



SNS COLLEGE OF ALLIED HEALTH SCIENCES
SNS Kalvi Nagar, Coimbatore - 35
Affiliated to Dr MGR Medical University, Chennai



DEPARTMENT: ALLIED HEALTH SCIENCES
COURSE NAME: ANATOMY

Unit: Anatomy of Ureter

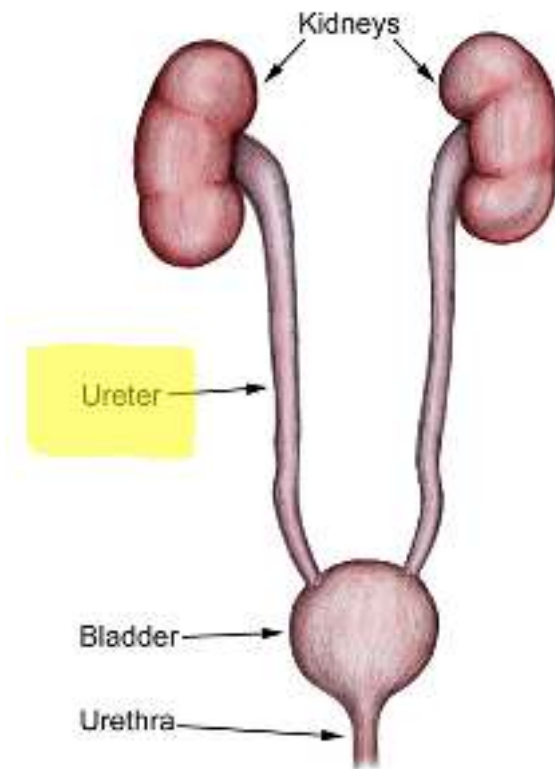
**Topics: Location, Measurement, Histology, Parts,
Relations & Course, Blood Supply & Nerve Supply**



URETER



- The Ureter is a narrow, thick walled, bilateral, expansile muscular tube.
- It conveys urine from the kidney to the urinary bladder
- The urine is propelled from kidney to the urinary bladder by the peristaltic contractions of the smooth muscle of the wall of ureter

