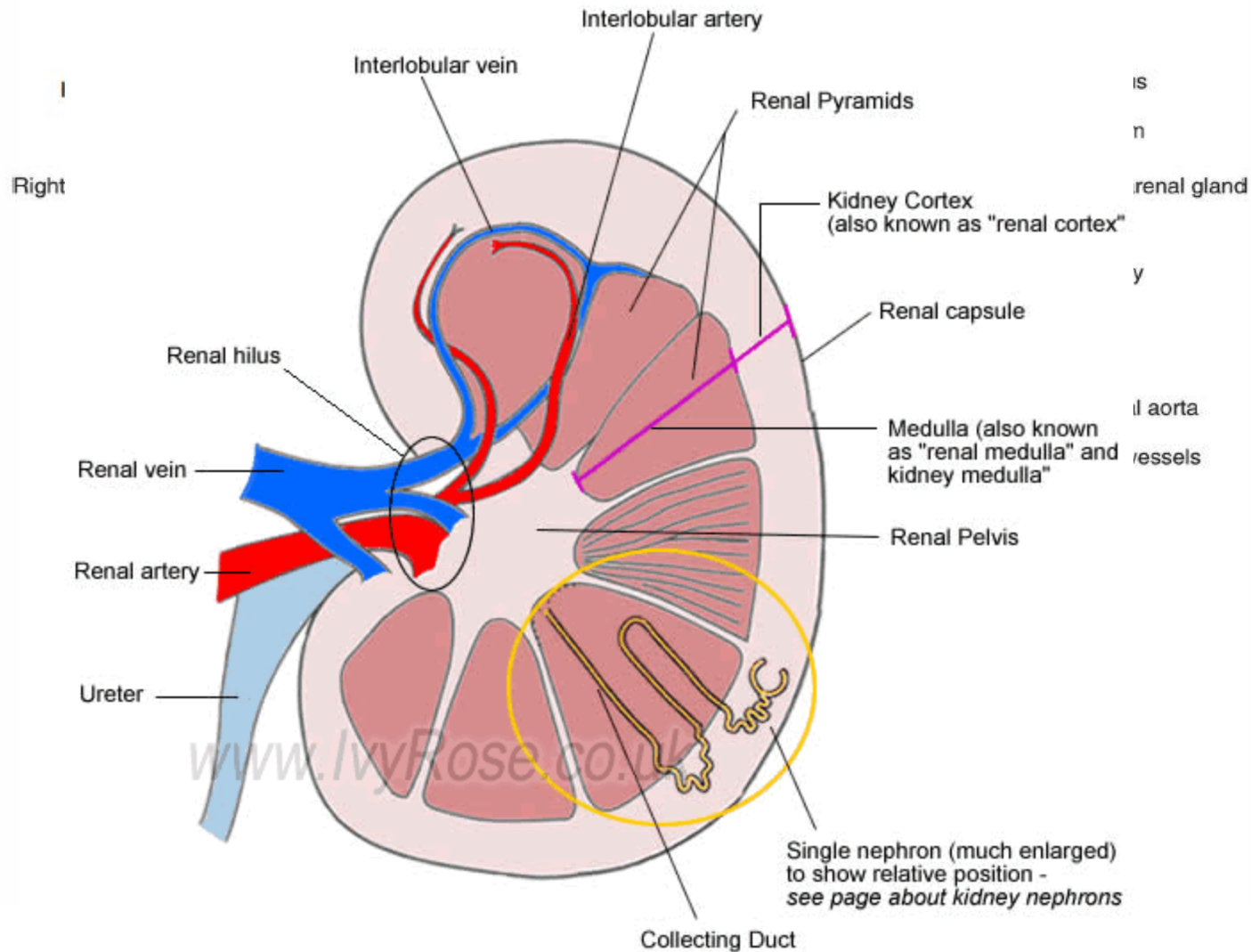
› Internal structure

:

A. Cortex

B. Medulla

C. Sinus



# Kidney

› Surfaces

› Borders

› Poles

› Hilum

› **Relationships to other structures**

› Internal structure :

- A. Cortex
- B. Medulla
- C. Sinus

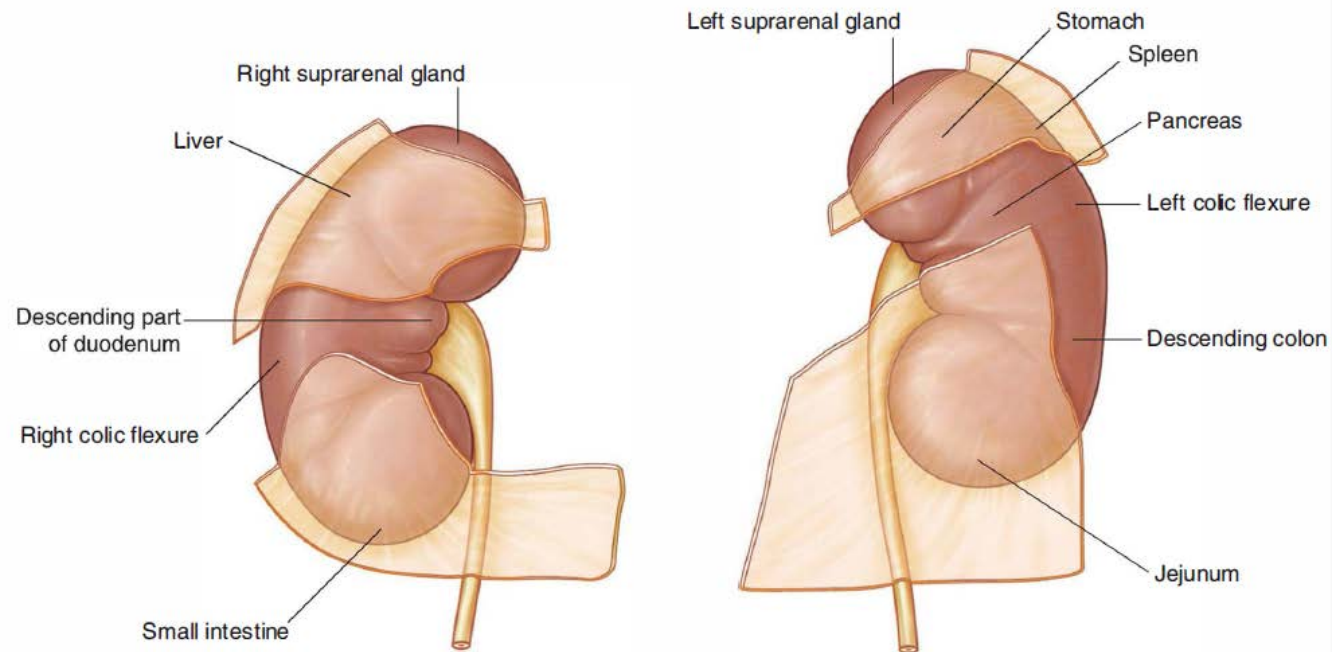
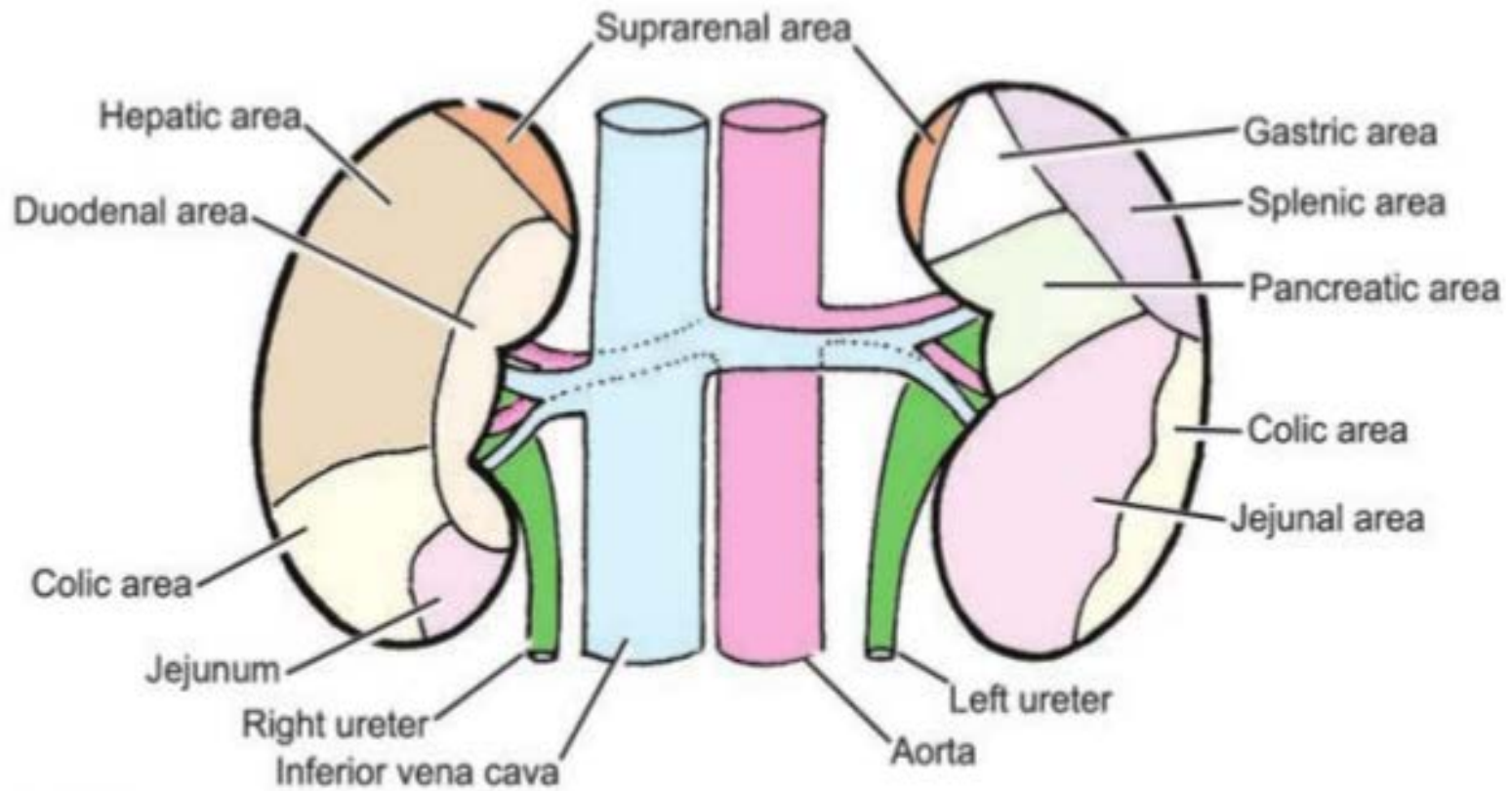


Fig. 4.138 Structures related to the anterior surface of each kidney.





