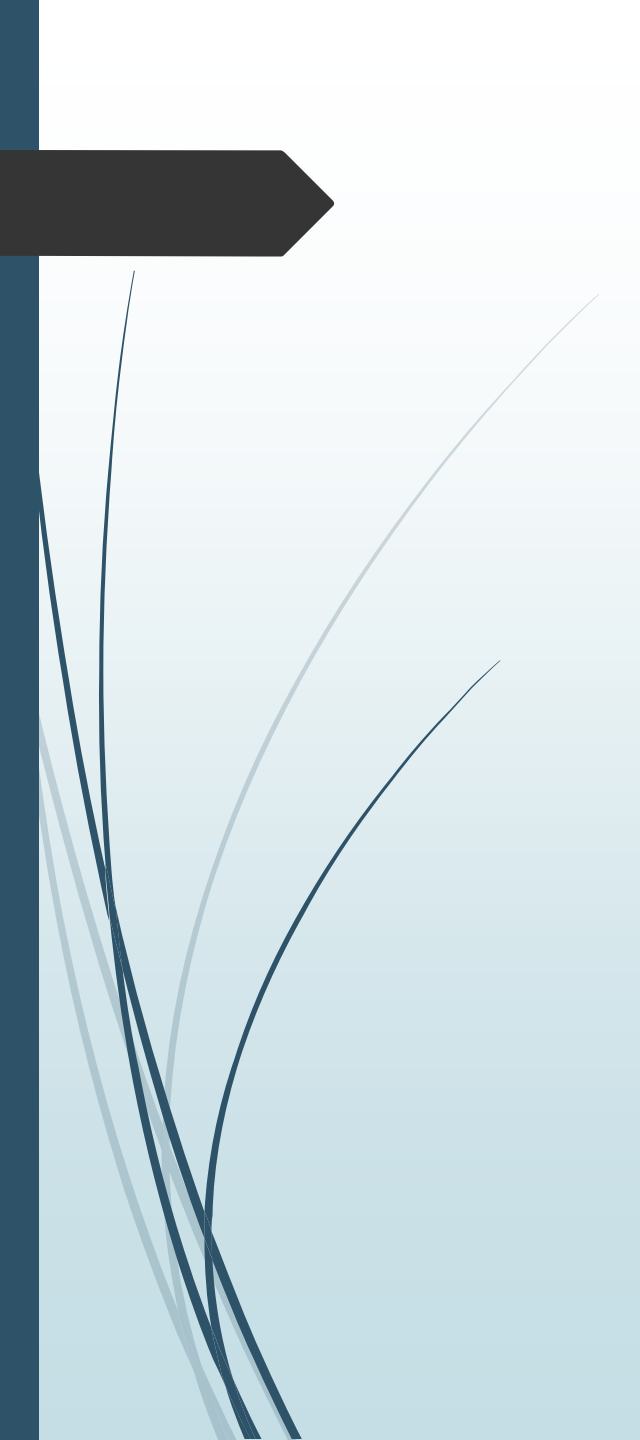




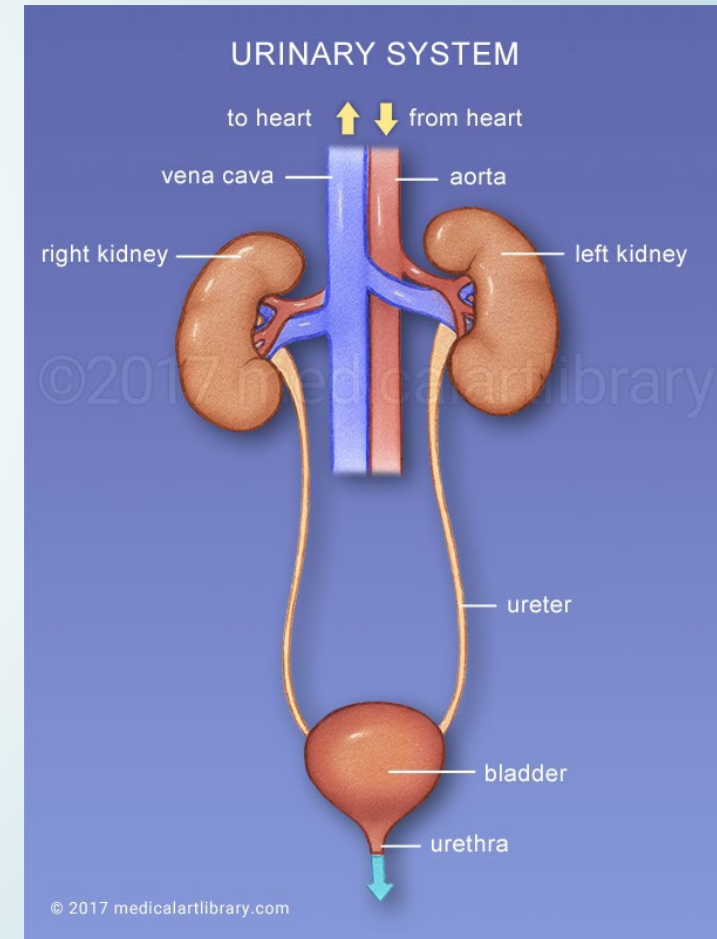
APPARATUS UROPOETICUS

-

Mokrační přístroj

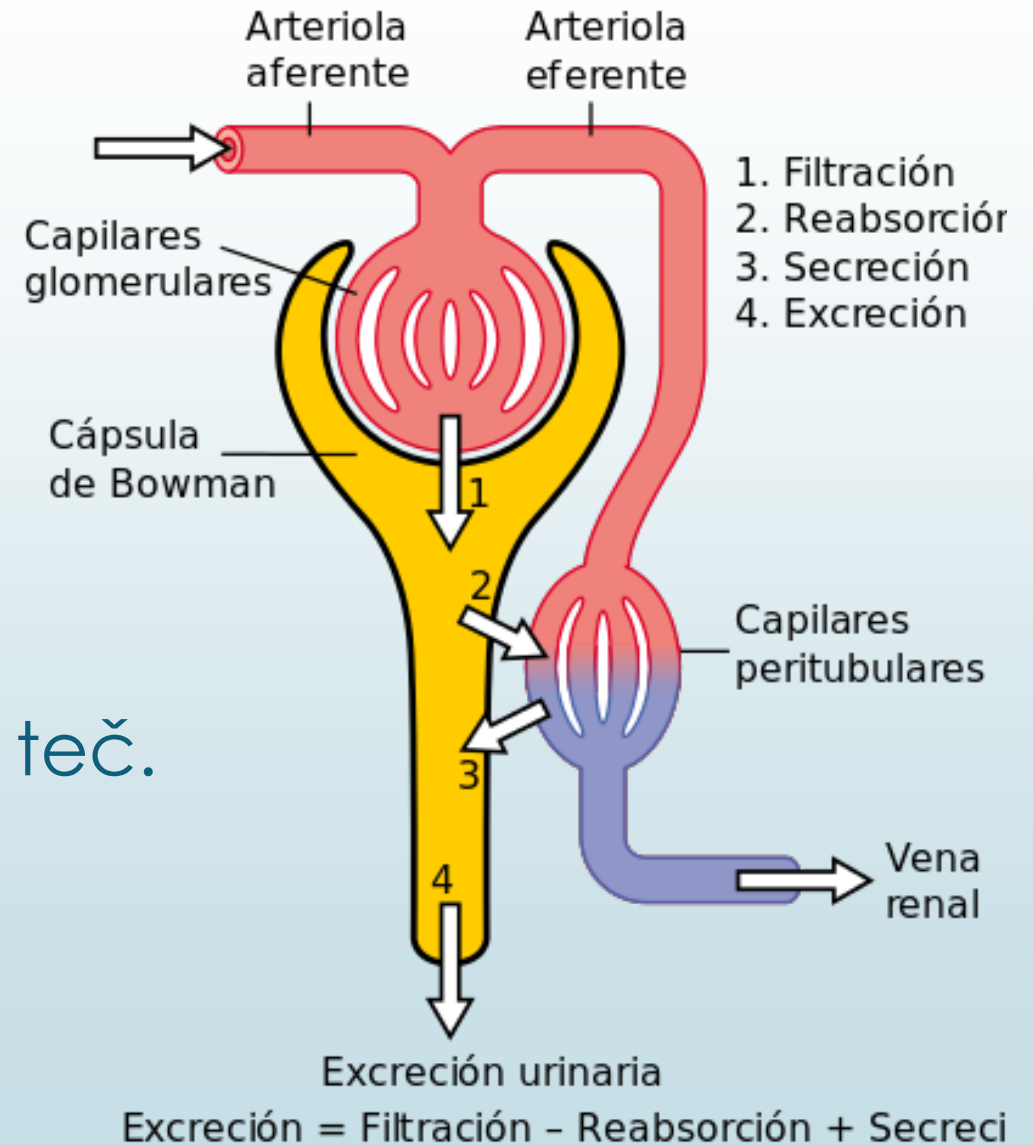
APPARATUS UROPOETICUS

1. Ren, Renes - *bubrezi*
2. Ureter, Ureteres - *mokračovodi*
3. Vesica urinaria, Urocyst - *mokračna bešika*
4. Urethra - *mokračna izvodna cev*

