

HISTOLOGY PRACTICAL LECTURE - 16 -

URINARY SYSTEM

EDITED BY

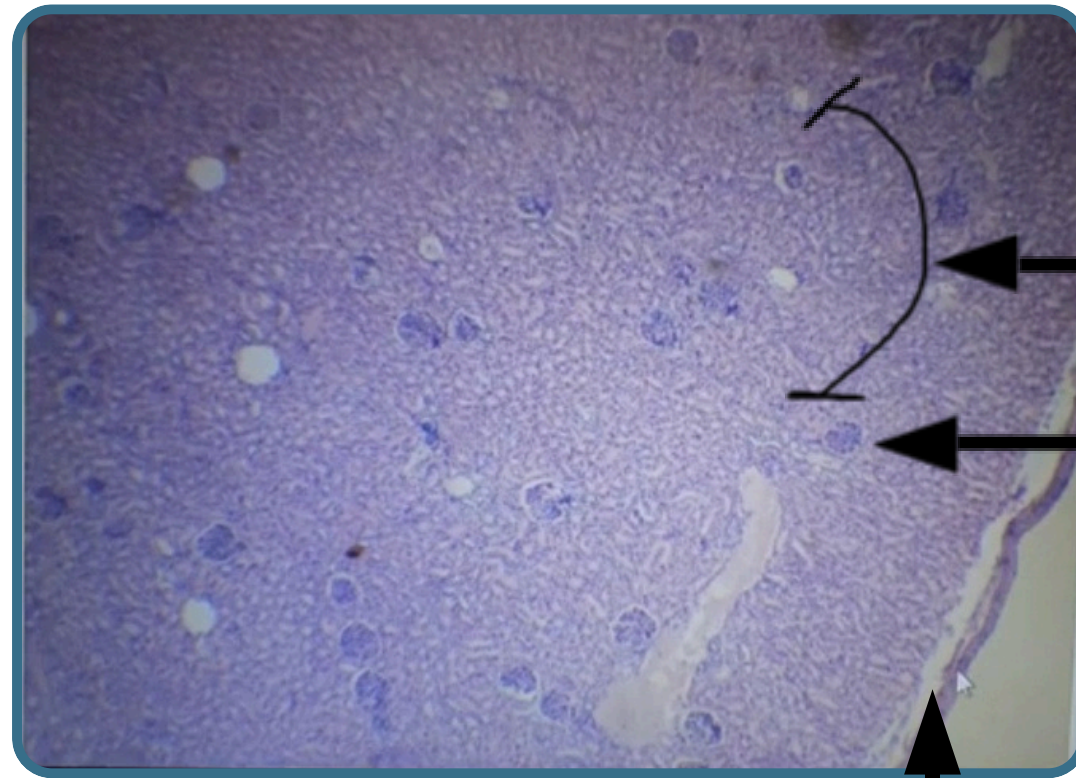


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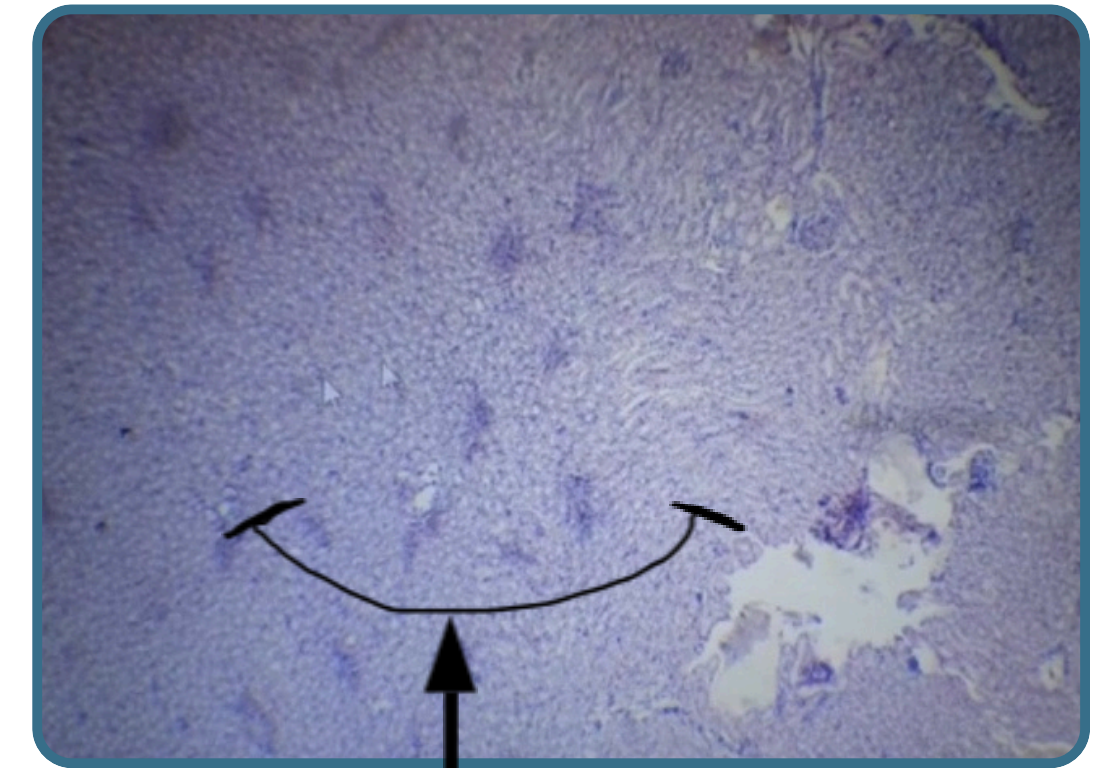
Section In The Kidney



Outer layer of kidney "Cortex"

Renal corpuscles and tubules
(cross section)

Each kidneys covered by thin
fibrous "capsule"

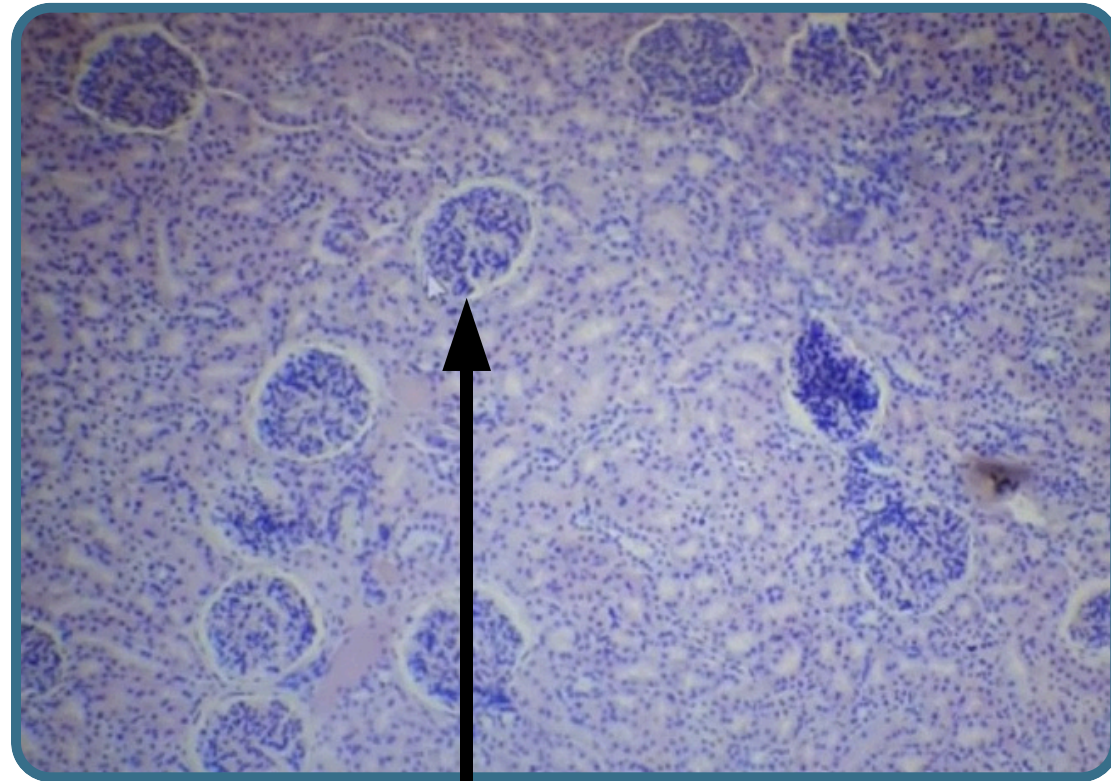


Medulla -tubules and
ducts

Urinary System

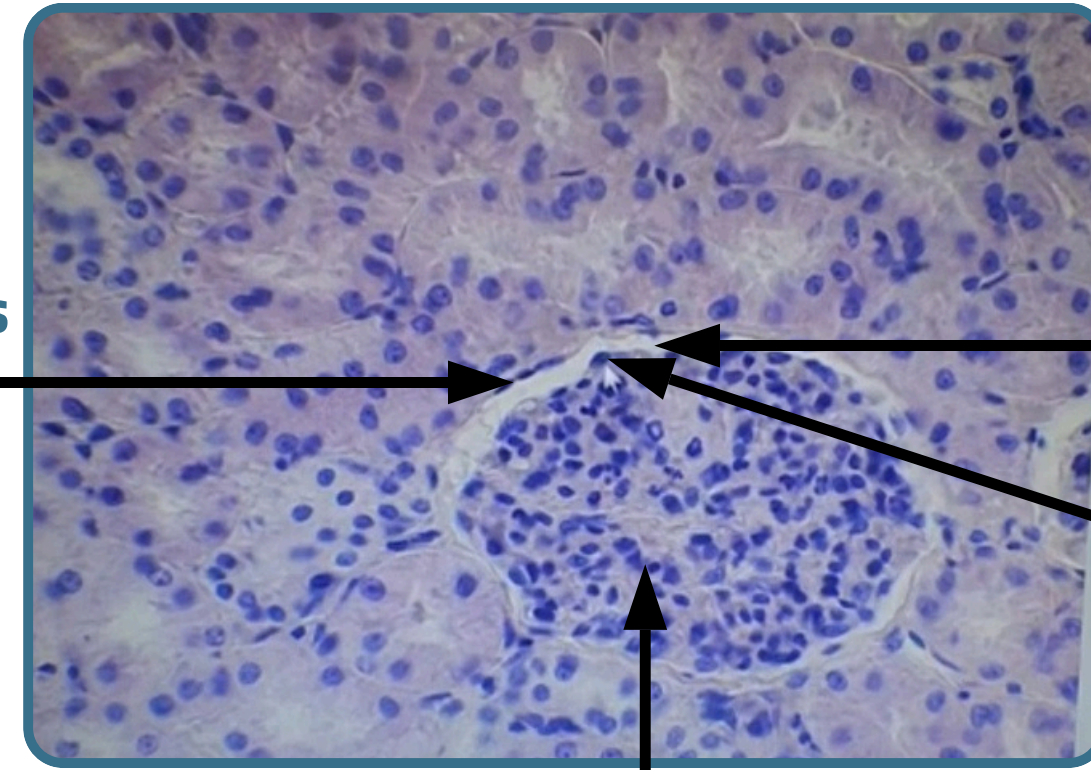


Section In The Kidney



Renal corpuscles (initial part of nephron)
consist of capillaries called glomerulus
surround by bowman's capsule

Partial layer of the bowman's capsule
(simple squamous epithelium)



Glomerulus (tuft of capillary)s
surround by the double wall capsule
called bowman's capsule

