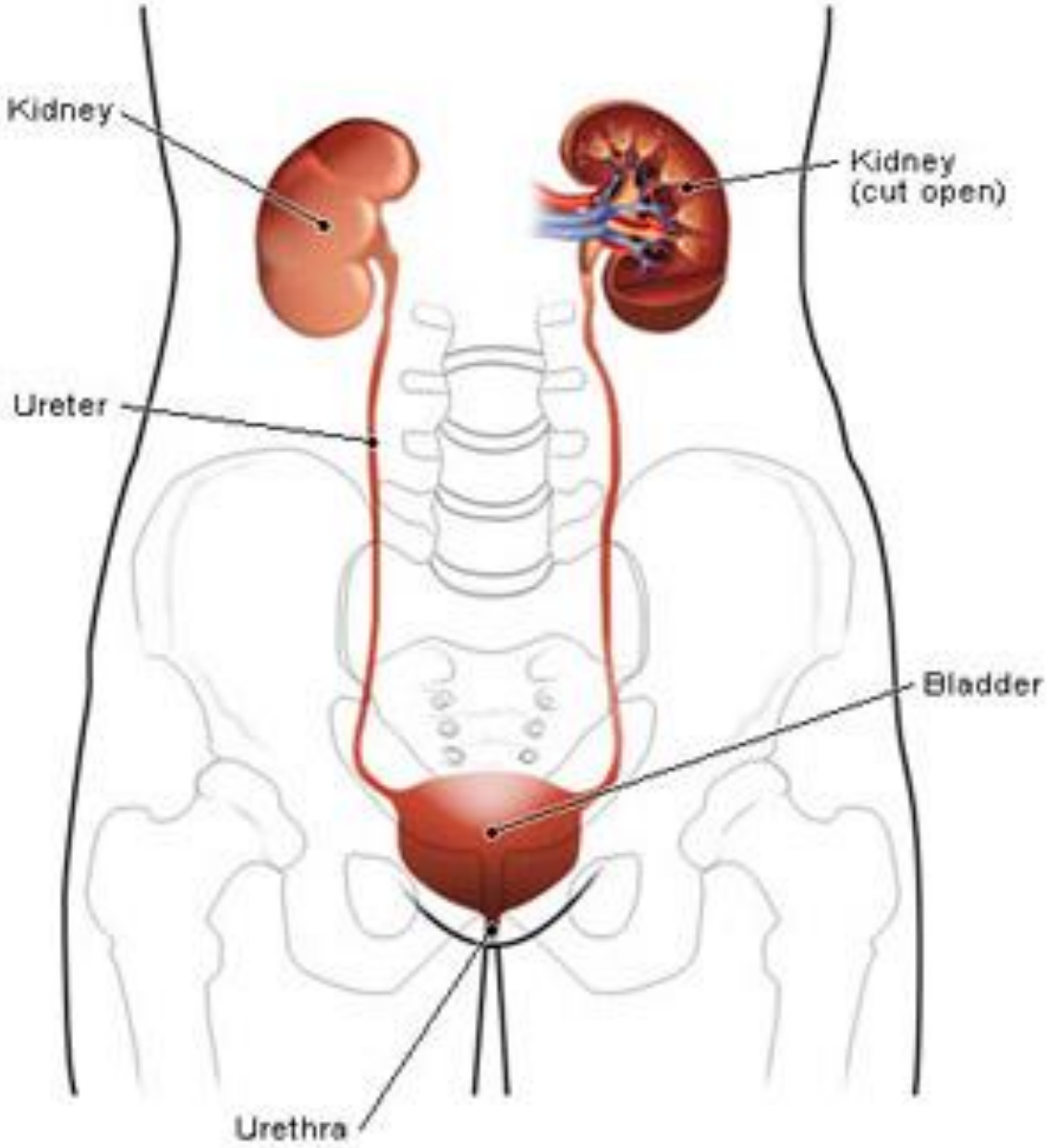
URETERS

- **The ureters are two thick tubes which act to transport urine from the kidney to the bladder.**
- **They lie deep to the peritoneum, closely applied to the posterior abdominal wall in the upper part, and to the lateral pelvic wall in the lower part.**


Kidney
Kidney
(cut open)
Ureter
Bladder
Urethra

- **Dimensions- 25 cm (10 in.) long, of which the upper half (5 in.) lies in the abdomen, and the lower half (5 in.) in the pelvis.**
- **Diameter - 3 mm, but it is slightly constricted at three places**

(1) At the pelviureteric junction;