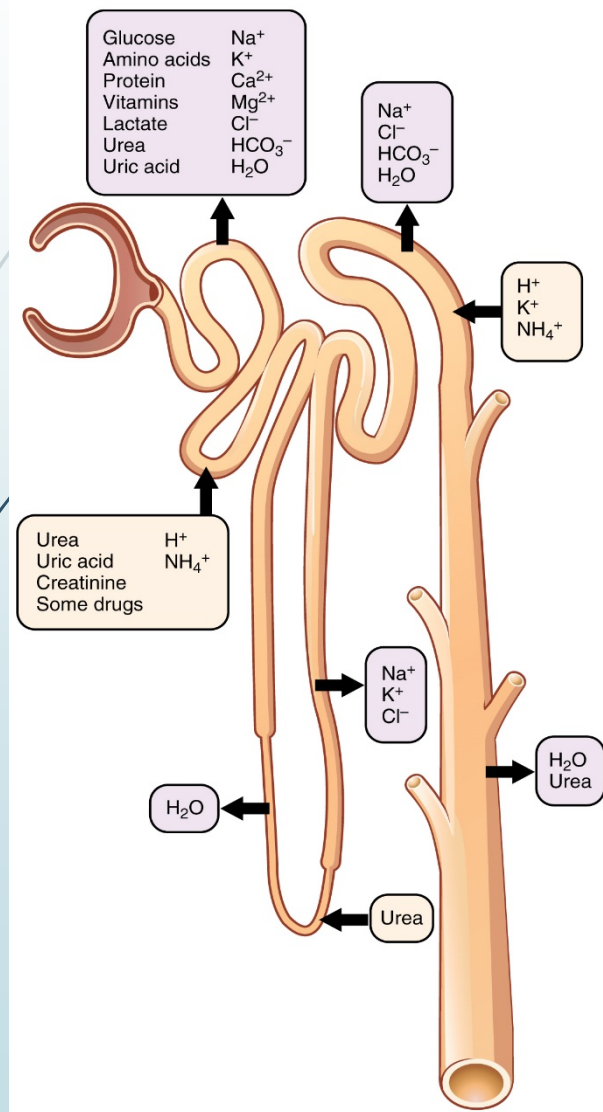


Uloga bubrega

- Održavanje sastava tel. teč.
- Odnos soli i H₂O
- Endokrina



Uloga bubrega



CREATININE, AMMONIA
AND URIC ACID: 0.2%

DISSOLVED SALTS AND
OTHER IONS: 2.8%

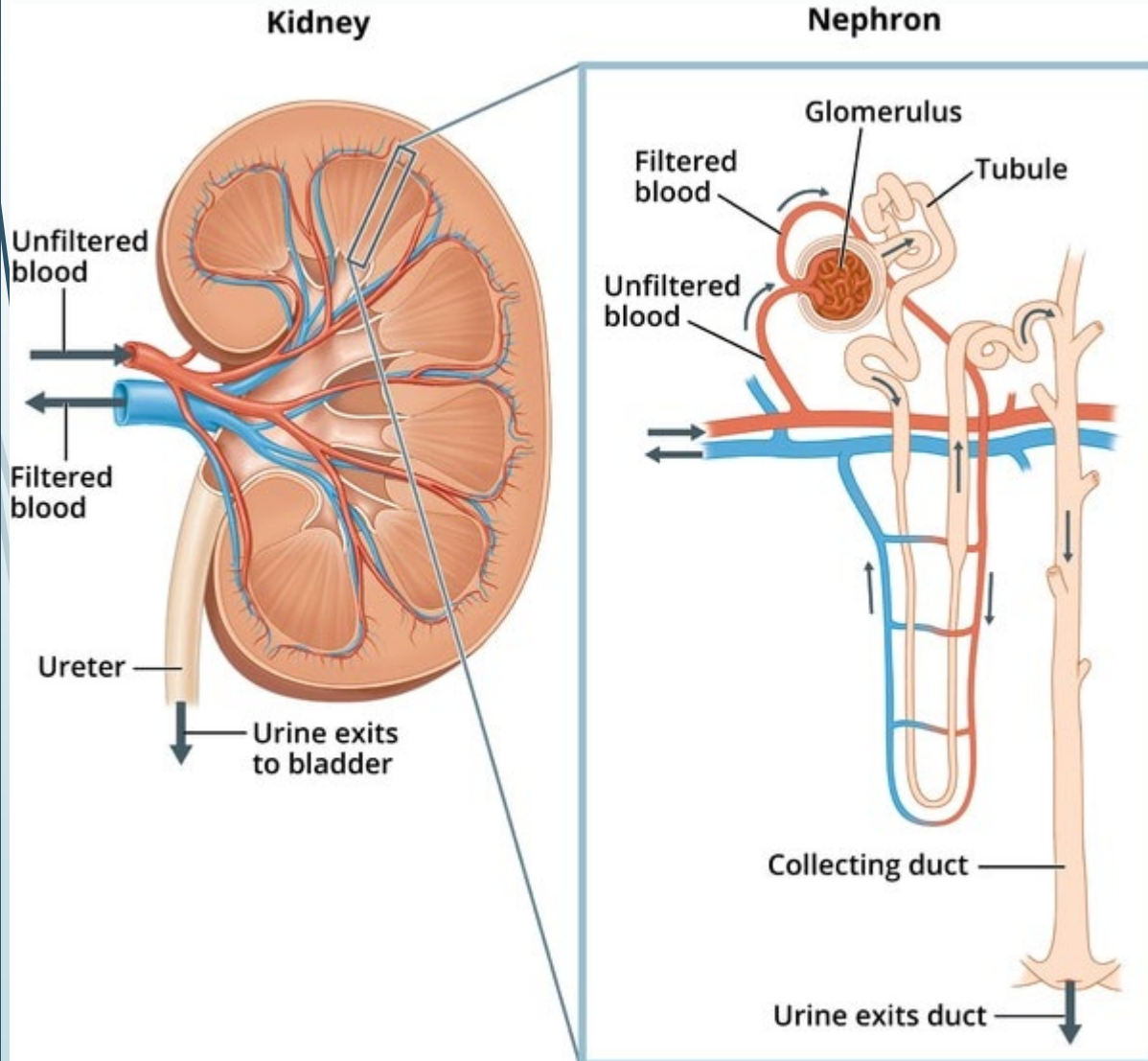
UREA: 2%

WATER: 95%

URINE COMPOSITION

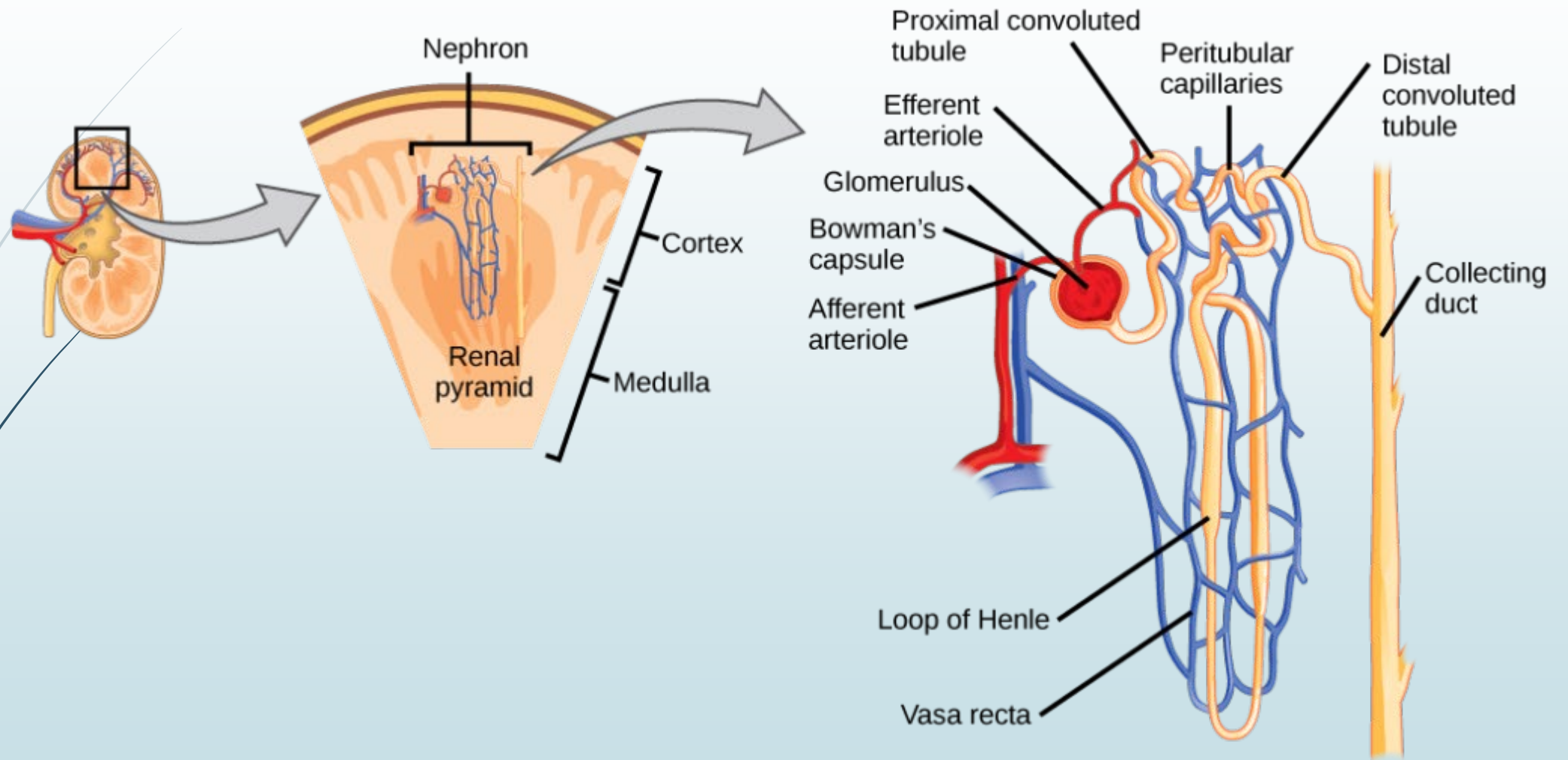
www.visiblebody.com

Nefron

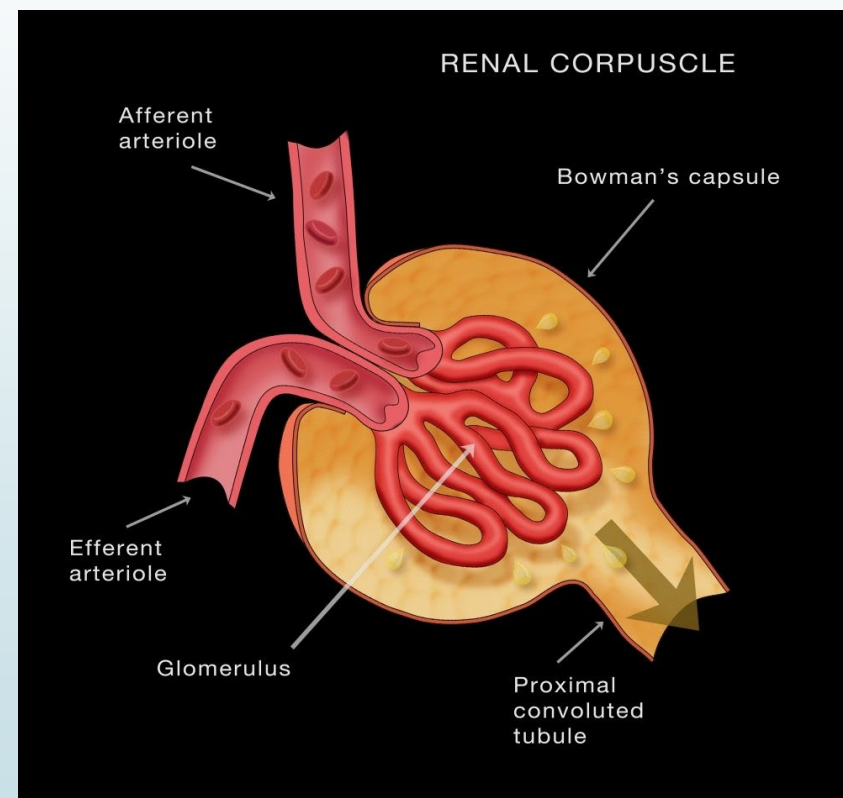
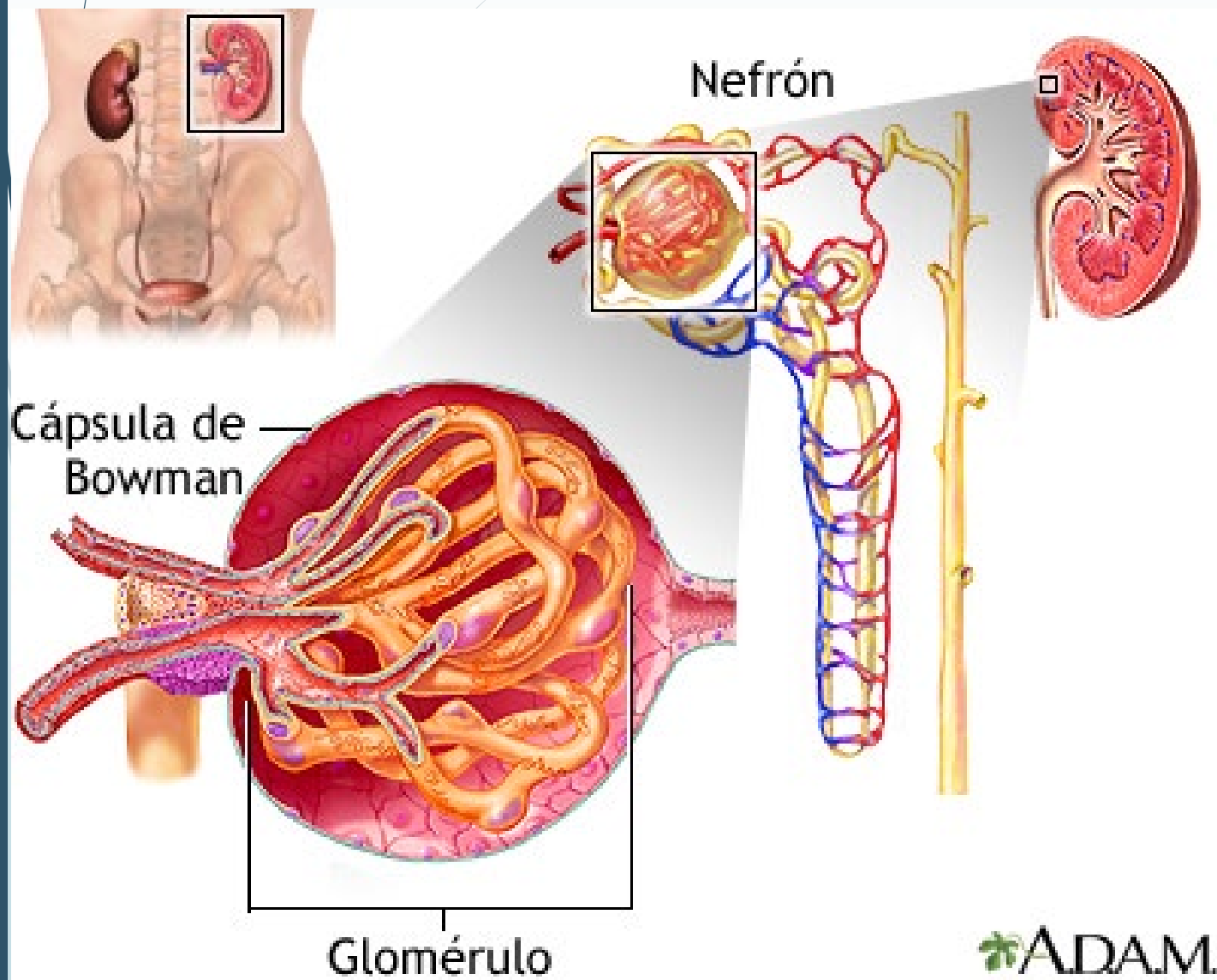


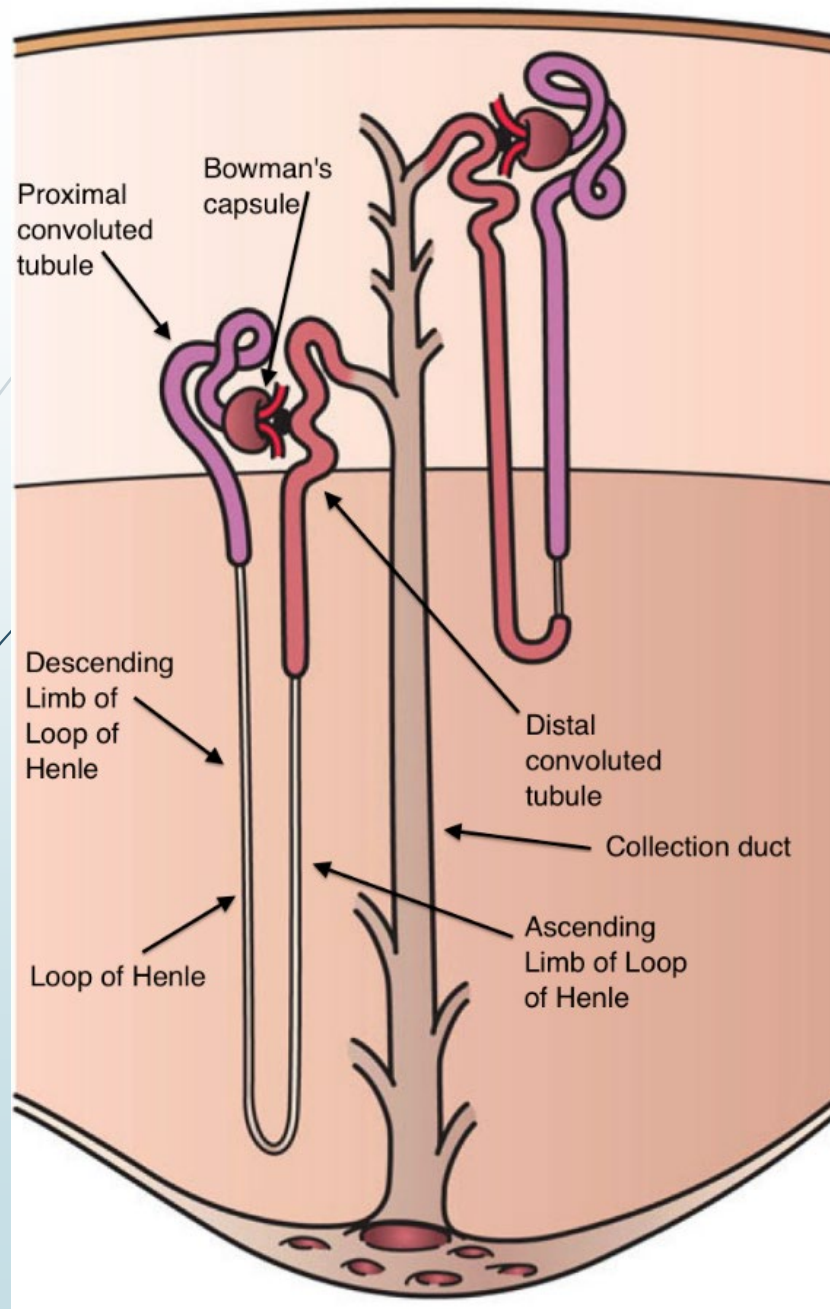
Nefron čine:

