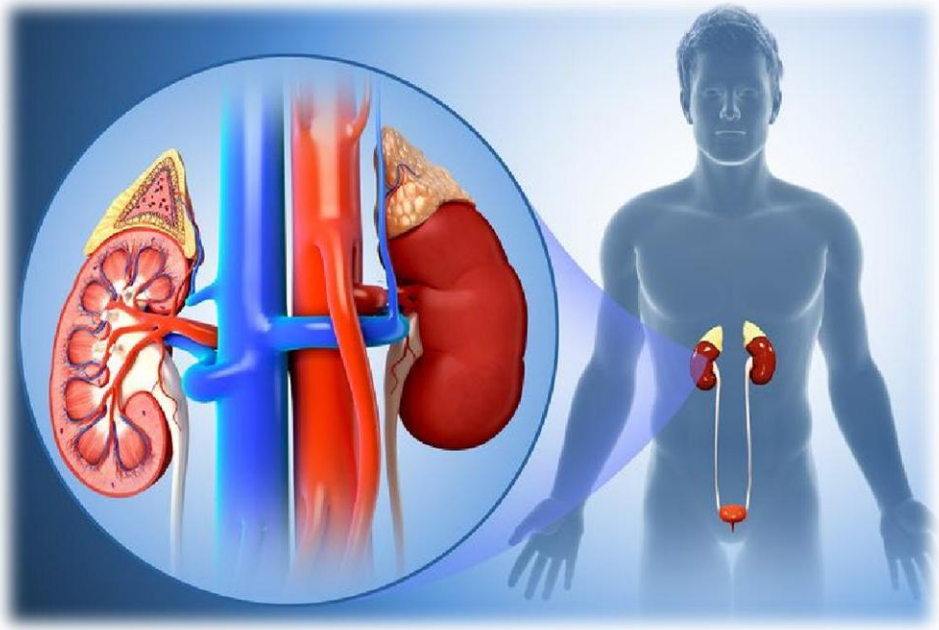
Biologiya

8 sinf

42 - dars

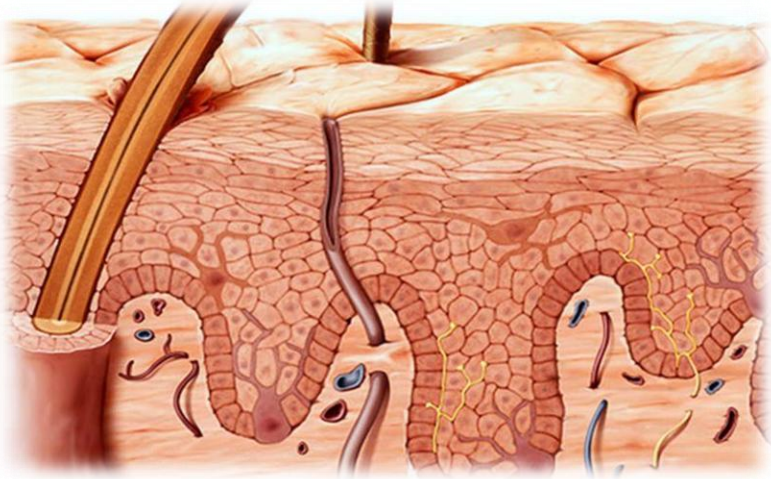
Mavzu: Siydik ayrish organlarining tuzilishi.

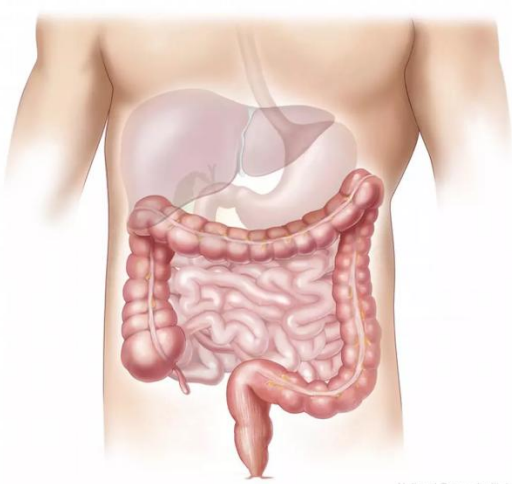




Siydik ajratishning ahamiyati.

- Organizmda hosil bo'ladigan qoldiq moddalar va almashinuv mahsulotlari ichak, o'pka, ter va yog' bezlari hamda buyrak orqali chiqarib yuboriladi.
- **Ichak orqali** hazm bo'lmagan ovqat qoldiqlari, tuzlar, o't pigmentlari va xolesterin, **o'pka orqali** suv va karbonat angidrid, **ter bezlari orqali** suv va karbonat angidrid, tuzlar va azotli moddalar almashinuvi mahsulotlari chiqariladi;