**30.7:** Areas on anterior surfaces of right and left kidneys related to various viscera

## Ant . Relationship

# Kidney

➤ Surfaces

➤ Borders

➤ Poles

➤ Hilum

➤ ***Relationships to other structures***

➤ Internal structure :

A. Cortex

B. Medulla

C. Sinus

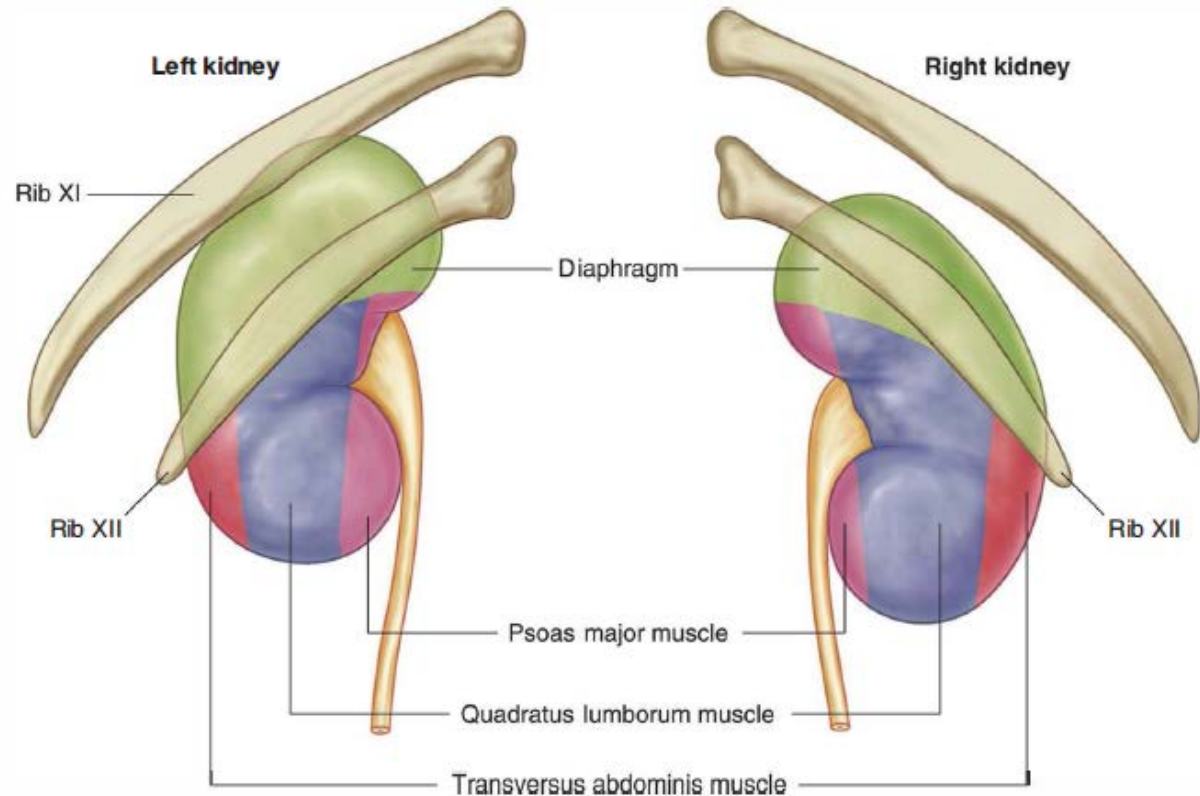
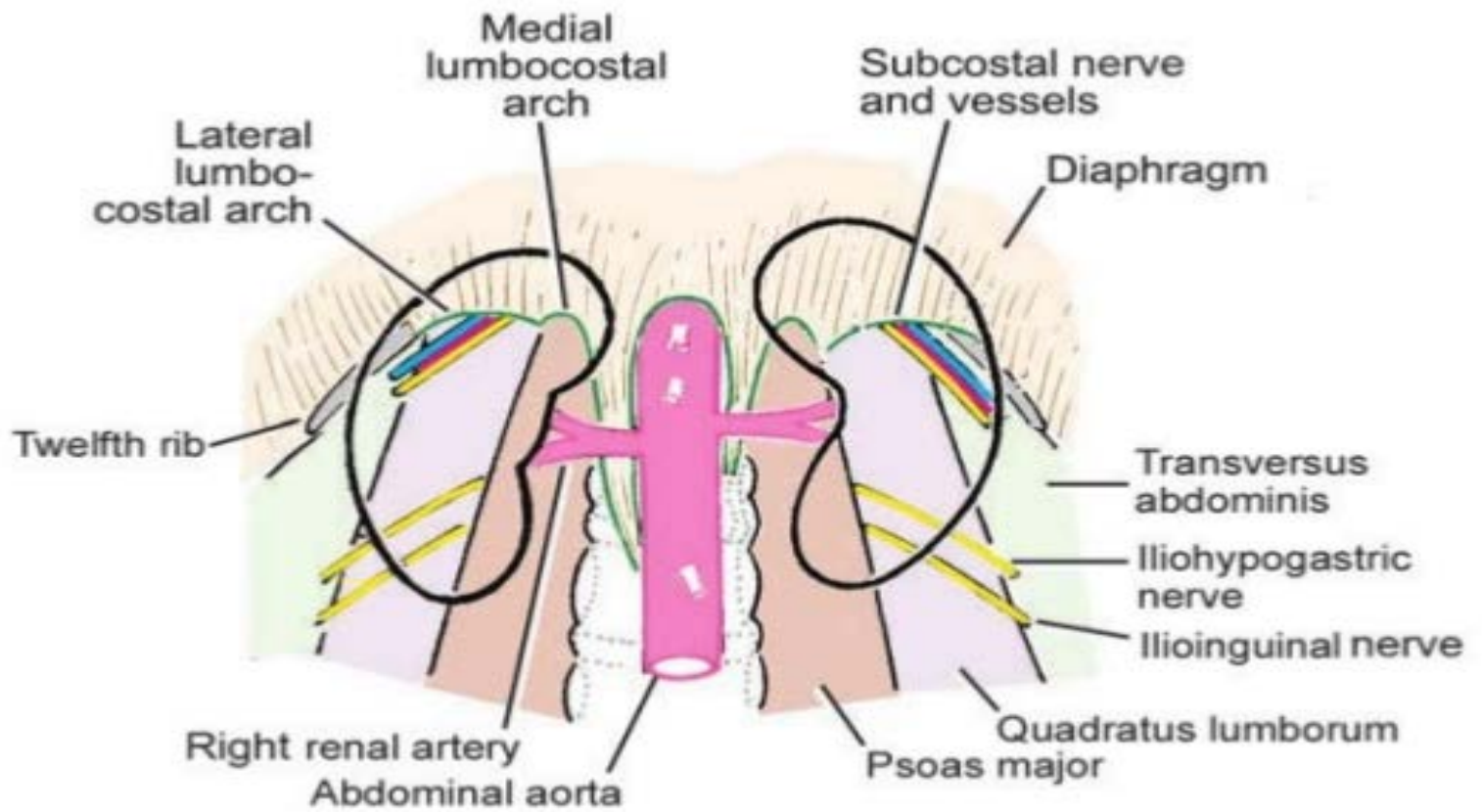


Fig. 4.139 Structures related to the posterior surface of each kidney.