1. Arterijsko sudovno kapilarno klupče-glomerul
2. Bowman-ova čaura
3. Malpigijevo telašće
4. Portio principalis
5. Portio conducens
6. Portio intermedia
7. Pars reuniens



Malpigijevo telašce



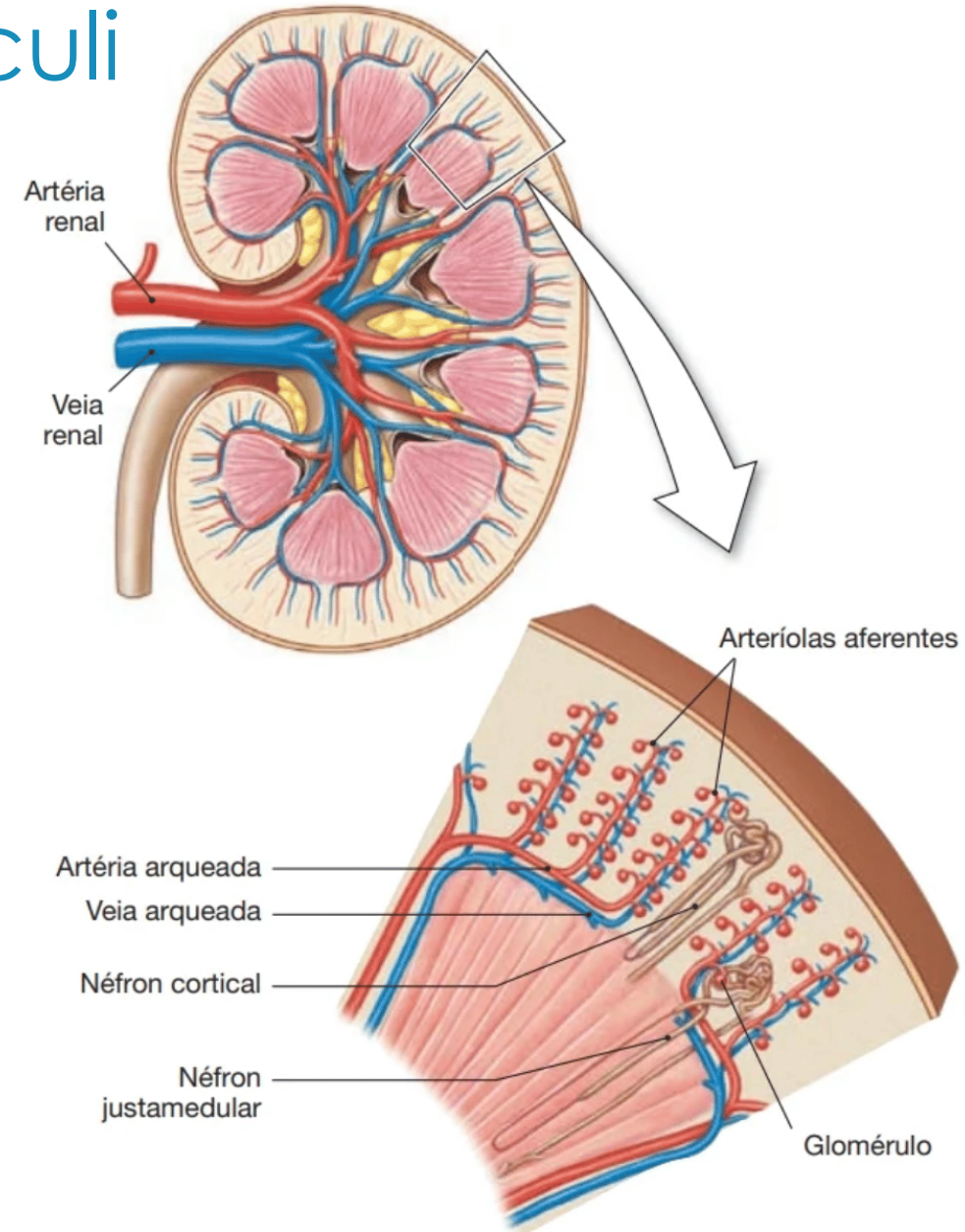
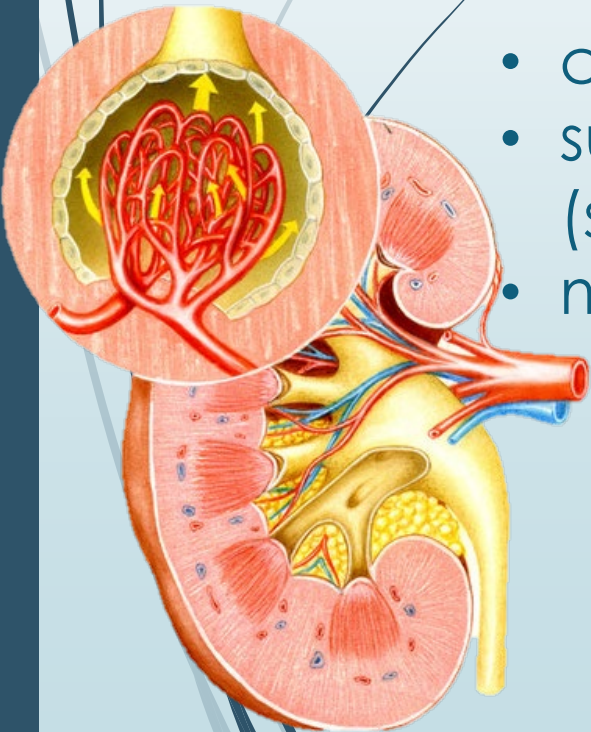


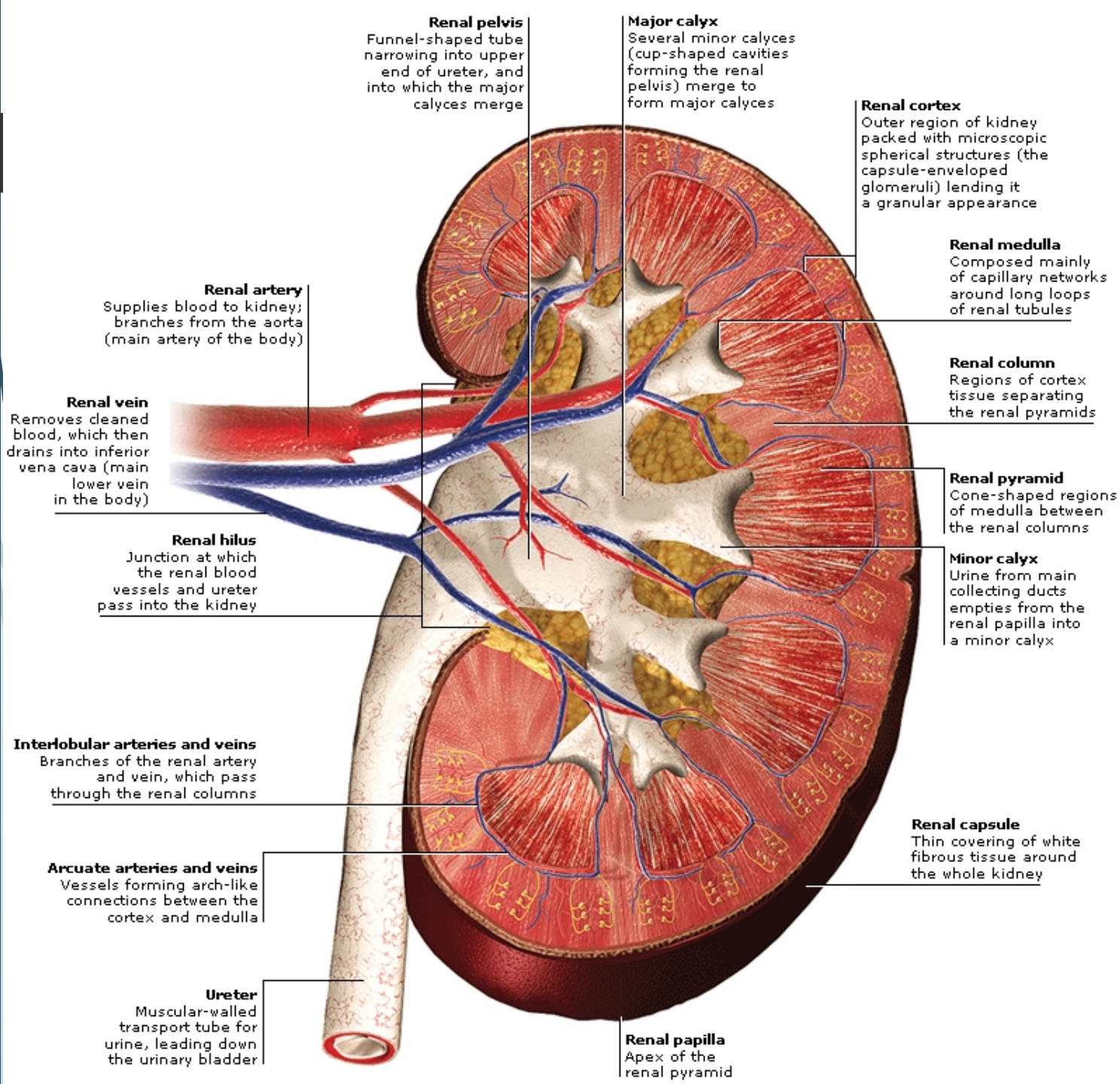
Portio principalis
Portio conducens
Portio intermedia
Pars reuniens

Grada bubrega

Lobuli renales seu Renculi

- visceralna seroza (peritoneum)
- capsula adiposa
- capsula fibrosa
- cortex (kora bubrega)
- substantia subcorticalis renalis (subkortikalna zona)
- medulla renalis (srž)





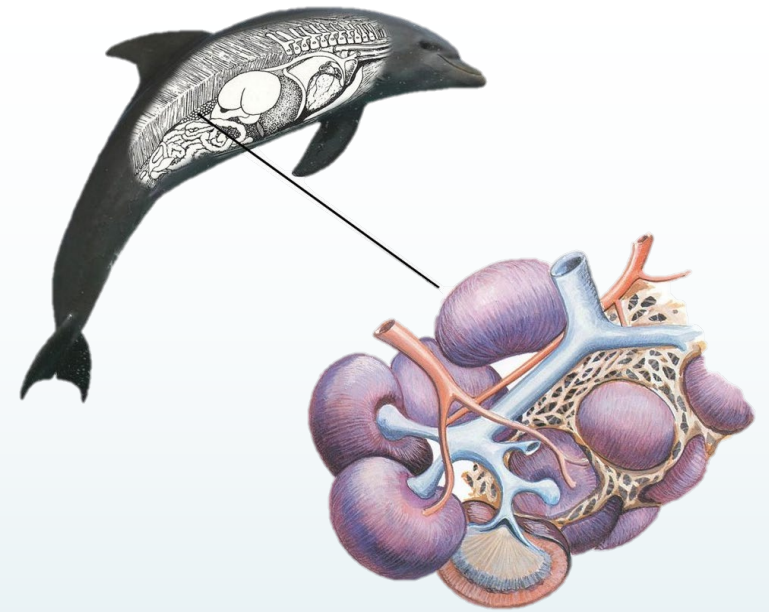
Subkortikalna zona=zona vasculosa

Aorta abdominalis

- A. Renalis
- A. Interlobaris
- A. Arcuata
- A. Interlobulares
- Vasa efferentia
- Glomerul
- Vasa afferentia