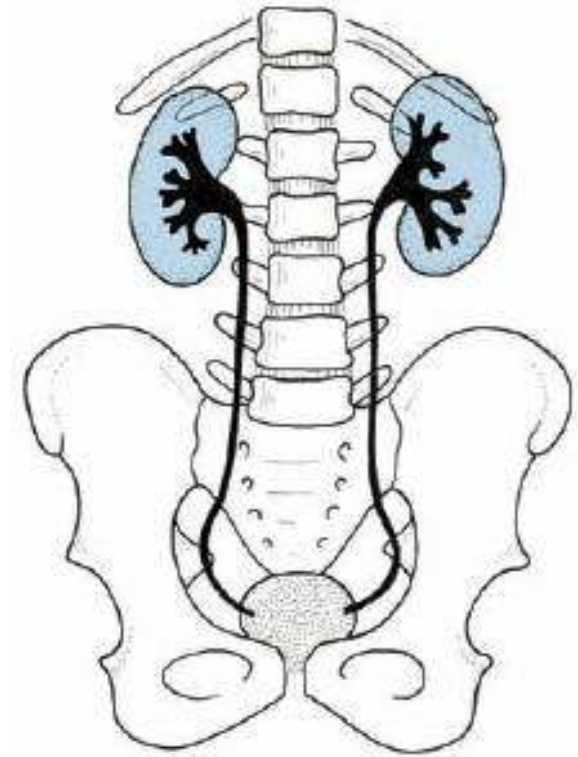




LOCATION



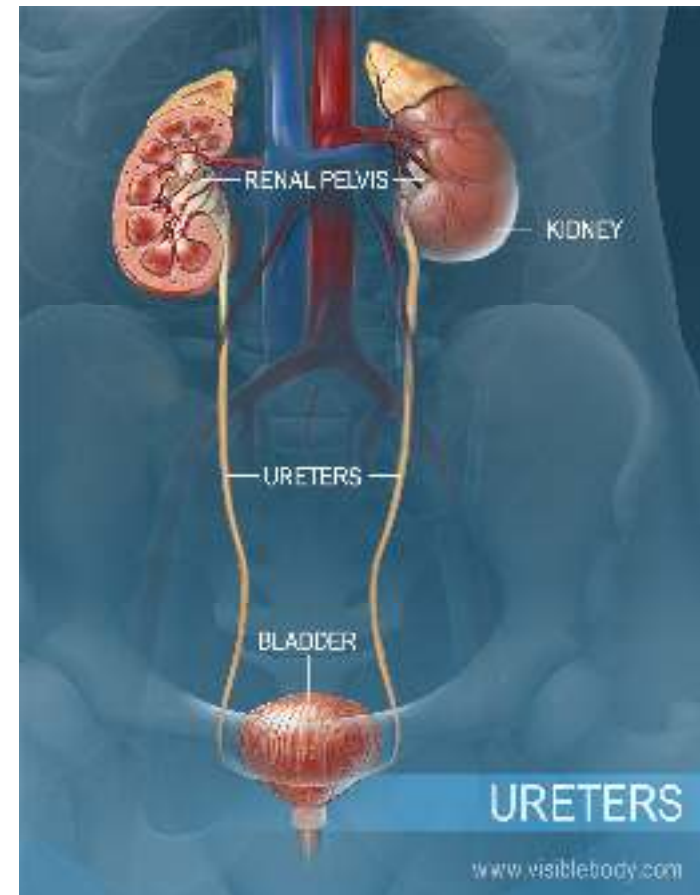
- Retroperitoneal structure in the posterior abdominal wall (upper part) and lateral pelvic wall (lower part)





MEASUREMENTS

- Ureters are collapsible **S-shaped channels**
- Length 25cm (10 inches)
- Diameter 3mm
- They are **widest at the renal pelvis** and narrow progressively as they enter the urinary bladder in the concavity of the true pelvis.

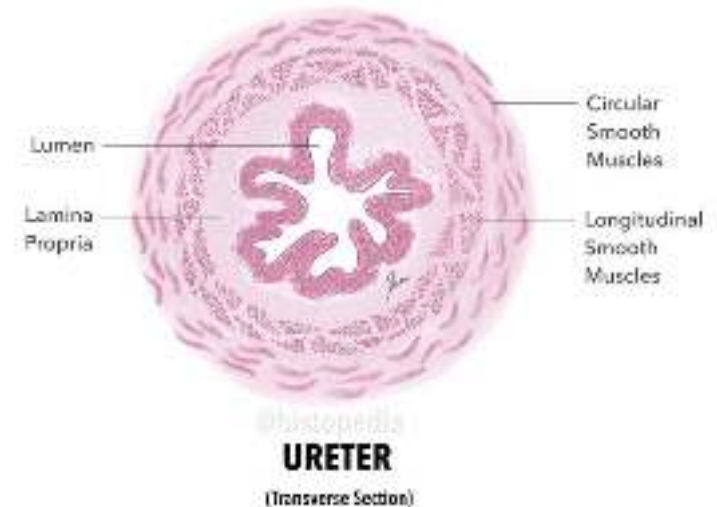




HISTOLOGY



- The lumen of each ureter is lined by a **mucosal layer of transitional epithelium**
- This epithelium accommodates with **increased pressure** and **increased volume**, thereby aiding to minimize the risk of rupturing the ureters.
- There are two muscular layers in the wall of the ureter: **a longitudinal and a circular layer**
- The urine is propelled along the ureters by peristaltic motions initiated by **pacemaker cells in the proximal renal pelvis**