Renal space

**Visceral layer(closely
contact with
glomerulus
Difficult to see**

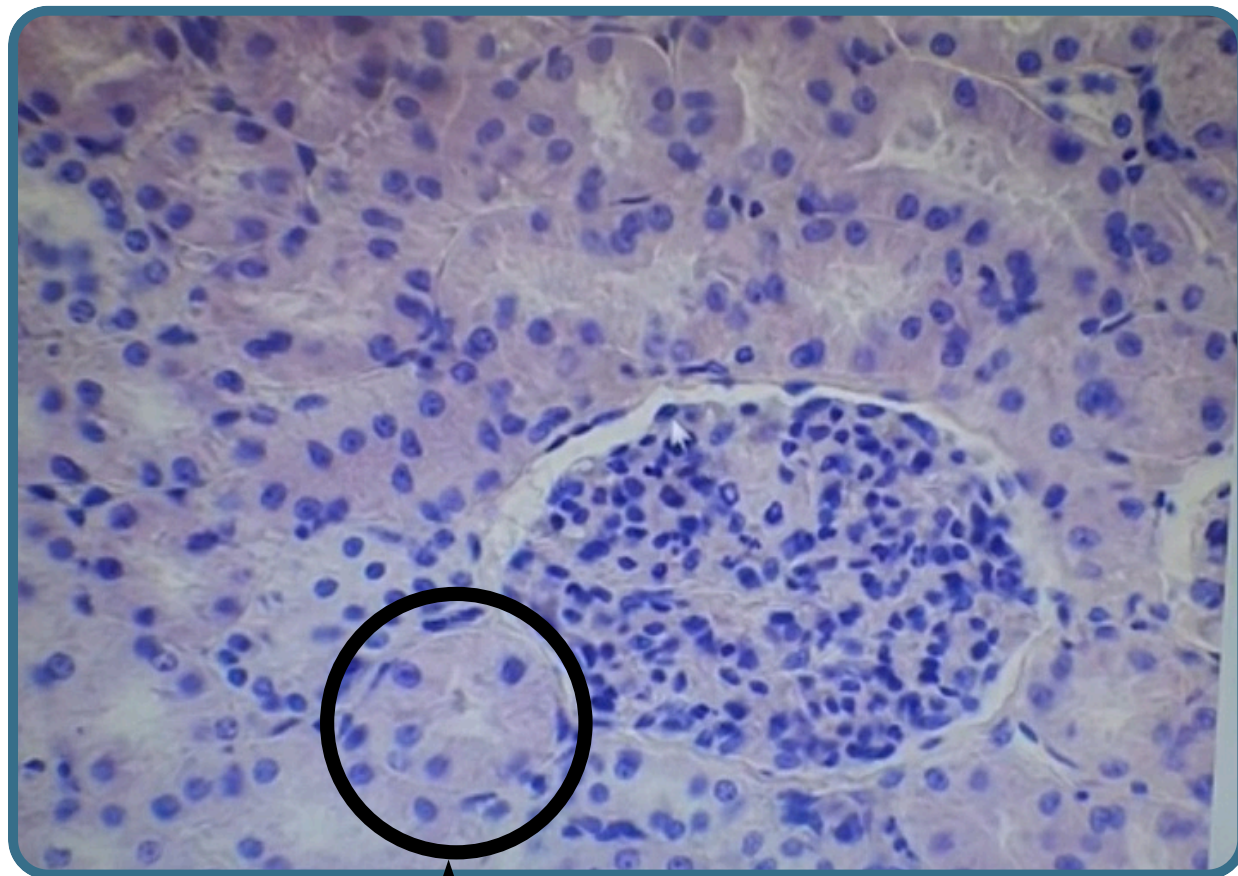


Urinary System

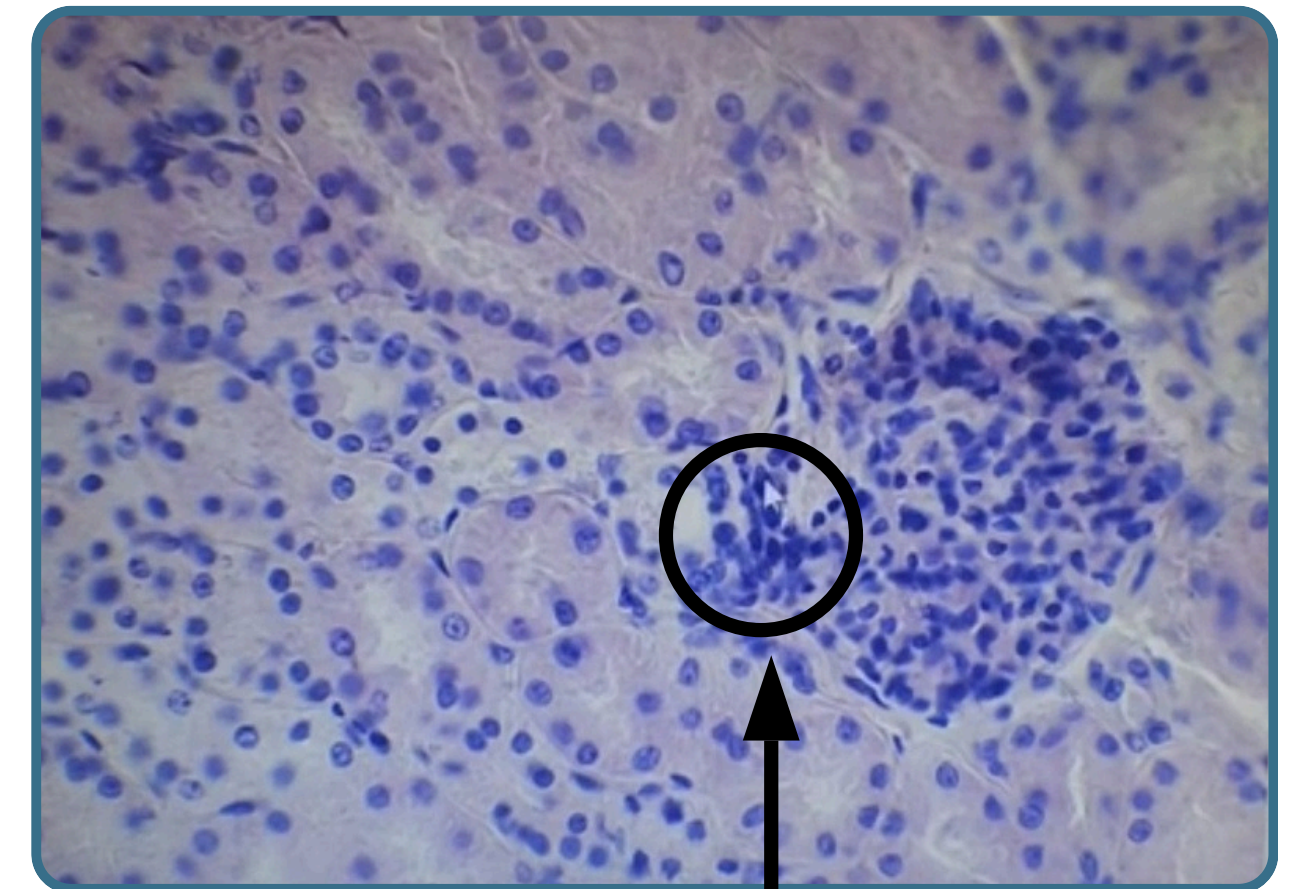


Section In The Kidney

Each corpuscles have:-



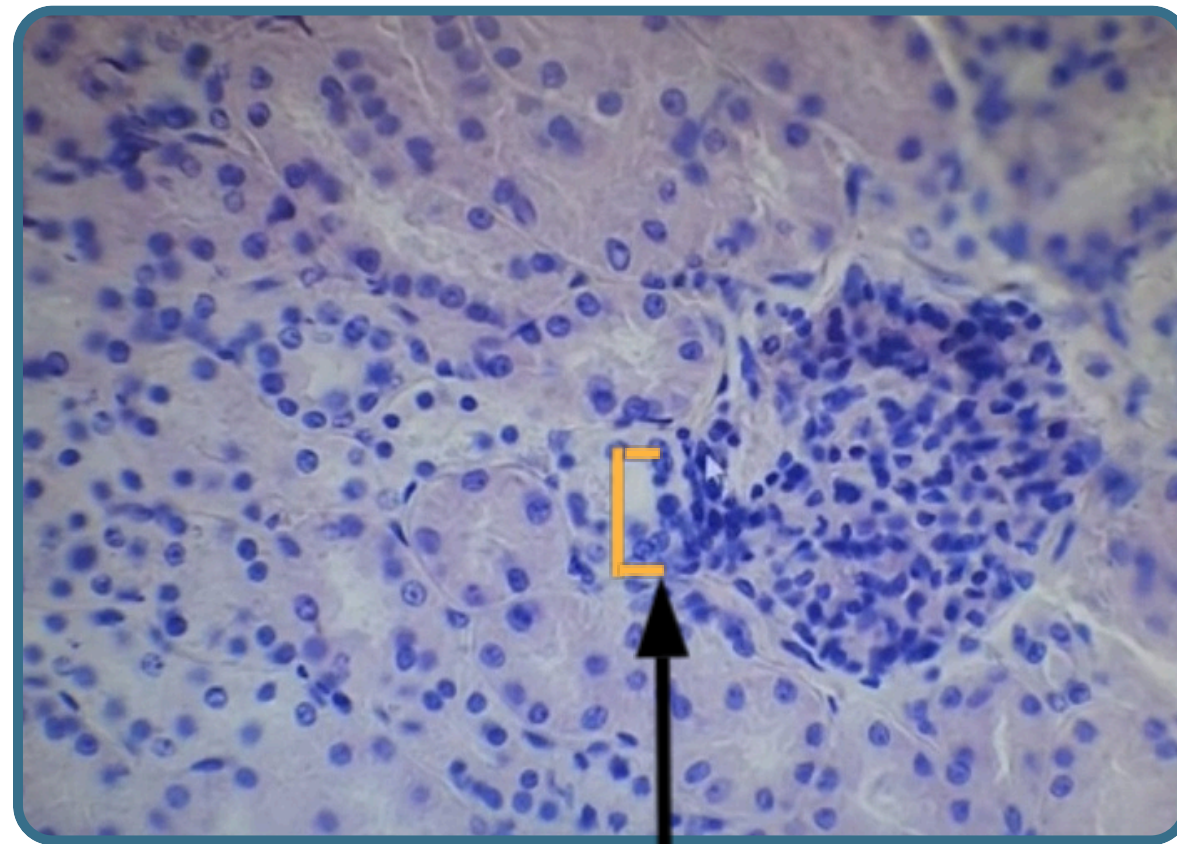
Renal pole or tubular pole



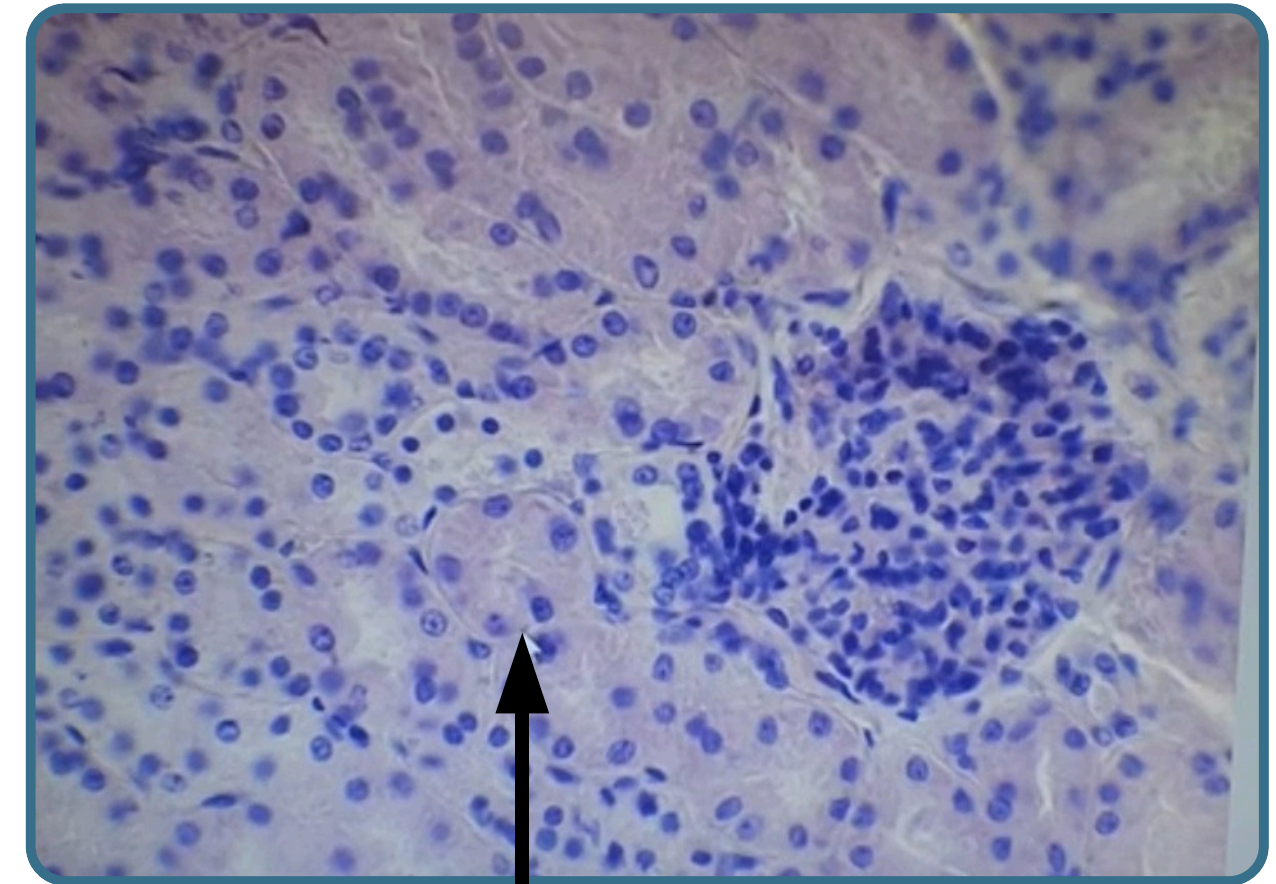
Vascular pole



Section In The Kidney



The cells of distal convoluted tubule become columnar and densely backed together forming macula densa together with the cells of afferent arterioles forming a juxtaglomerular apparatus