Podela bubrega

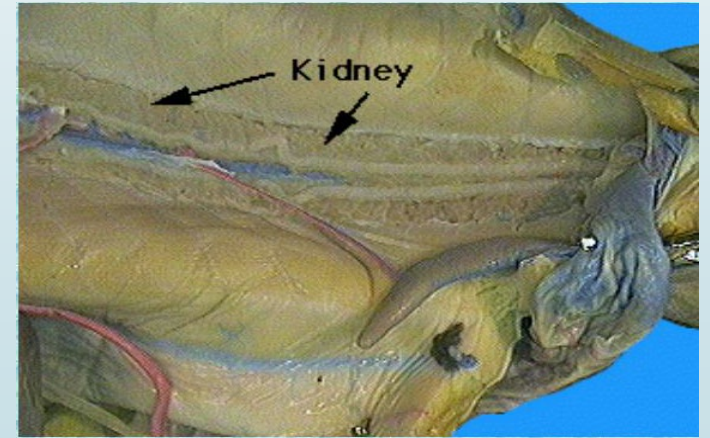
- slobodno sastavljeni
- prosti bubrezi



Polarni medved



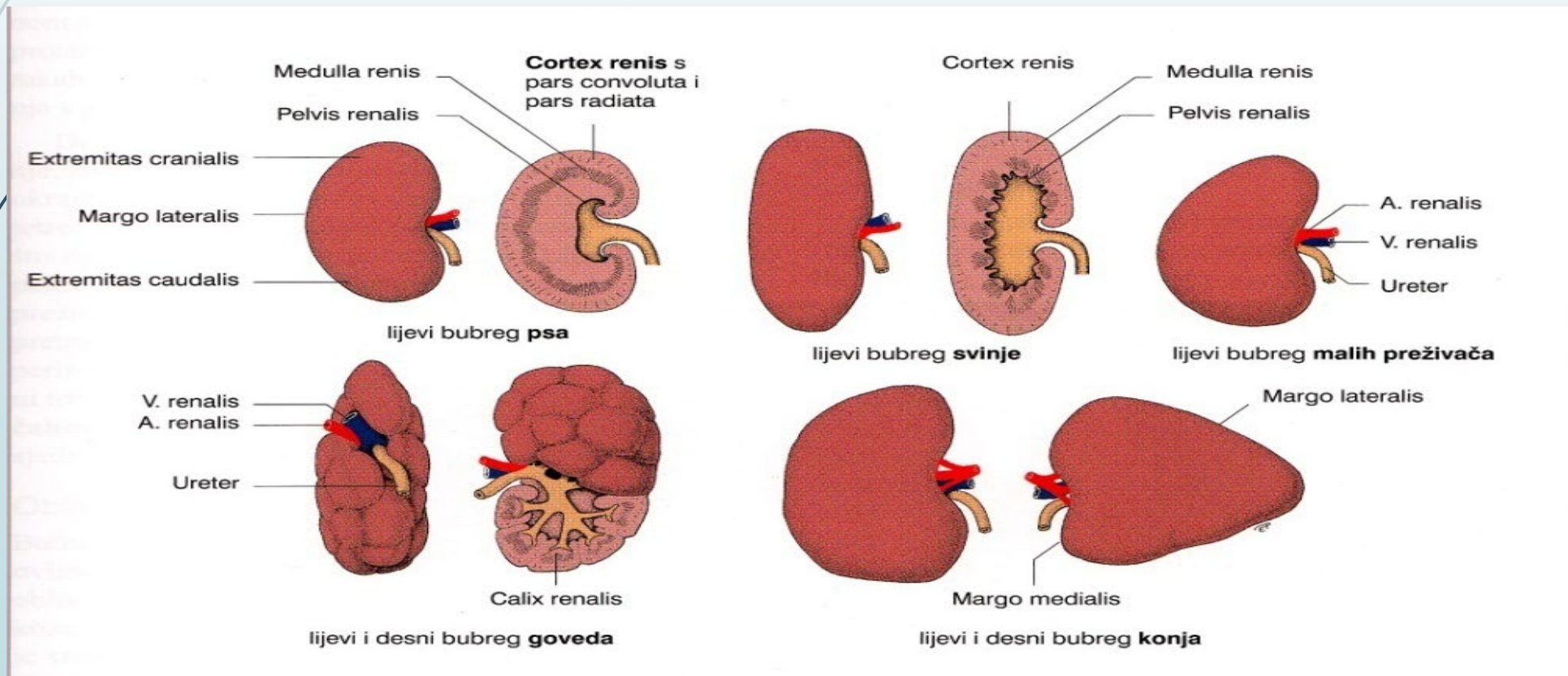
Vidra



Ajkula

Podela bubrega

Glatki i jednopapilarni (pas, mačka, konj, ovca i koza)
Glatki i višepapilarni (svinja i čovek)
Izbrazdani i višepapilarni (goveče)

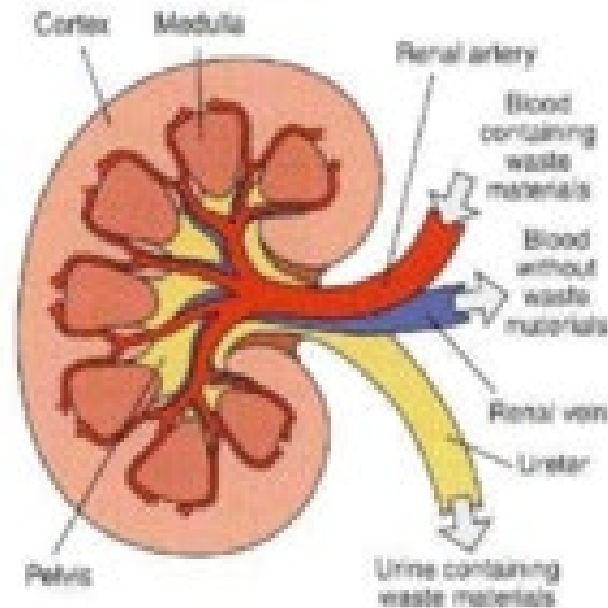


Dog, cat, sheep, horse.
Looks unilobar.



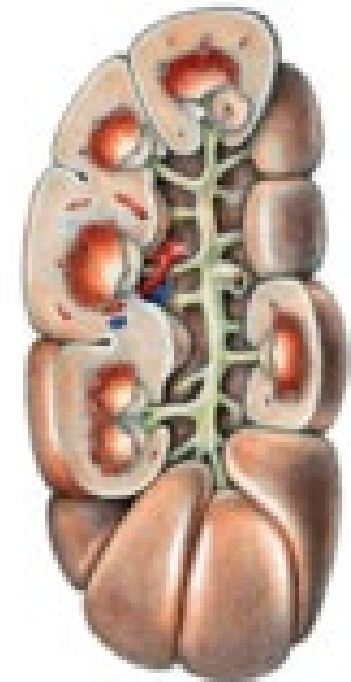
- Lobes still seen internally.
- Pyramids partially merged.
- Papillae merged to form renal crest.
- No calices
- Single pelvis.
- Smooth surface.

Pig, human.
Multilobar/fused



- Obvious pyramids.
- Multiple renal papillae.
- Multiple calices.
- Branched pelvis.
- Smooth surface.

Cow, dolphin, elephant.
Multilobar/separate
"Multipyramidal".

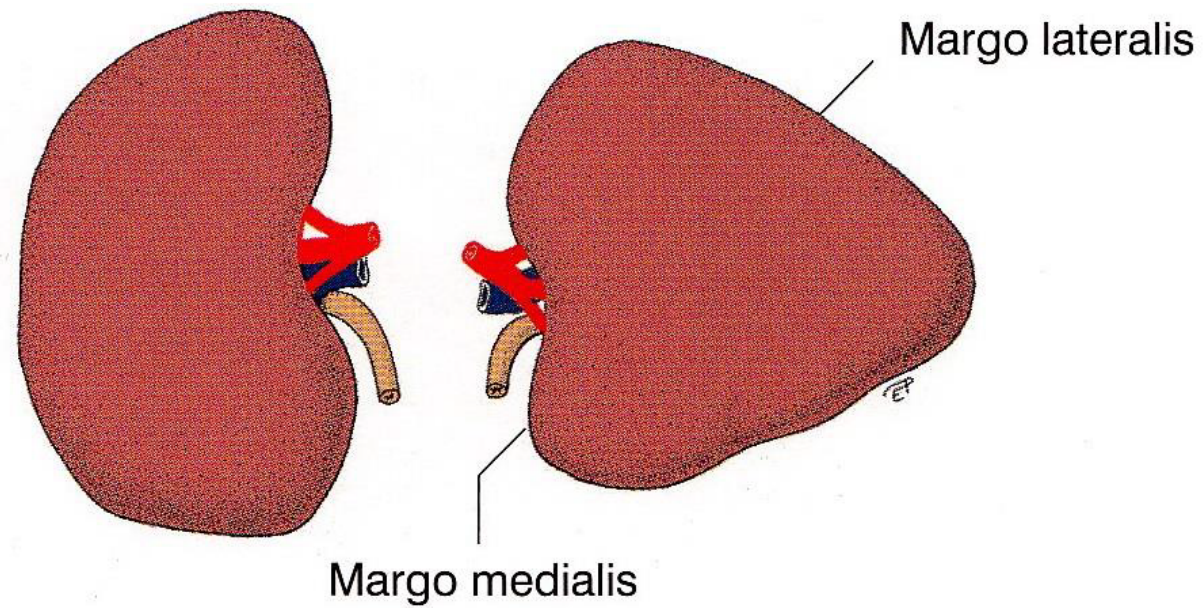


- Multiple lobes/pyramids.
- Multiple renal papillae.
- Multiple calices.
- No pelvis.
- Lobulated surface.



Species	Rodents Lagomorphs	Dogs/cats Equids Small bovids	Pigs Primates	Large bovids Elephants Aquatic mammals
Surface	Globate	Globate	Globate	Reniculate
Description	Unilobar	Multilobar	Multilobar	Multilobar
Cortices	Single	Fused	Fused	Multiple
Pyramids	Single	Fused	Multiple	Multiple
Papillae	Single	Fused into renal crest	Multiple	Multiple
Calices	No	No	Multiple	Major and minor
Pelvis	Yes	Yes	Yes	No