**30.6:** Posterior relations of kidneys

## Post. Relationship

➤ Surfaces

➤ Borders

➤ Poles

➤ Hilum

➤ Relationships to other structures

➤ **Internal structure :**

A. **Cortex**

B. **Medulla**

C. **Sinus**

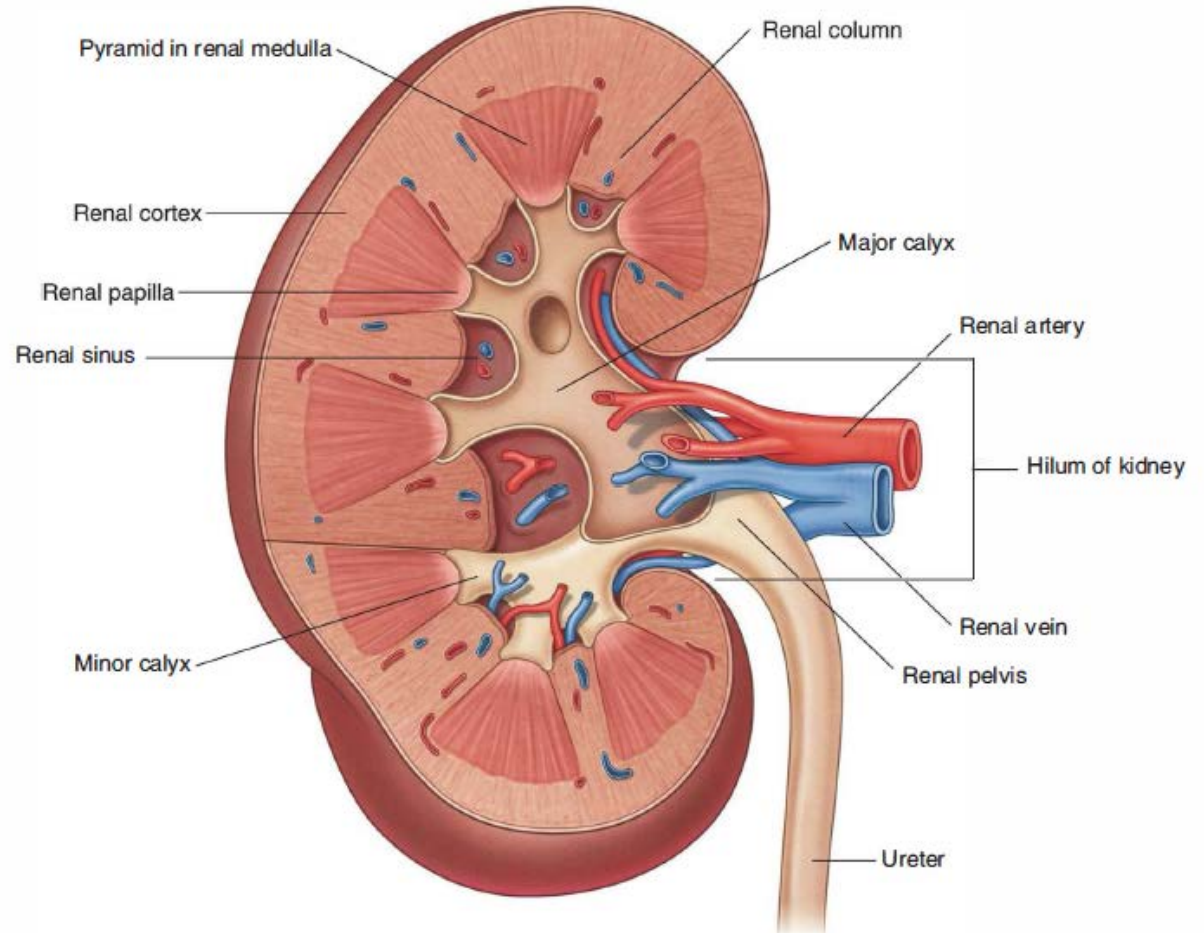


Fig. 4.141 Internal structure of the kidney.

# Renal Pelvis

Kidney

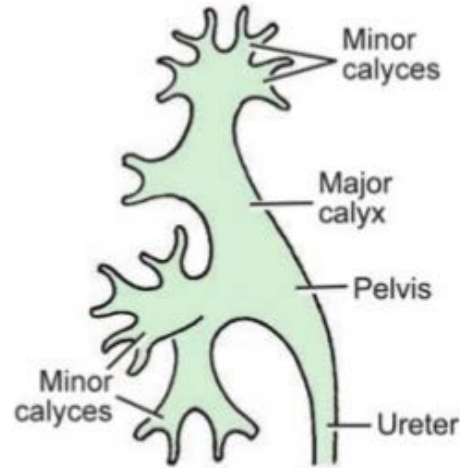
***Renal pelvis***

Covering of  
kidney

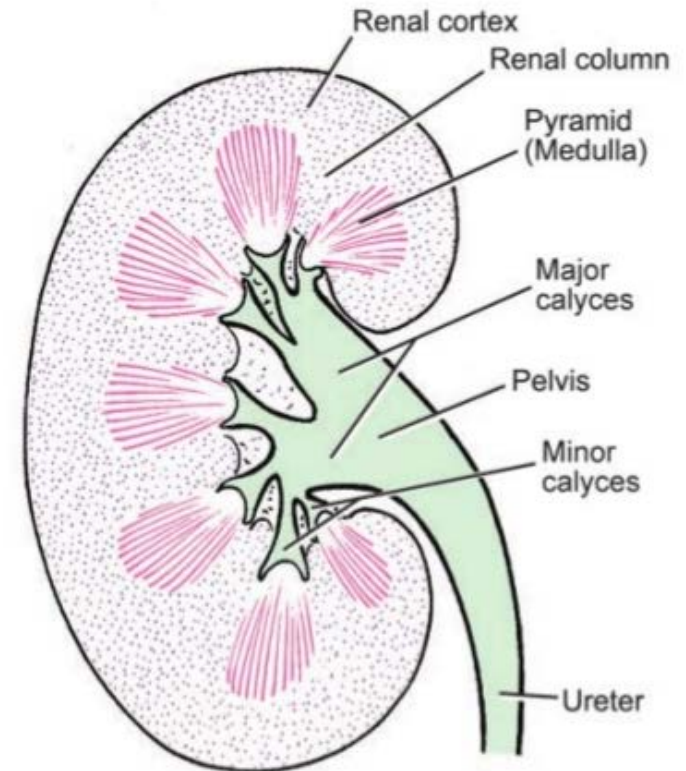
Ureter

Urinary bladder

Urethra



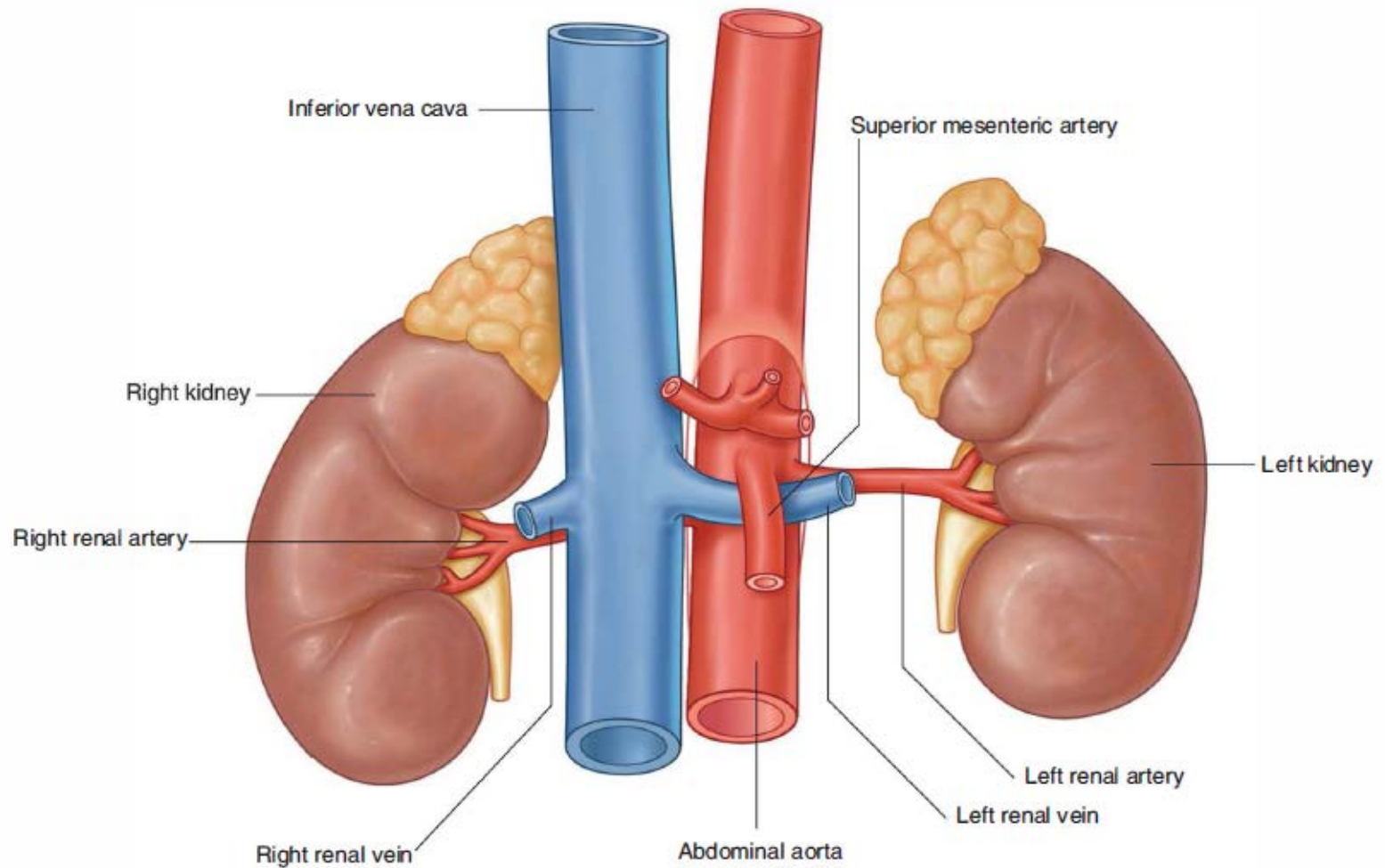
**30.9:** Scheme to show the major and minor calyces