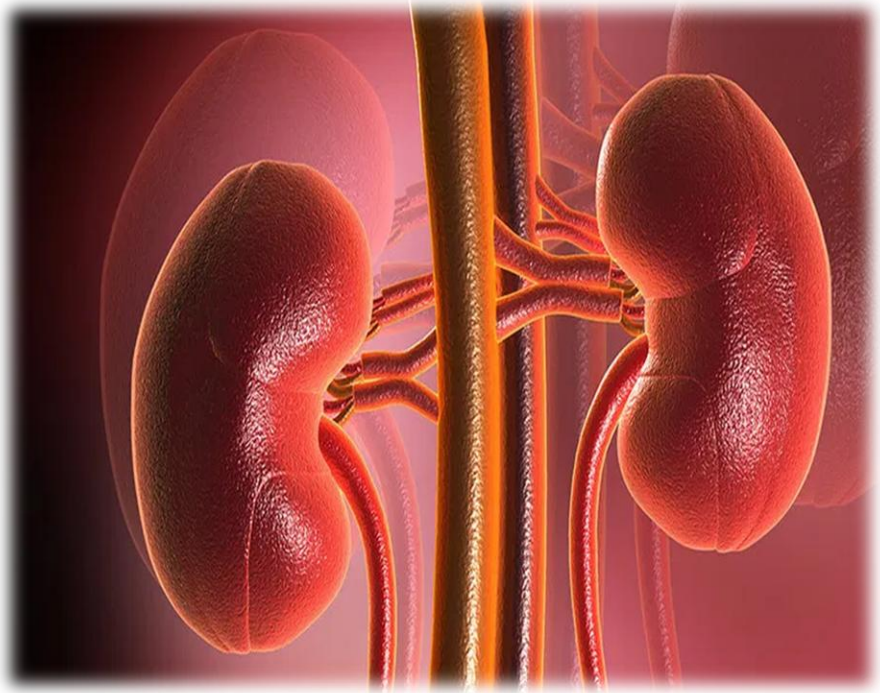




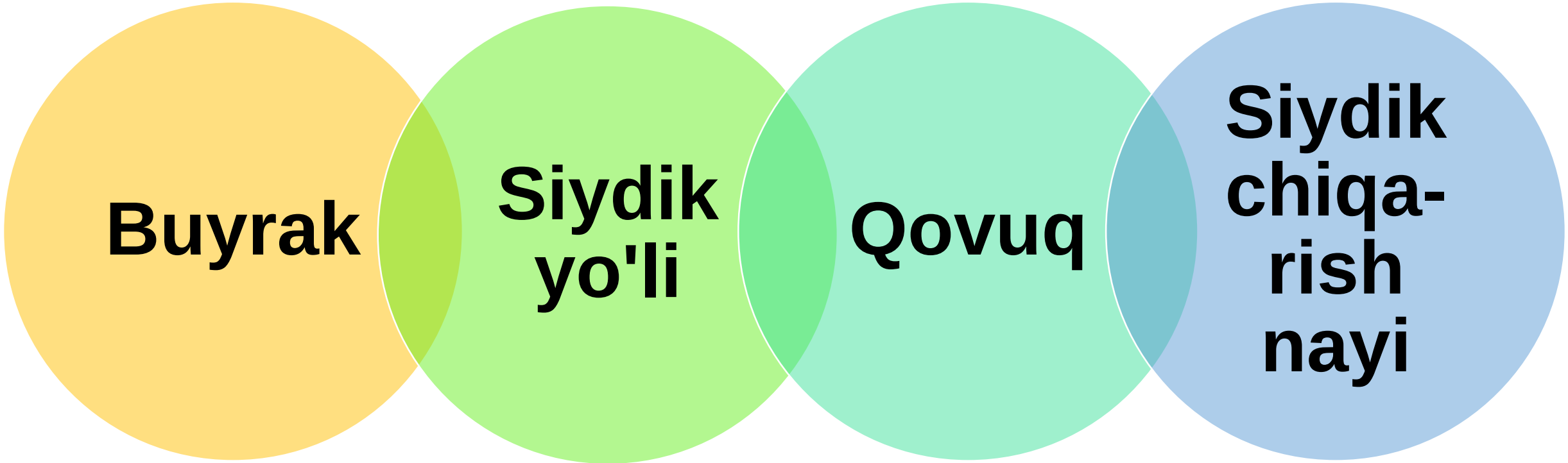


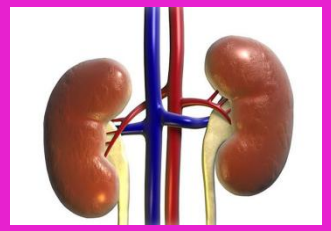
Siydik ajratishning ahamiyati

- Moddalar almashinuvi mahsulotlarining 75 % dan ko'prog'i siydik bilan chiqarib yuboriladi.
- Shu tariqa siydik ajratish organlari organizmda osmotik bosim doimiyligi, suv va tuzlar balansini saqlash, ya'ni gomeostazni ta'minlash funksiyasini bajaradi.



