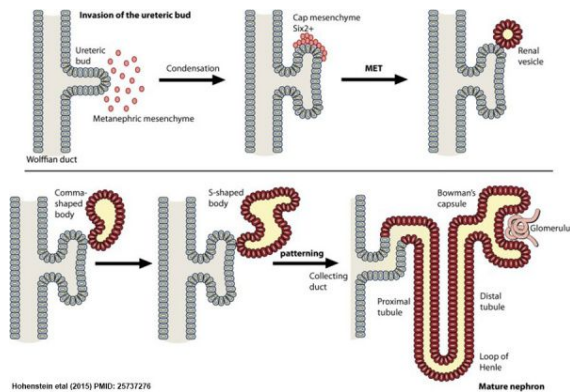


from the rest of non-condensed MM.



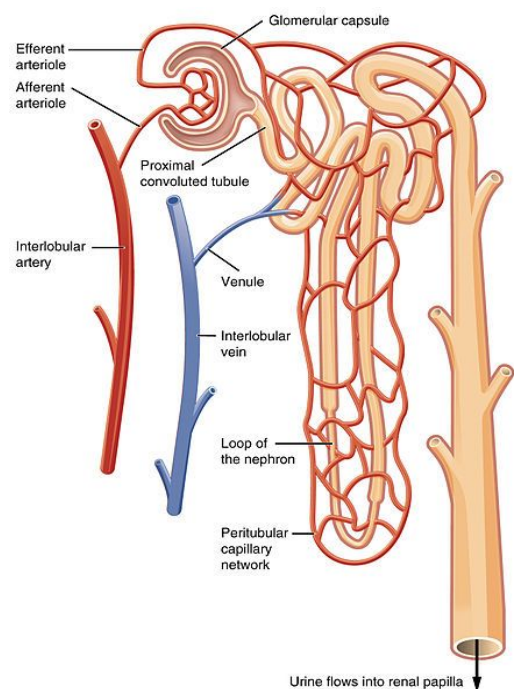
- D. The renal vesicle forms the S-shape body, then form the comma shaped body (false, C-S)

8. Which statement is false?

- A. Upper portion of S shape body forms the distal convoluted tubule, central portion forms the proximal tubule, the lower portion forms the renal capsule.
- B. Stress hormone, hypoxia may interfere this branching morphogenesis.
- C. **In an arcade of nephrones, they share the proximal tubules and loop of Henle (false, they have own)**
- D. In an arcade of nephrone, they share a single collecting duct.

9. Which statement is false?

- A. 7-10 nephrons form an arcade of nephrons and share a collecting duct.
- B. **Development of adrenergic nerves are not required for the growth of fetal kidneys because the fetus has the placenta to provide nutritions (false, adrenergic nerves develop from week 20, reach adult level by week 28)**
- C. Denervate the fetal kidney alter the renin-angiotensin system in fetus and impair kidney development.
- D. Vasculature forms at 8-10 weeks around S shaped bodies.



10. Which statement is false?

- A. Capillaries surround the stalk of ureteric bud, involved a combination of vasculogenesis and angiogenesis.
- B. Humans have 5-36 weeks of nephrogenesis out of 40 weeks of gestation.

- C. Pre-term babies use energy to reabsorb Na in the kidneys instead of using the energy to grow.
  - D. Amniotic fluid is not essential for the growth of other organs (false, essential for lungs expanded by amniotic fluid)
11. Which statement is false?
- A. Fetal kidneys releases renin and erythropoietin.
  - B. Pre-term baby dehydrated quickly because they cannot concentrate urine and reabsorb fluid.
  - C. **Normally fetus has high renal blood flow as adults 25% (false, only 3% CO)**
  - D. In exposure of hypoxia, fetus maintains the perfusion to the brain at the expense of limiting the perfusion to kidney.
  - E. Fetus maintain perfusion to the brain at the expense of limiting the perfusion to kidney therefore ACE inhibitors are not recommended for pregnant women.
12. Which statement is false?
- A. Potters syndrome refers to the inappropriate branching of ureteric bud, complete renal agenesis (failure organ development), no urine produced in urtero.
  - B. In Potters syndrome, the amniotic fluid is not produced.
  - C. **In Potters syndrome, the baby's lung is fully functional ( false, die of lung insufficiency)**
  - D. Congenital abnormality of kidney and urinary tract (CAKUT) is the most common congenital abnormalities.
  - E. CAKUT involves renal hypoplasia, dysplasia, hydroureter, vesicouteric reflux (urine reflex into kidney)
13. Which statements is correct?
- A. ACE inhibitors can be prescribed if the pregnant women are healthy (false, ACE inhibitors inhibit RAS within kidney in the fetus, leads to impaired kidney development and inhibit urine production)
  - B. COX-1 inhibitors are usually prescribed to treat polyhydramnio (kidney produce too much urine, too much amniotic fluid surrounds the fetus) (false, inhibit fetal renal function and development)
  - C. **Terminal tips are where nephrons grow and we can visualise the number of nephrons grow at the tips.**
  - D. BMP4 is bone morphogenic protein so it promotes the development of kidneys (false, inhibit branching morphogenesis)

C5

- 1. Which statements is false?
- A. Dexamethasone is a glucocorticoid that inhibits branching morphogenesis
- B. Alcohol inhibit kidney development and leads to decrease in nephron endowment.
- C. Gene microarray can tell gene expression level at different stages of development of different sub-compartments of kidney.