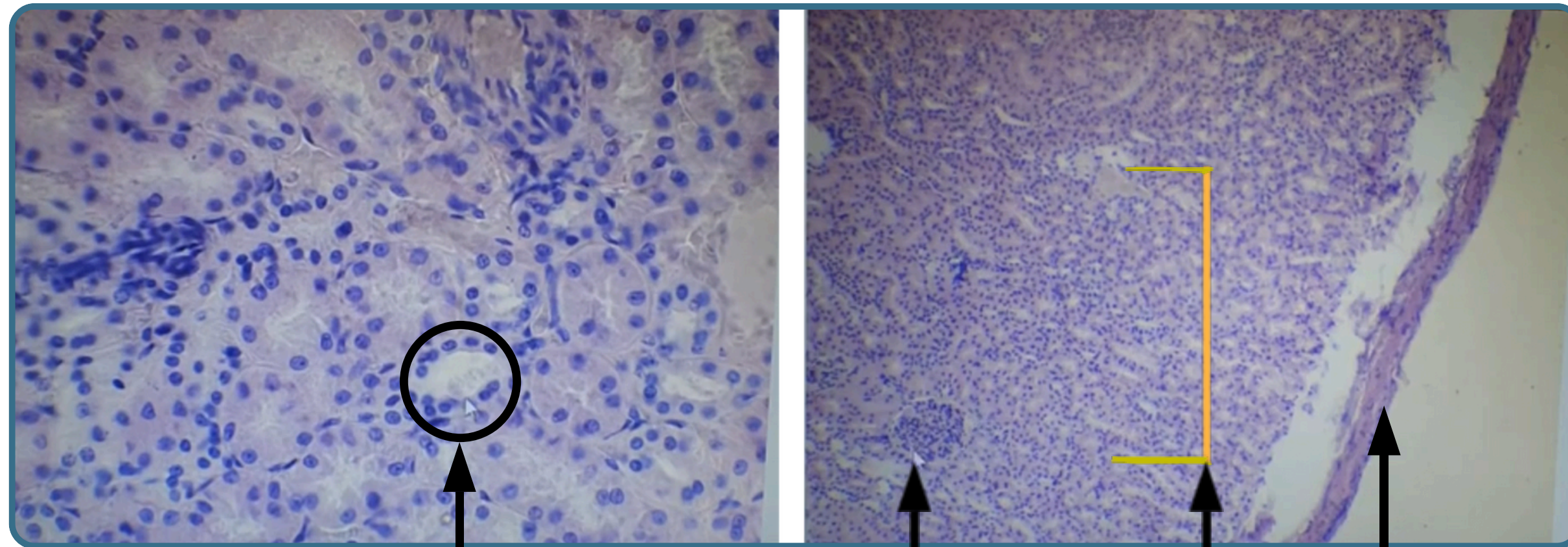


Proximal convoluted tubule

- Lining by simple cuboidal epithelium
- In cross section has three to five cells each cell has apical microvilli forming brush border
- Has narrow lumen



Section In The Kidney



Distal convoluted tubule

- Lining by simple cuboidal epithelium
- wider lumen
- having No brush border
- more number of cells

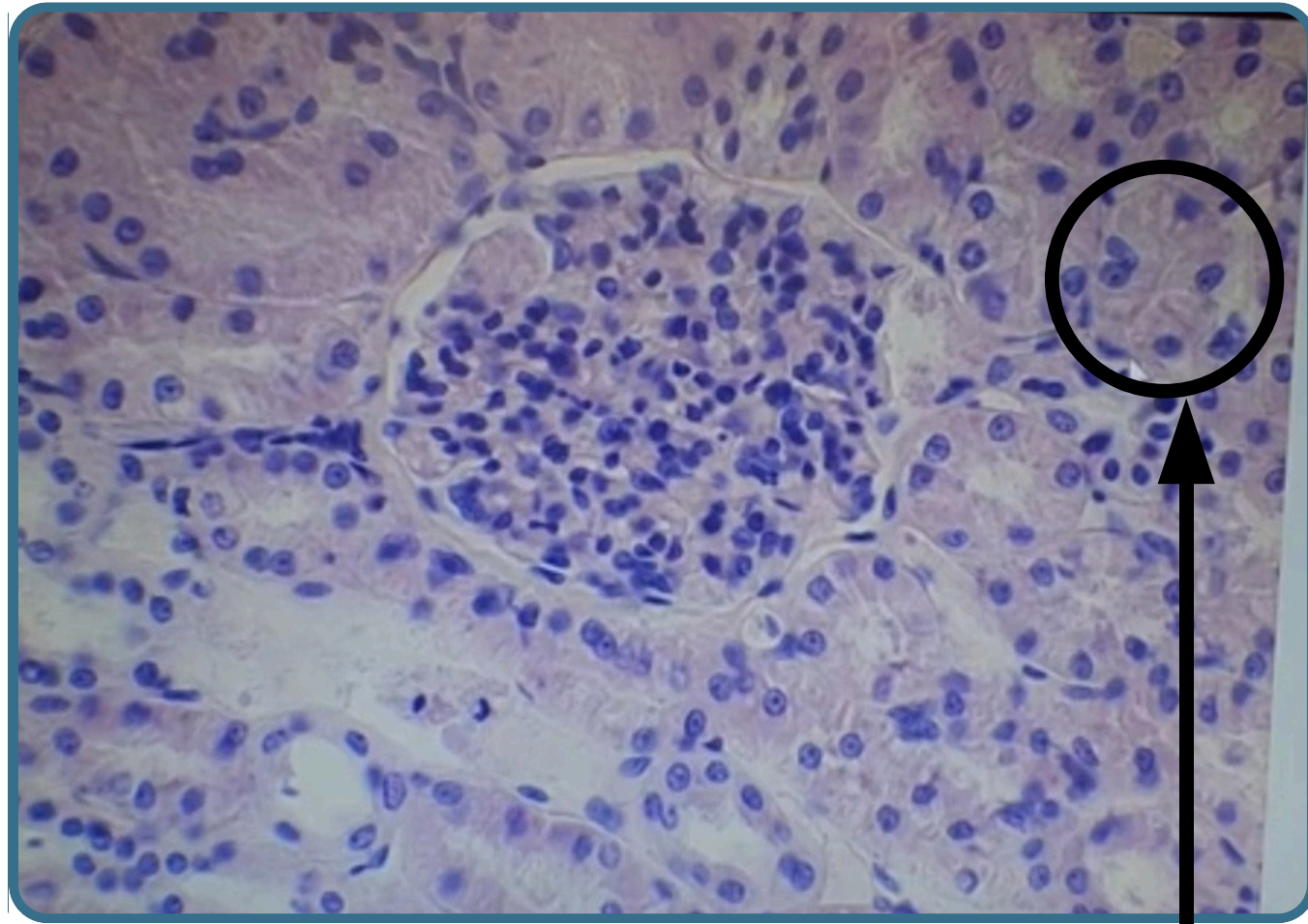
Rounded renal corpuscles

Cortex

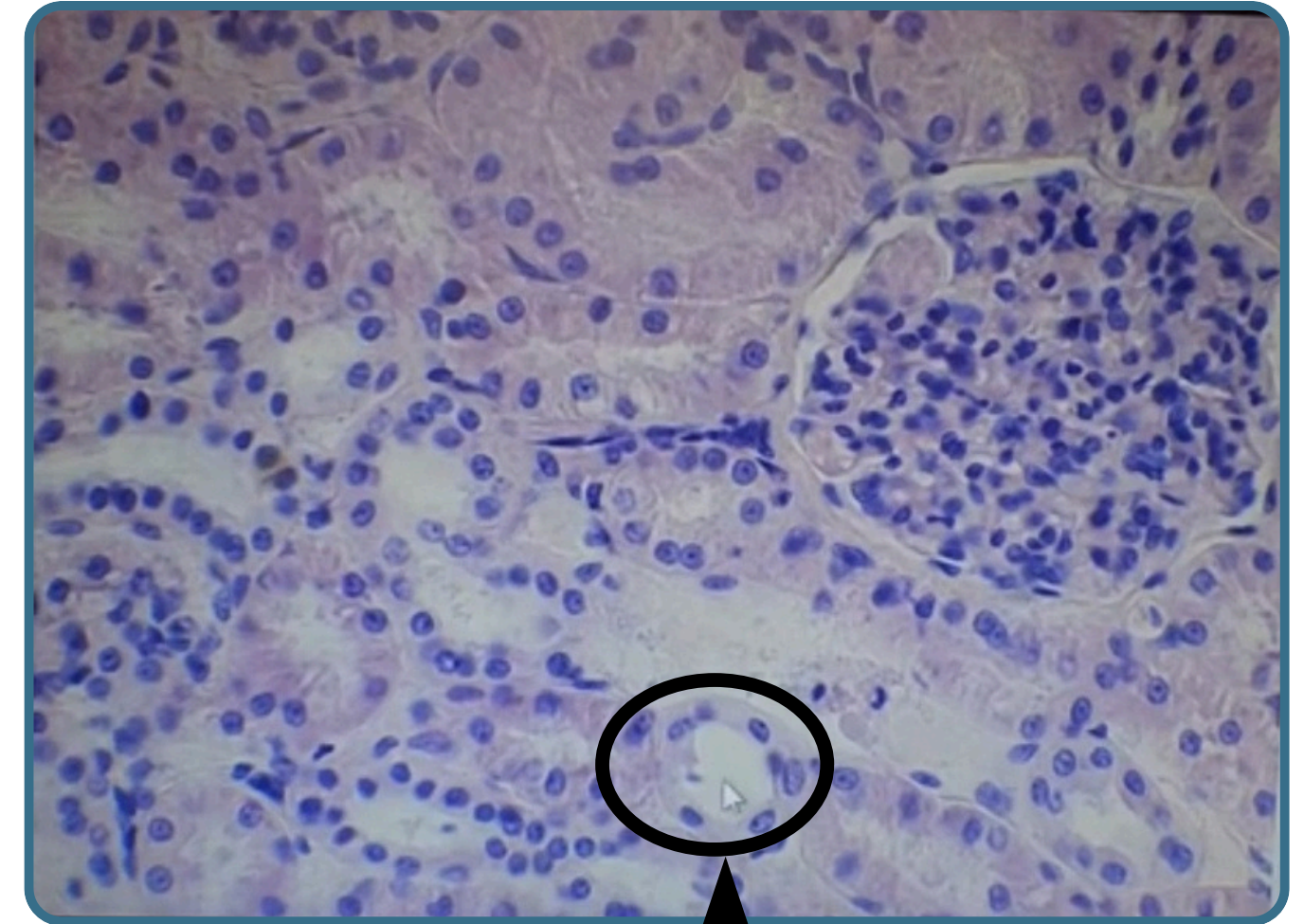
Connective tissue capsule (thin fibrous capsule)



