
URINARY/KIDNEY ABSTRACTING 101 2025 TRAINING ANATOMY

Presented by Melissa Riddle, ODS-C
ICR Video Training Series: Iowa Cancer Registry
February 2026



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THE URINARY SYSTEM

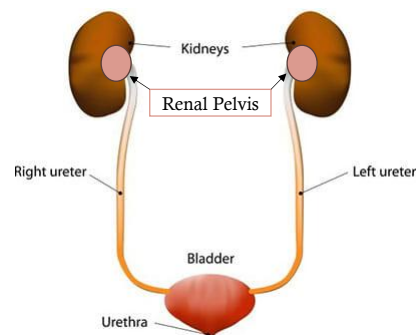
Kidney Parenchyma – C649

Kidney Renal Pelvis – C659

Ureter – C669

Bladder – C67_

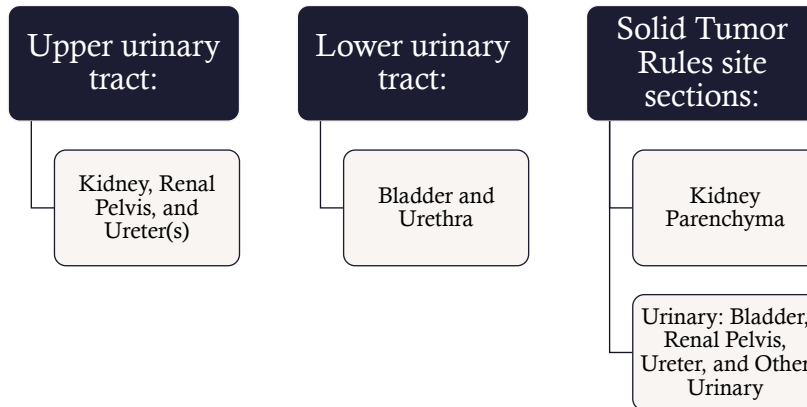
Urethra – C680



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THE URINARY TRACT



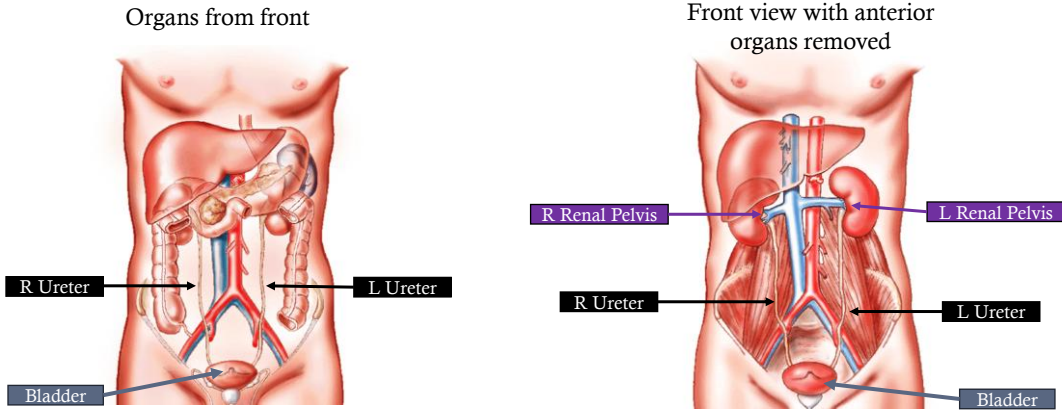
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THE URINARY TRACT

- **Urinary Sites**
 - Renal pelvis, ureter, bladder, urethra/prostatic urethra
 - Lined by transitional epithelium/urothelium
 - Expandable epithelium with layered appearance in the bladder
 - Tumor cells may shed and implant in structures lower in the tract causing multifocal tumors
 - Collects and transports urine from the body
 - **Kidney**
 - Glandular – Renal cells
 - Filters blood
 - Removes urea
 - Creates urine
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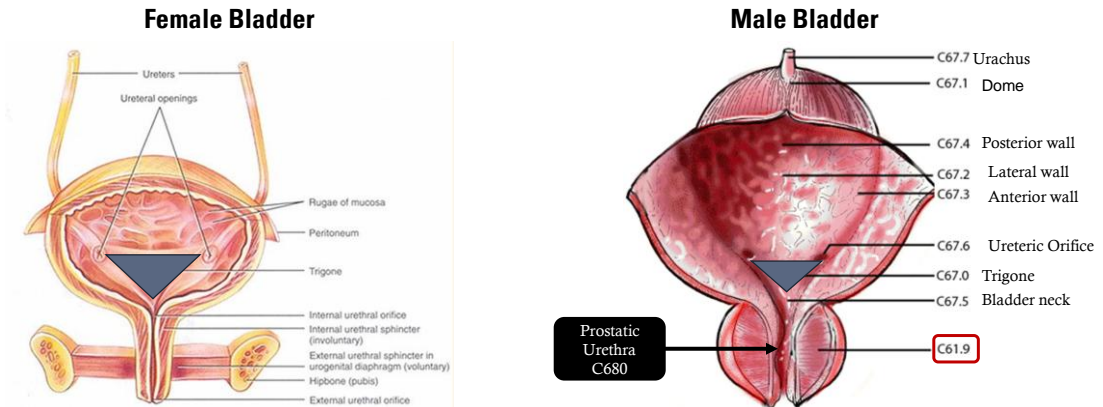
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RENAL PELVIS, BLADDER, URETER(S)