Izgled bubrega



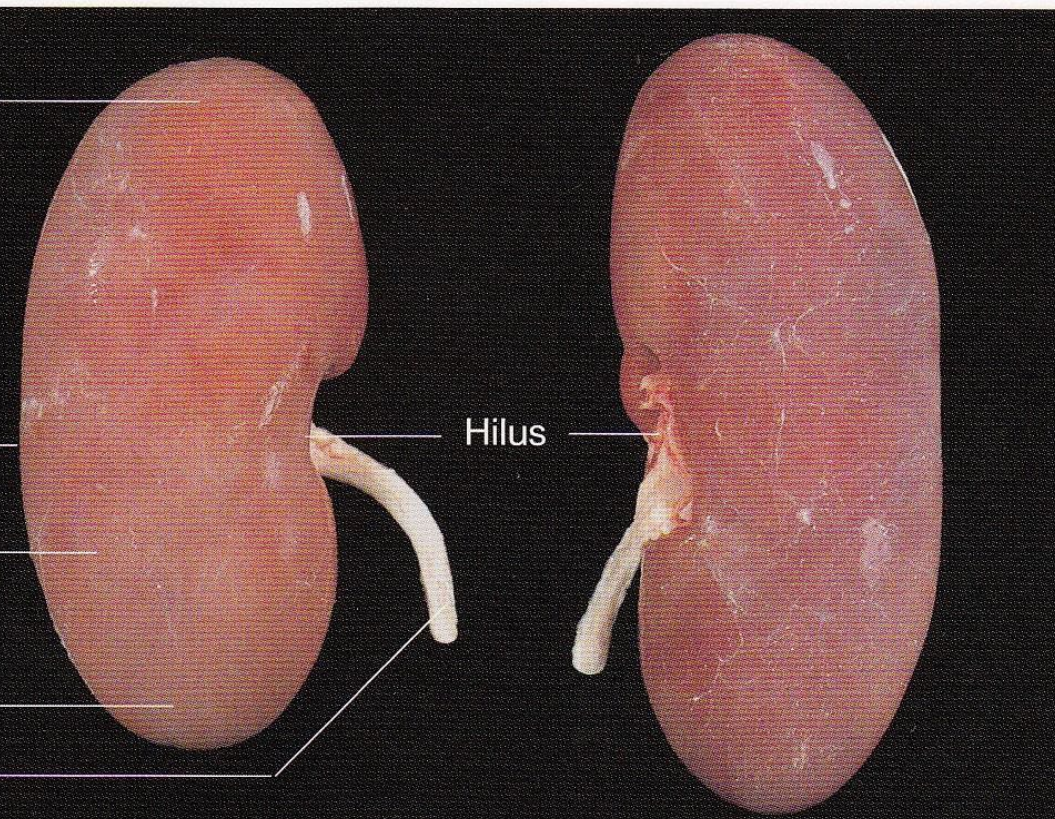
Extremitas cranialis

Margo lateralis

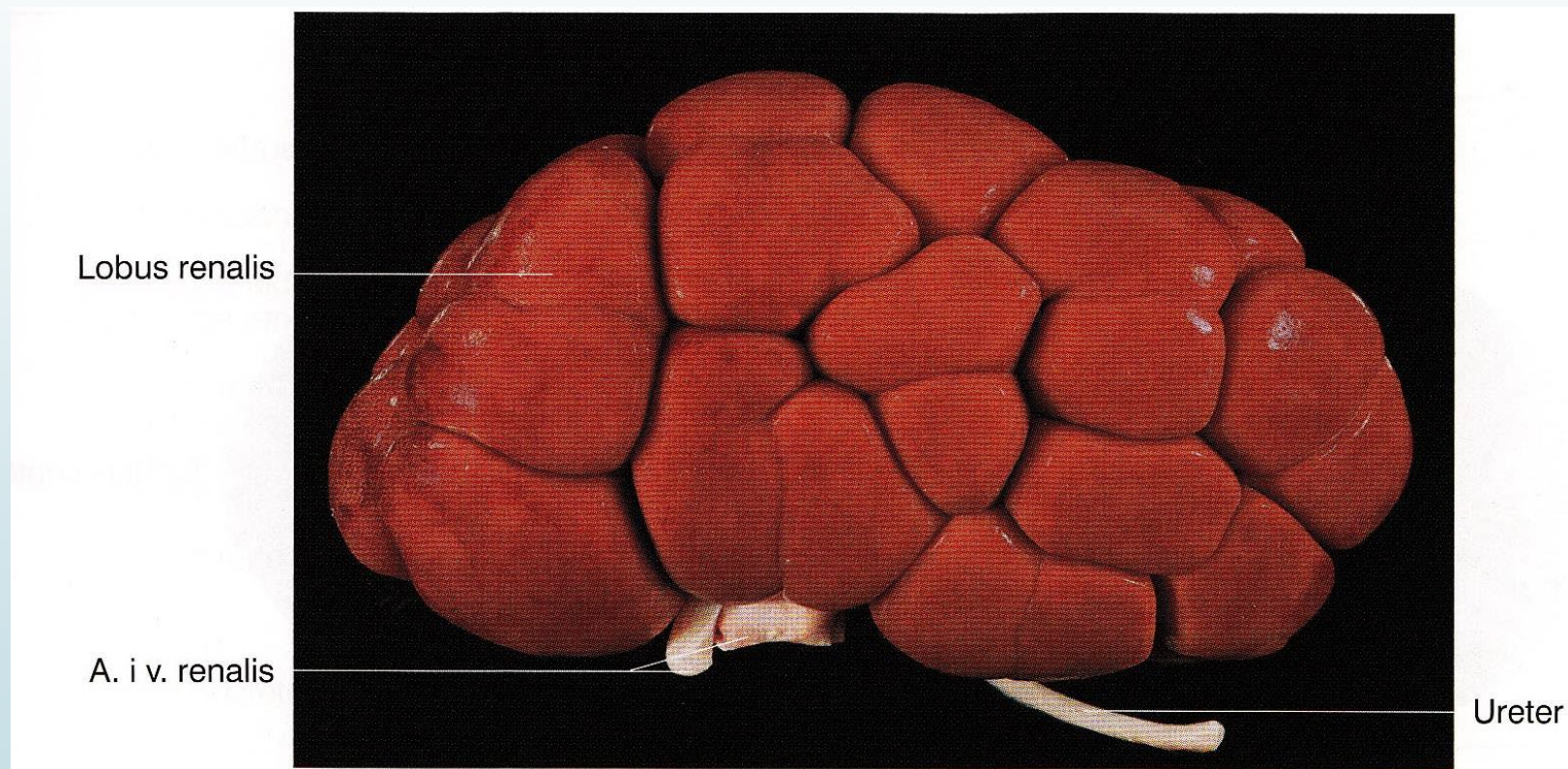
Facies ventralis

Extremitas caudalis

Ureter

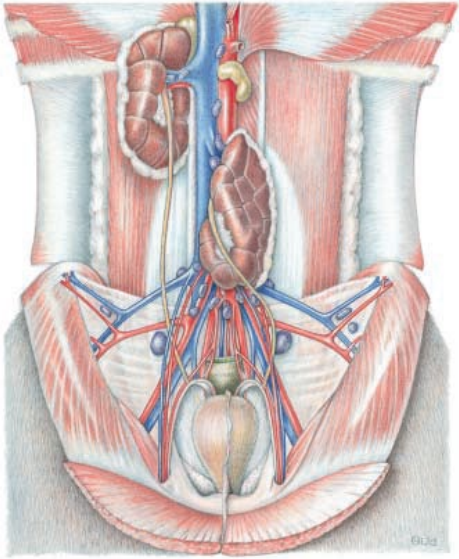


Bubrezi velikih preživara



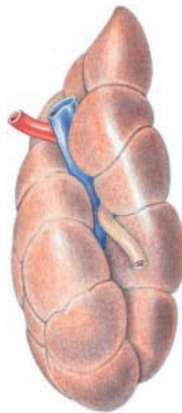
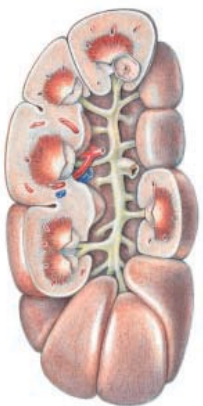
Režnjeviti i polipapilarni

Bubrezi velikih preživara

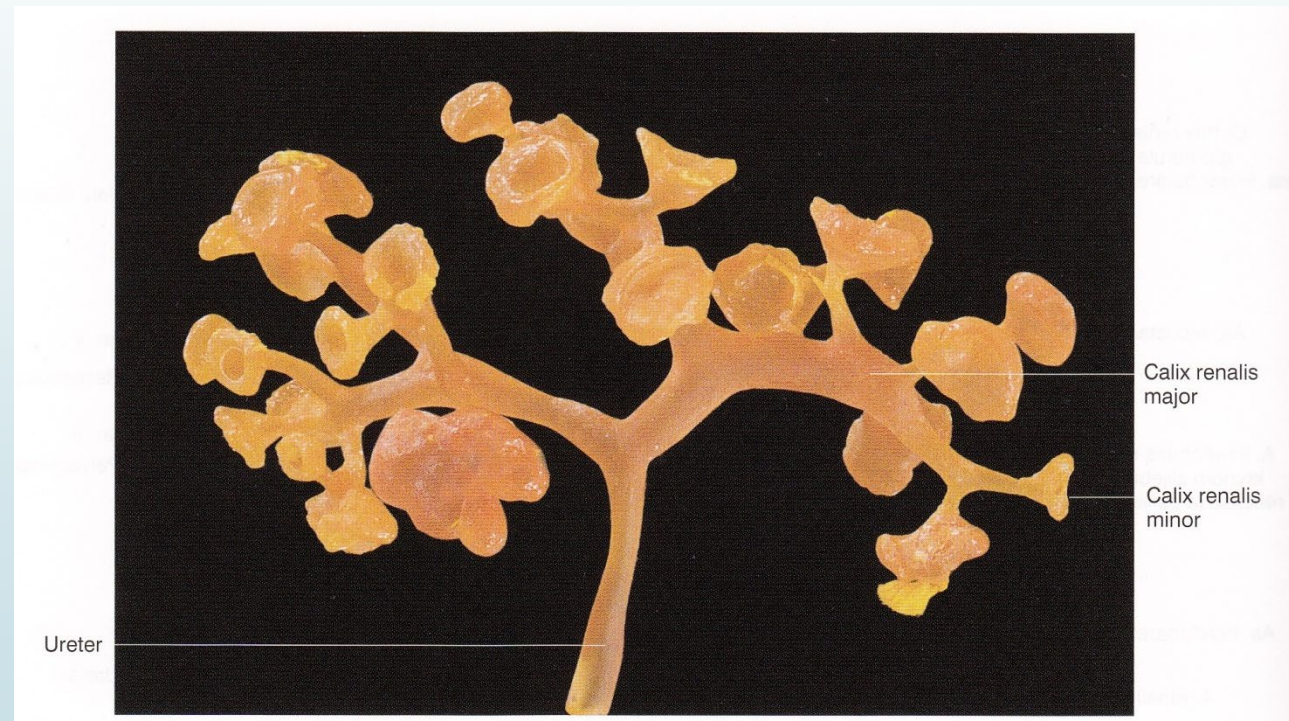


Calix communis

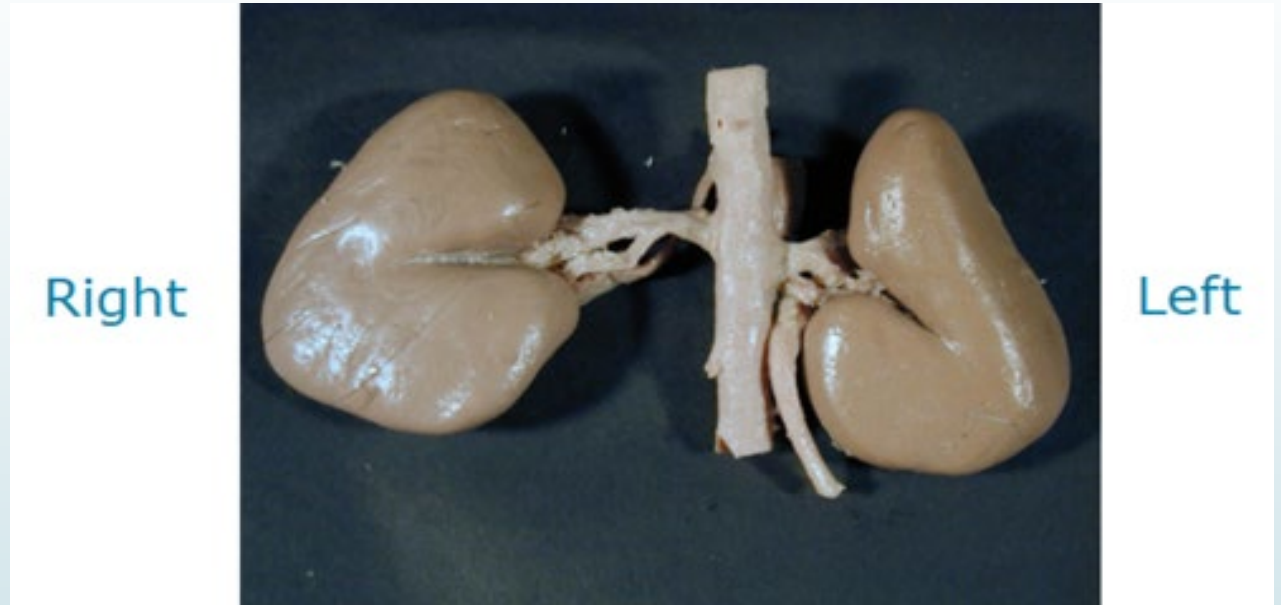
Oba bubrega su retroperitonealno, desno od medijalne ravni.



Bubrezi velikih preživara

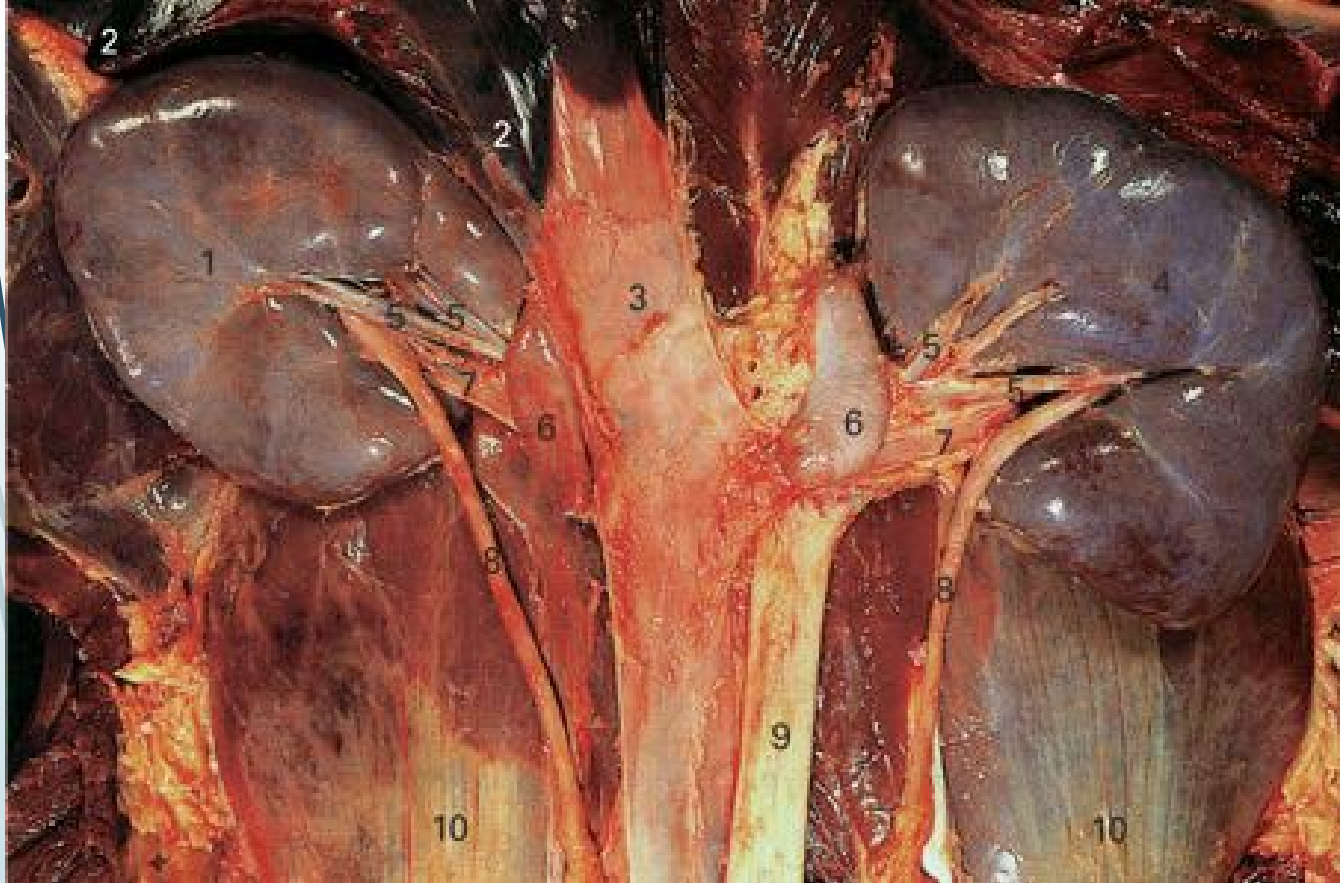


Bubrezi konja



- 1 Ventral surface
- 2 Cranial pole
- 3 Branches of the renal artery entering the kidney
- 4 Beginning of the ureter
- 5 Caudal pole

Bubrezi konja



- 1 Ventral surface of the right kidney
- 2 Most caudal part of the caudate lobe of the liver
- 3 Caudal vena cava
- 4 Ventral surface of the left kidney
- 5 Renal arteries
- 6 Adrenal glands
- 7 Renal veins
- 8 Ureter
- 9 Aorta
- 10 M. iliopsoas

Bubrezi konja



Kod eq, ov i ca se nalazi **Recessus terminalis (pelvis)**.
Kod magarca i mazge ne postoji.