(2) At the brim of the lesser pelvis

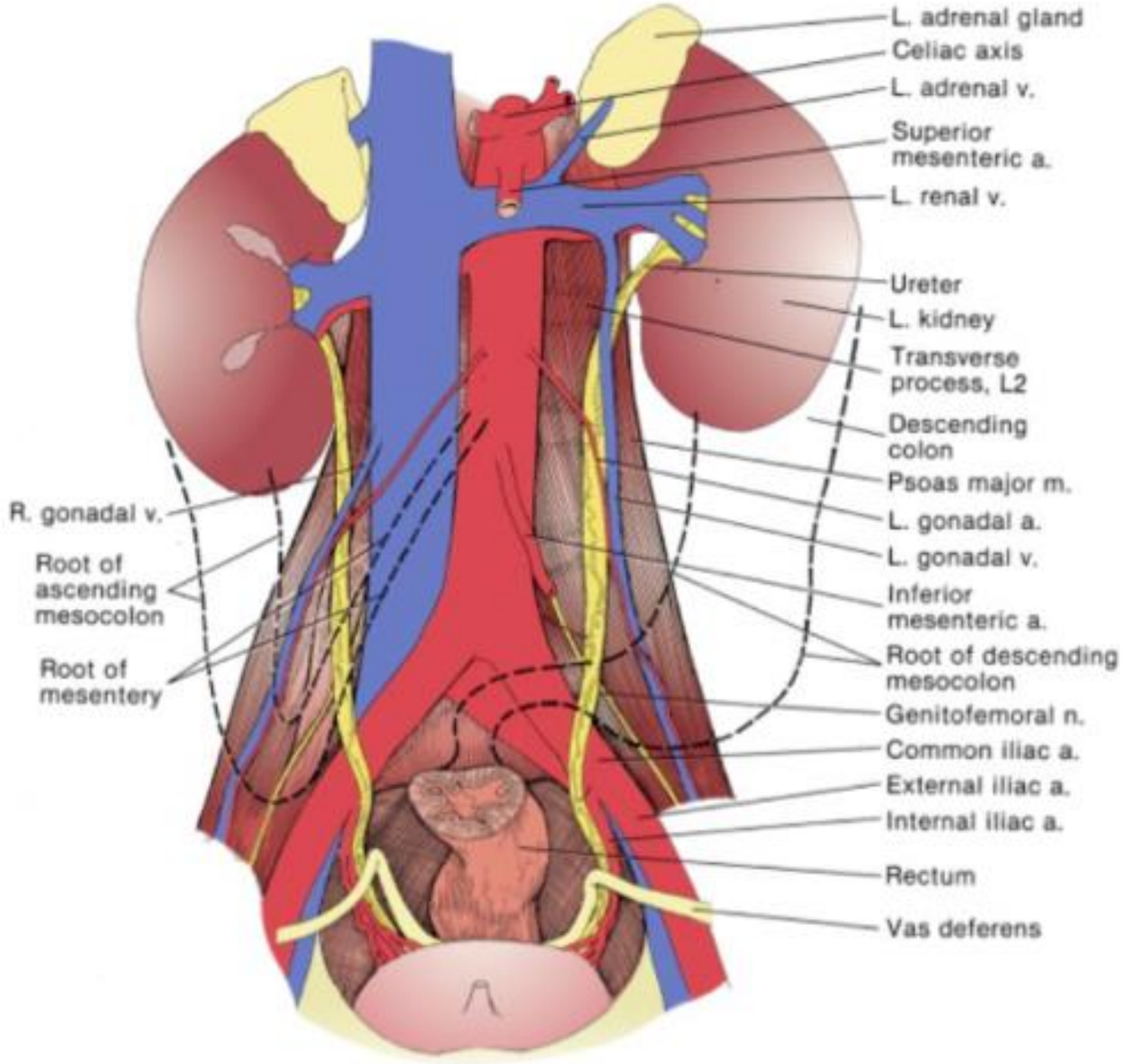
(3) At its passage through the bladder wall :