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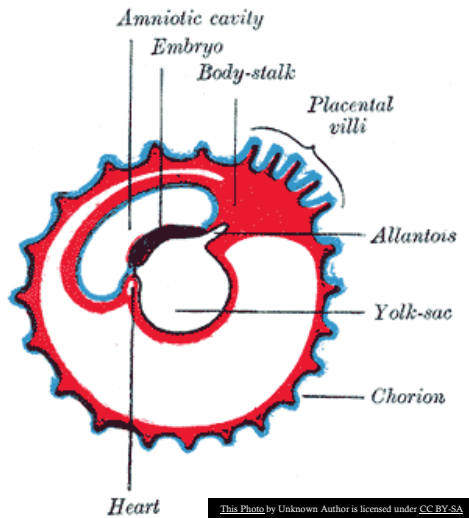
BLADDER AND URETER



Source: www.jyi.org/volumes/volume6/issue7/images/shobab_bladder1.jpg
 Courtesy of Gerard J. Tortora (1999) Principles of Human Anatomy (eight edition) John Wiley & Sons Inc., New York

Source: UICC *TNM-interactive*, Wiley-Liss, 1998

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BLADDER FUN FACTS

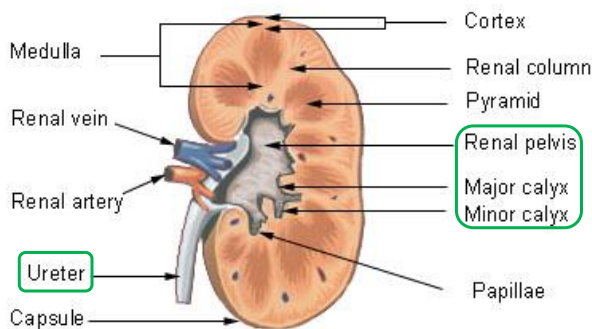
• Urachus

- Embryological canal connecting the urinary bladder of the fetus with the allantois (structure that contributes to the formation of the umbilical cord)
- Lumen (inside) urachus is normally obliterated during embryonic development
 - Transforms the urachus into a solid cord, a functionless remnant
- Lies between the space of Retzius, between the transversalis fascia anteriorly and peritoneum posteriorly

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UPPER URINARY TRACT

Frontal section through the Kidney



• Renal Pelvis/Calyces C659

- Collecting system of the kidney
- Ureteropelvic junction
 - Renal pelvis becomes the ureter

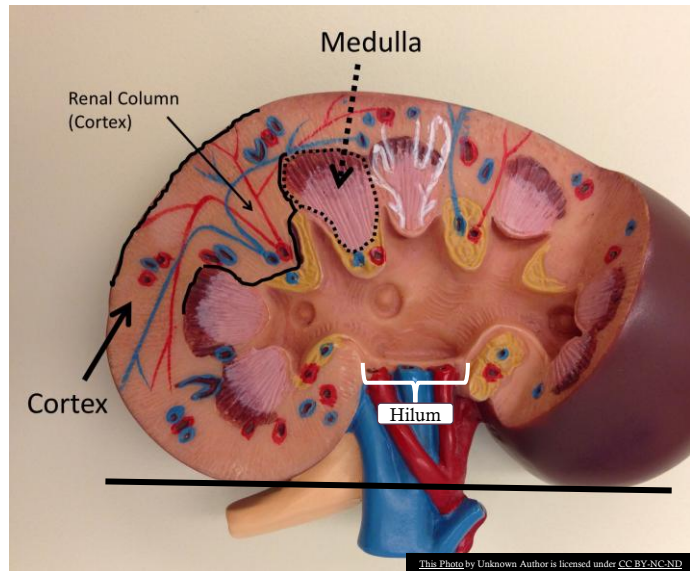
• Ureter C669

- Carries urine from kidney to bladder

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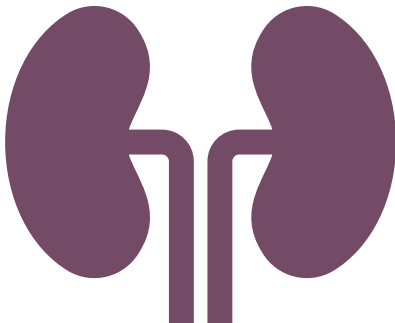
RENAL HILUM & RENAL SINUS