Section In The Kidney



Proximal convoluted tubule

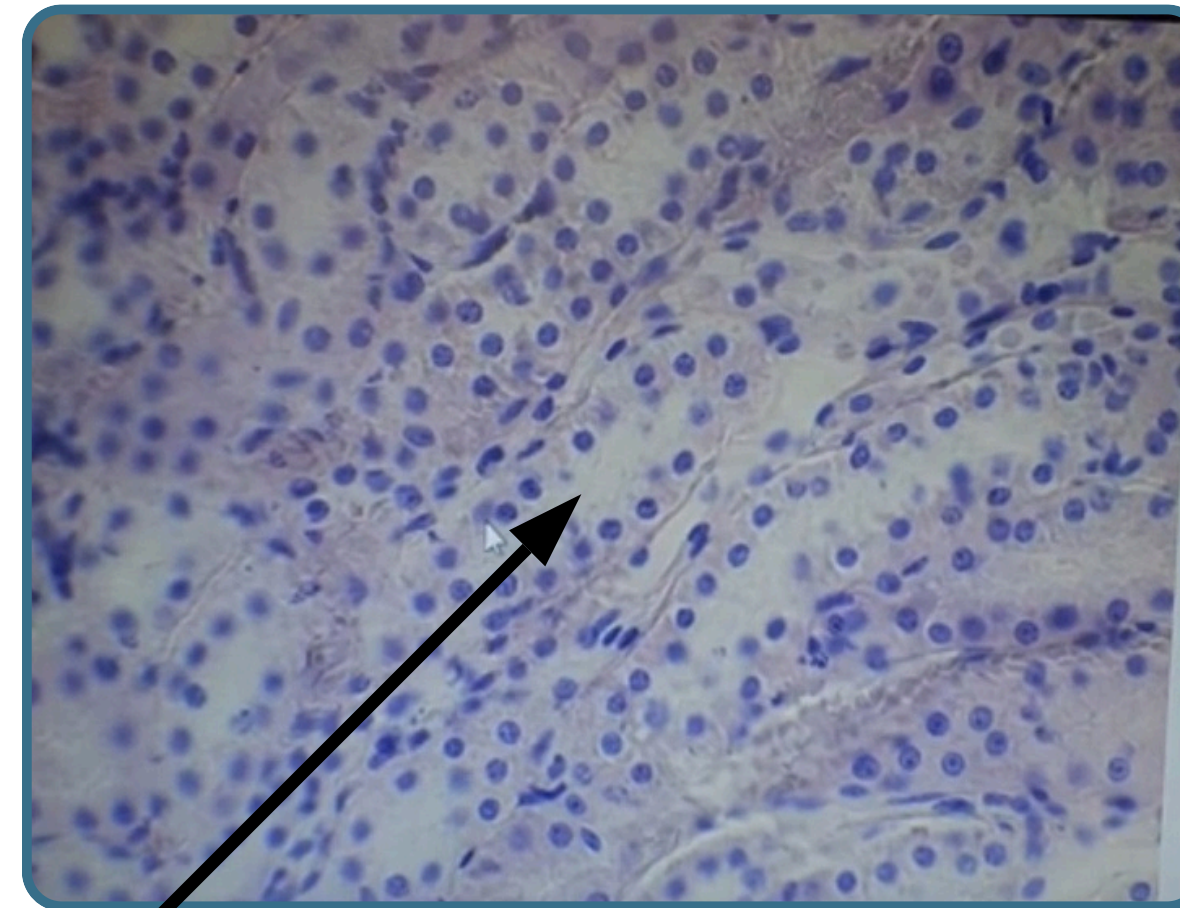
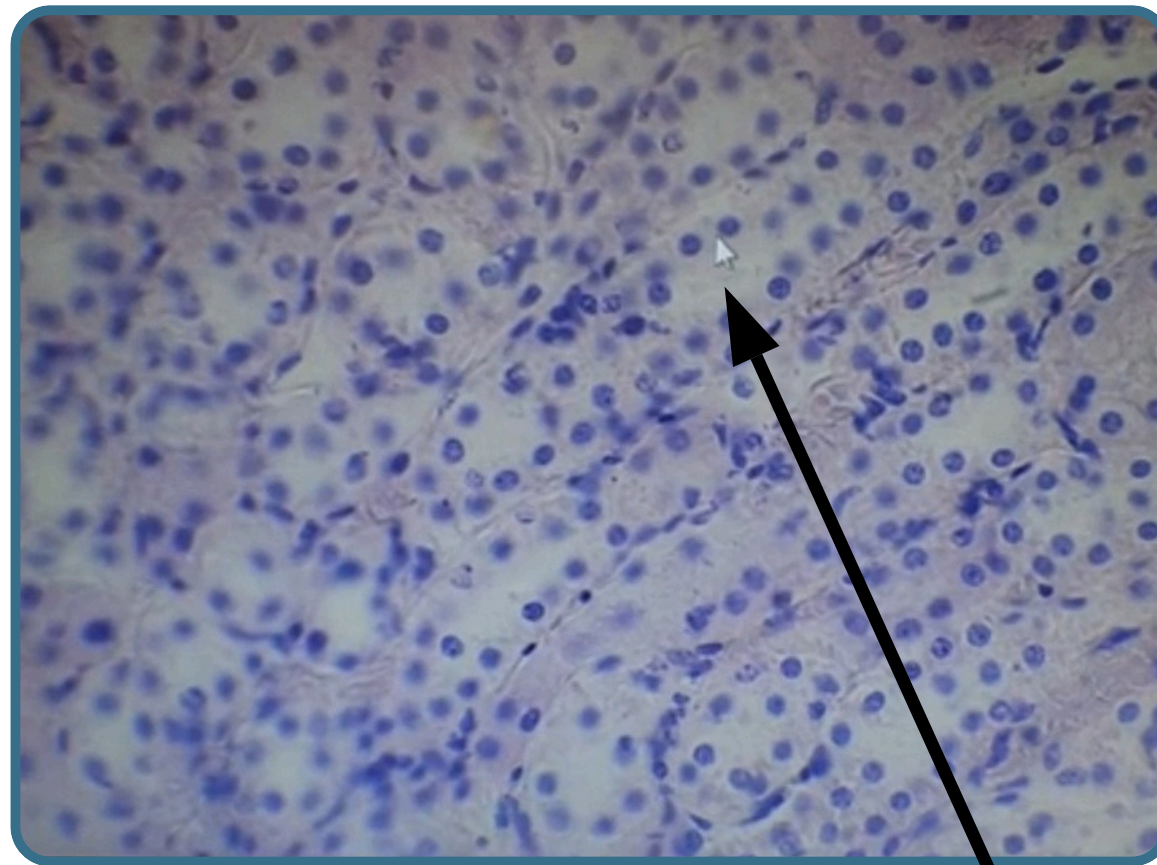


Distal convoluted tubule



Section In The Kidney

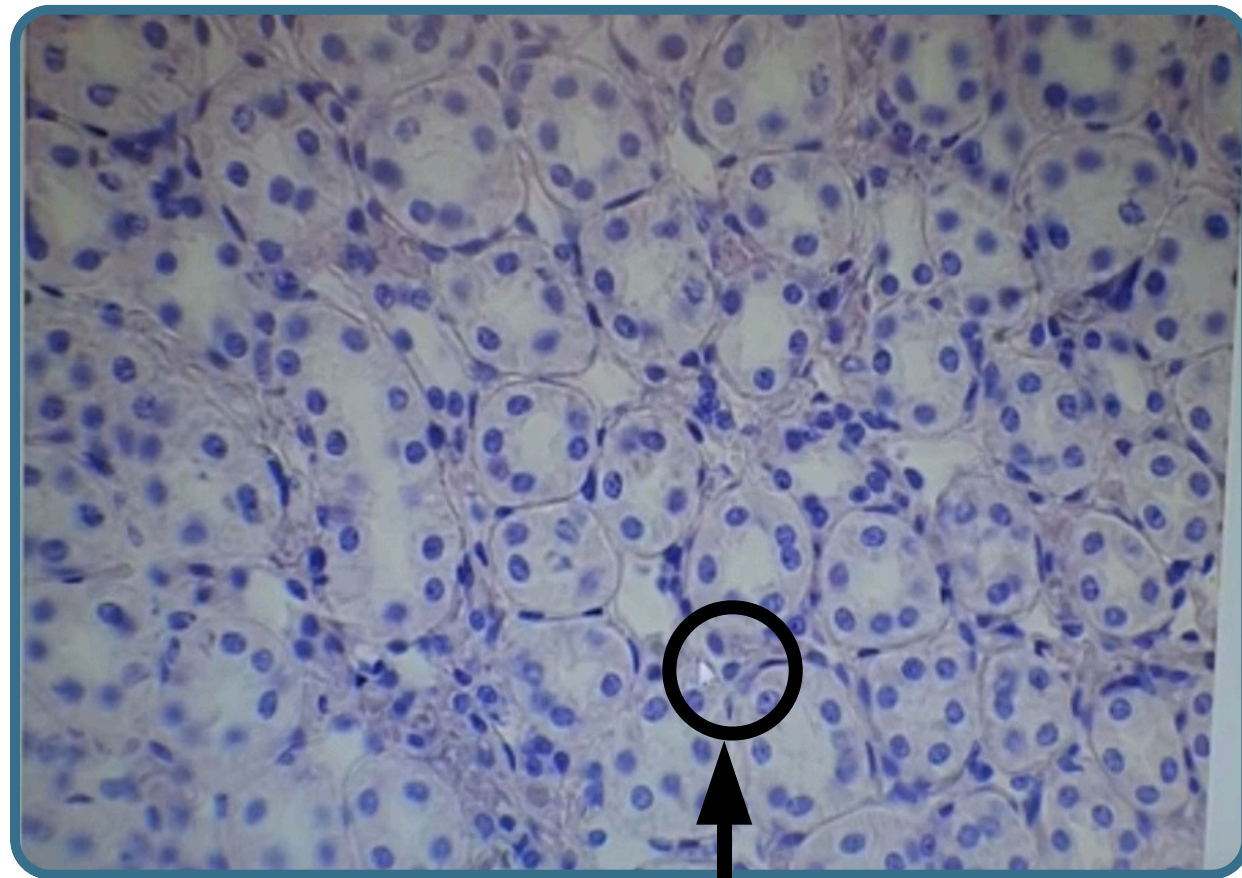
Medulla



Lining epithelium of the collecting duct
Simple cuboidal epithelium

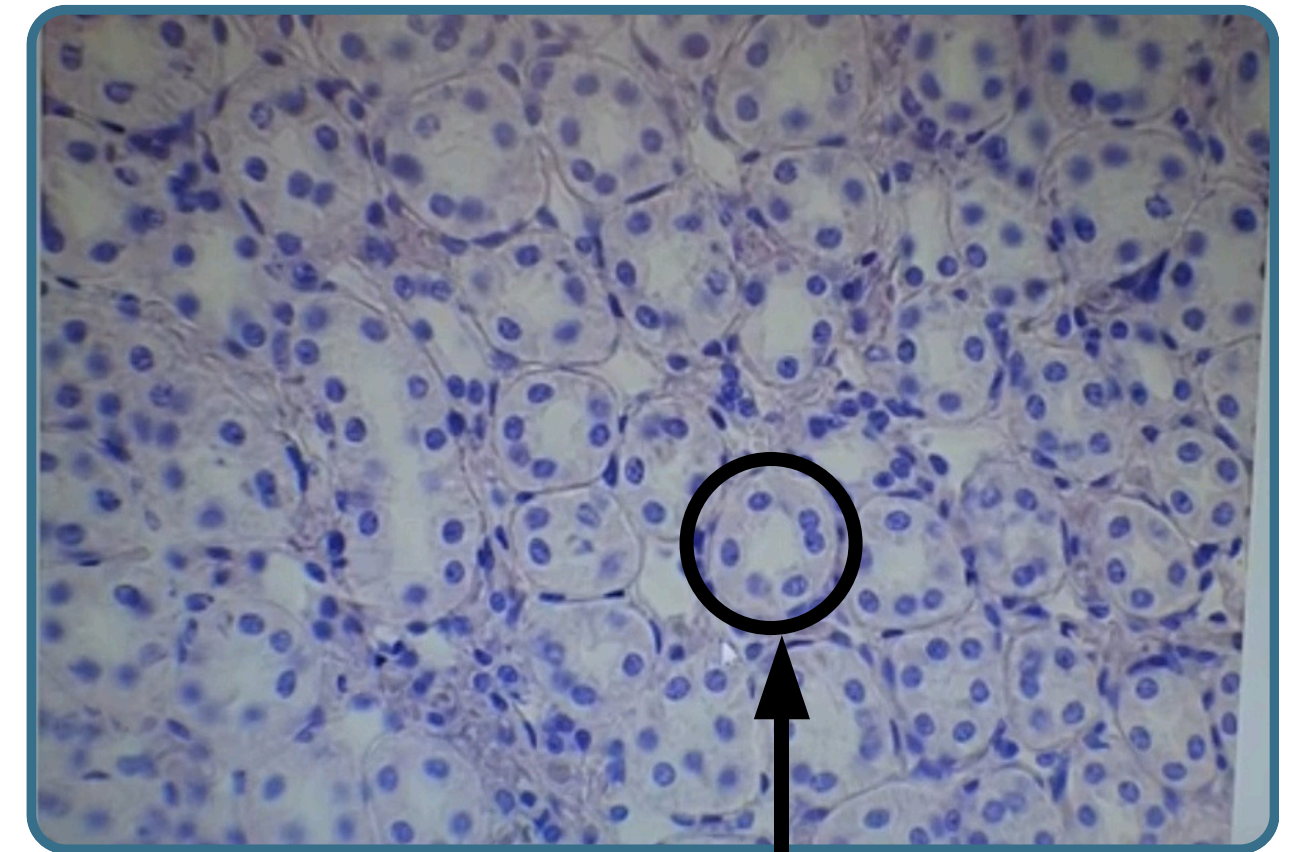


Section In The Kidney



Loop of Henle(thin segment)