**30.10:** Some features to be seen in a coronal section through the kidney



# Renal Vasculature



**Fig. 4.142** Renal vasculature.

Kidney

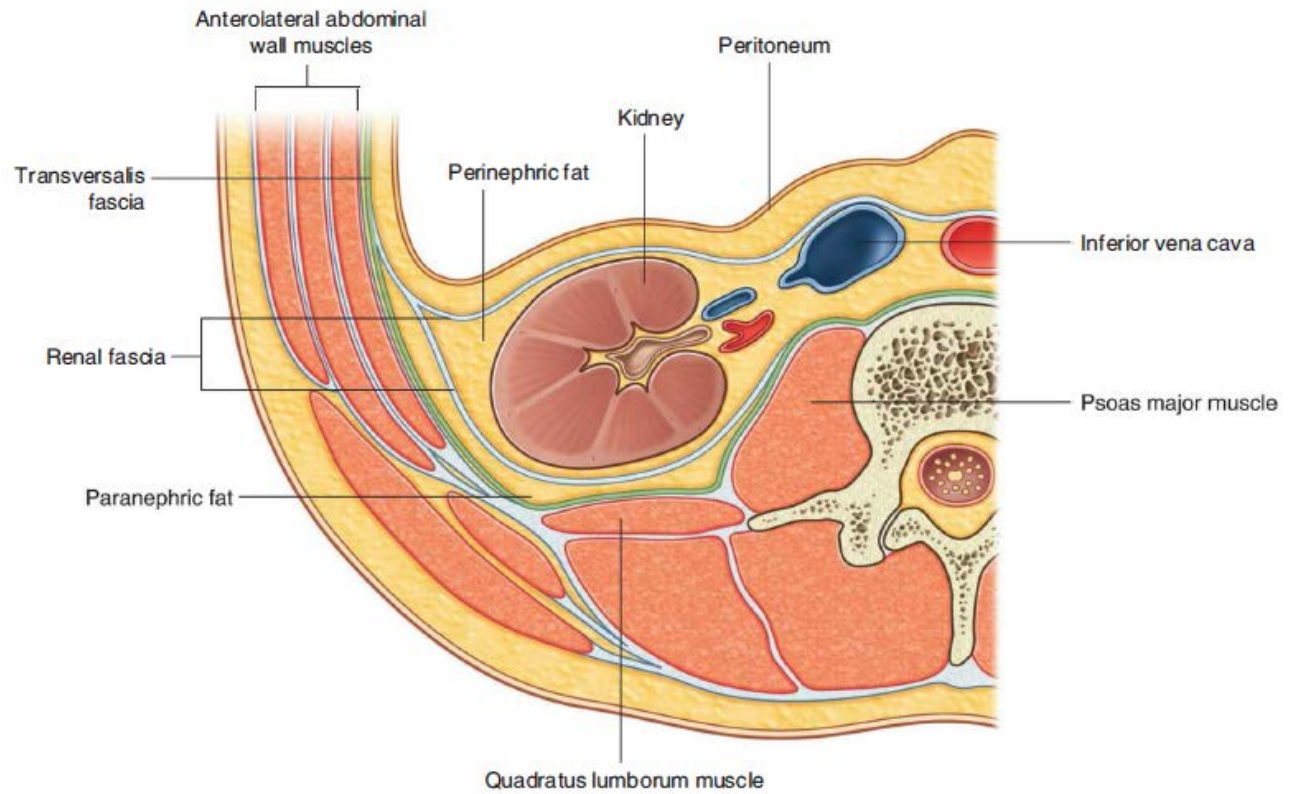
Renal pelvis

***Covering of  
kidney***

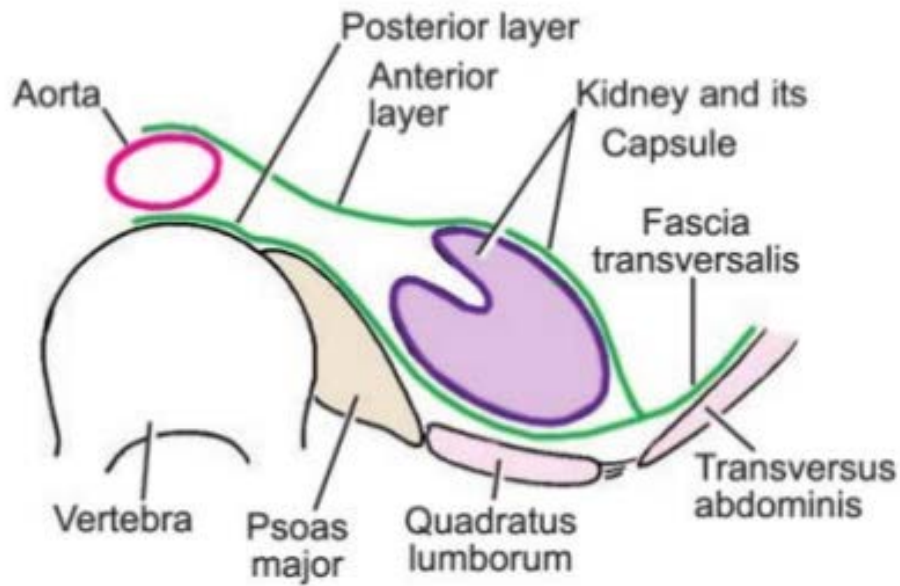
Ureter

Urinary bladder

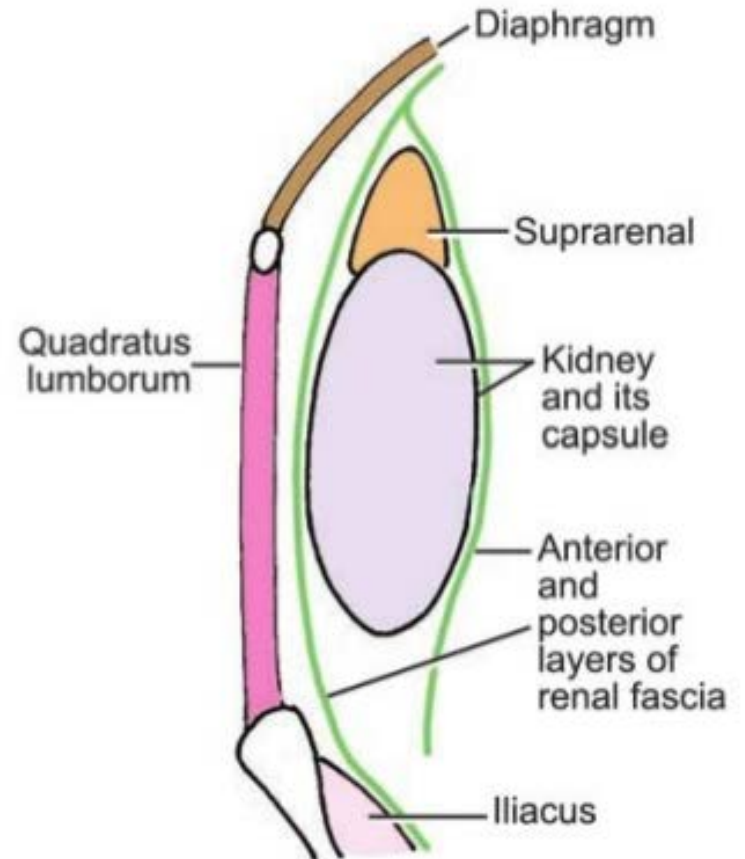
Urethra



**Fig. 4.140** Organization of fat and fascia surrounding the kidney.



**30.11:** Transverse section through kidney showing the arrangement of the renal fascia



**30.12:** Sagittal section through kidney to show arrangement of renal fascia



Kidney

Renal pelvis

Covering of  
kidney

**Ureter**

Urinary  
bladder

Urethra

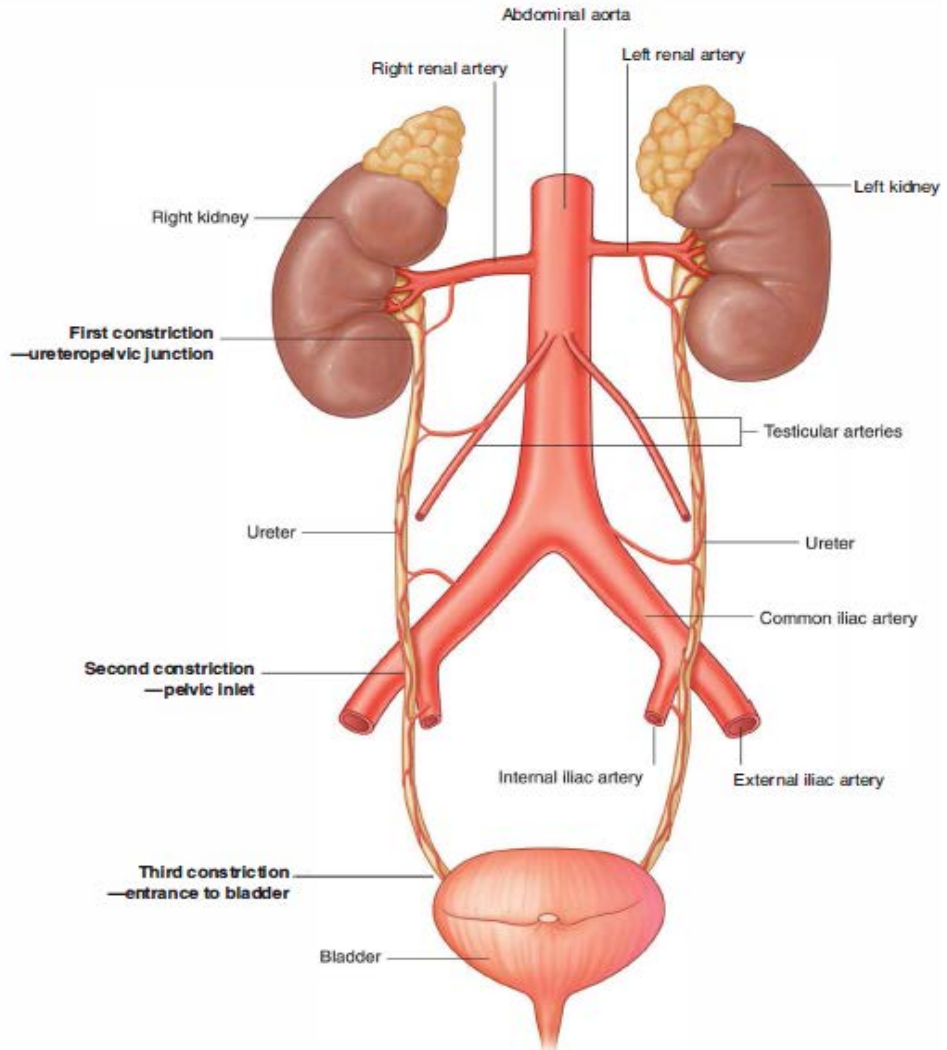


Fig. 4.143 Ureters.