- The medial (inner) side of each kidney presents a concave notch called the hilum (hilus)
 - Where the vessels enter the organ
- Renal sinus is the space outside the kidney and renal pelvis, but within a line drawn from medial edge of upper pole to medial edge of lower pole
 - Fatty tissue only
 - Not collecting structure



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KIDNEY PARENCHYMA

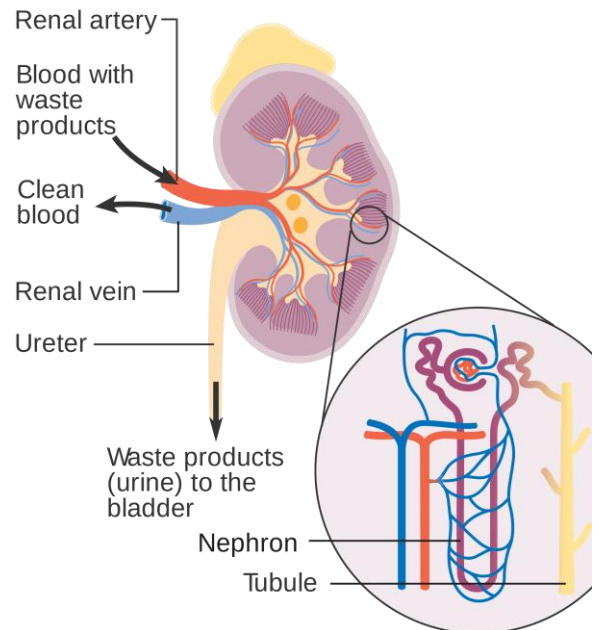


- Kidney is a bilateral organ – right & left
- Bean shaped
 - 4" long, 2" wide, 1.5" thick
 - Weight: up to 10oz
- Kidney cancer – 3% of all adult cancers
 - 85% are Renal Cell Carcinomas (RCC) or subtype/variant of RCC
 - Most common – clear cell RCC (ccRCC)

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KIDNEY FILTRATION

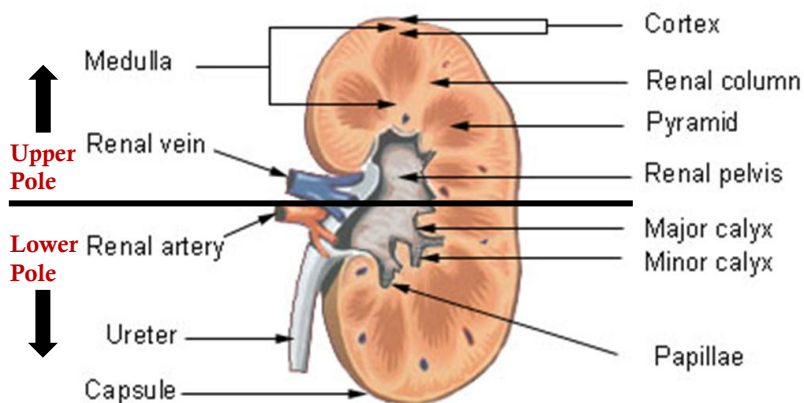
- The function of the kidneys as mentioned earlier is to filter the blood from waste products and urea
 - Creation of urine
- **Parenchyma** – functional tissue of the kidney
 - AKA Kidney Nephrons
 - Filtration occurs in this area of the kidney