Lining by simple squamous epithelium

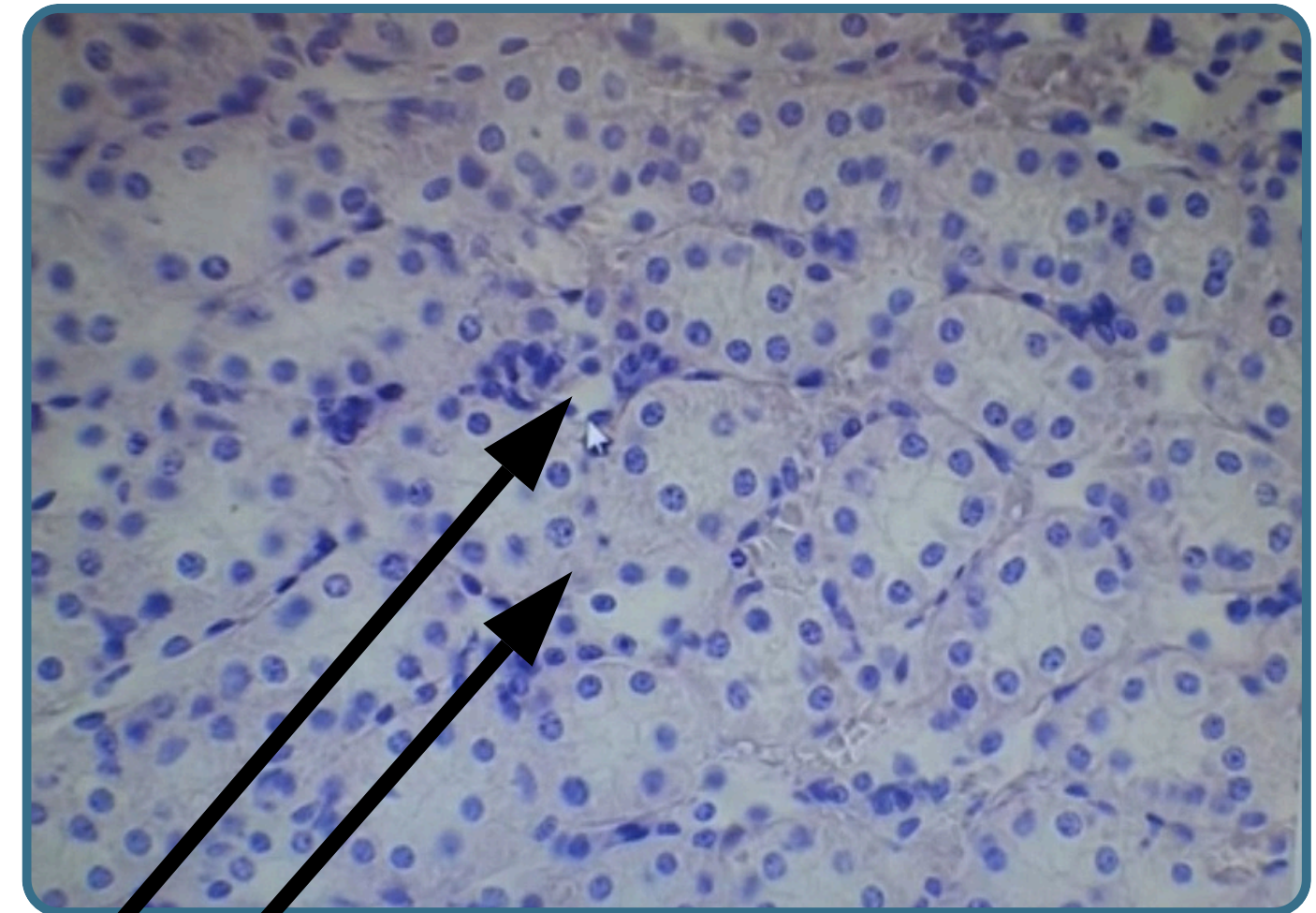
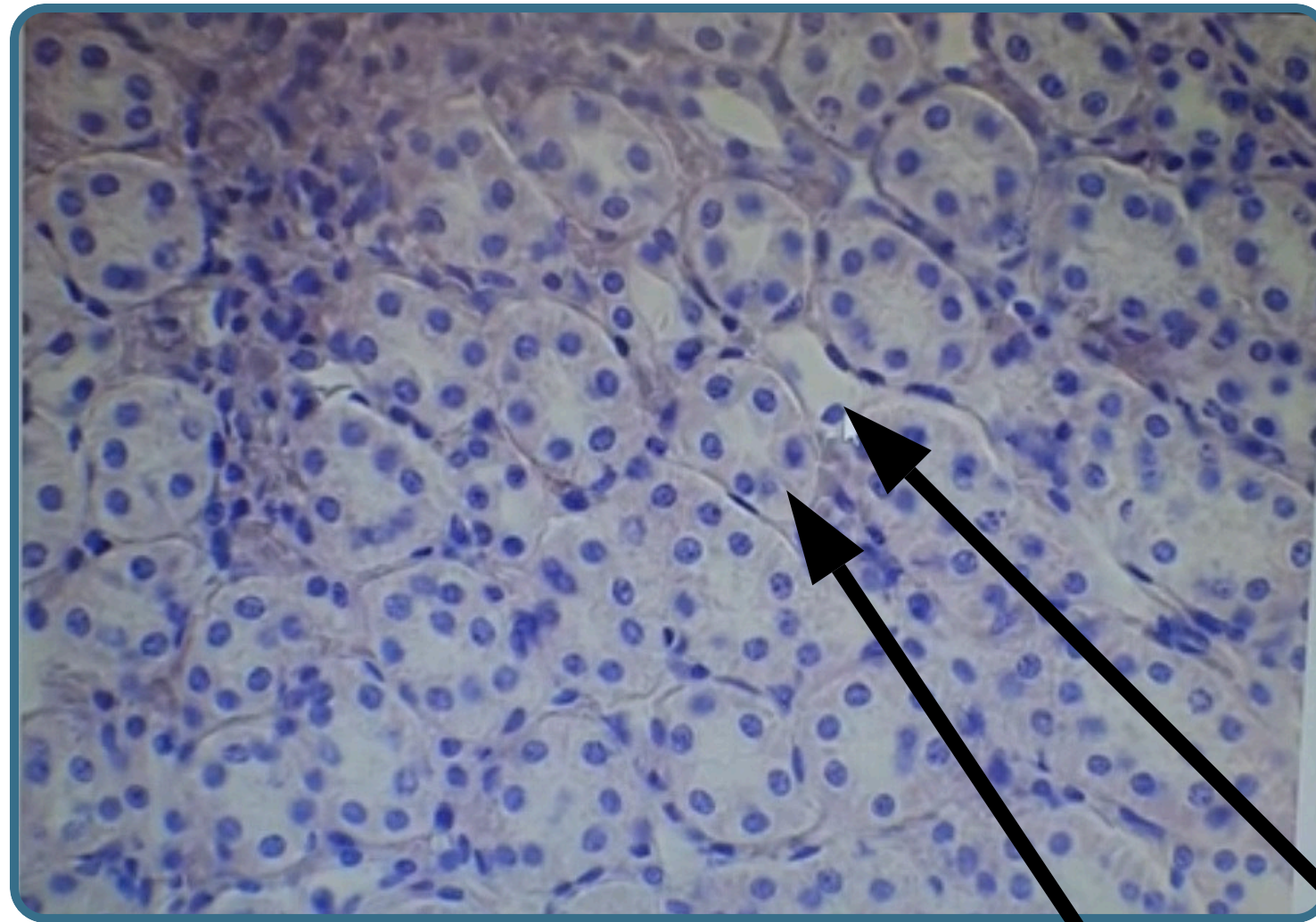