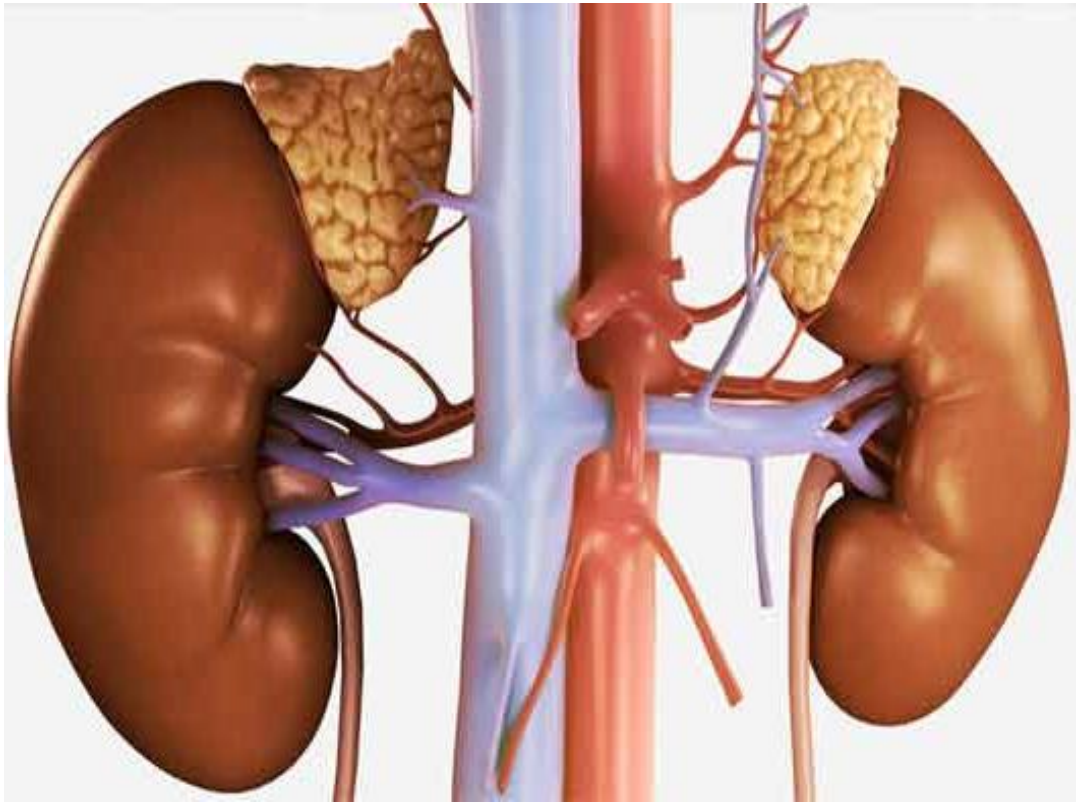
Siydik ajratish sistemasi organlari



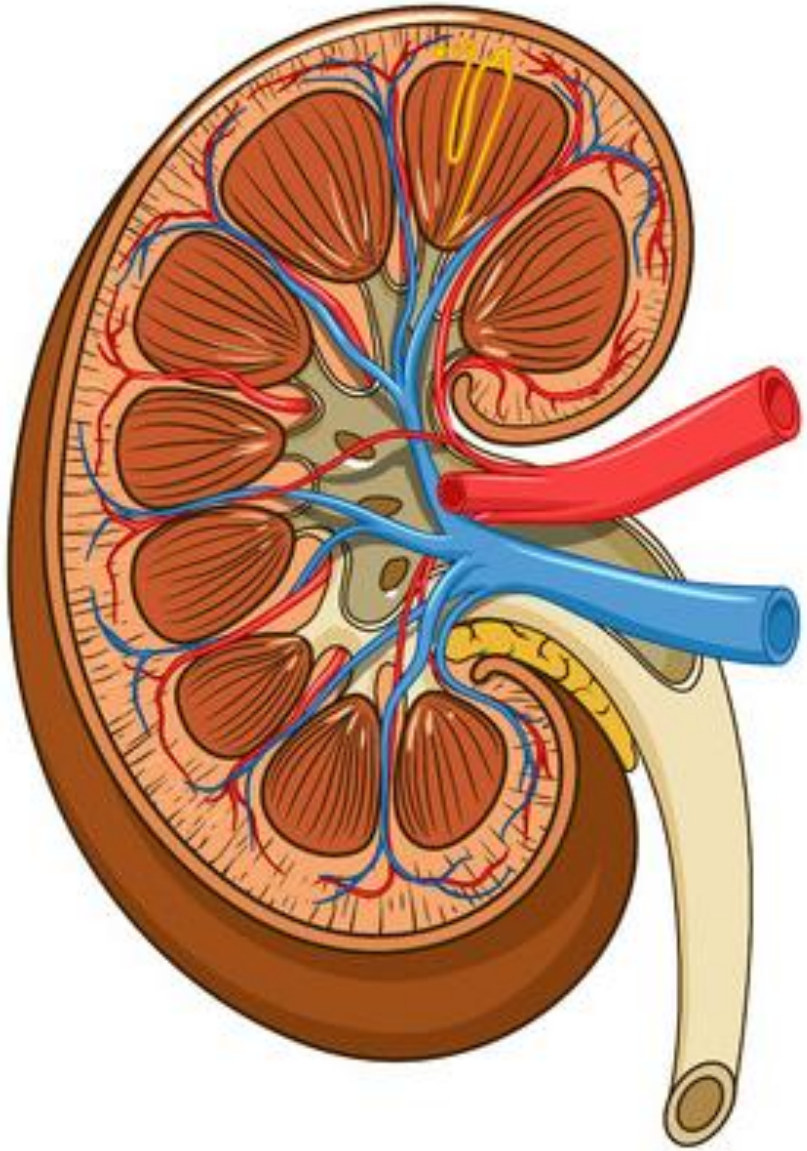


Buyrakning tuzilishi.

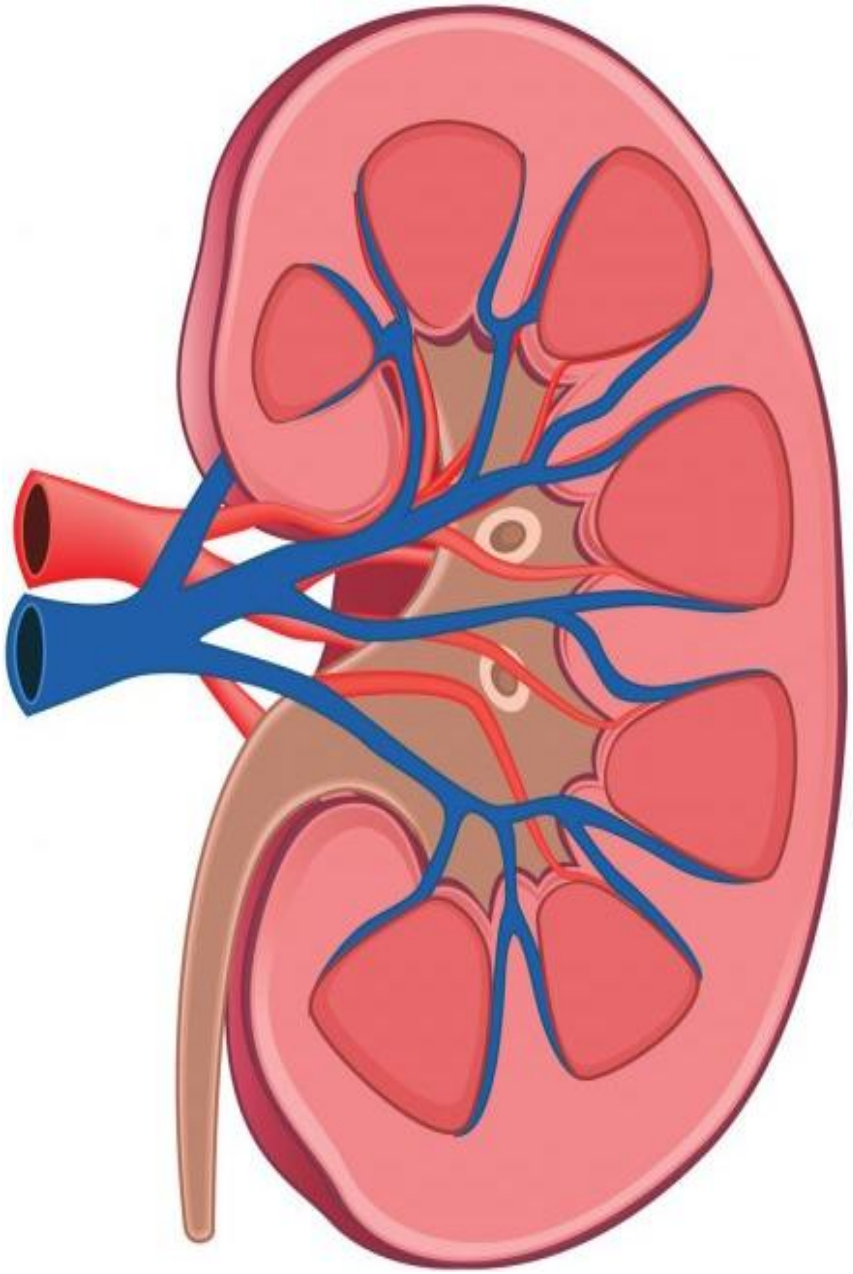
- Buyrak bir juft loviyasimon organ;
- Uning sirti silliq, och qo'ng'ir tusda bo'ladi;
- Har bir buyrakning vazni o'rtacha 150 g;
- Buyraklar tananing bel sohasida, umurtqa pog'onasi-ning ikki yonida joylashgan.