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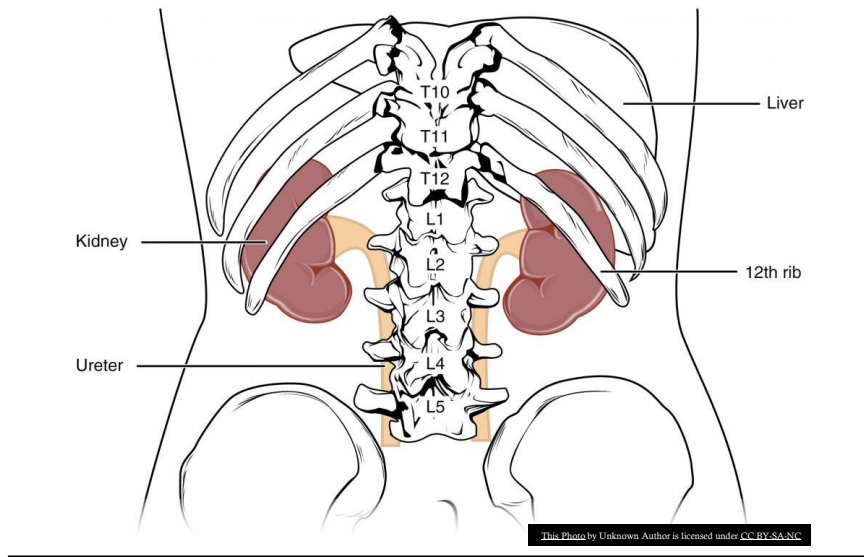
Frontal section through the Kidney



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KIDNEY PARENCHYMA

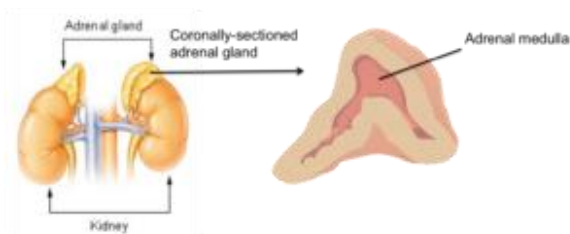
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KIDNEY PARENCHYMA

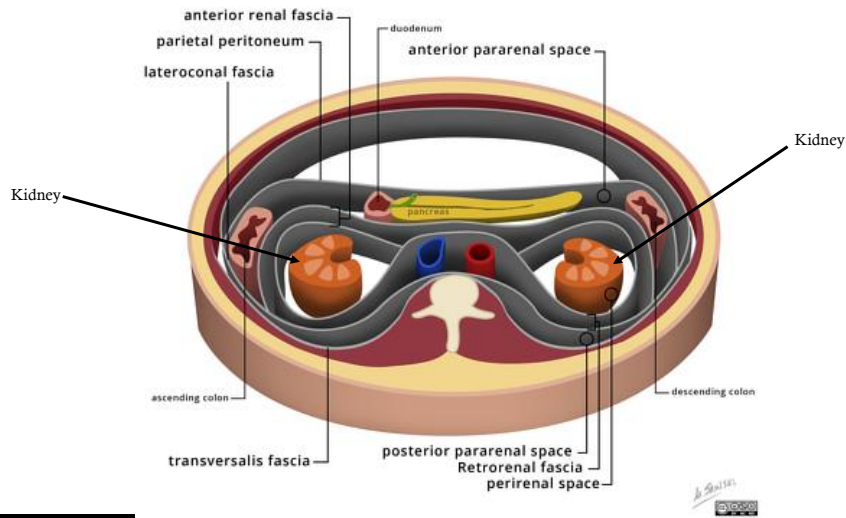
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ADRENAL GLANDS



- Not part of the urinary tract system
- Sit on top of each kidney
 - Produce hormones that regulate various bodily functions:
 - Cortisol – manage metabolism and stress response
 - Aldosterone – regulates blood pressure
 - Adrenaline – fight or flight response

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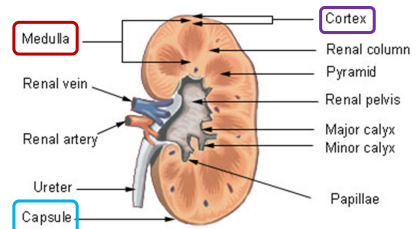
KIDNEY IS RETROPERITONEAL

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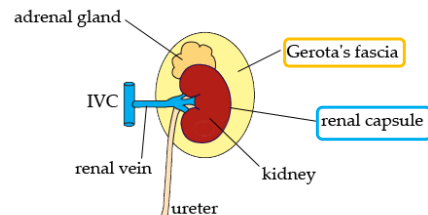
KIDNEY ANATOMY

- **Parenchyma**
 - Includes:
 - (Renal) **Cortex**: where the filtering begins
 - (Renal) **Medulla**: innermost part of kidney
 - Urine formation and concentration, made up of renal pyramids
- **Capsule**
 - Tough fibrous layer surrounding the kidney
- **Gerota's Fascia**
 - Connective tissue (collagen) surrounding kidneys and adrenal glands

Frontal section through the Kidney



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QUESTIONS? CONTACT ME.

Melissa Riddle, ODS-C
Education and Training
Iowa Cancer Registry
melissa-riddle@uiowa.edu