Kidney

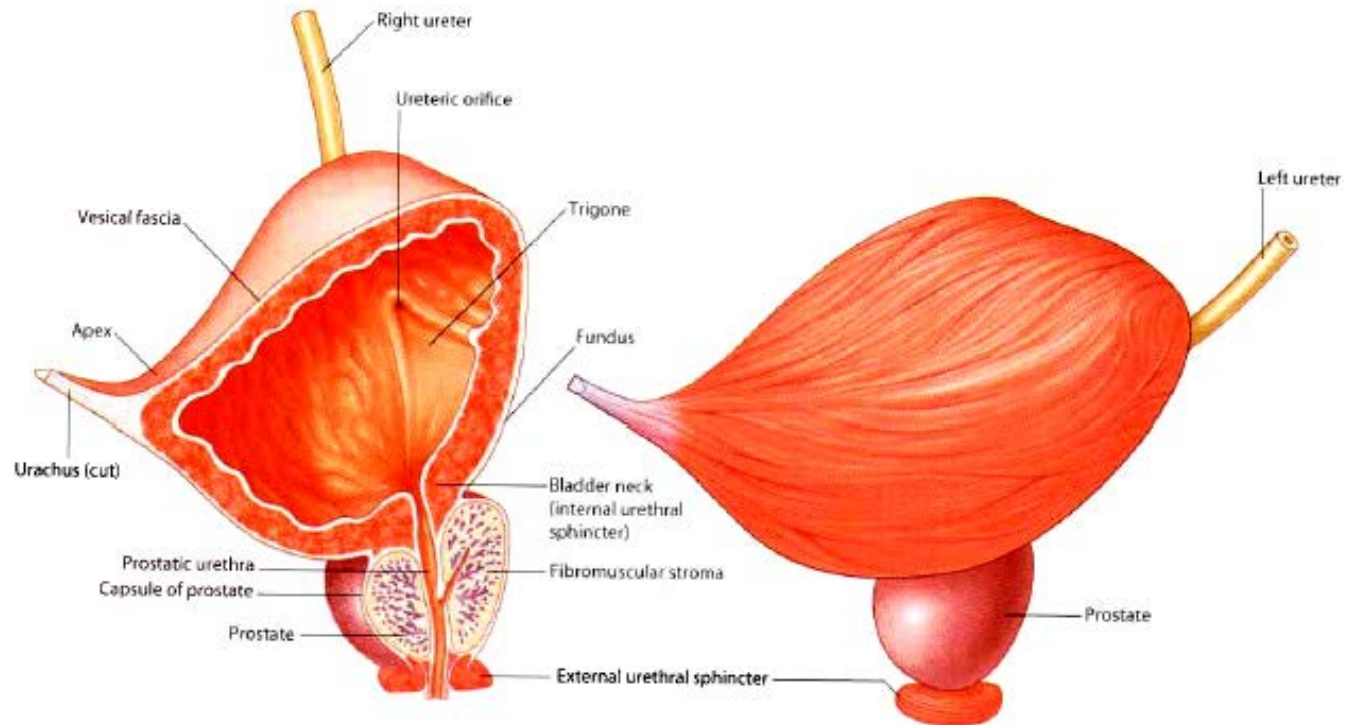
Renal pelvis

Covering of  
kidney

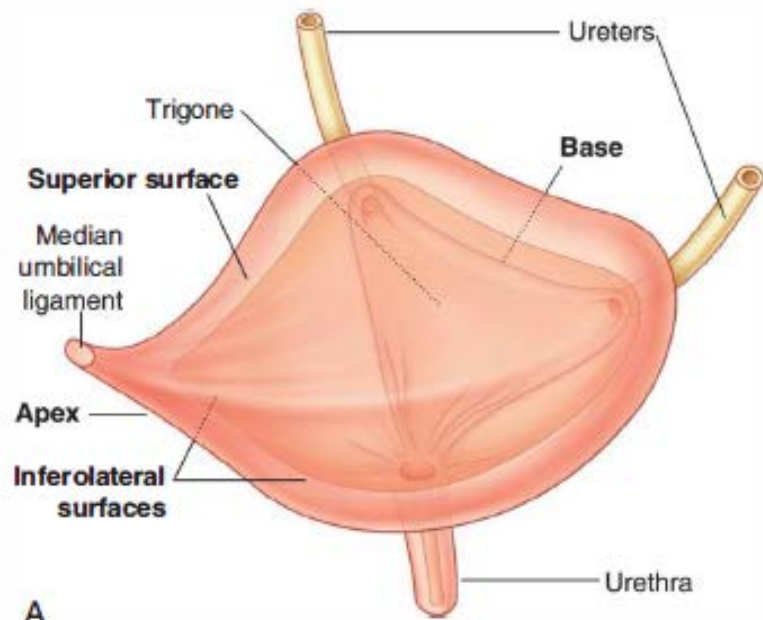
Ureter

**Urinary  
bladder**

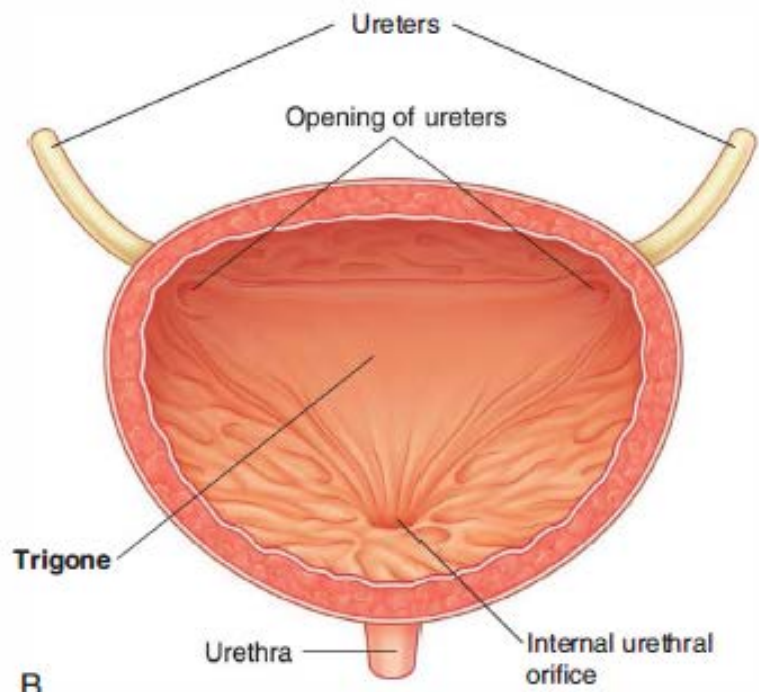
Urethra



Urinary bladder in men

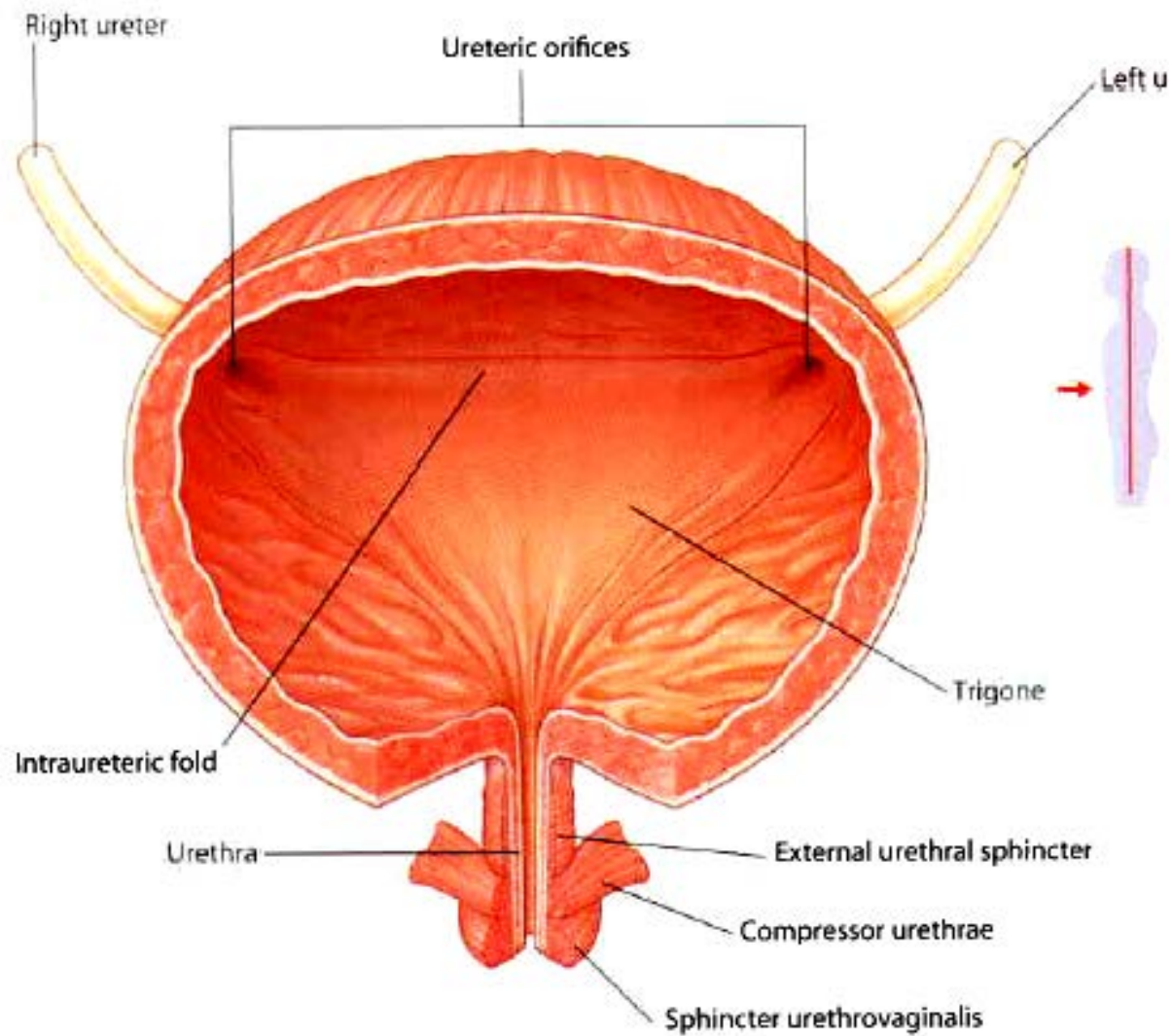


A

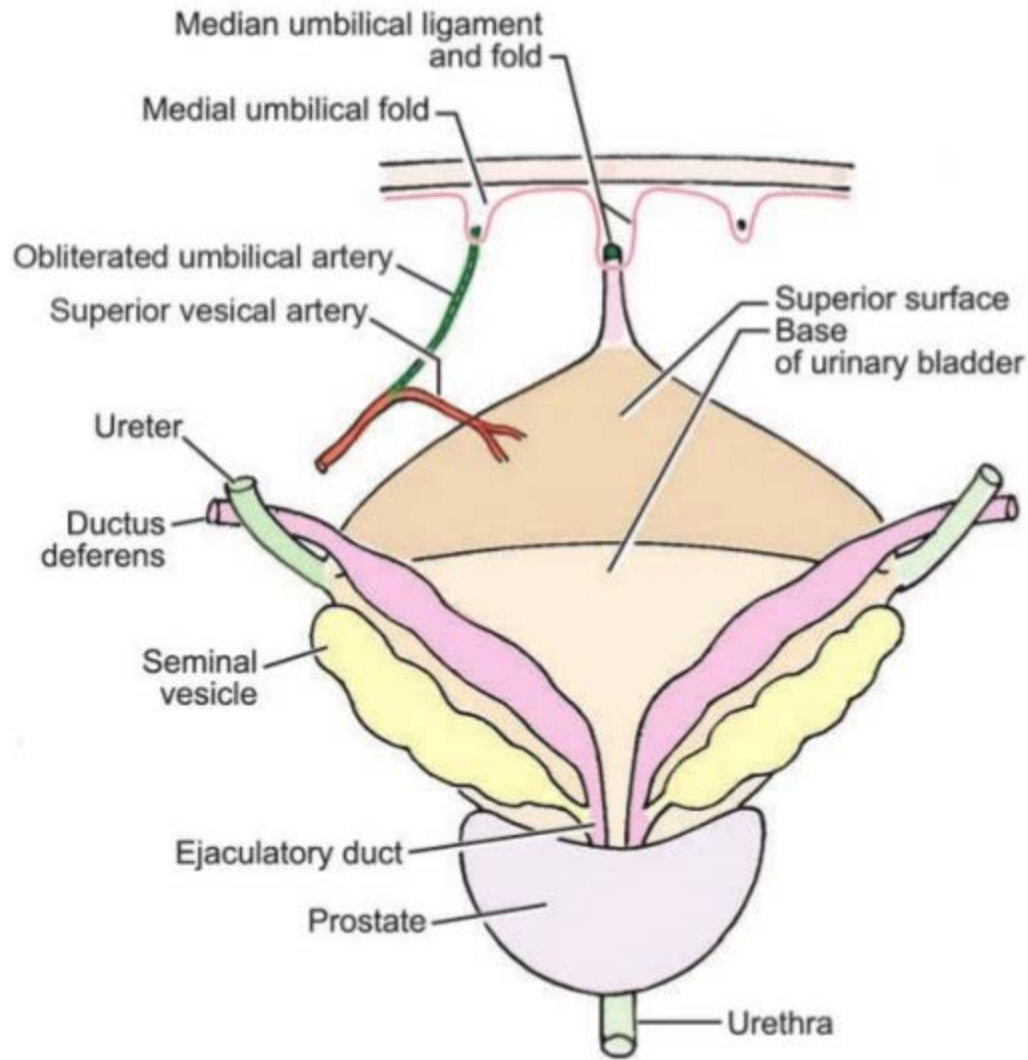


B

**Fig. 5.40** Bladder. A. Superolateral view. B. The trigone. Anterior view with the anterior part of the bladder cut away.