Thick segment

Simple cuboidal epithelium



Section In The Kidney

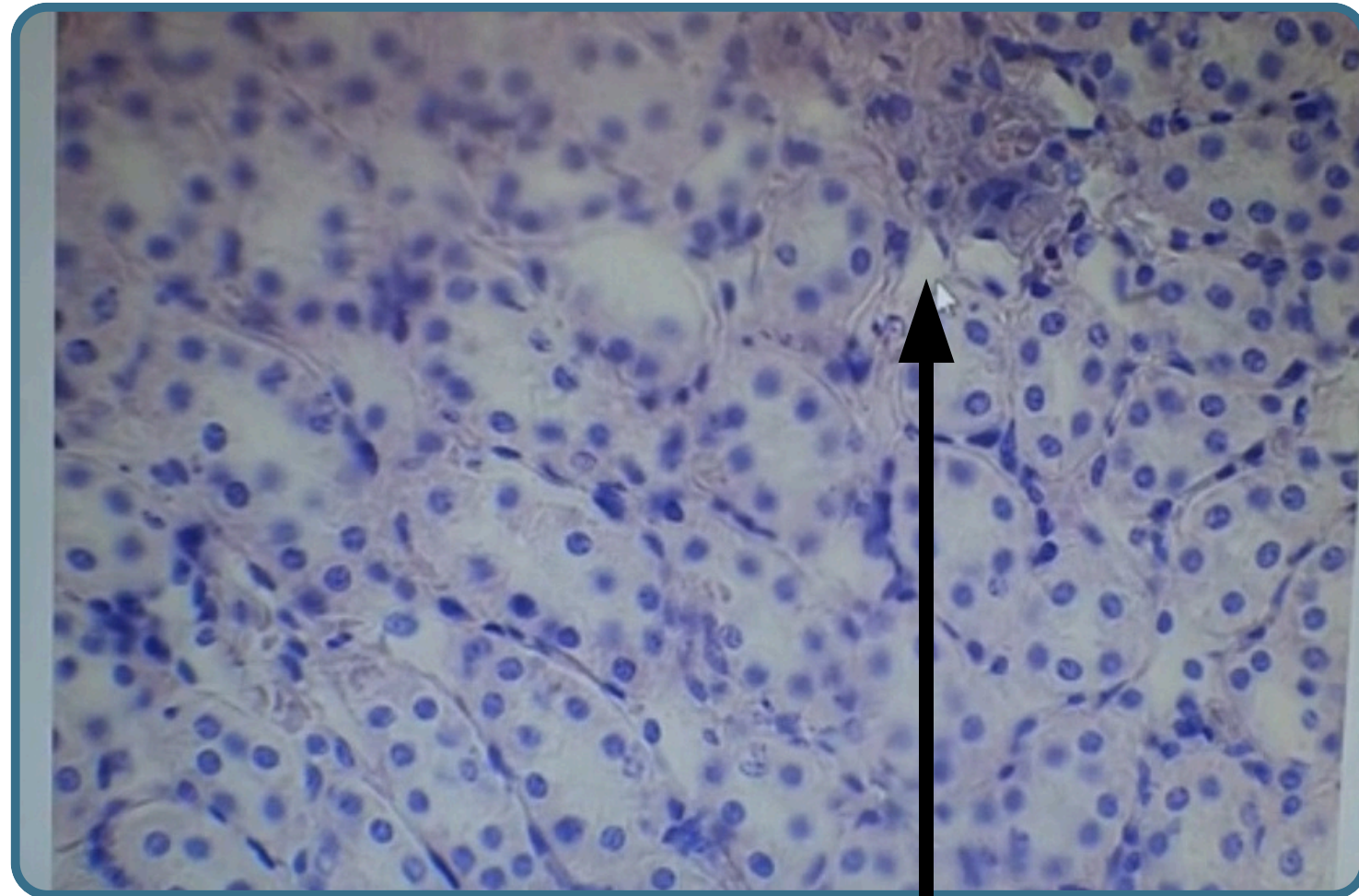


Thin segment
3 cells

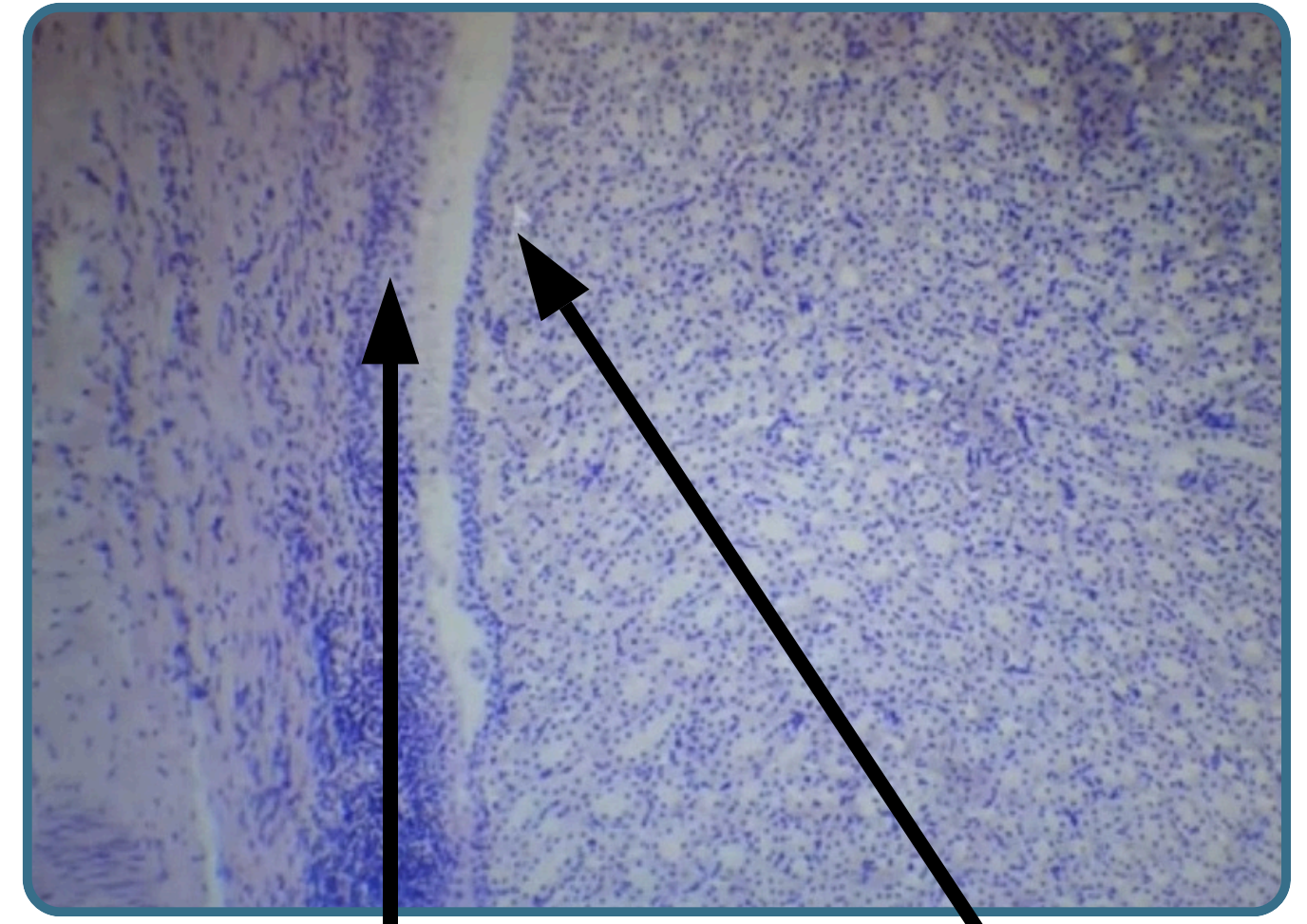
Thick segment



Section In The Kidney



Vasa recta
Capillary lining by single endothelial cells



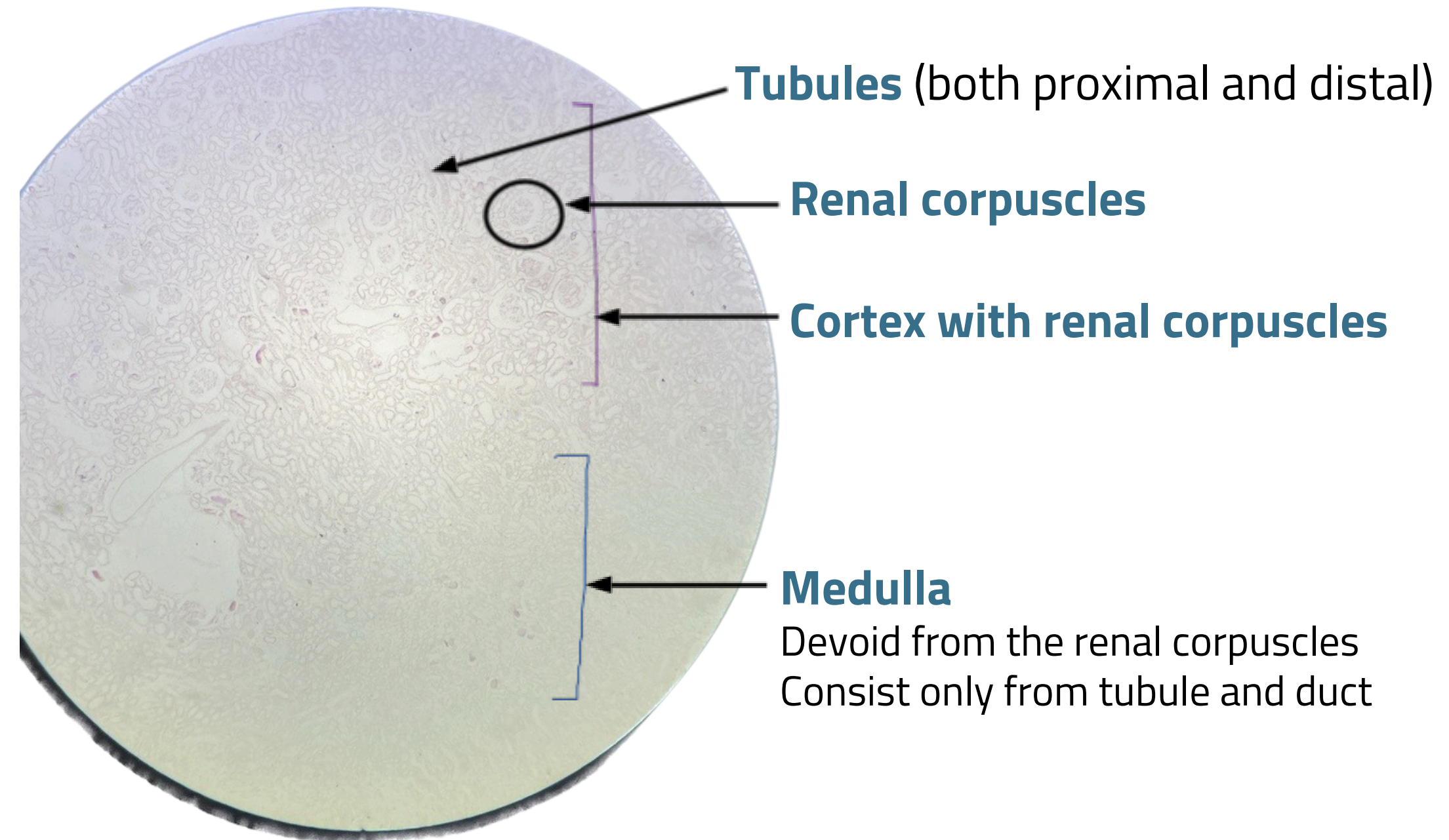
Minor calyces
Transitional epithelium
(Stratified urothelium)

Renal papilla

All the previous slides stained by H&E

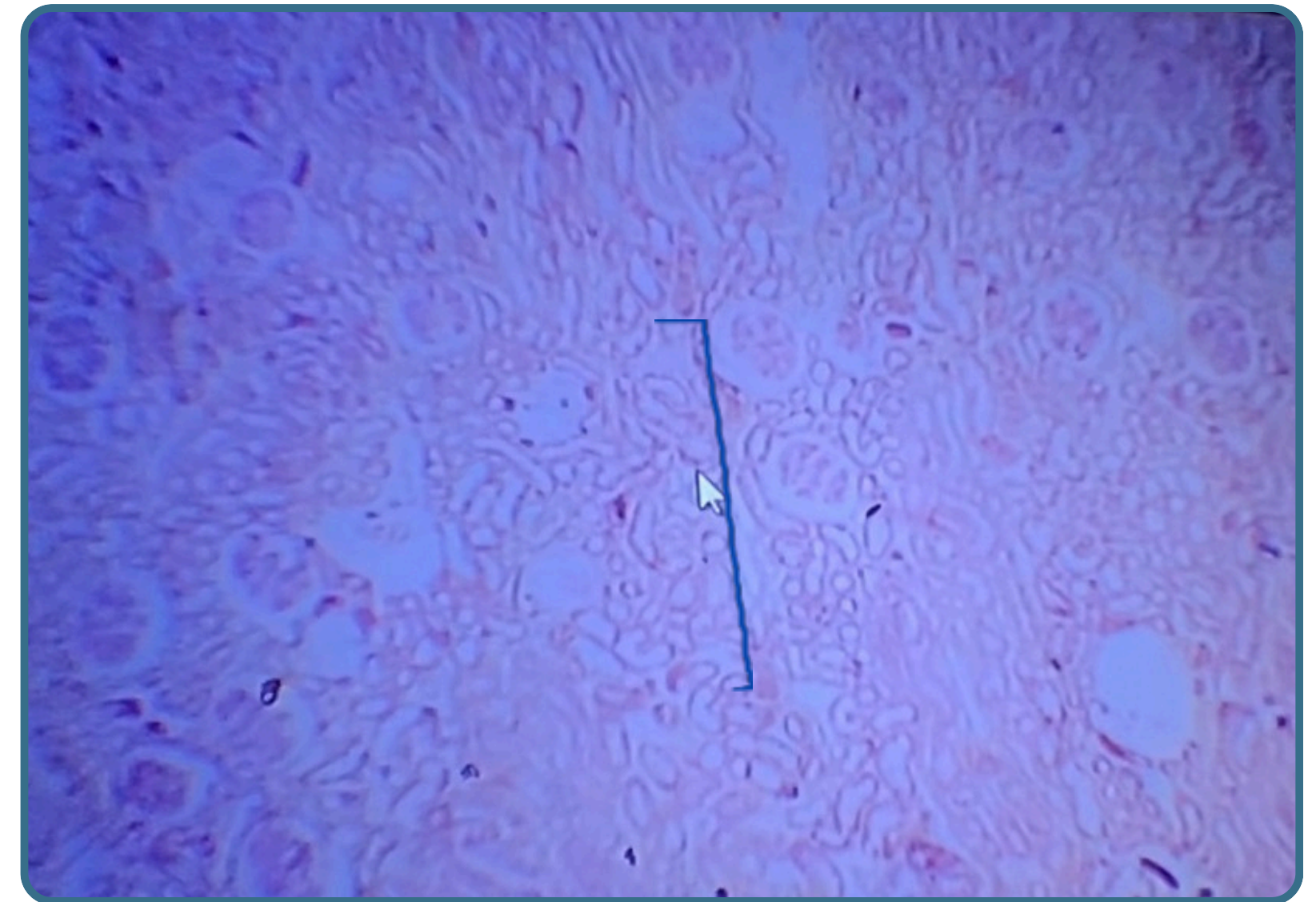
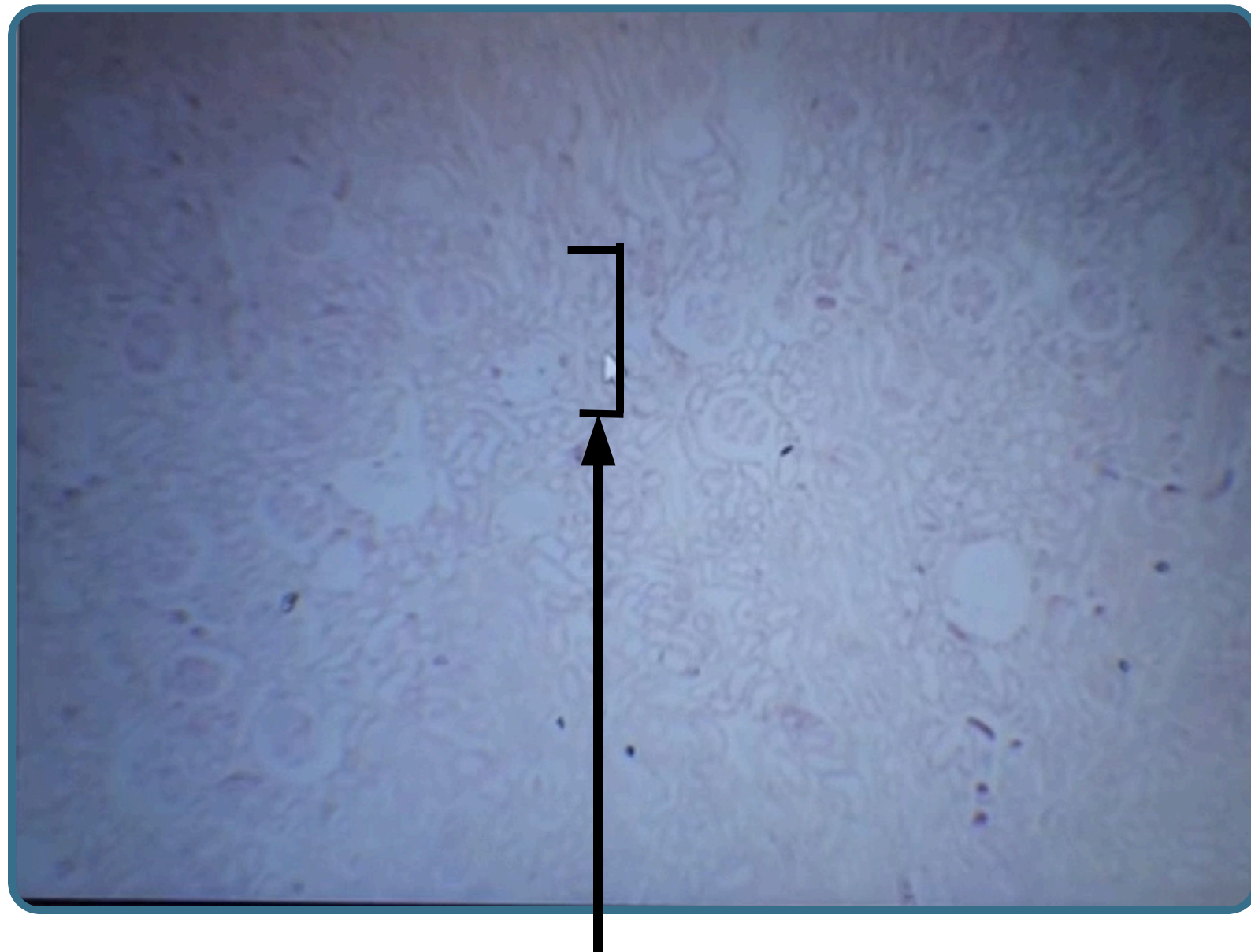


