

14 The kidney – Part 2

Name: _____ Class: _____ Date: _____

Vocabulary 词汇

Write each word three times. 把每个单词抄写三遍。

English	中文	Write it 3 times (English)		
kidney	肾脏	_____	_____	_____
nephrons	肾单位	_____	_____	_____
ultrafiltration	超滤	_____	_____	_____
glomerulus	肾小球	_____	_____	_____
filtrate	滤液	_____	_____	_____
selective reabsorption	选择性重吸收	_____	_____	_____

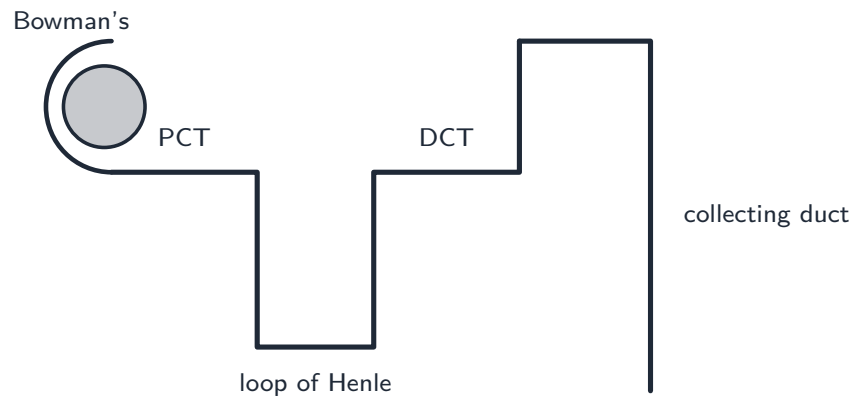
Recall

The **kidney** 肾脏 cleans the blood and controls its water. It does this in about a million tiny tubes called **nephrons** 肾单位.

New ideas

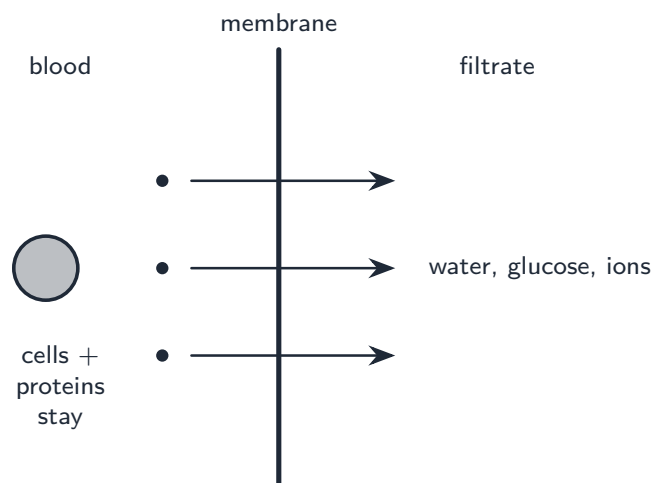
Read these first, then do the Practice.

■ 1 The nephron



Each nephron filters the blood, then takes back what the body needs as the liquid flows along it to the collecting duct.

■ 2 Two key steps



- **ultrafiltration** 超滤 — high pressure pushes water and small molecules out of the **glomerulus** 肾小球 into the capsule, forming the **filtrate** 滤液 (cells and proteins are too big and stay);
- **selective reabsorption** 选择性重吸收 — useful substances (all the glucose, much water) are taken back into the blood.

Watch out: ultrafiltration pushes only *small* molecules into the nephron — cells and proteins are too big and stay in the blood. Selective reabsorption then takes back *all* the glucose and most of the water; glucose in the urine is abnormal.

Practice

Try these in order.

14.6 What two jobs does the *kidney* do? [2]

14.7 What is each tiny filtering tube called? [1]

14.8 In *ultrafiltration*, what stays behind in the blood? [1]

14.9 What is the liquid pushed into the capsule called? [1]

14.10 During *selective reabsorption*, what happens to all the glucose? [1]

14.11 Challenge. Healthy urine contains no glucose, even though glucose is filtered into the nephron. Explain why. [2]