**Urinary bladder and urethral sphincter muscles in women (anterior view of posterior wall)**



**33.12:** Male urinary bladder and some related structures seen from behind



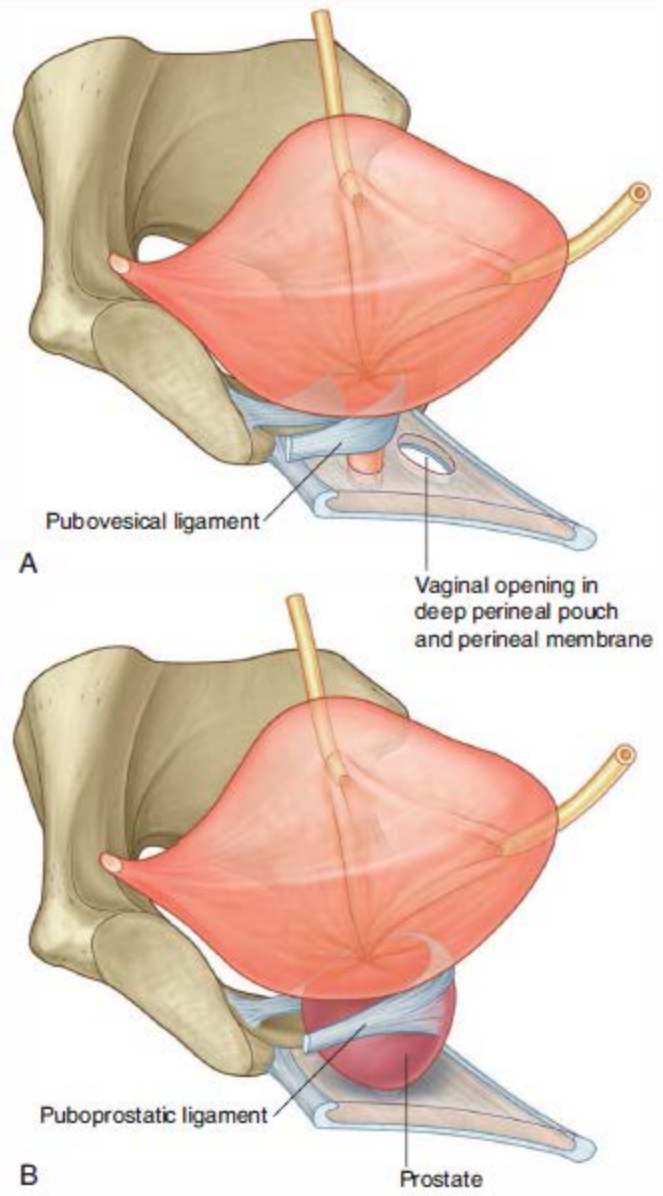


Fig. 5.41 Ligaments that anchor the neck of the bladder and pelvic part of the urethra to the pelvic bones. **A.** In women. **B.** In men.

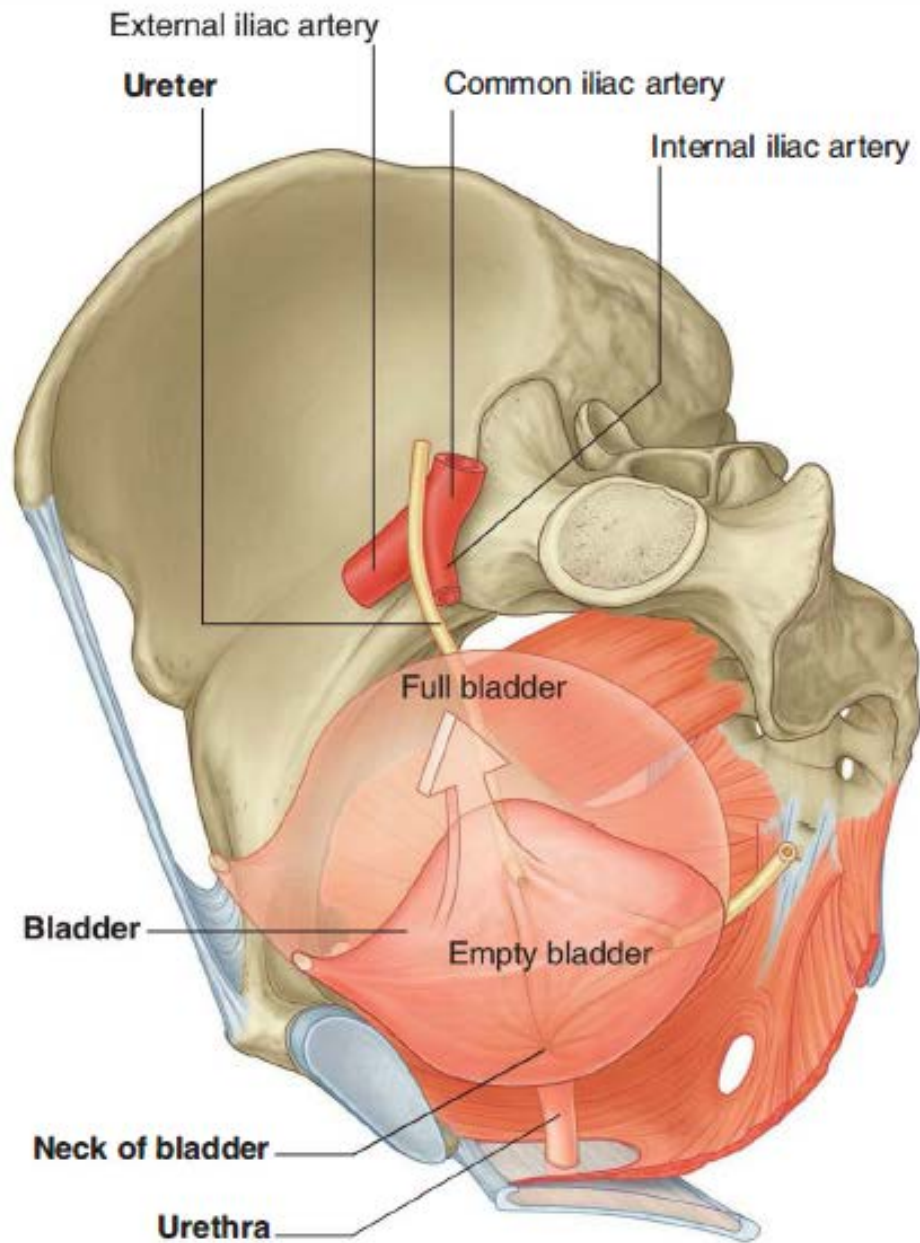


Fig. 5.39 Pelvic parts of the urinary system.