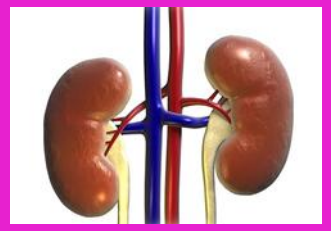


- Buyrakning ichki tomoni botiqroq bo'ladi.
- Botiq tomonida joylashgan chuqurchasi - buyrak darvozasi orqali buyrakka arteriya va vena qon tomirlari, nervlar va limfa o'tadi.
- Buyrak darvozasi buyrak ichi bo'shlig'i bilan tutashgan.
- Bo'shliqda yupqa devorli ko'p sonli kosachalar va buyrak jomi joylashgan.
- Sirtdan buyrak biriktiruvchi silliq to'qimadan iborat kapsula bilan o'ralgan.
- Buyrak jomi va kosachalarni yog' kletchatka o'rab turadi.



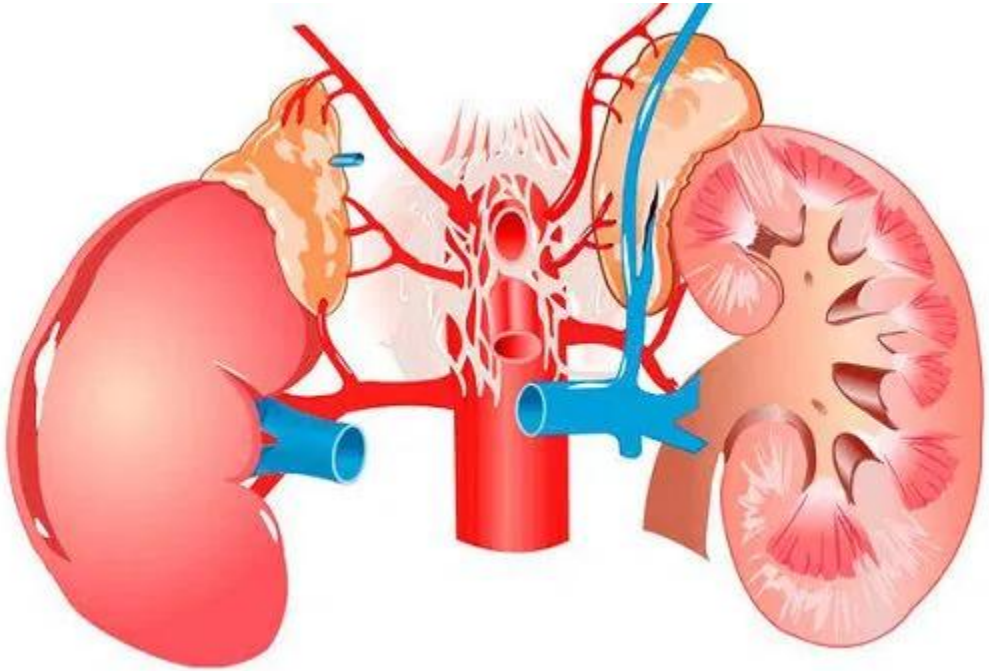
- Buyrak kesmasida uning tashqi qoramtir buyrakpo'stlog'i va oqish ichki buyrak mag'zi qavatlari ko'zga tashlanadi.
- Mag'iz qavat konussimon oqish piramidalardan iborat.
- Po'stloqning qoramtir moddasi ana shu piramidalar asosini va ularning oralig'ini to'ldirib turadigan buyrak ustunchalarini hosil qiladi.
- Piramidalarning buyrak bo'shlig'iga o'girilgan uchki qismi kosachalar ichiga botib kiradigan so'rg'ichlarni hosil qiladi.
- So'rg'ichlarning uchki qismiga so'rg'ich naychalari yo'li ochiladi.

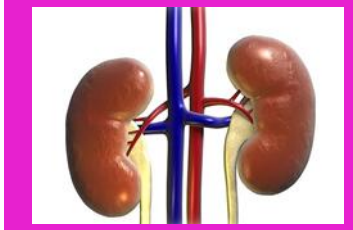




Buyrak jomi

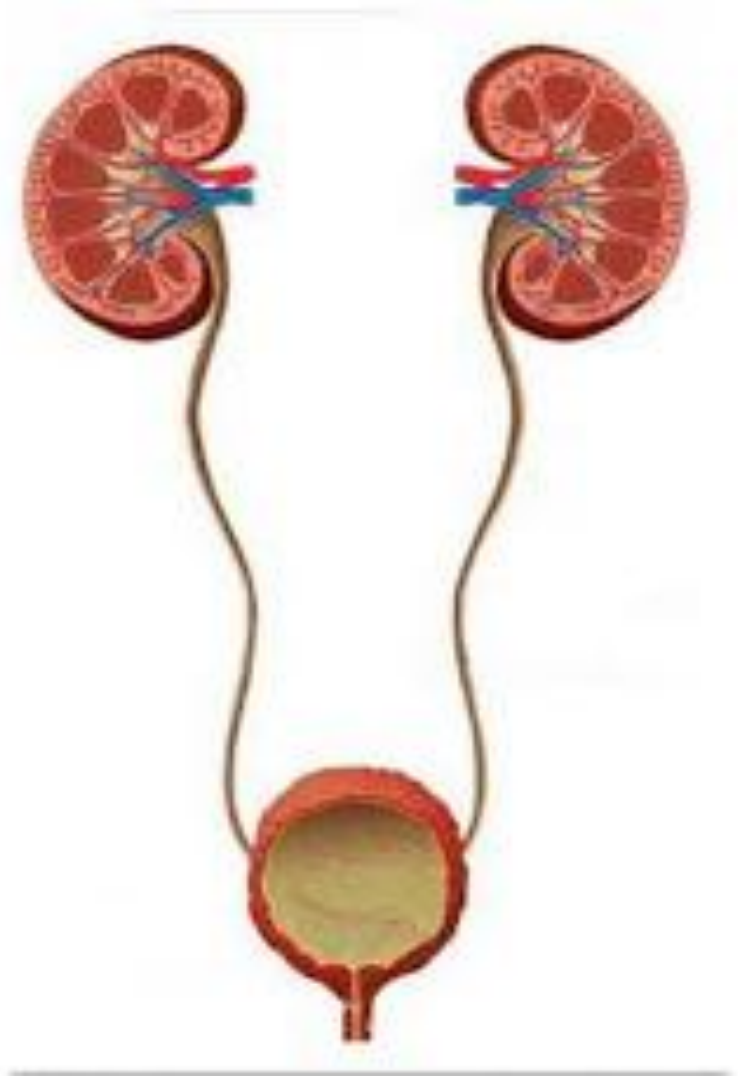
- Buyrak jomi buyrakning ichki mag'iz qismida joylashgan.
- Buyrak jomi asta-sekin torayib, siydik yo'liga o'tadi.
- Buyrak kosasi va buyrak jomi devori shilimshiq parda bilan qoplangan.
- Jom devorida muskullar bo'ladi.