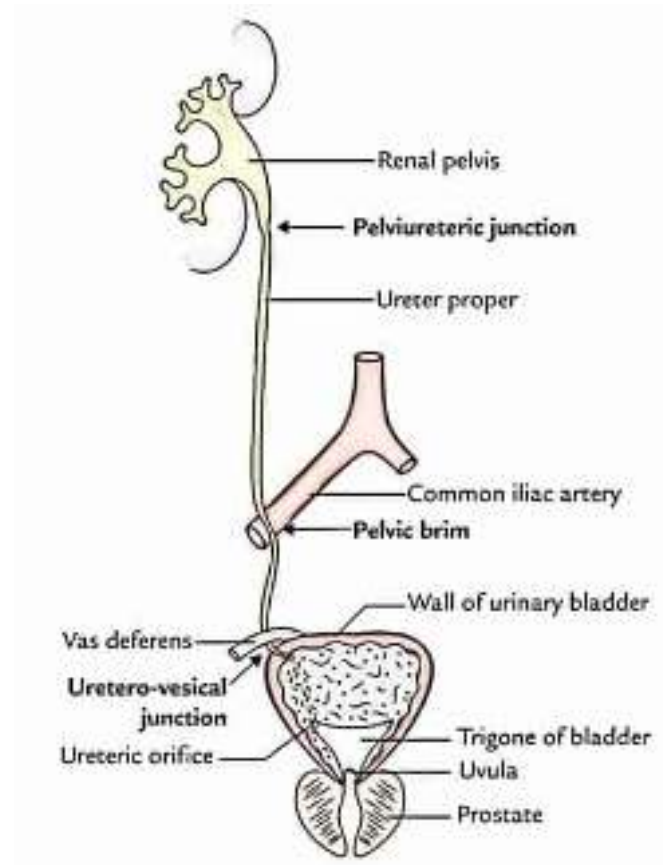




PARTS OF URETER



- Pelvis of Ureter
- Abdominal Ureter
- Pelvic Ureter
- Intravesical ureter

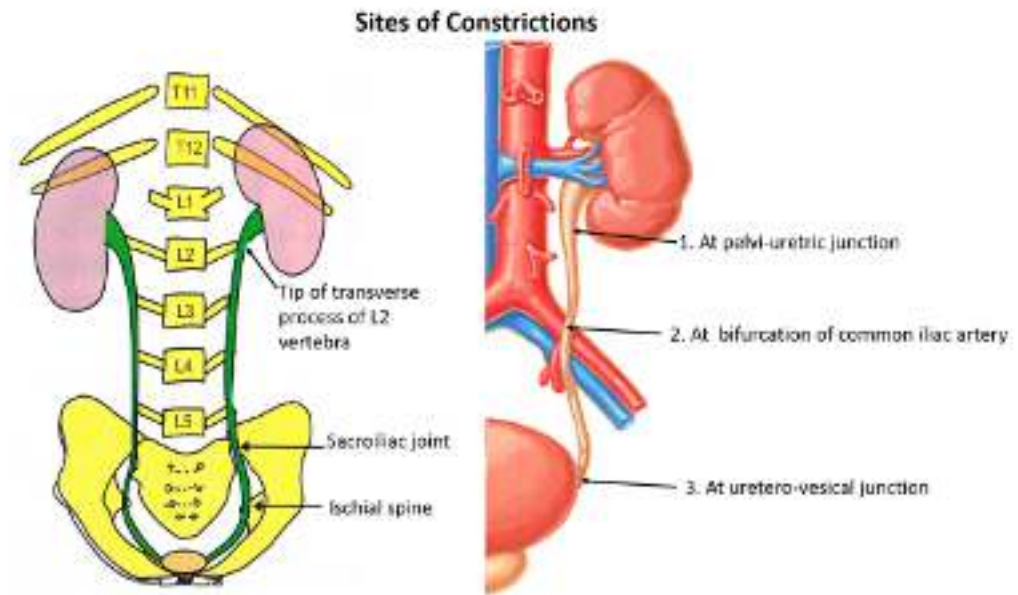




SITES OF CONSTRICTION



- At **Pelvic Uretric junction** which is at the level of lower pole of the kidney (at the level of tip of transverse process of 2nd lumbar vertebra.
- At the **pelvic brim** (at sacroiliac joint)
- At the **uretero-vesical junction**, the point where the ureter pierces the urinary bladder (at the level of ischial spine)





ASSESSMENT – I



- Function of Ureter -----
- Shape of Ureter -----
- Parts of Ureter -----
- What are the muscular layer of ureter -----

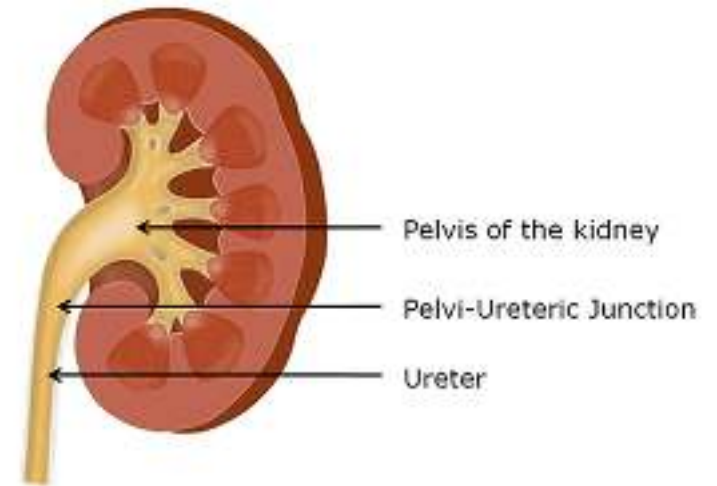


RELATIONS AND COURSE OF URETER



Pelvis of Ureter

- Arises from the **renal pelvis** (leaves kidney from hilum situated medially) formed by calyces encircling the renal papillae
- Descends along the medial margin of the kidney
- At the lower end of kidney, it becomes continuous with the abdominal ureter