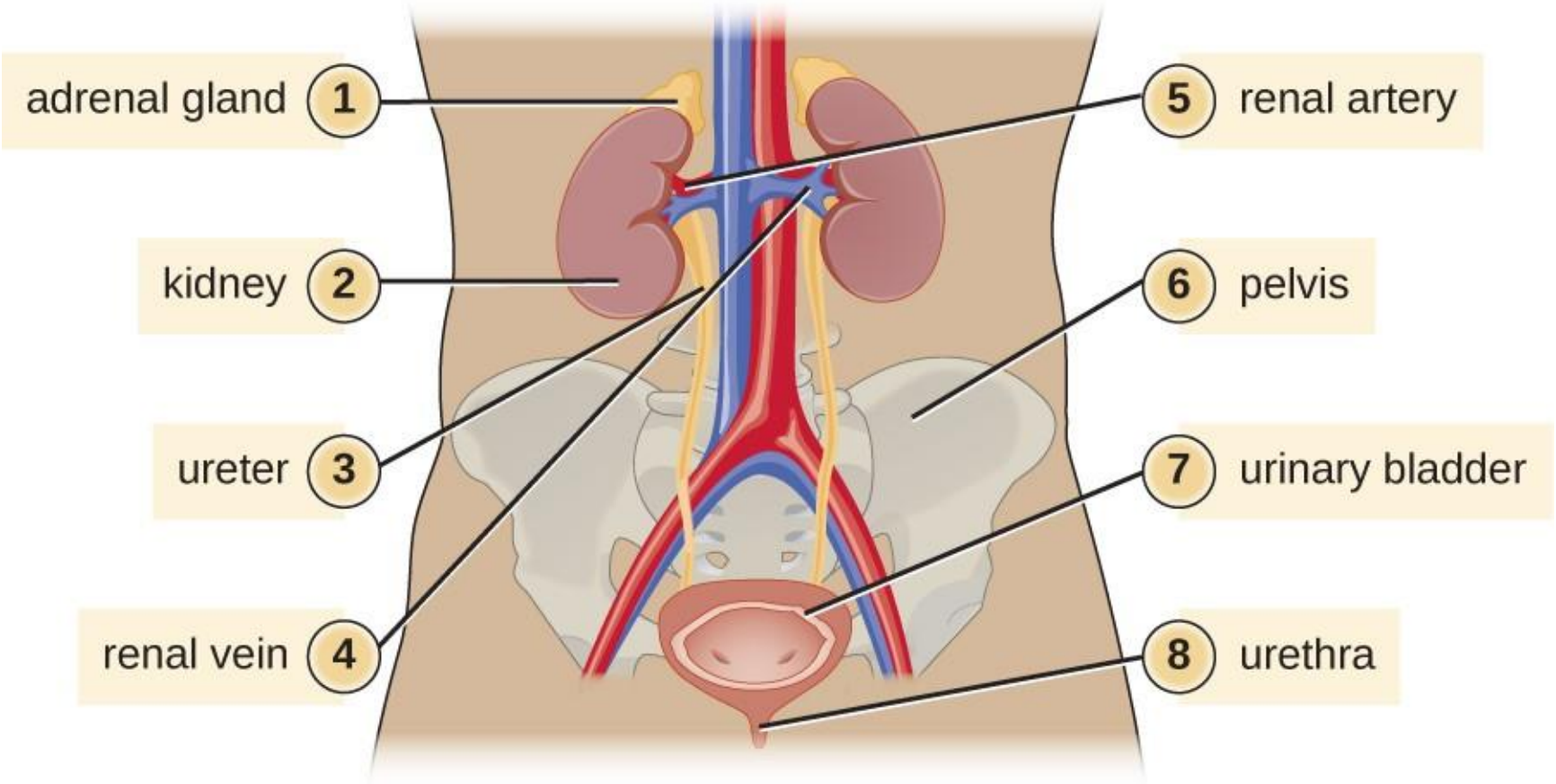
course

- **The ureters arise in the abdomen as a continuation of the renal pelvis, and terminate in the pelvic cavity – where they empty into the bladder.**
- **The anatomical course of the ureters divided into abdominal and pelvic components:**