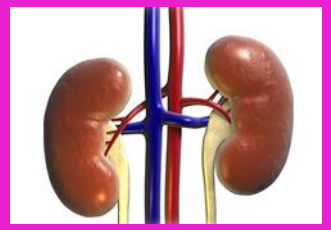




Siydik yo'li

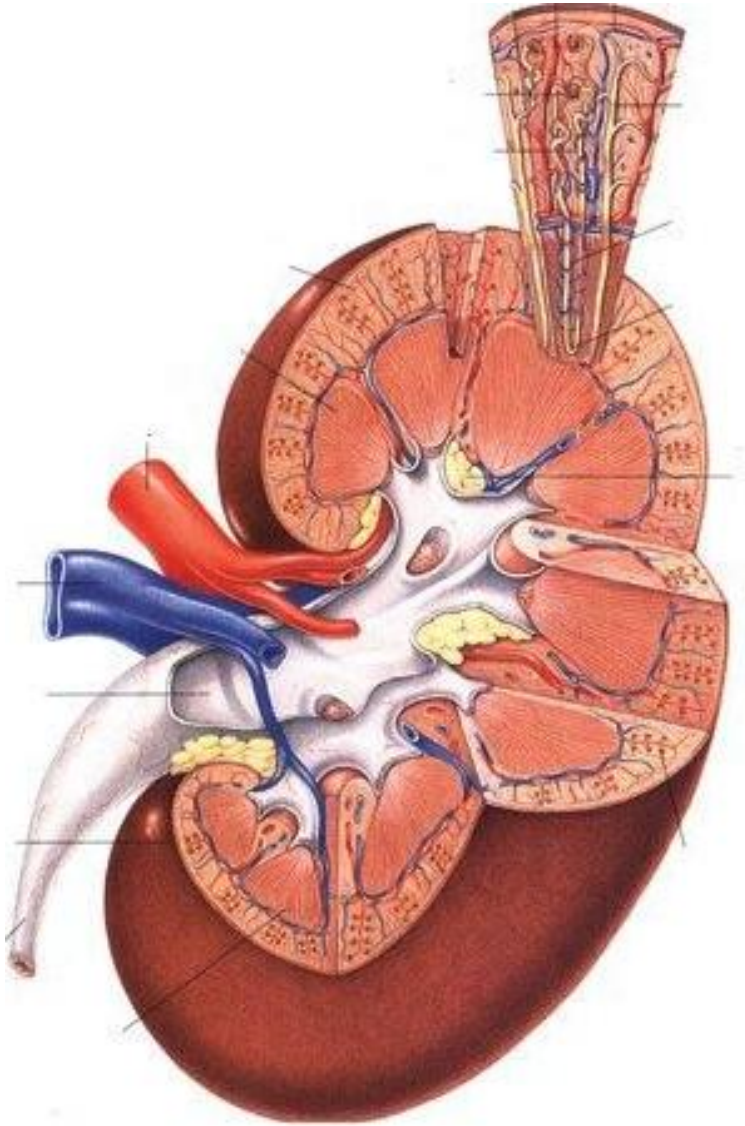
- Diametri 6-8 mm va uzunligi 25-30 cm keladigan ikkita silindr shaklidagi naydan iborat.
- Naylar qorin bo'shlig'i orqa devori bo'ylab joylashgan, chanoq sohasida qovuq bilan tutashgan.



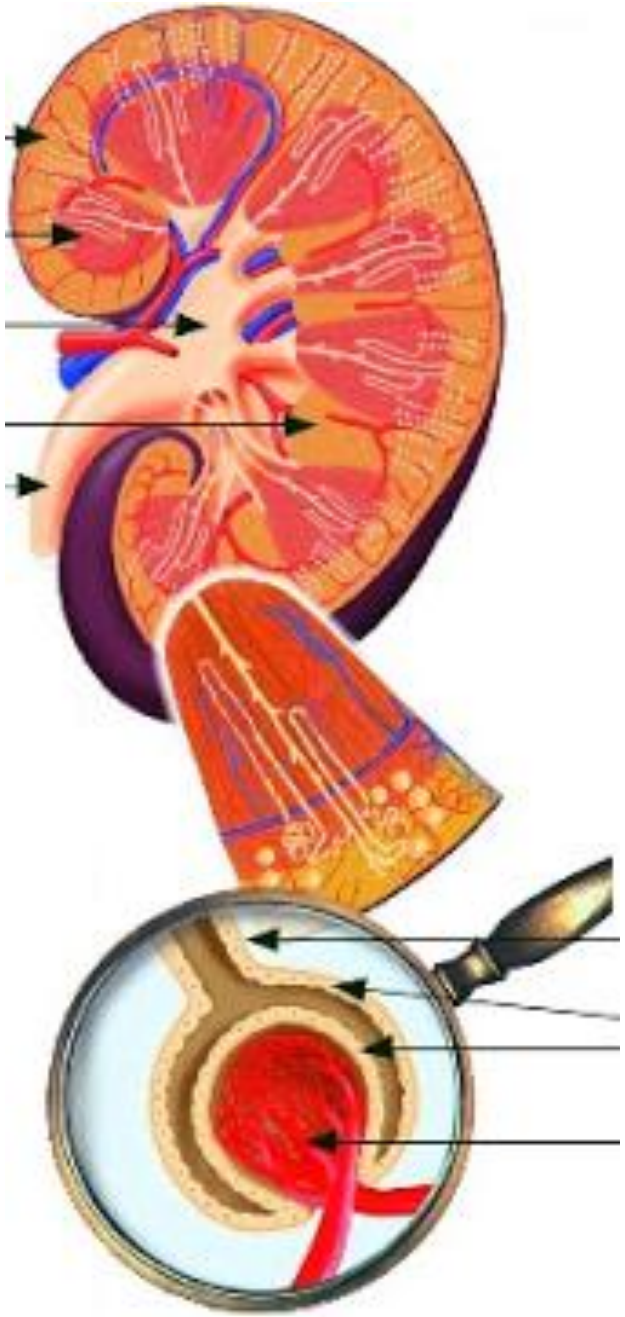


Nefronlar.