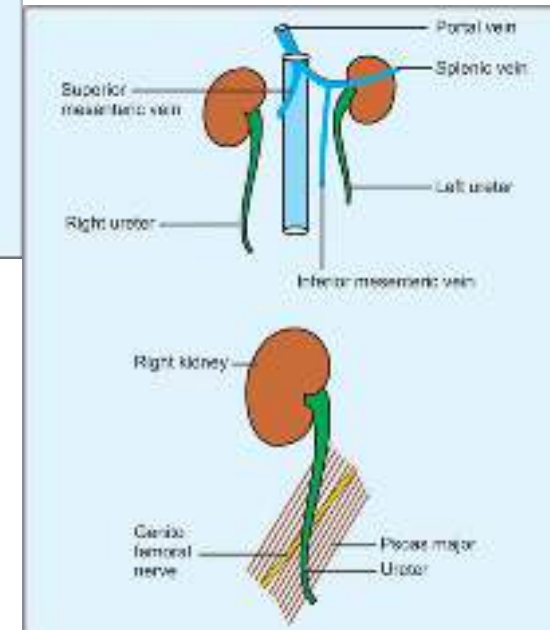
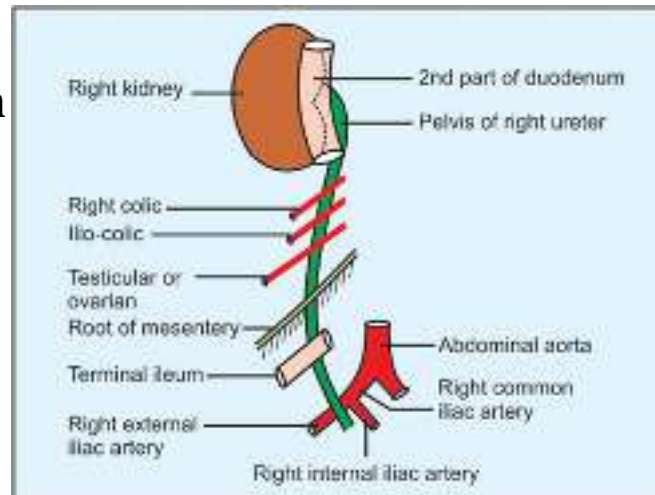


RELATIONS AND COURSE OF URETER



Abdominal Ureter

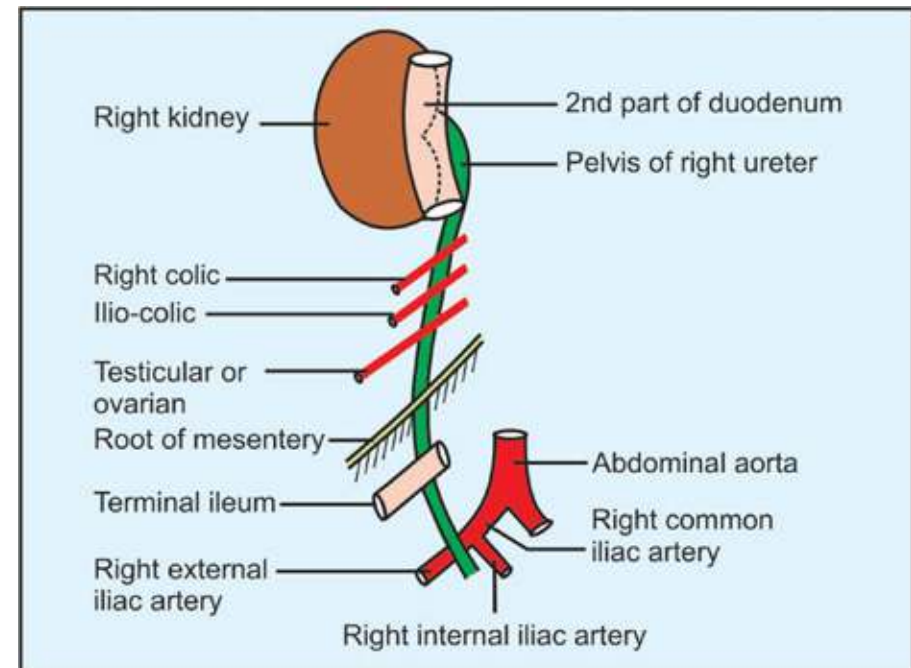
- Passes downwards and medially to lie on the medial edge of **psoas major**
- Then enters into the pelvis at the **bifurcation of the common iliac artery** in front of the sacroiliac joint.
- Anteriorly, the right ureter is covered by the **2nd part of the duodenum** and then lies lateral to the inferior vena cava and behind the posterior peritoneum





