

13 Inside 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)		
Filtration	过滤	_____	_____	_____
glomerulus	肾小球	_____	_____	_____
glucose	葡萄糖	_____	_____	_____
Reabsorption	重吸收	_____	_____	_____
amino acids	氨基酸	_____	_____	_____
liver	肝脏	_____	_____	_____
deamination	脱氨基	_____	_____	_____
urea	尿素	_____	_____	_____
toxic	有毒	_____	_____	_____

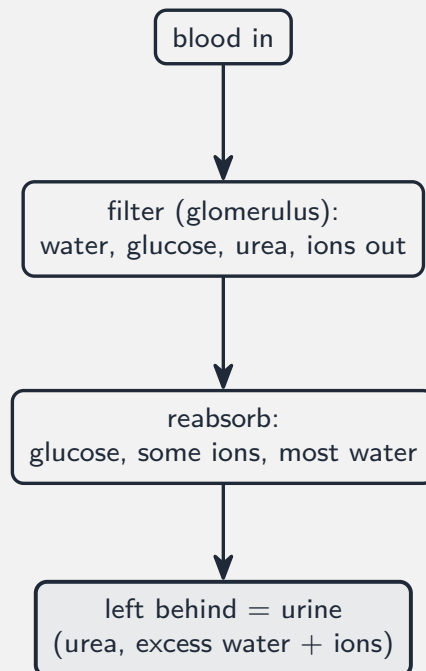
Recall

Each kidney has millions of tiny tubes that clean the blood in two steps.

New ideas

Read these first, then do the Practice.

■ 1 How a kidney cleans blood



1. **Filtration** 过滤: at the **glomerulus** 肾小球, water, **glucose** 葡萄糖, urea and ions are forced out of the blood.
2. **Reabsorption** 重吸收: **all** the glucose, **some** ions and **most** of the water are taken back into the blood.

What is left —urea and excess water and ions —is the urine.

■ 2 Where urea comes from



The body cannot store extra **amino acids** 氨基酸. The **liver** 肝脏 breaks them down (**deamination** 脱氨基) to make **urea** 尿素, which is **toxic** 有毒, so the kidneys remove it.

Watch out: the kidney cleans blood in two steps —**filtration** forces small molecules out (including glucose), then **reabsorption** takes back *all* the glucose, *some* ions and *most* of the water. Glucose is normally **not** in urine.

Practice

Try these in order.

13.6 What happens during filtration in the kidney? [1]

13.7 Name two things that are reabsorbed back into the blood. [2]

13.8 What is left behind to form the urine? [1]

13.9 Where is urea made, and from what? [2]

13.10 Why must urea be removed from the body? [1]

13.11 Challenge. Healthy urine contains no glucose, even though glucose is filtered out of the blood. Explain why. [2]