Abdominal Part-

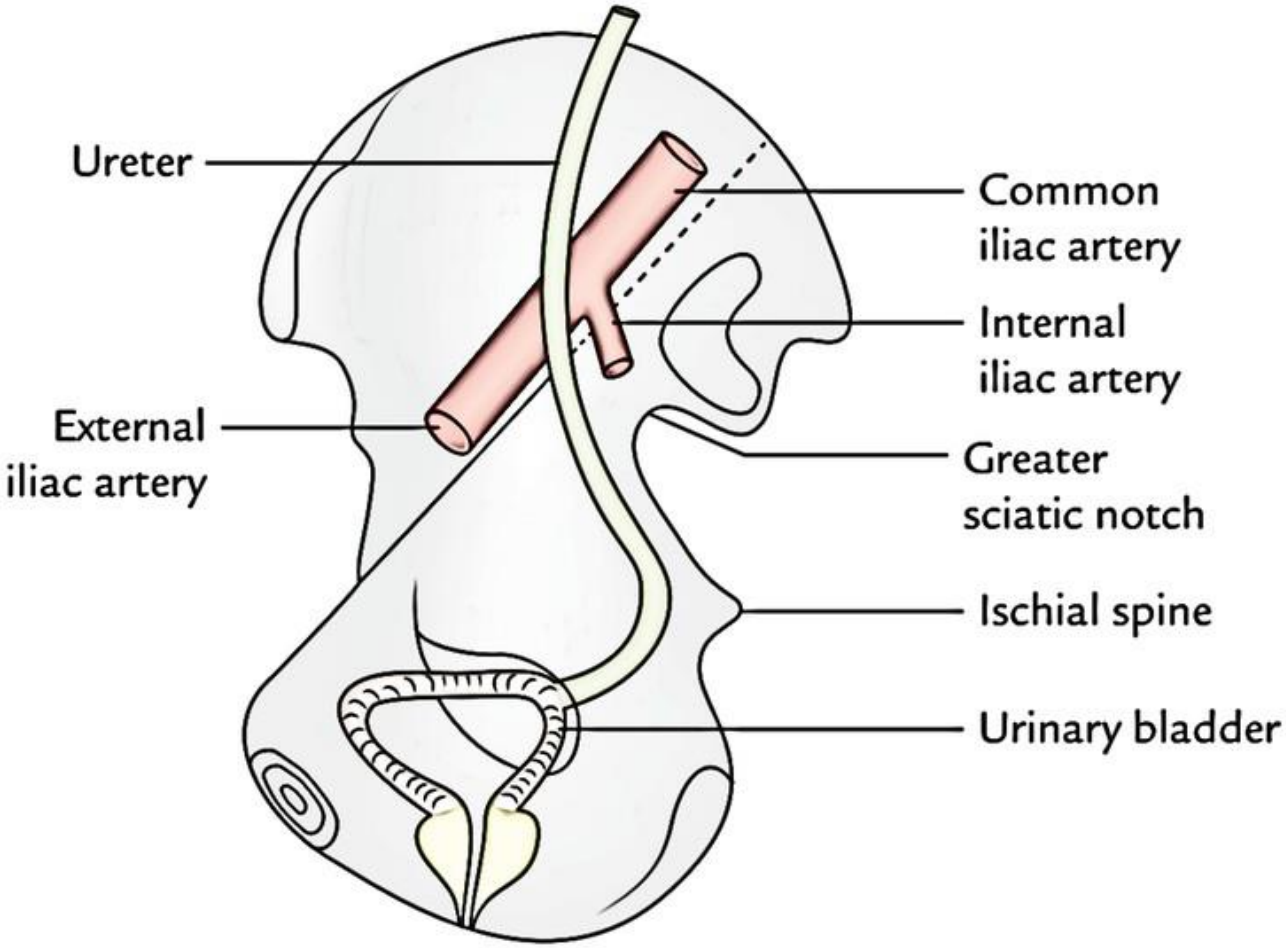
- **The ureters arise from the renal pelvis located within the hilum of the kidney. The renal pelvis receives urine from the major calyces. The point at which the renal pelvis narrows to form the ureter is known as the ureteropelvic junction.**
- **After arising from the ureteropelvic junction, the ureters passes downwards and slightly medially on the psoas major muscle, and enters the pelvis by crossing in front of the termination of the common iliac artery.**


L. adrenal gland
Celiac axis
L. adrenal v.
Superior mesenteric a.
L. renal v.
Ureter
L. kidney
Transverse process, L2
Descending colon
Psoas major m.
L. gonadal a.
L. gonadal v.
Inferior mesenteric a.
Root of descending mesocolon
Genitofemoral n.
Common iliac a.
External iliac a.
Internal iliac a.
Rectum
Vas deferens
R. gonadal v.
Root of ascending mesocolon
Root of mesentery


adrenal gland
1
kidney
2
ureter
3
renal vein
4
5
renal artery
6
pelvis
7
urinary bladder
8
urethra

Pelvic Part

- **Within the pelvic cavity, the ureters run down the lateral pelvic walls. At the level of the ischial spines, they turn anteromedially, moving in a transverse plane towards the bladder.**
- **The ureter enters the bladder wall obliquely to open into it at the lateral angle of its trigone.**