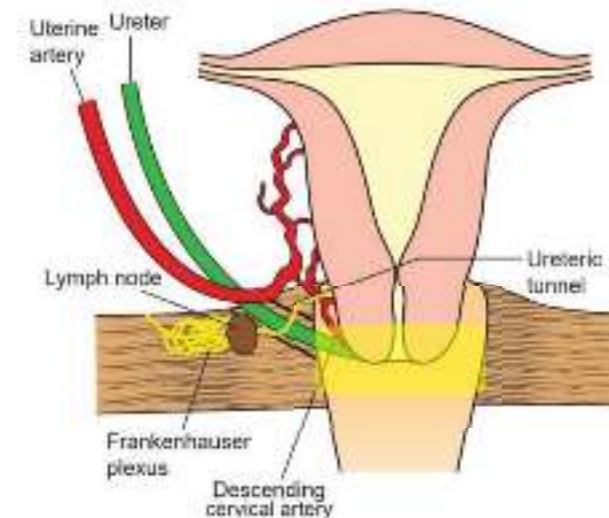
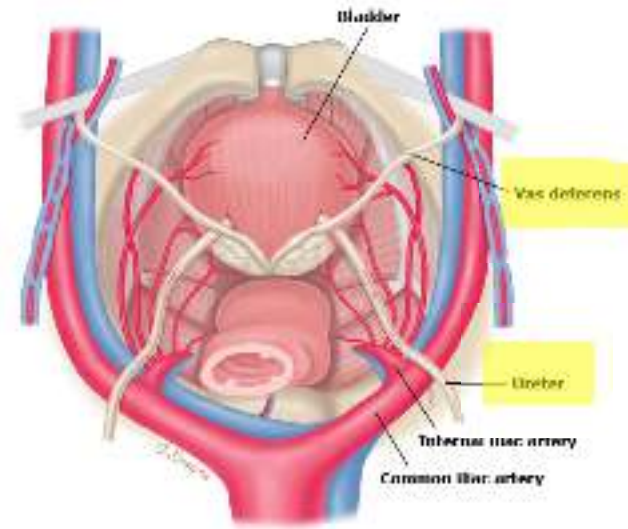
Pelvic Ureter

- Right ureter is crossed by the **testicular (or ovarian), right colic, and ileocolic vessels.**
- The left ureter is crossed by the testicular (or ovarian) and left colic vessels
- Then passes above the **pelvic brim**, behind the meso-sigmoid and sigmoid colon to cross the common iliac artery immediately above its bifurcation and enter the true (lesser) pelvis





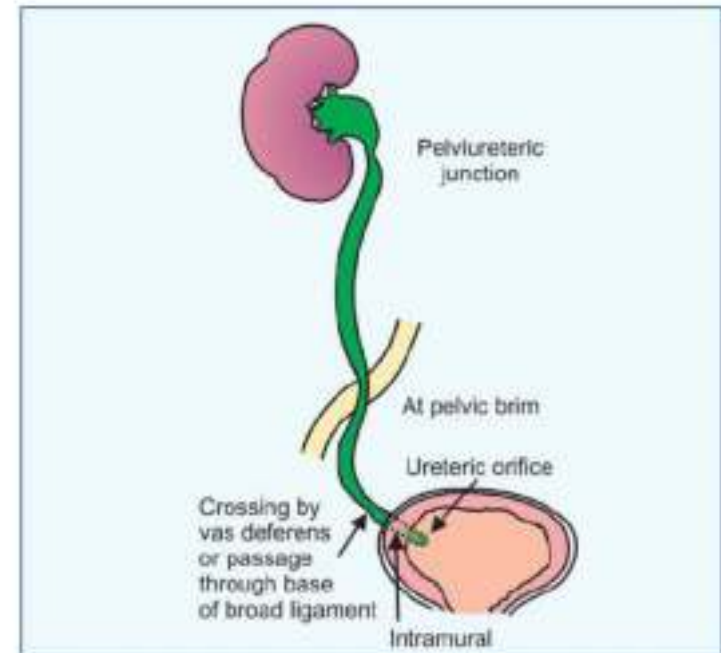
- Runs downwards and backwards on the lateral pelvic wall in front of the **internal iliac artery** to reach just in front of the **ischial spine**
- Then turns forwards and medially to enter the **urinary bladder**
- In the male it lies above the **seminal vesicle** near its termination and is crossed superficially by the **vas deferens**
- In the female, the ureter passes above the **lateral fornix of the vagina** lateral to the supra-vaginal portion of the cervix and lies below the **broad ligament and uterine vessels**