Section In The Kidney with pas stain





Section In The Kidney

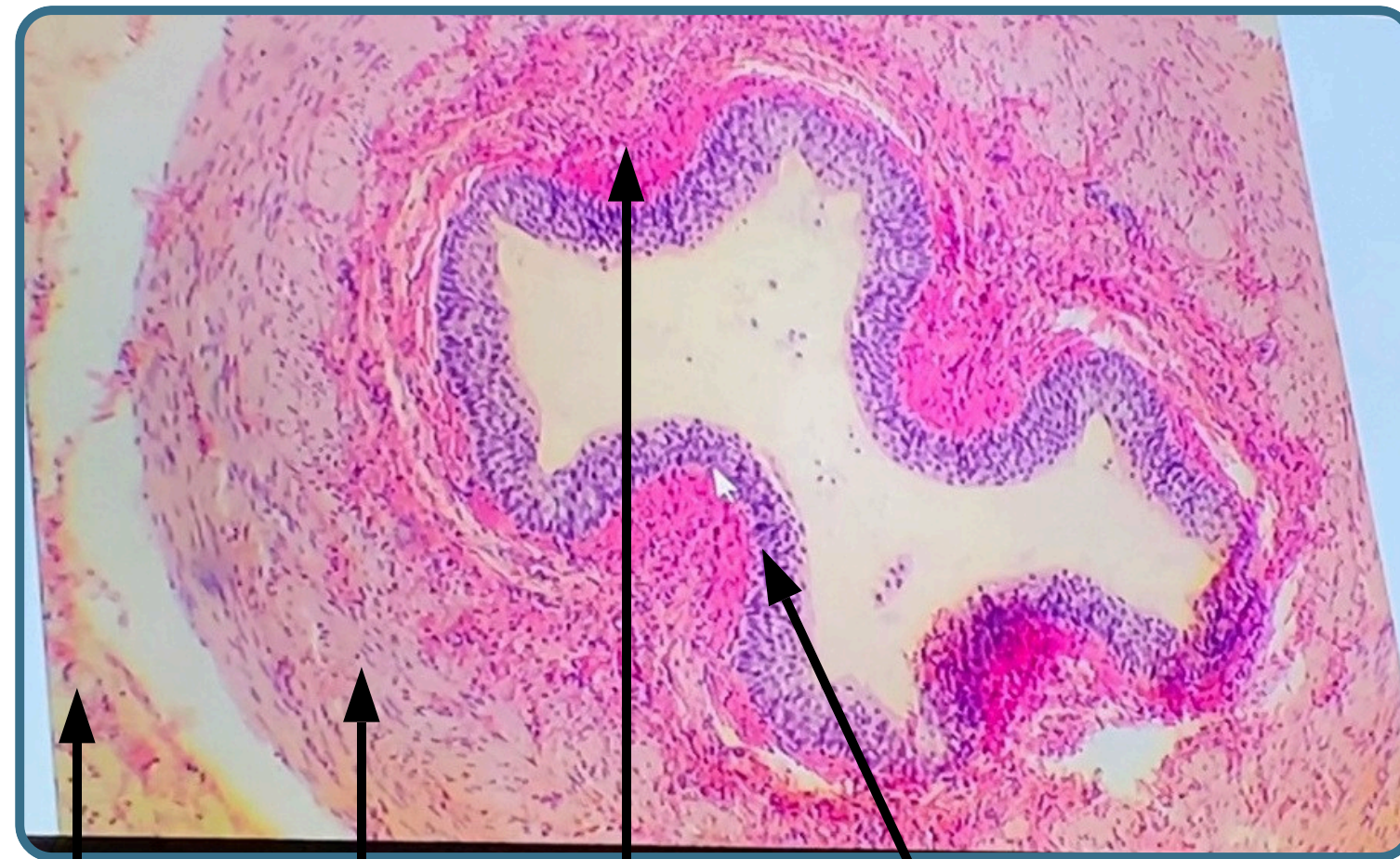


Medullary rays

Tubules extended from the medulla to the cortex



cross section in the ureter



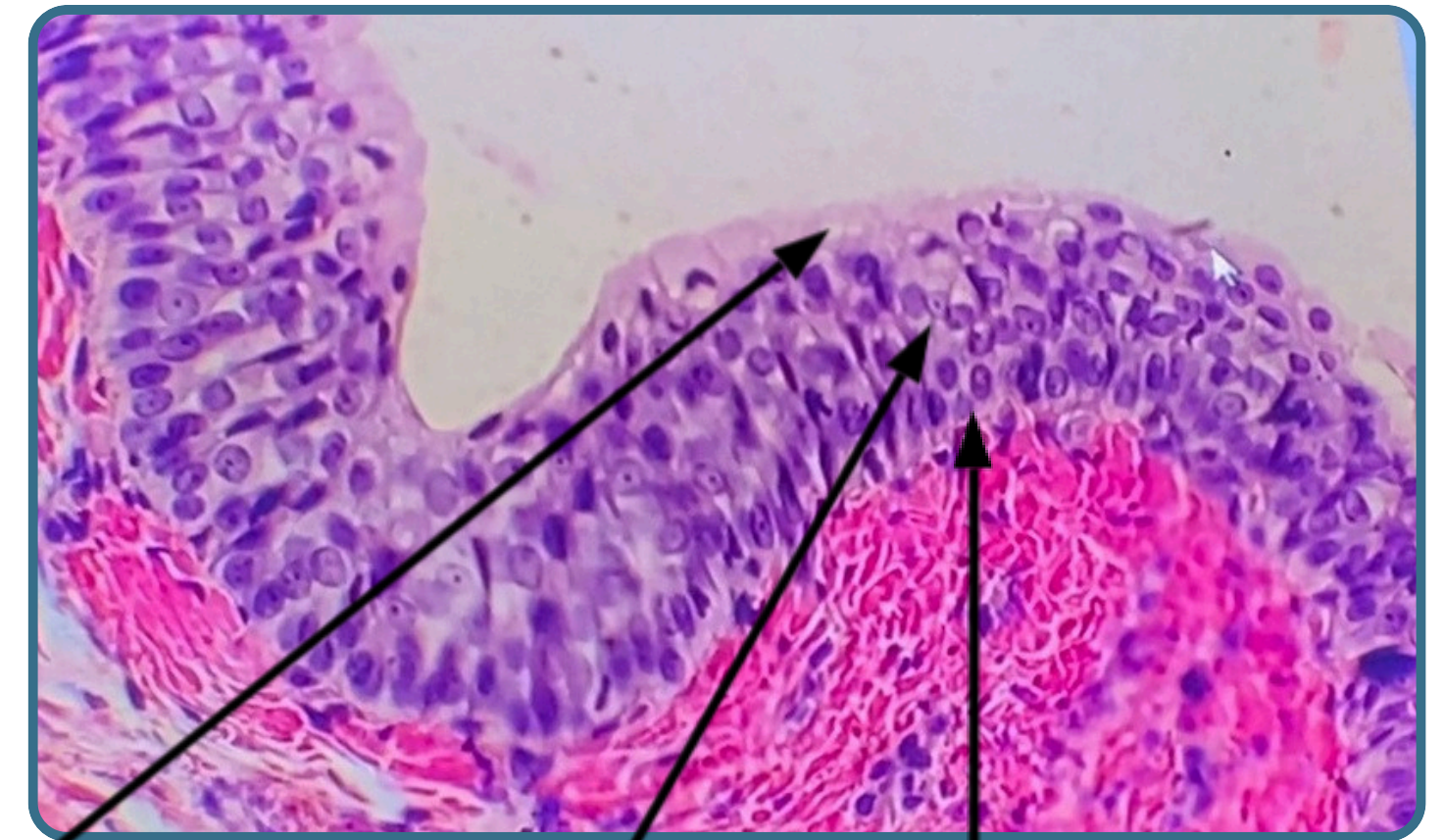
Advantitia

Lamina

**propria
muscularis**

Mucosa
(Transitional
epithelium)

Transitional epithelium



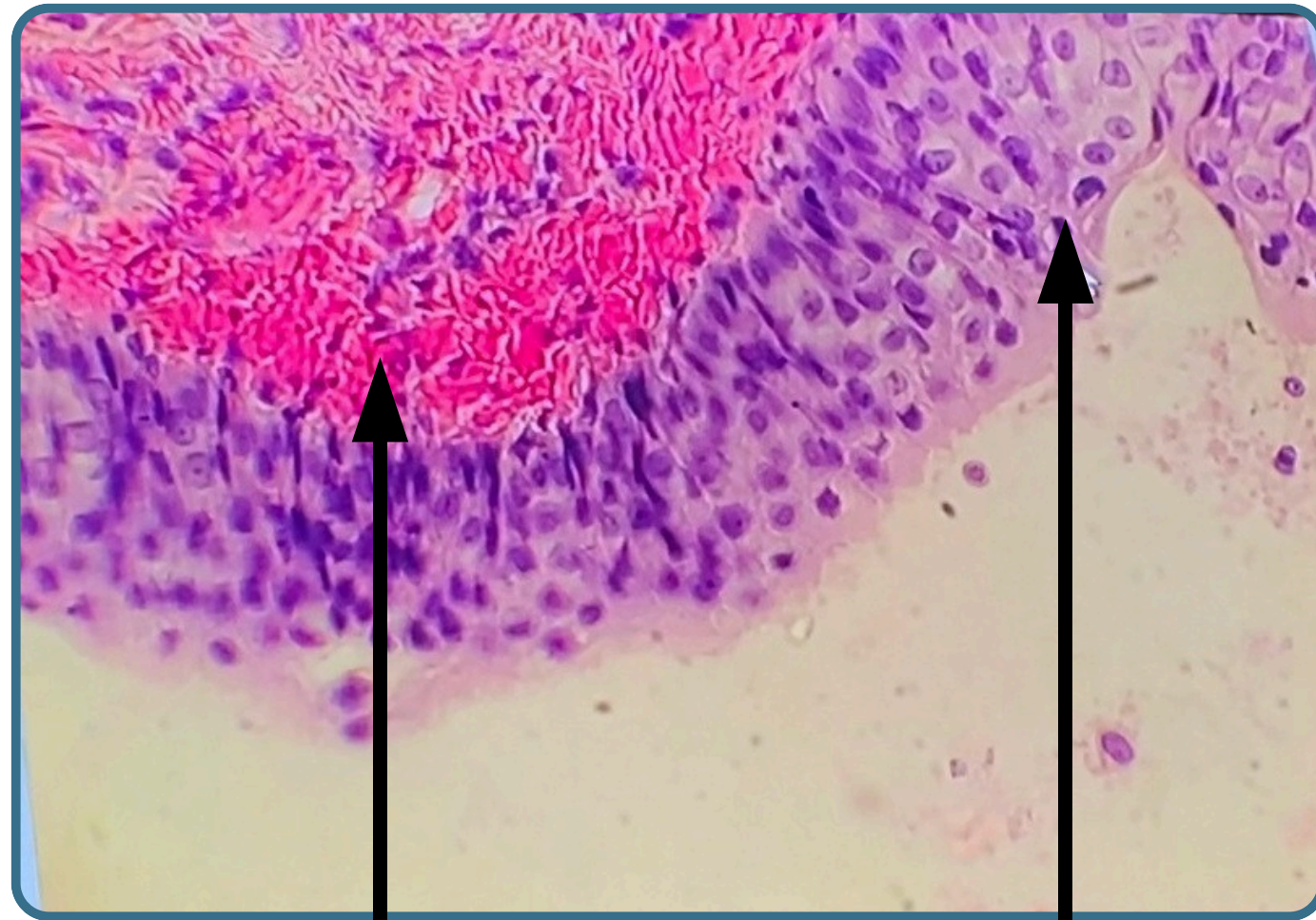
Superficial layer of
bulbous umbrella
(dome cells) some
Time binucleated