Bubrezi psa

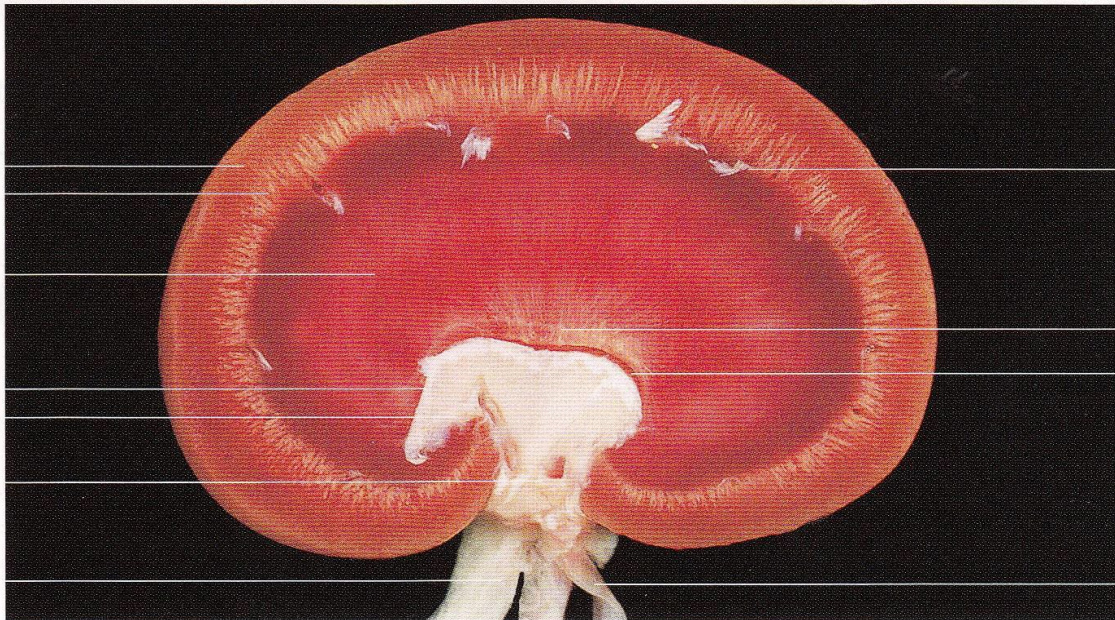
Cortex renis,
Pars convoluta
Pars radiata

Medulla renis

Pelvis renalis,
Sinus renalis

Hilus renalis

Ureter

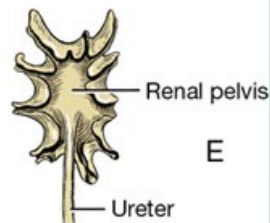
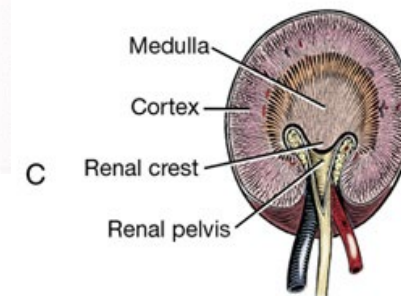
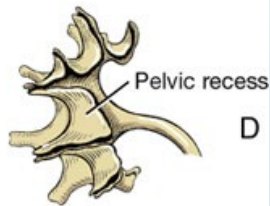
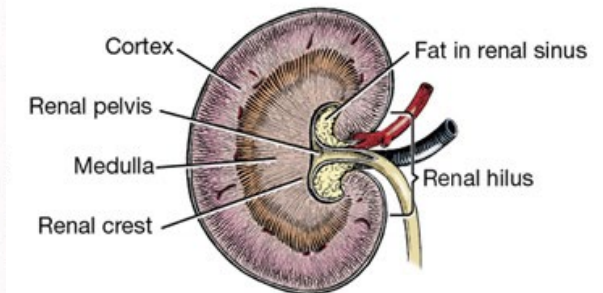
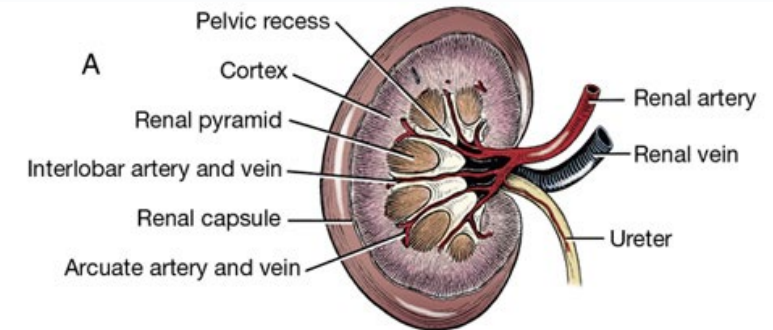


Aa. interlobares
na prijelazu u
aa. i vv. arcuatae

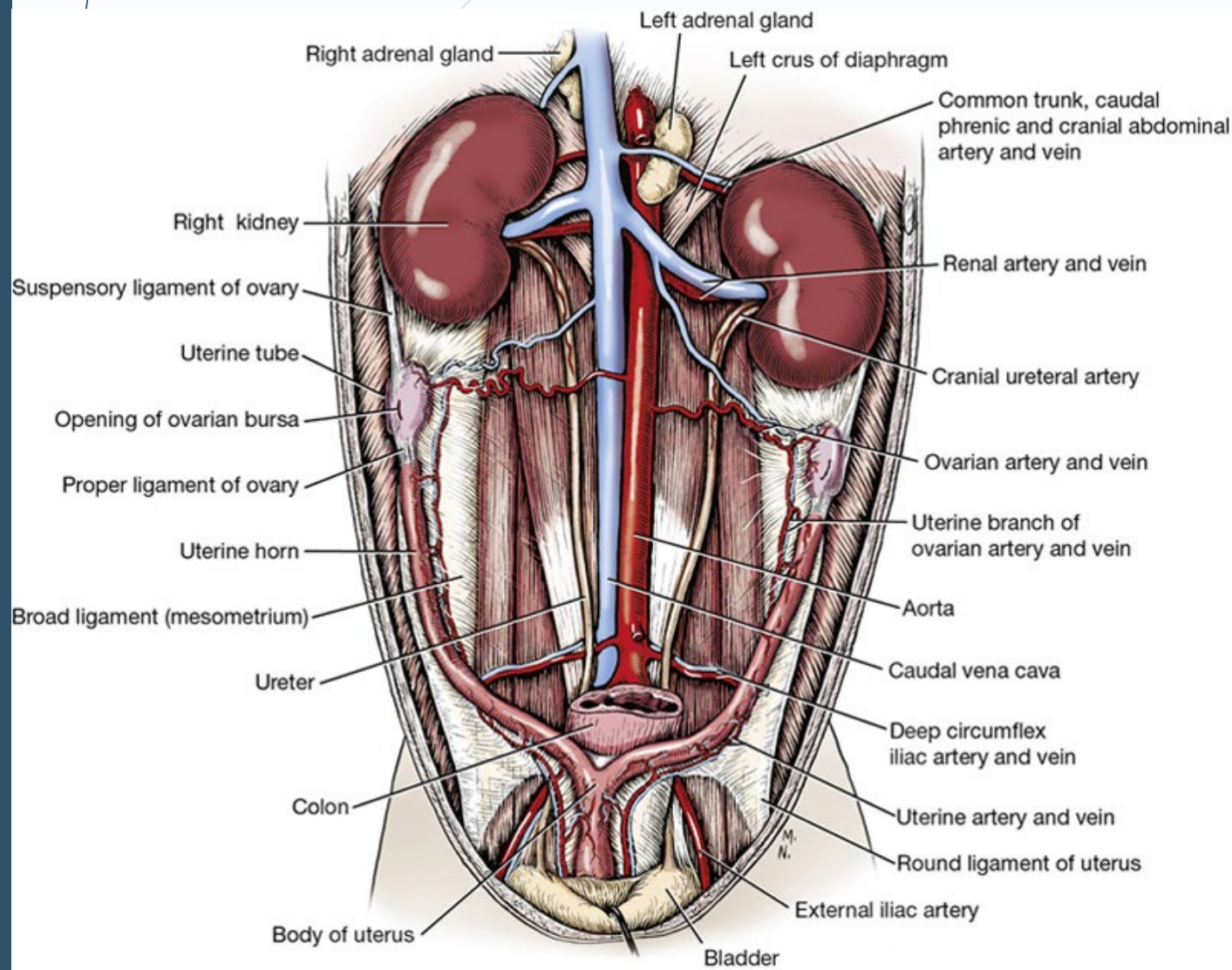
Papilla renalis

Crista renalis

A. i v. renalis



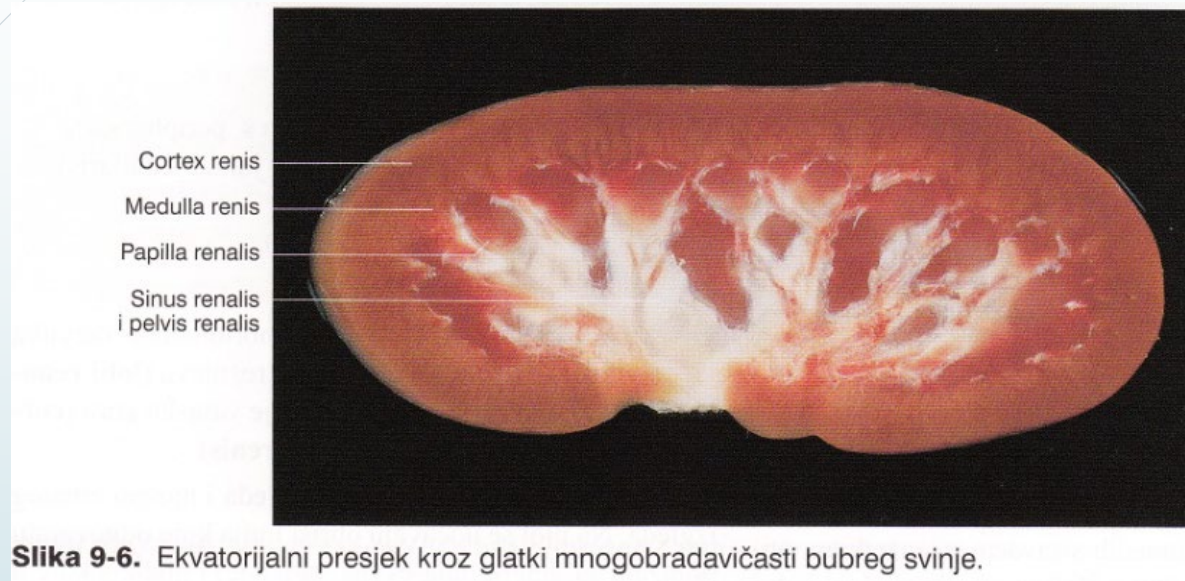
Bubrezi psa



Oba bubrega vise na kratom bubrežnom visku u lumbalnoj regiji dorzalnog dela trbušne duplje.

Desni se pruža do jetre dok je levi ceo ekstratorakalno.

Bubrezi svinje



- Glatki polipapilarni bubrezi
- Leže retroparitonealno i ekstratorakalno.
- Postavljeni su skoro paralelno.
- Vise na mezorenumu.

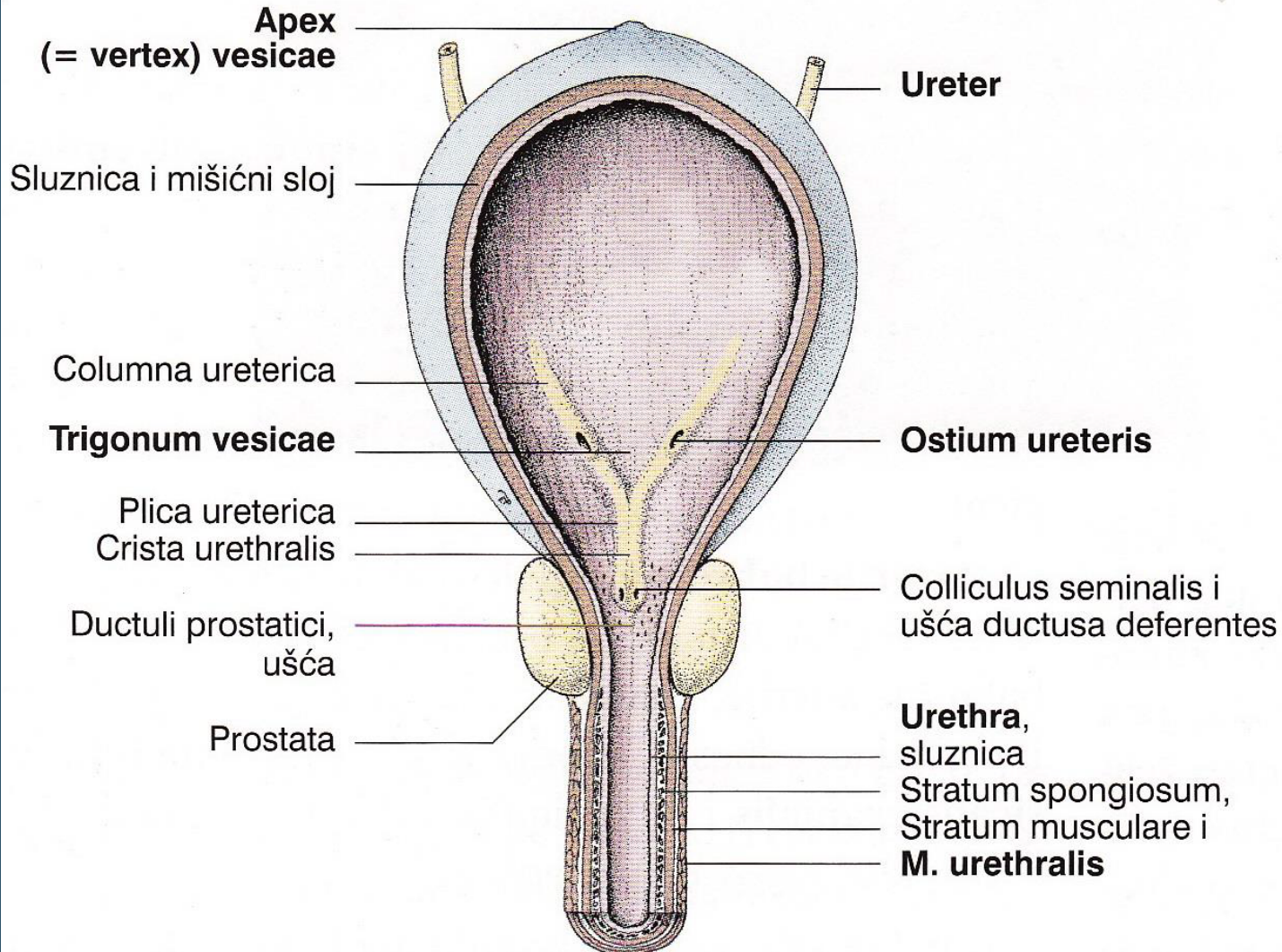
Ureteri - mokraćovodi

Ureteri su mišićno-sluzokožne elastične cevi.