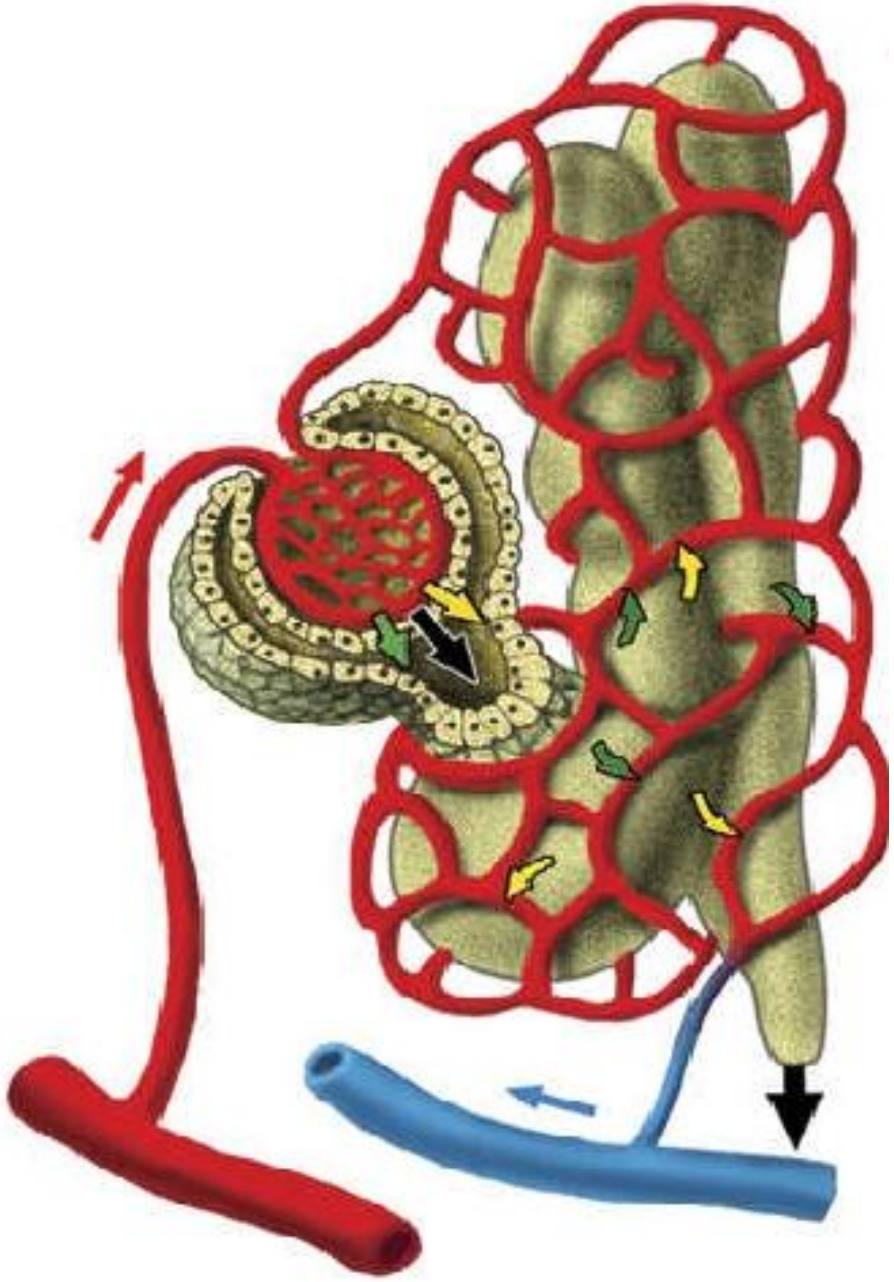
- Nefron buyrakning tuzilish va funksional birligi hisoblanadi.
- Har bir nefronning uzunligi 50-55 mm, barcha nefronlarning uzunligi 100 km ga yetadi.
- Ikkala buyrakda 2-2,5 mln nefron bo'ladi.
- Har bir nefron Shumlyanskiy-Baumen kapsulasi, uning ichida joylashgan mayda qon tomirlari -**Malpigi chigali**, kapsuladan boshlanadigan birlamchi **ilonizi naychalar**, **Genli halqasi** va uchki ikkilamchi **ilonizi naychalardan** iborat.



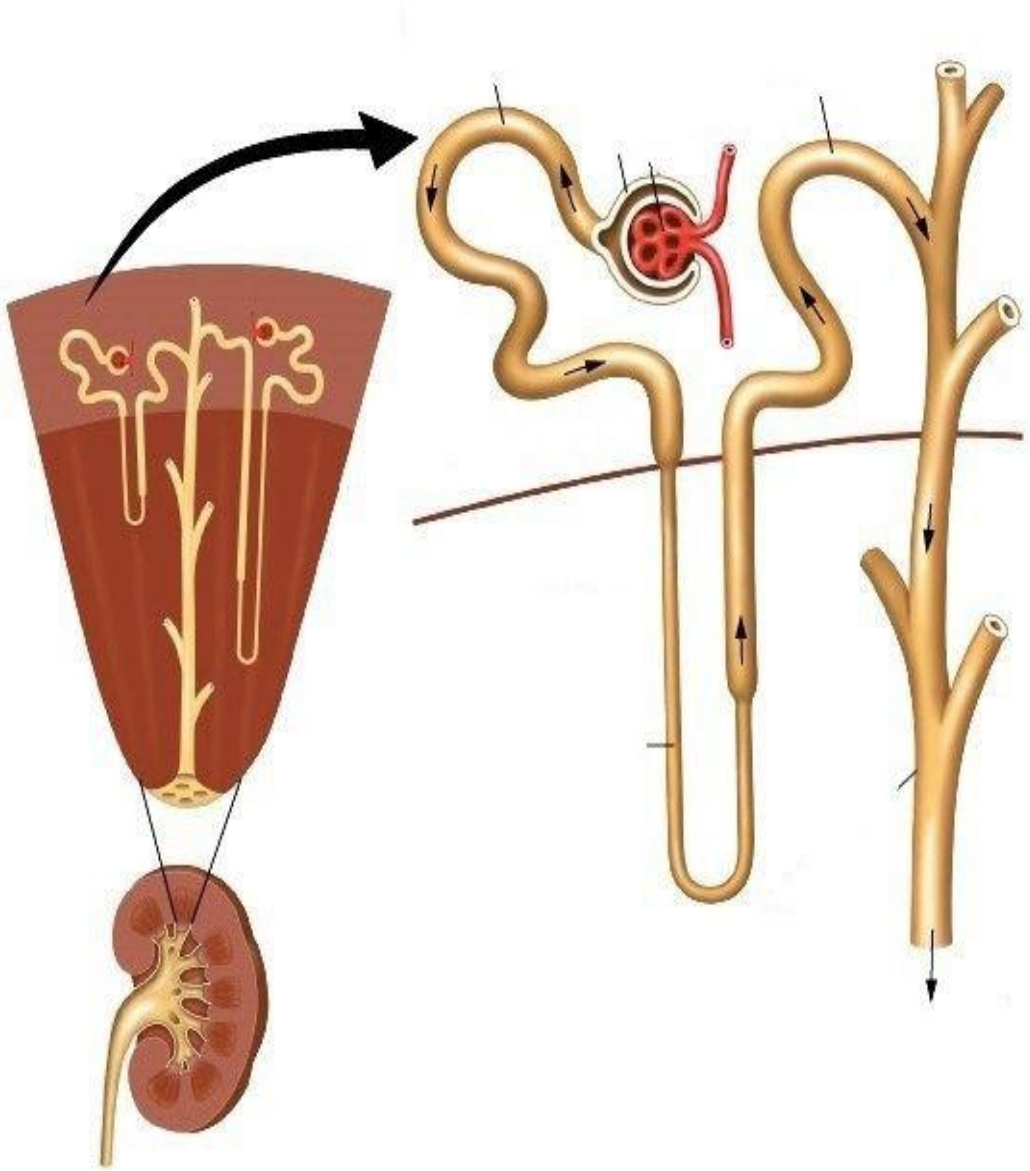
- Nefronlar kapsulasi, birlamchi va ikkilamchi naychalar buyrakning po'stloq qismida, Genie halqasi uning mag'iz qismida joylashgan.
- Nefronlarning ikkilamchi ilonizi naychalari buyrakning yig'uvchi naychalariga ochiladi.
- Yig'uvchi naychalar buyrak po'stlog'idan boshlanib, buyrak mag'iz qismidagi piramidalar so'rg'ichlariga tutashadi.
- So'rg'ichlar buyrakning kichik kosachalariga ochiladi.