# Urinary Bladder Vasculature

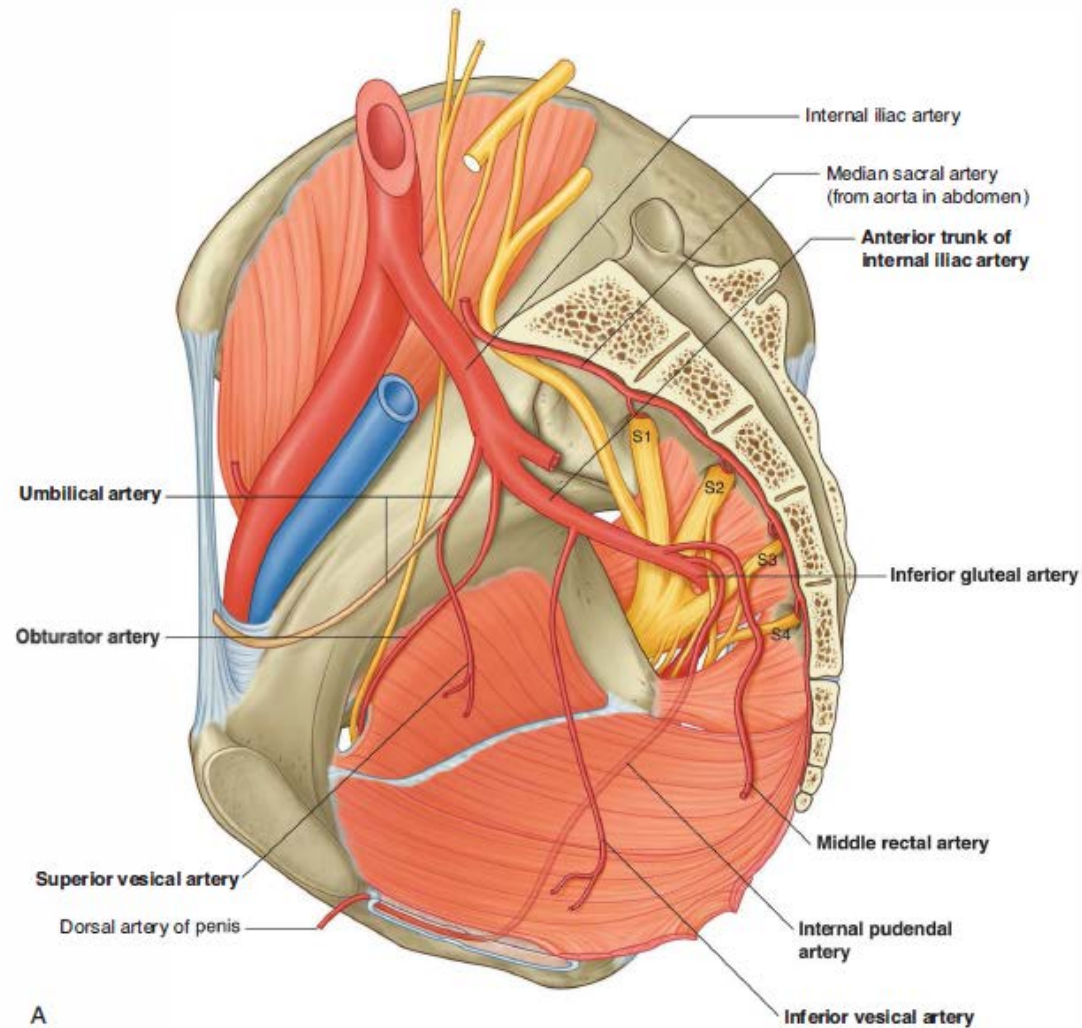
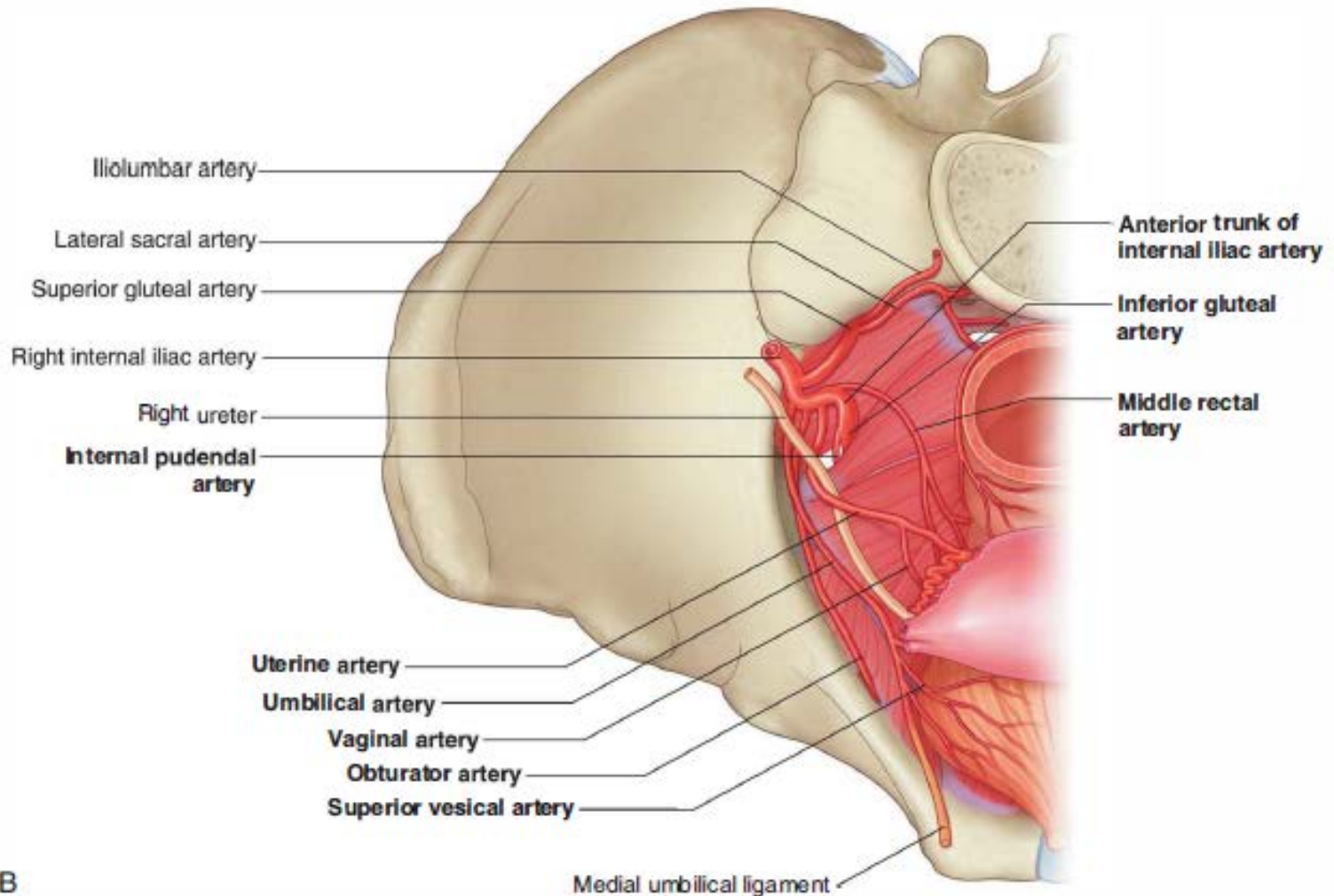


Fig. 5.64 Branches of the anterior trunk of the internal iliac artery. A. Male.



# Urinary Bladder Vasculature



B

Fig. 5.64, cont'd B. Female.