- trbušni-abdominalni deo
- kalični deo



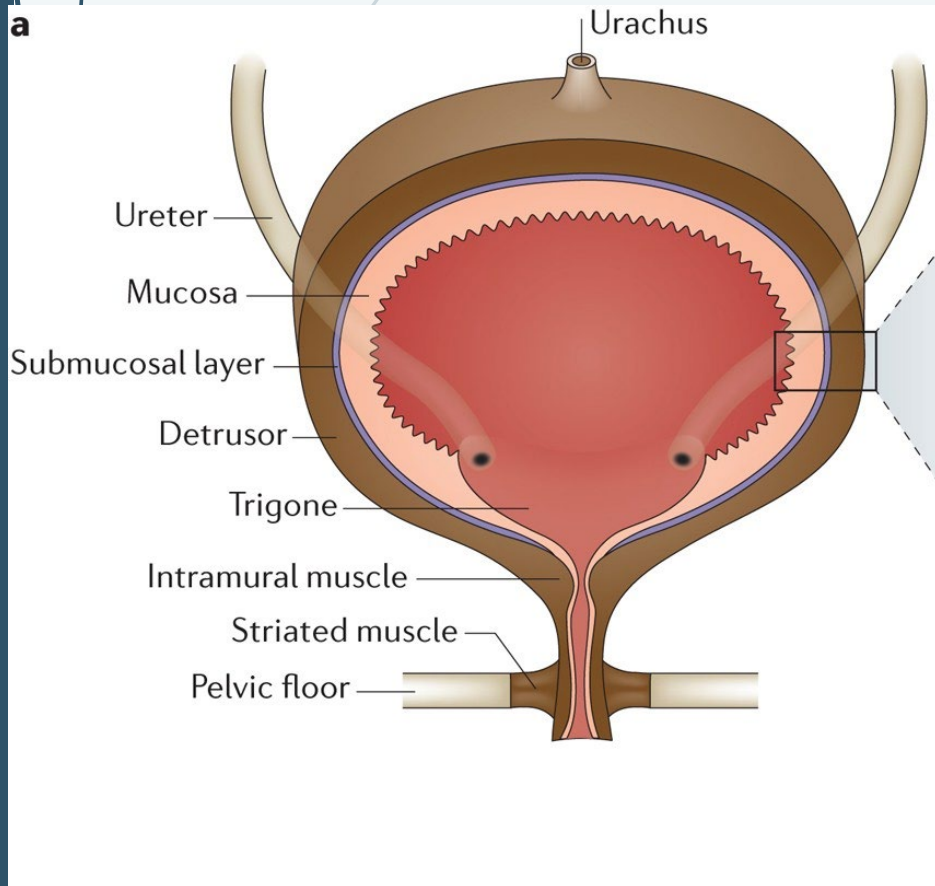
Mokraćna bešika



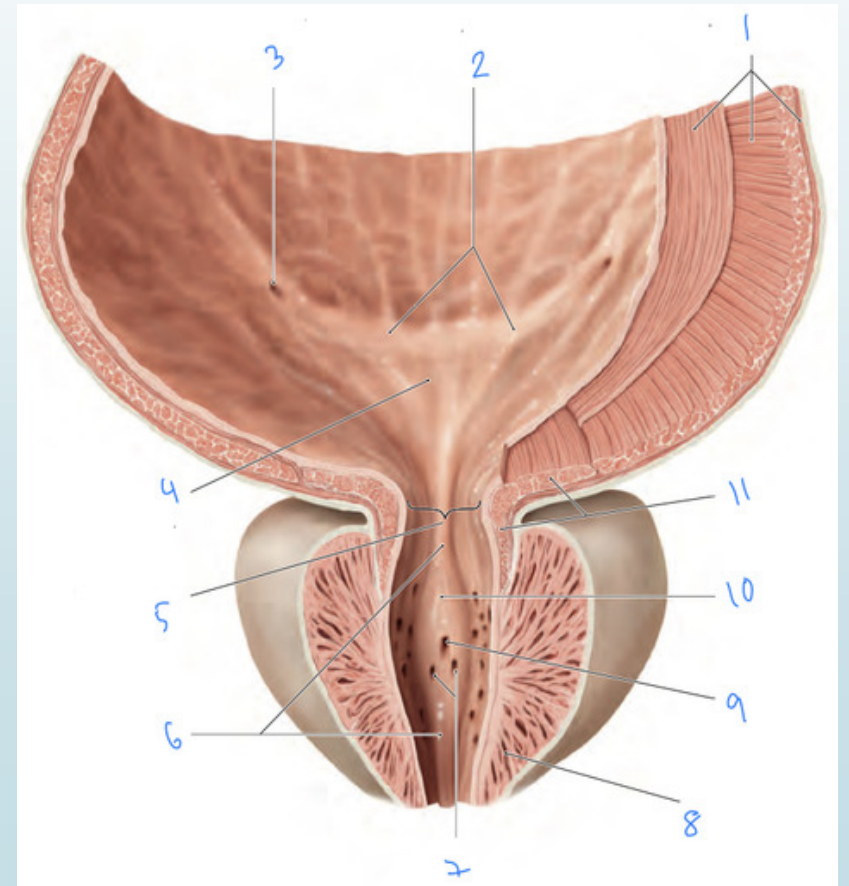
- Apex vesicae [Vertex vesicae] – vrh, okrenut kranijalno
- Corpus vesicae – telo, središni deo
- Cervix (Collum) vesicae – suženi deo, okrenut kaudalno
- Facies dorsalis et ventralis
- Trigonum vesicae
- Columne uretericae
- Ostium ureteris
- Ostium urethrae internum