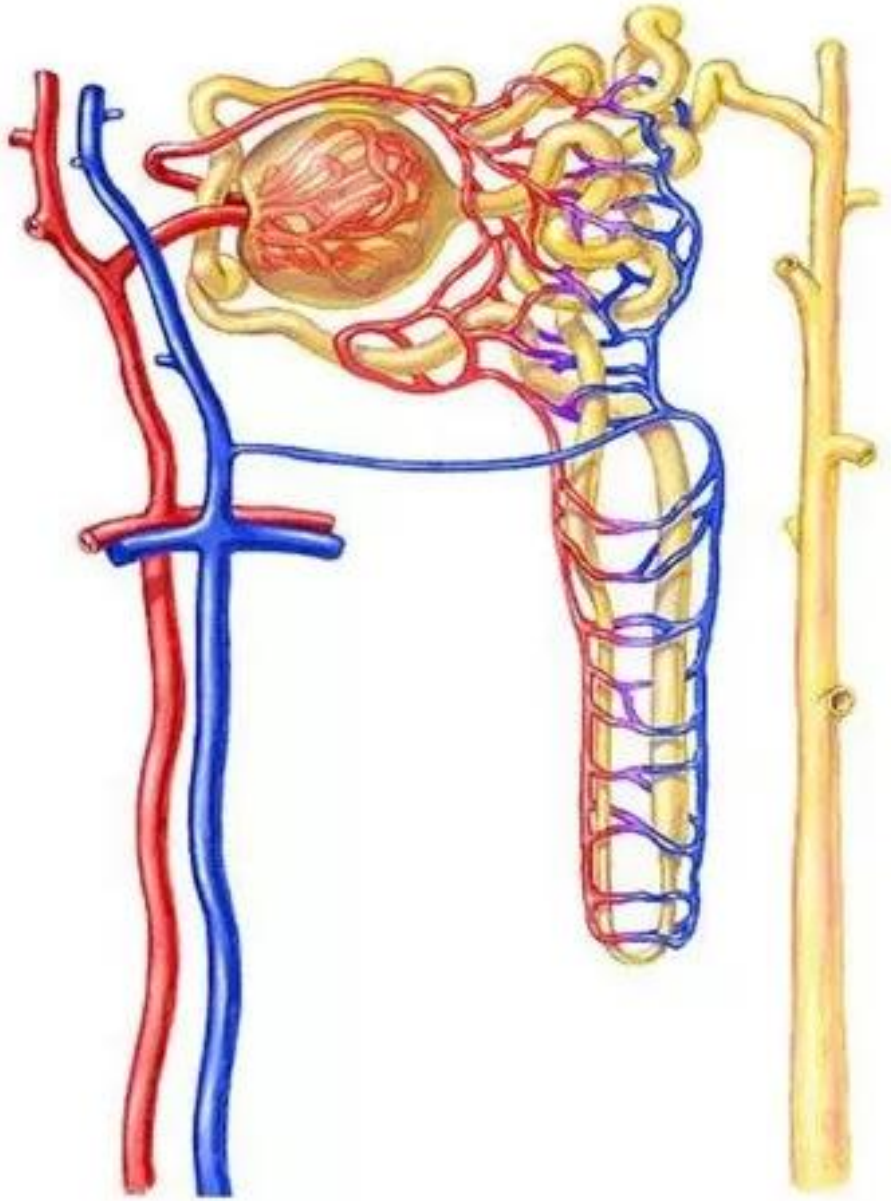
- Buyrak kapsulasi tashqi va ichki devori oralig'i bo'shlig'i nefron naychalariga tutashgan.
- Kapsula ichki devori qon tomirlari devoriga yopishgan.
- Bu devorlar orqali kapillarlardagi qondan kapsula devorlari orasidagi tirqishga birlamchi siydik filtrlanib o'tadi.



- Nefronlarning tuzilishi va funksiyasi buyrak qon aylanish sistemasi tuzilishiga mos keladi,
- Buyrak arteriyasi buyrak darvozasidan o'tgach, ketma-ket ko'p marta shoxlanib, kapillarlar chigalini hosil qiladi.