Intravesical ureter

- Passes obliquely through the wall of the bladder and open into it at the **lateral angle of trigone**





BLOOD SUPPLY

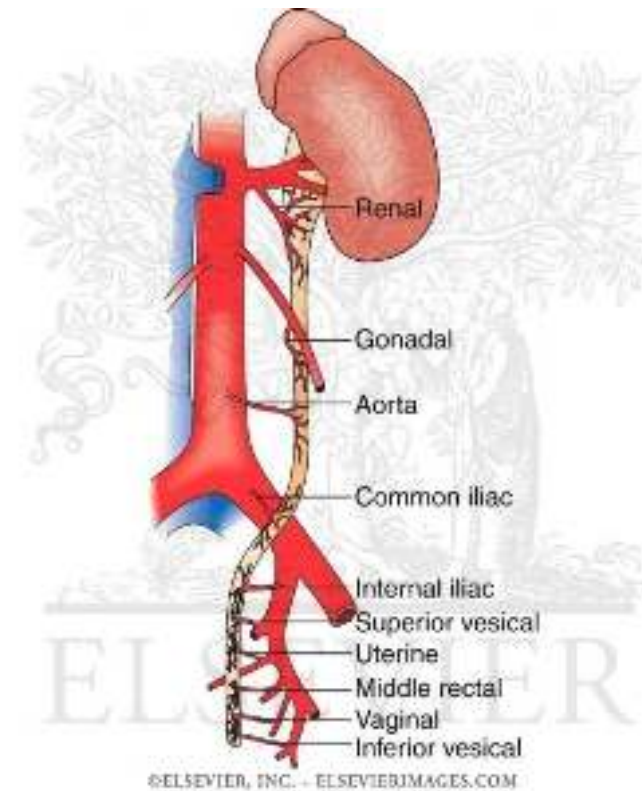


Arterial Blood Supply

Abdominal part: Branches from Renal artery, Abdominal aorta and Gonadal artery

Pelvic part:

- As it crosses pelvic brim: Branches from Common Iliac and Internal Iliac arteries
- Inside the pelvis: Inferior vesical artery (Male) and Uterine artery (Female)
- **Veins correspond to the arteries**



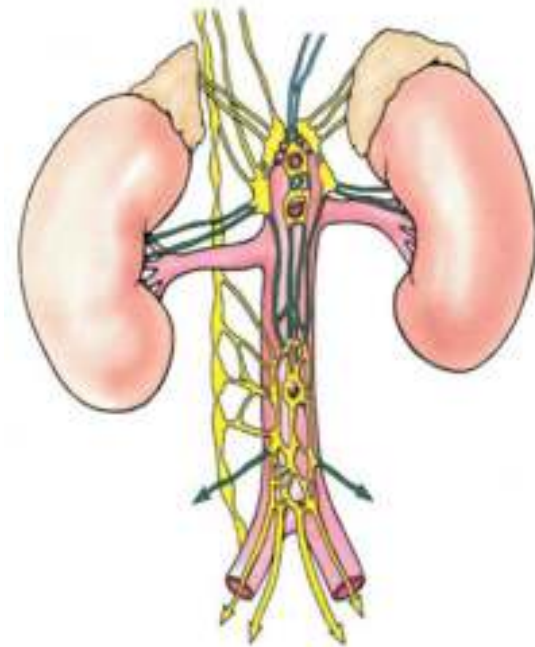


NERVE SUPPLY



Nerve Supply:

- Sympathetic: T10-L1 spinal segments, which reaches the ureter via renal and superior hypogastric plexuses.
- Parasympathetic: S2-S4 nerves via splanchnic nerves.





ASSESSMENT – II



- Abdominal Ureter enters the pelvis through -----
- Right Ureter is covered anteriorly by -----
- Intravesical ureter opens at the -----
- Abdominal part of arterial blood supply -----
- Parasympathetic nerve supply through -----



THANK YOU



- <https://medchrome.com/basic-science/anatomy/clinical-anatomy-ureter/>
- <https://anatomyqa.com/ureter/>