Intermediate region form
two or more layer of cells
of cuboidal to columnar

Basal layer consist
of basal cells rest on
the basal lamina

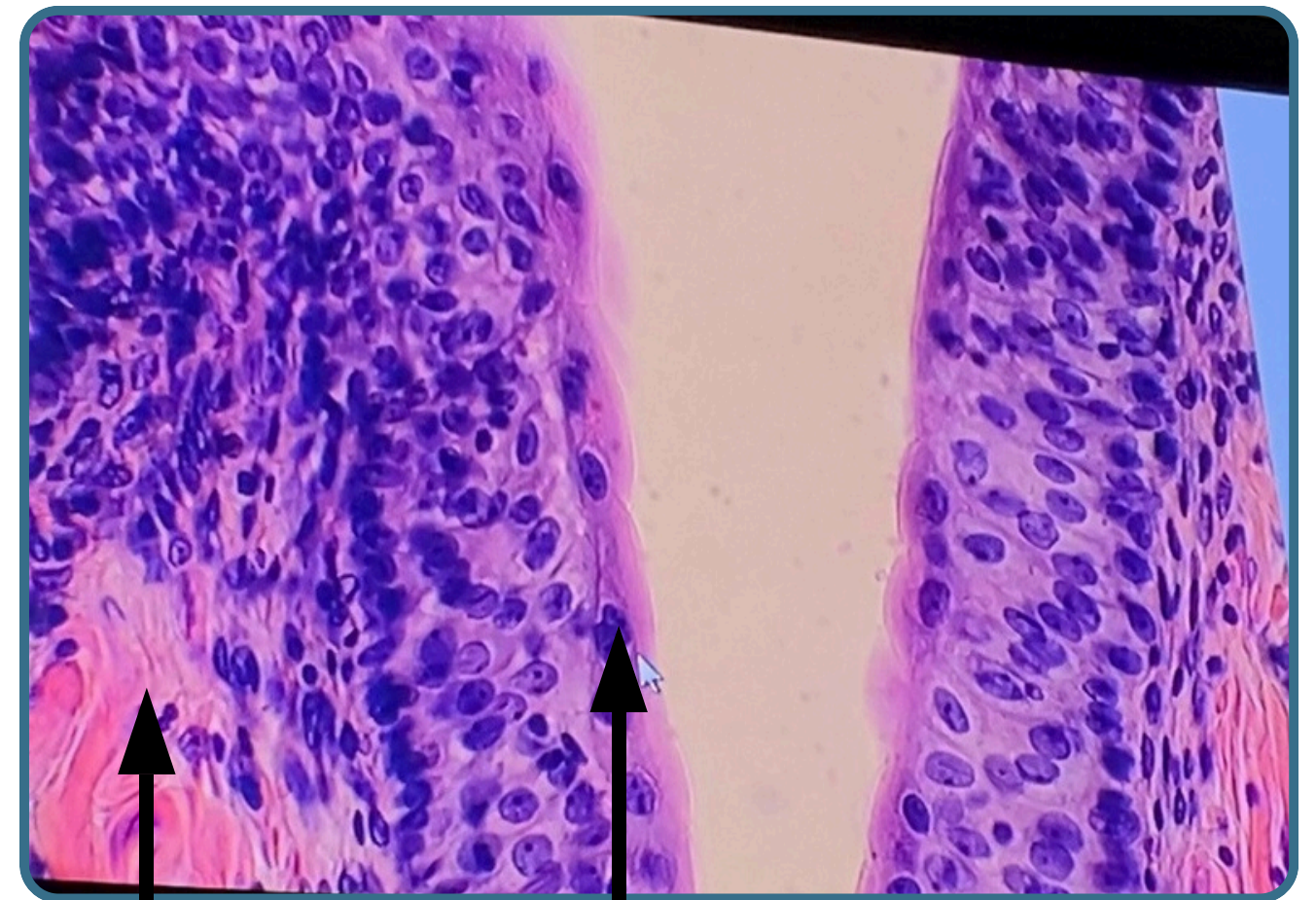


cross section in the ureter



Lamina propria

Dome cells binucleated



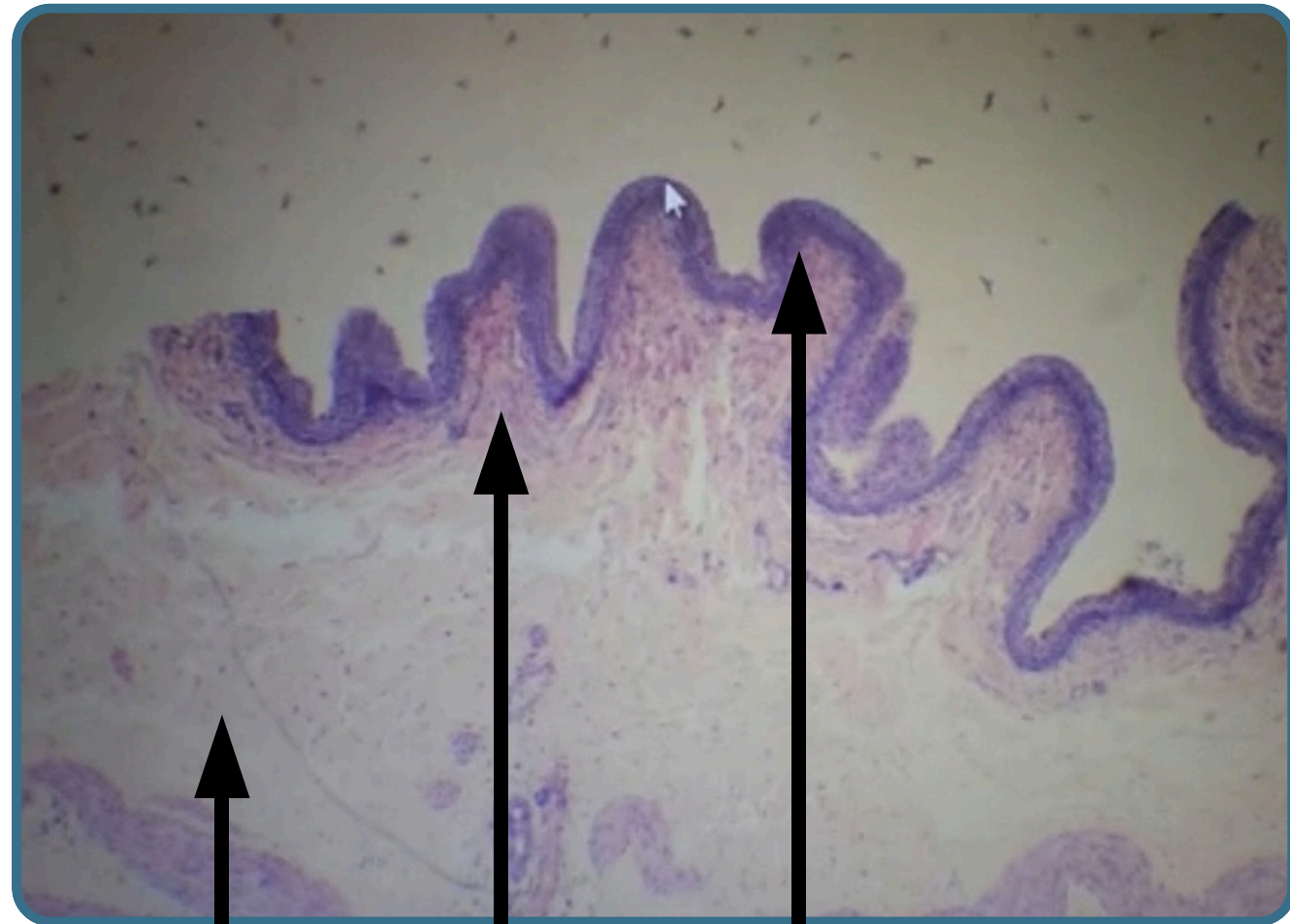
Lamina propria

Dome cells binucleated

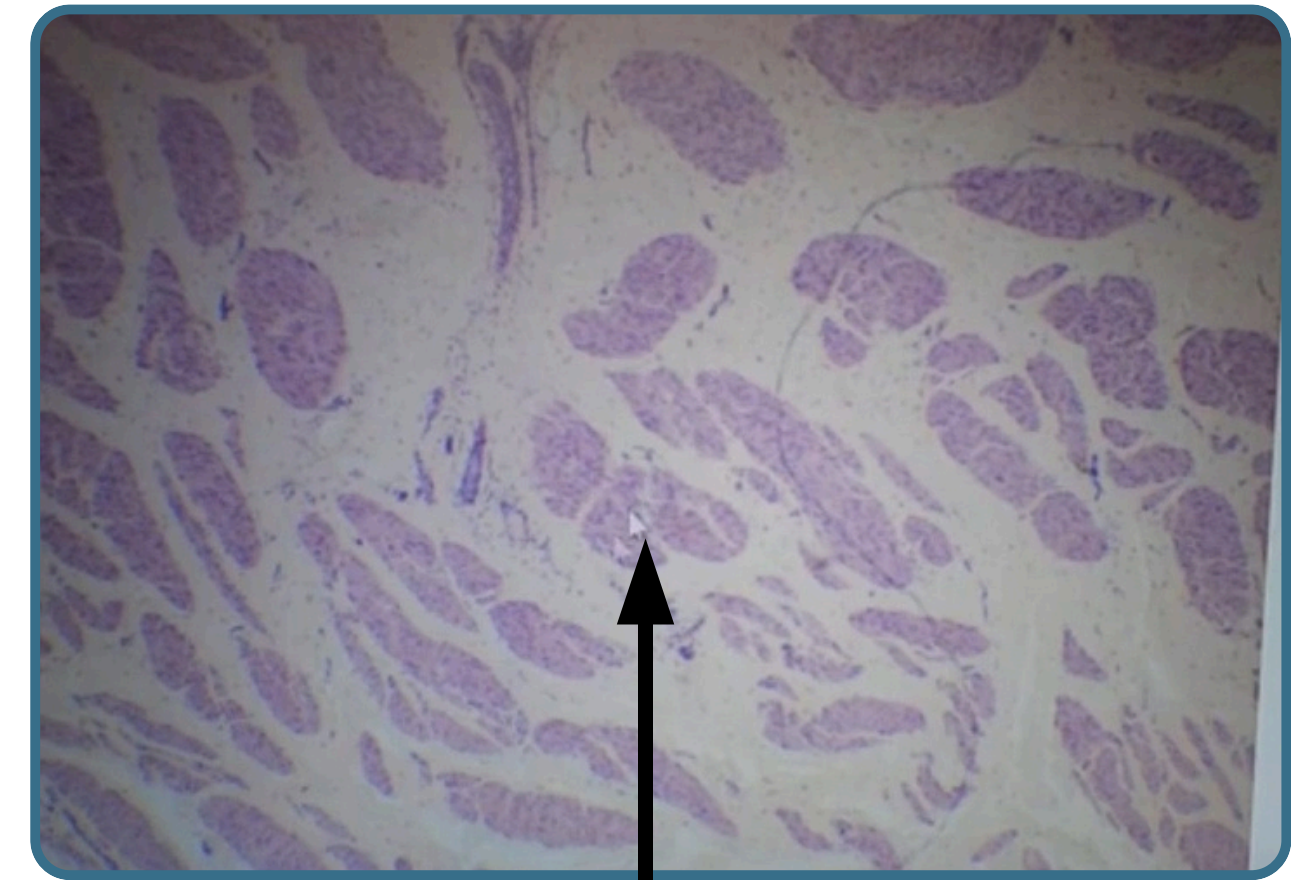
Urinary System



section in the urinary bladder



Muscularis
Lamina propria
Lining epithelium
transitional epithelium



Muscularis layer
Detrusor muscle

(the urinary bladder covered by adventitia except the upper part covered by Serosa)

H&E stained

THANK YOU

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