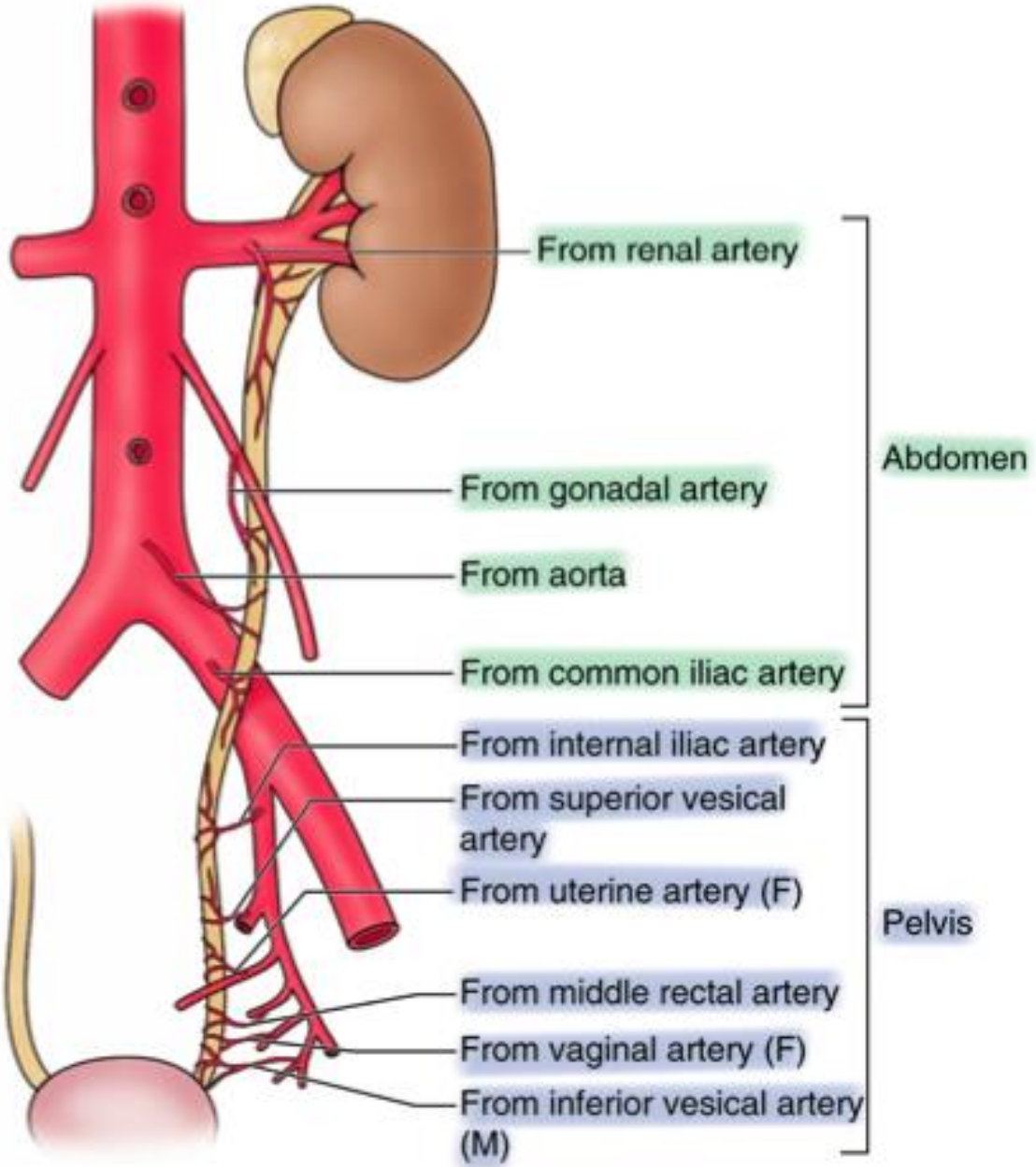

Ureter
Common iliac artery
Internal iliac artery
External iliac artery
Greater sciatic notch
Ischial spine
Urinary bladder

Blood supply- supplied by three sets of long arteries:

(1) The upper part- branches from the renal artery or gonadal, or colic vessels.

(2) The middle part- branches from the aorta or gonadal, or iliac vessels.

(3) The pelvic part- branches from the vesical, middle rectal, or uterine vessels


From renal artery
From gonadal artery
From aorta
From common iliac artery
Abdomen
From internal iliac artery
From superior vesical artery
From uterine artery (F)
From middle rectal artery
From vaginal artery (F)
From inferior vesical artery (M)
Pelvis

Venous drainage- same as mentioned arteries.

Nervous supply-

sympathetic- T10-L1

Parasympathetic- S2-S4 nerves.

They reach the ureter through the renal, aortic and hypogastric plexuses.

Clinical aspect

Ureteric Calculus-

is the presence of a solid stone in the urinary tract, formed from minerals within the urine. These can obstruct urinary flow, causing pain and haematuria (blood in the urine).

- **There are three locations where the ureters are at their narrowest – this is where a stone is more likely to become stuck:**
  - **Uretopelvic junction**
  - **Pelvic brim**
  - **Where the ureter enters the bladder**