Mokraćna bešika

► M. detrusor



Tunica serosa
Tunica muscularis
Tunica mucosa

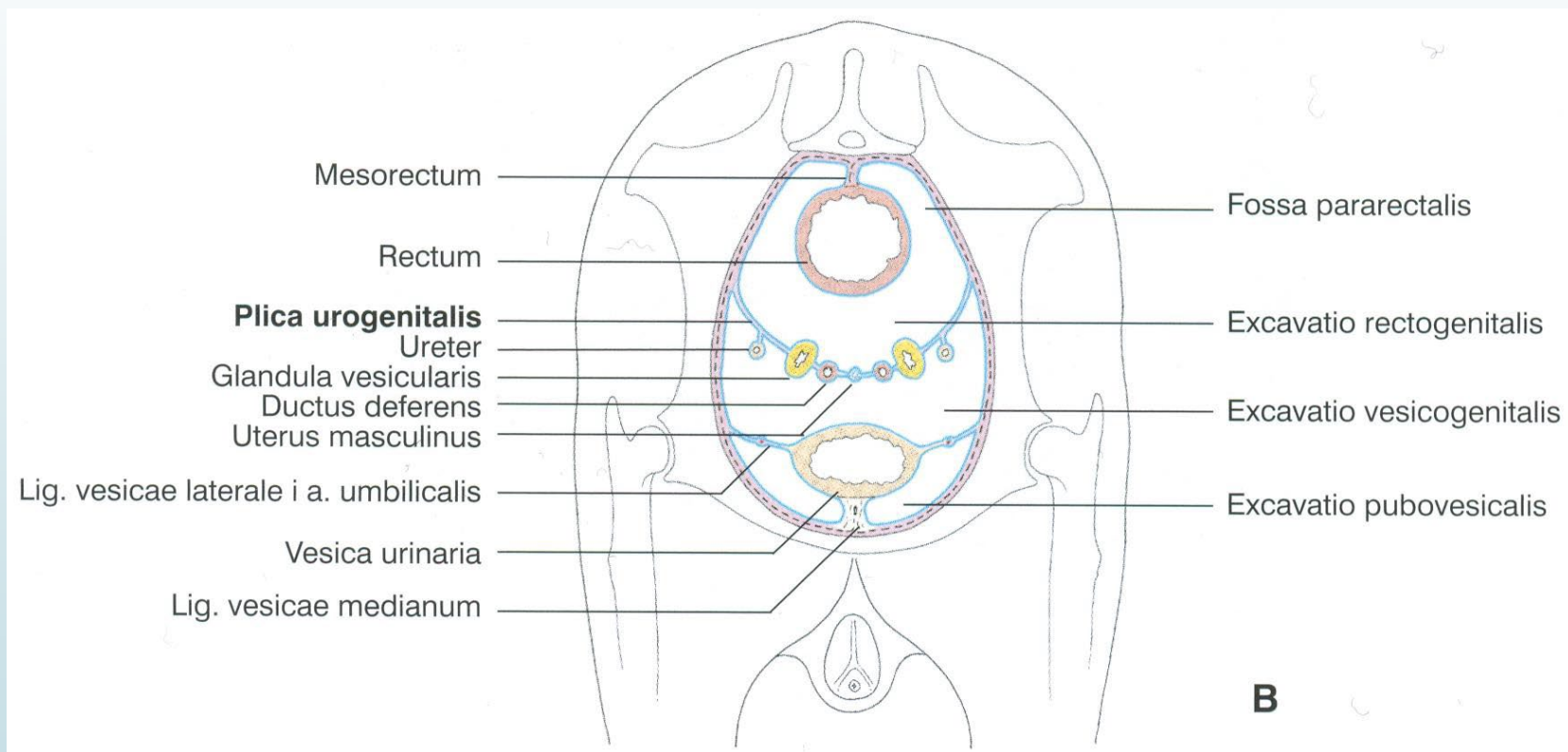


Mokračná bežika

- Ligamentum teres vesicae urinariae
- Ligamentum vesicae urinariae medianum



Mokraćna bešika



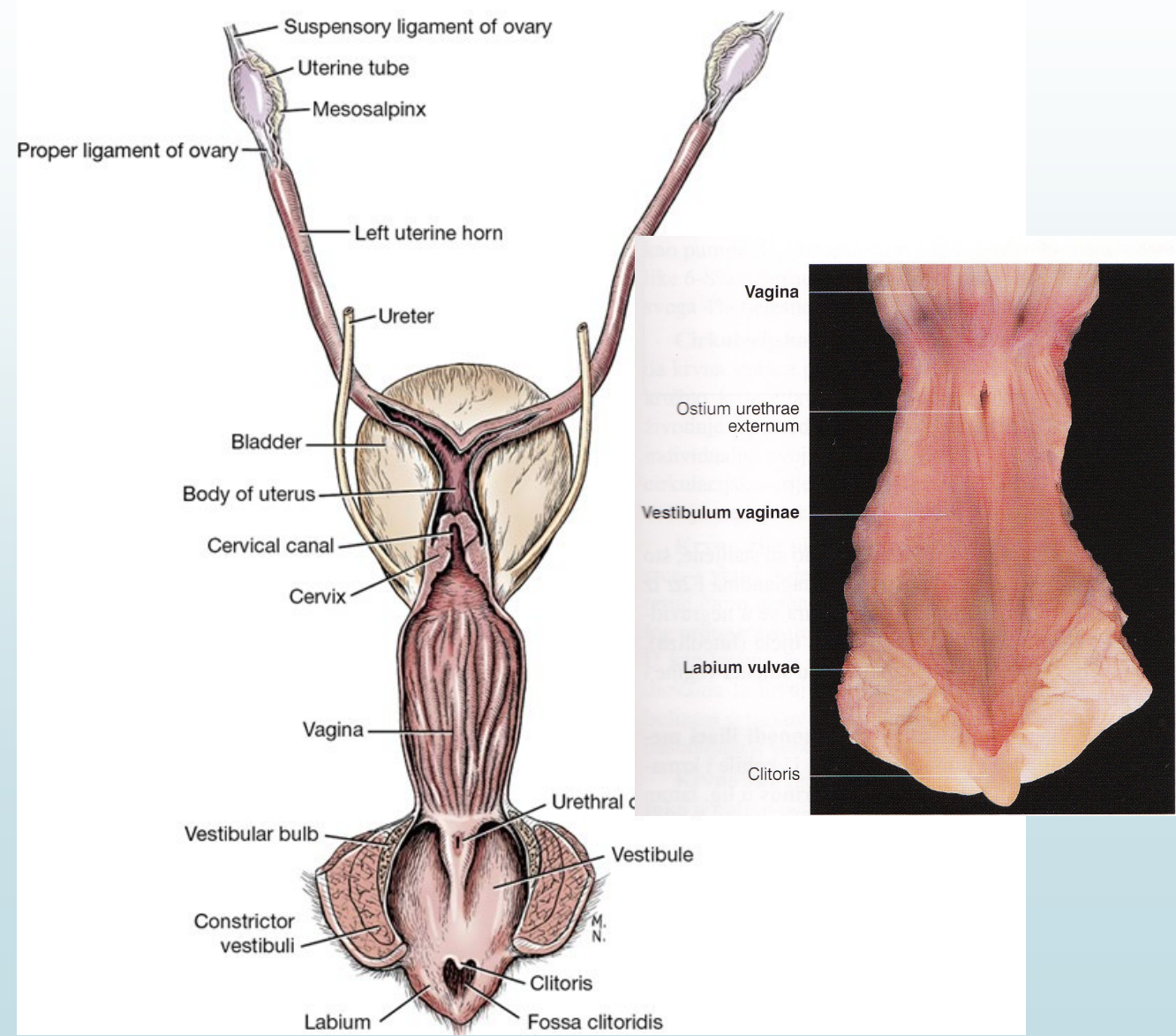
Urethra

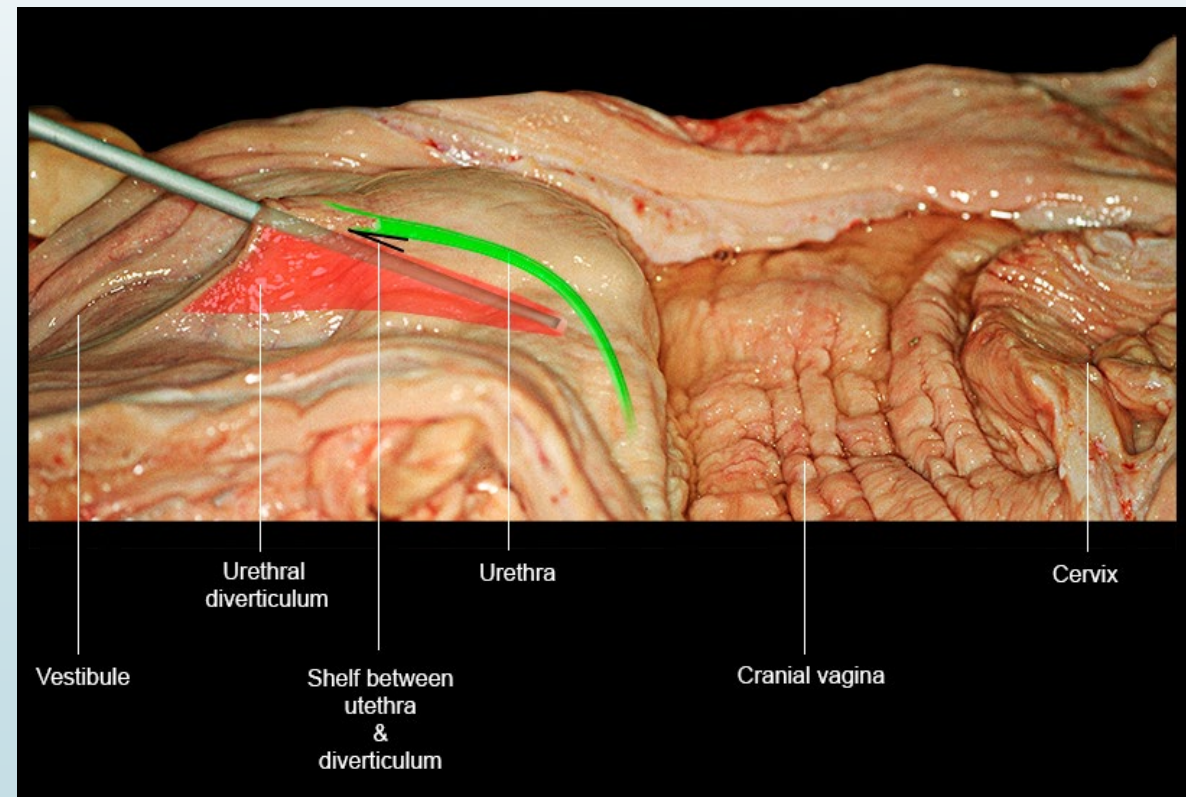
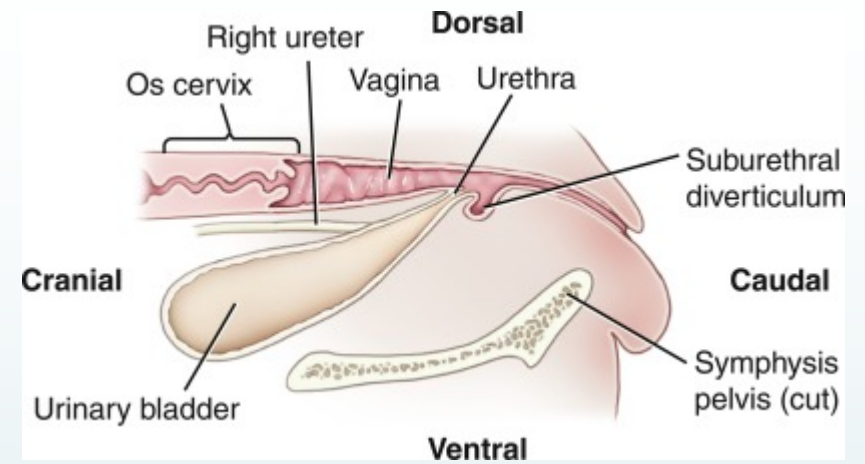
Urethra feminina :

- **Ostium urethrae internum**
- **Ostium urethrae externum**

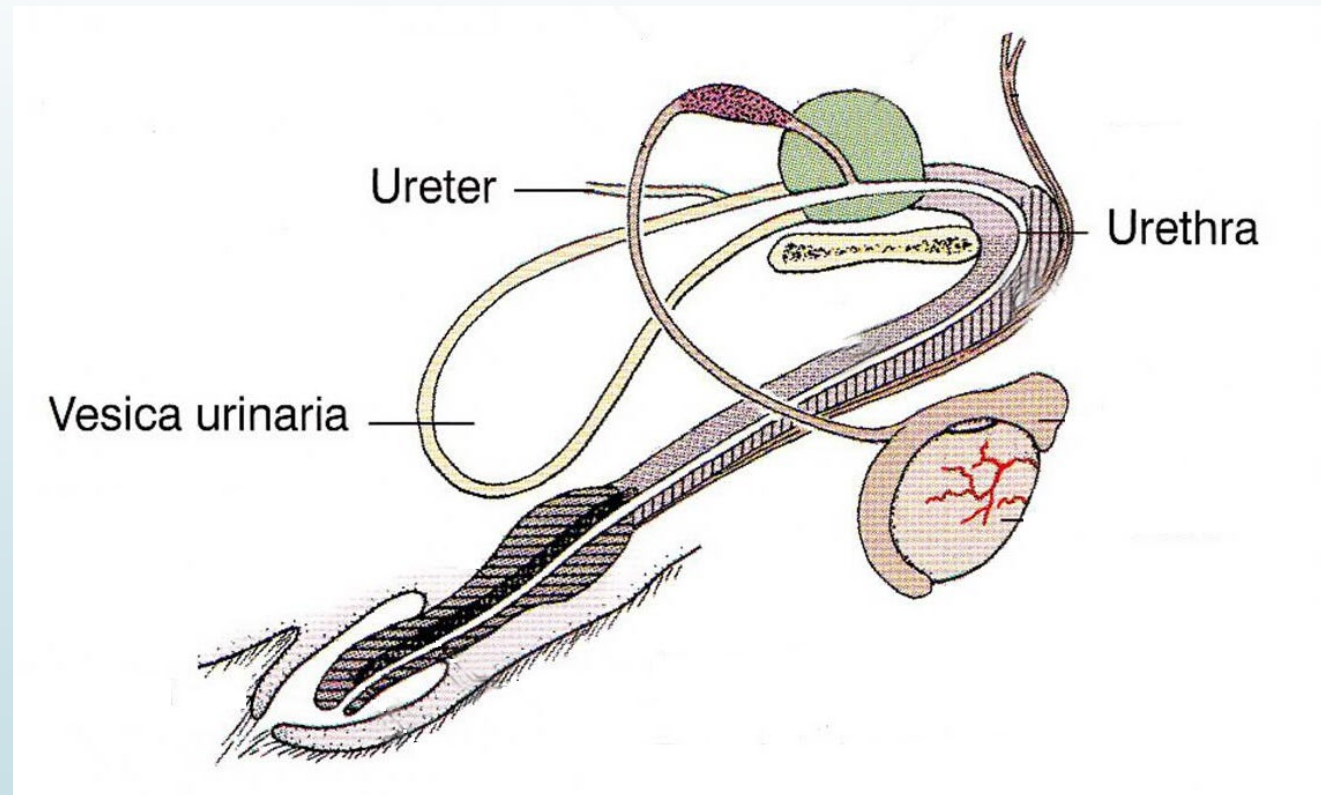
Urethra masculina –apex penis

Diverticulum suburethrale (Su, Ru)

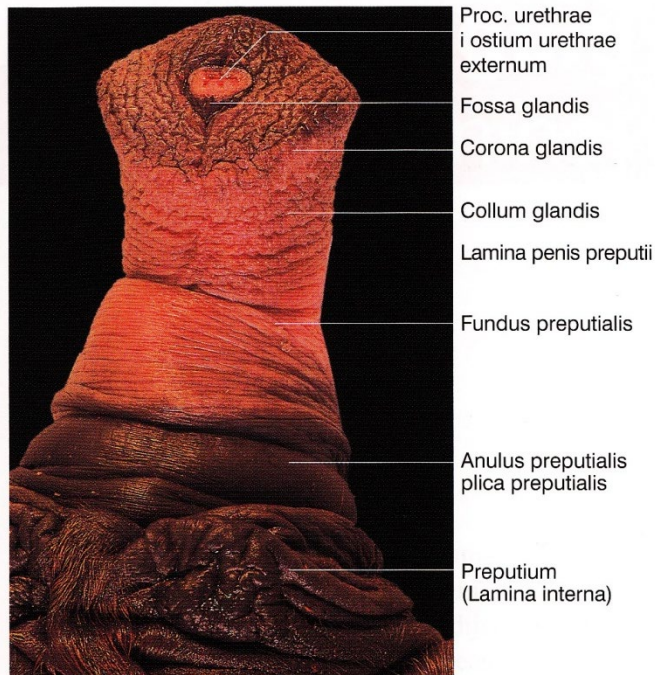




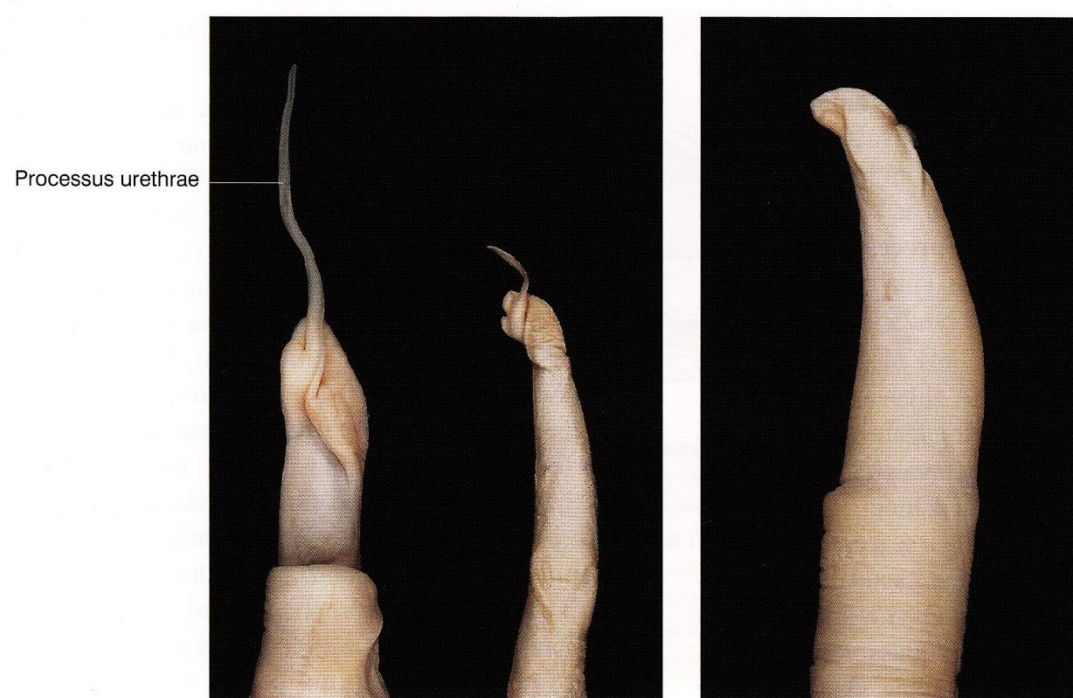
Urethra masculina



Urethra masculina



Slika 10-33. Vrh penisa pastuha.



Slika 10-28. Vrh penisa ovna (lijevo) i jarca (desno).

Slika 10-29. Vrh penisa bika.

Nove tehnologije – 3D štampa



Dubaji 2016. godina