# Urinary System

Kidney

Renal pelvis

Covering of kidney

Ureter

Urinary bladder

**Urethra**

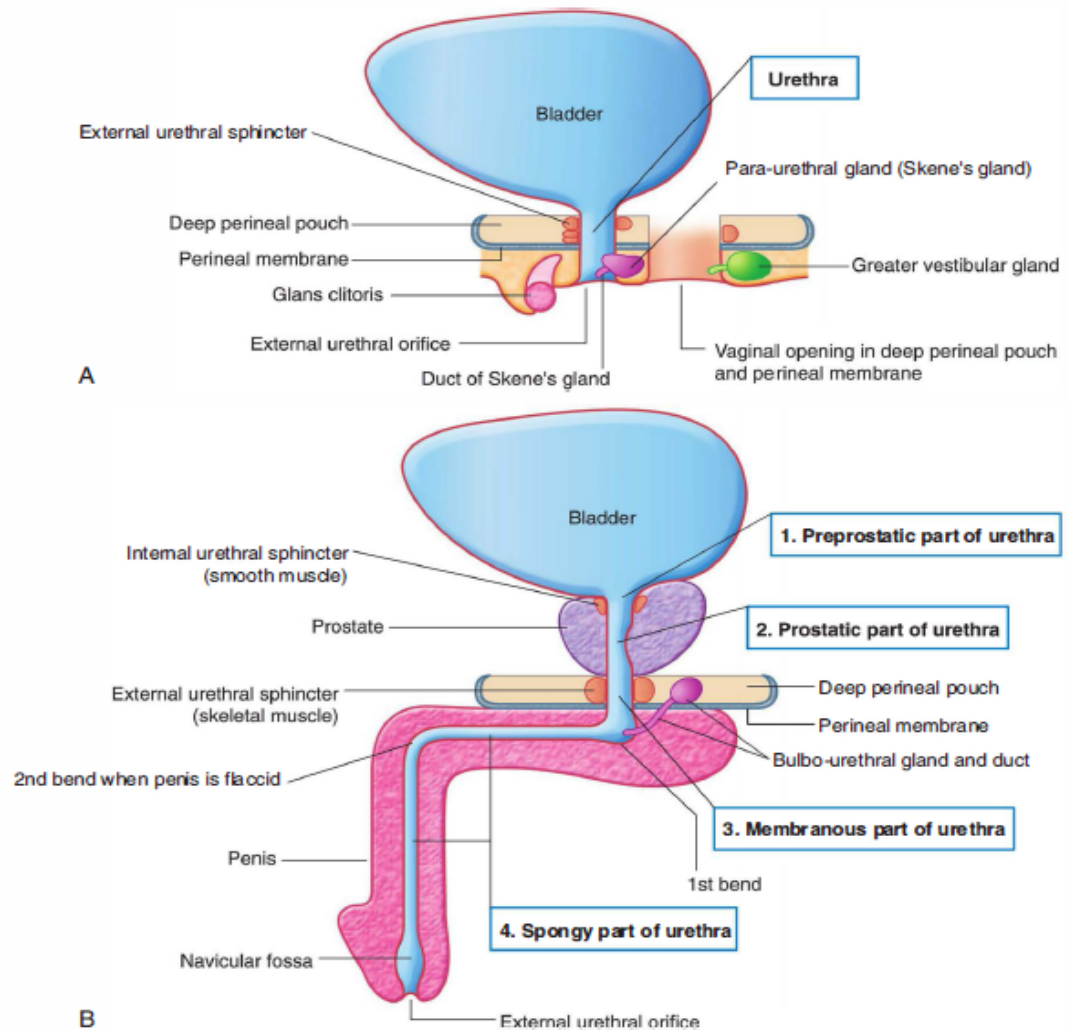
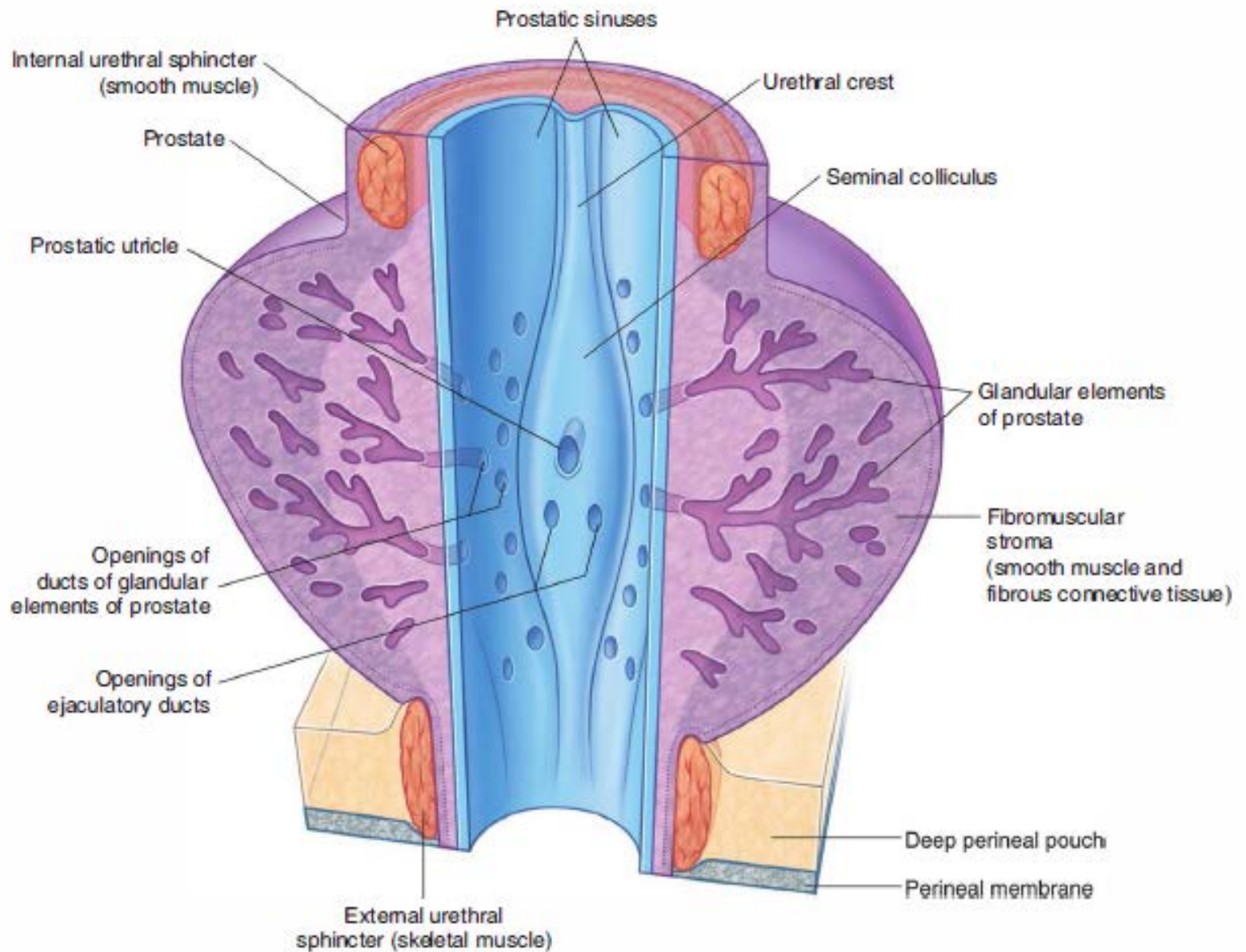
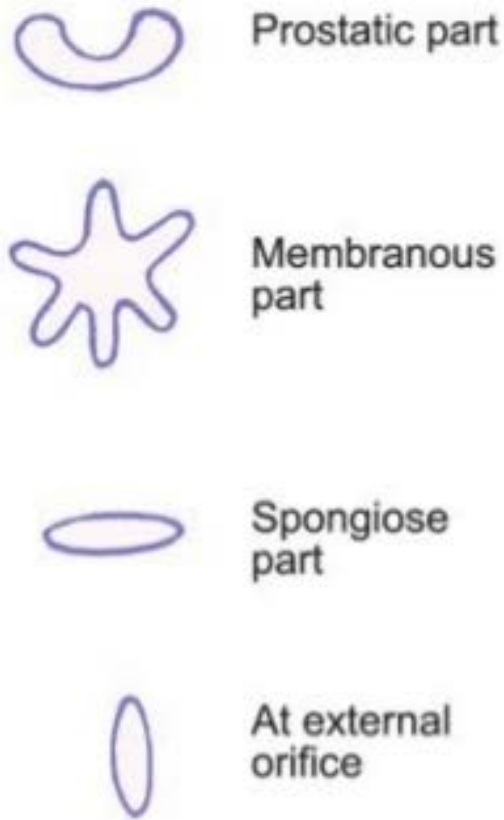


Fig. 5.44 Urethra. A. In women. B. In men.

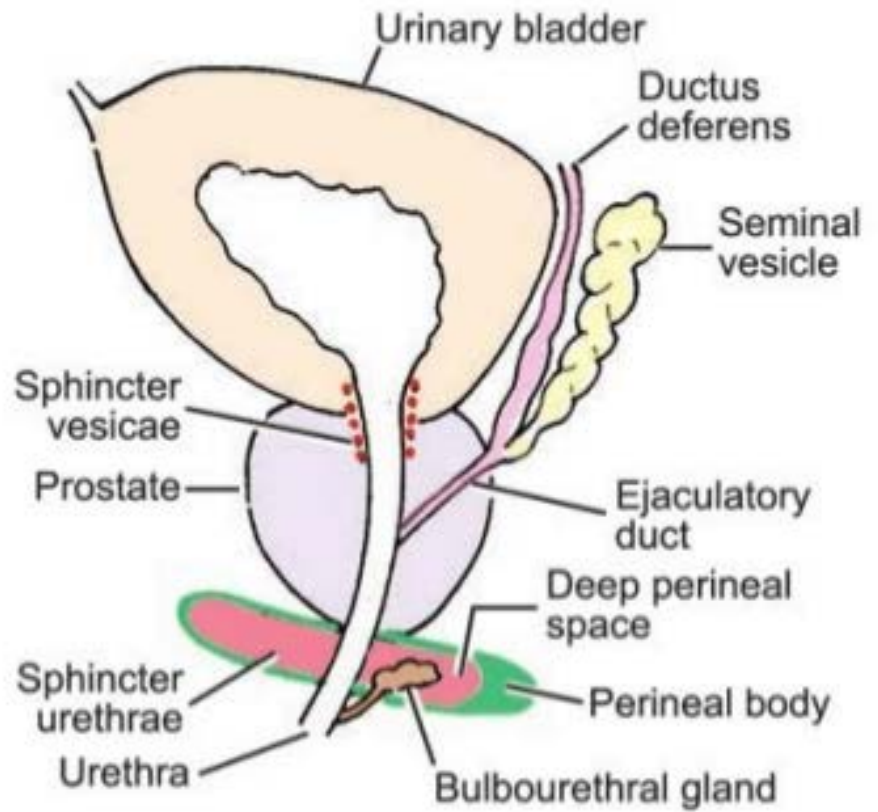


C

Fig. 5.44, cont'd C. Prostatic part of the urethra in men.



**33.16:** Transverse sections through various parts of the male urethra to show the shape of its lumen



**33.17:** Diagram showing the sphincters of the urethra, and the bulbourethral glands





**Fig. 5.42** Intravenous urogram demonstrating a stone in the lower portion of the ureter. **A.** Control radiograph. **B.** Intravenous urogram, postmicturition.



**Fig.5.43** Intravenous urogram demonstrating a small tumor in the wall of the bladder.