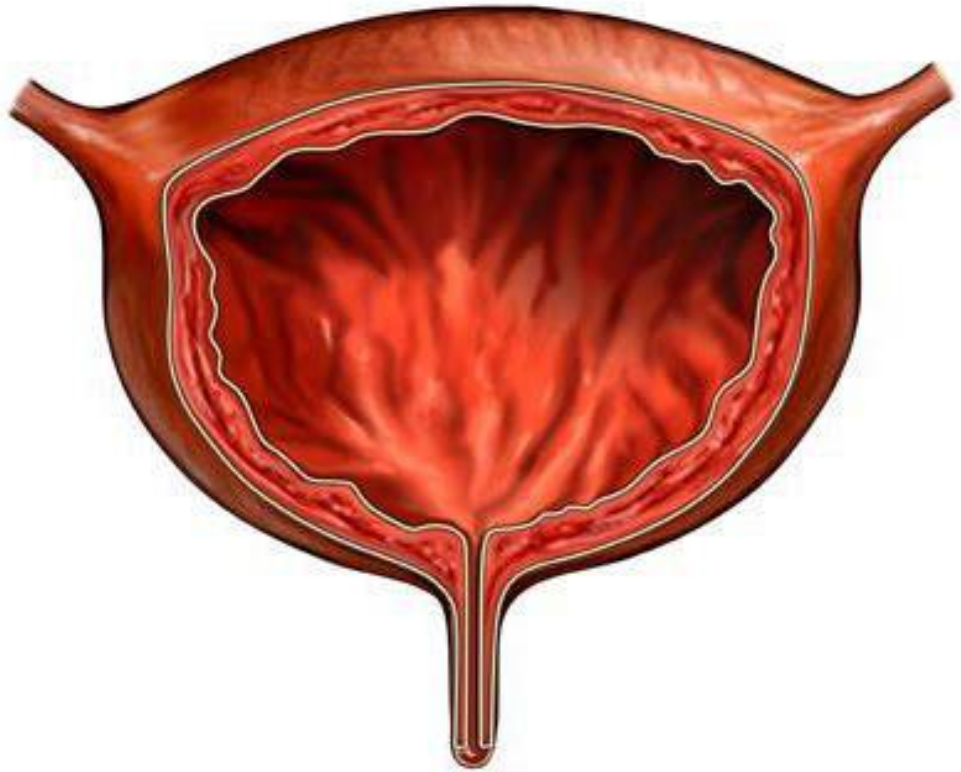


- Chigal kapillarlari qayta tutashib, arteriolalarni hosil qiladi.
- Arteriolalar kapsuladan chiqib, yana kapillarlarga ajralib, ikkilamchi ilonizi naychalarni o'rab oladi.
- Ular esa ketma-ket tutashib, dastlab kichikroq, so'ngra yirikroq venalarni hosil qiladi.

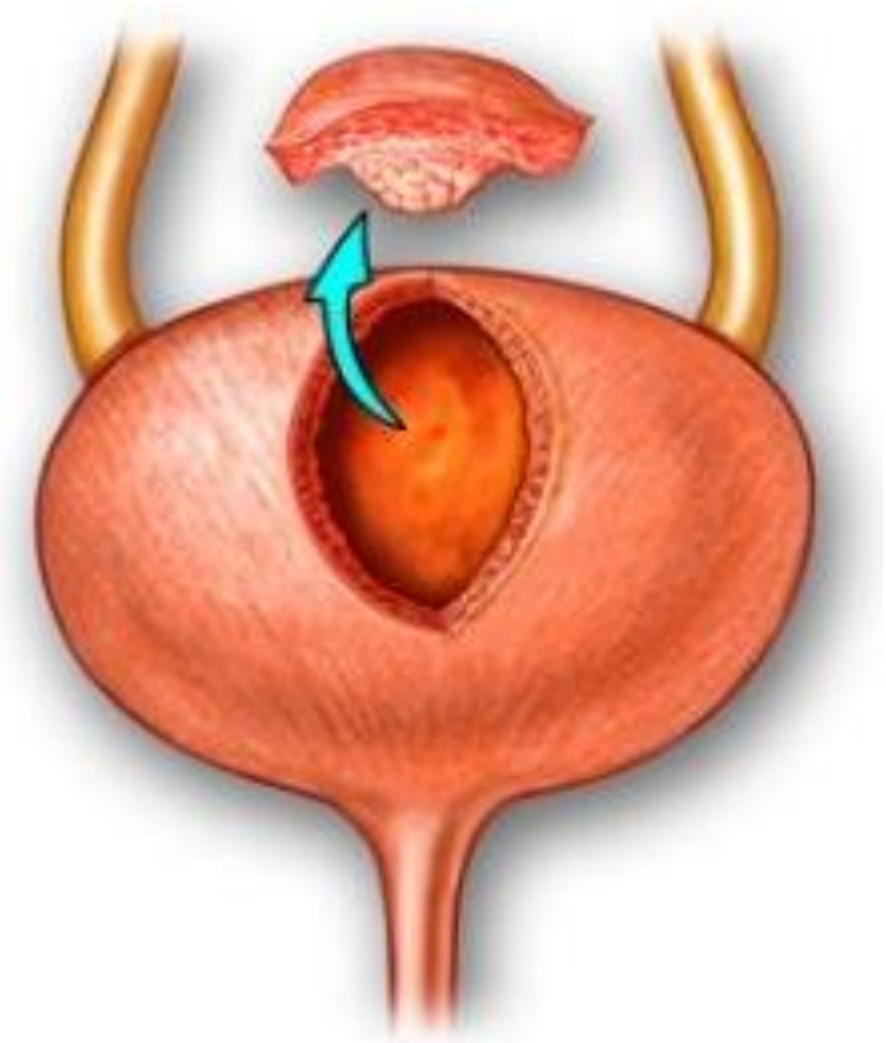


Siydik pufagi

- Unda siydik to'planadi.
- Hajmi 500-700 cm_3 gacha yetadi.
- U kichik chanoq bo'shlig'ida qov suyagining orqasida joylashgan.
- To'lgan siydik pufagi tuxumsimon bo'lib, uning ko'tarilgan cho'qqisi, oldinga yo'nalgan tanasi va tubi farq qilinadi.
- Tubining orqa devoriga 2 ta siydik yo'li ochiladi va undan siydik chiqarish kanali boshlanadi.



- Devorining ichi shilliq, o'rtasi muskul va tashqi qavati biriktiruvchi to'qimadan tuzilgan.
- Shilliq qavatda juda ko'p burmalar bo'lib, siydik pufagi to'lishi bilan ular yoyiladi.
- Siydik chiqarish yo'lining teshigi atrofida halqasimon muskullar bo'lib, ular sfinkter hosil qiladi.
- Sfinkter siydik yig'ilishida qisqarib, siydik chiqarilganda bo'shashadi.



Uyga vazifa

Darslikda berilgan mavzuni o‘qib o‘rganib, tayanch so`zlarni tahlil qiling

