Biology 20

Unit D: Human body systems

The nephron filters plasma

Wide vessel in, narrow vessel out

- The incoming vessel at the capsule is wider than the vessel leaving it.
- Green arrows marked to the blood leave the tubule, and the tube ends at urine.

Steps in kidney function

- The glomerulus filters plasma into Bowman’s capsule.
- Reabsorption along the tubule returns water, glucose, and salts.
- Urine leaves the kidney through the ureter, bladder, and urethra.

Key terms

nephron

The kidney tubule, with its capsule and loop, that filters blood and forms urine.

reabsorption

The return of useful water and solutes from the tubule back into the blood.

glomerulus

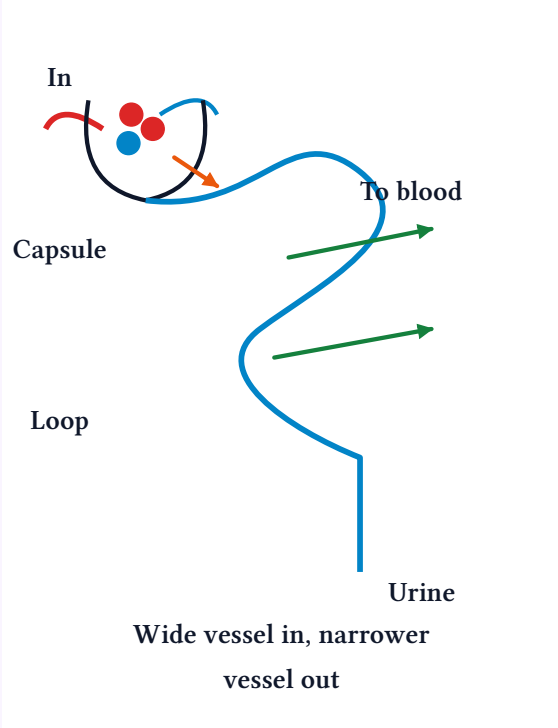
The knot of capillaries inside Bowman’s capsule where filtration begins.

ureter

The tube that carries urine from a kidney to the urinary bladder.

Arrows on the nephron

- Filtration is the step inside the capsule.
- The green arrows are reab-sorption to the blood.
- The end of the tube is urine.



A daily flowchart

- Extra drinking water leads to a larger urine volume.
- Heavy sweat leads the nephron to return more water.

Organs on a diagram

- The kidney sits above the ureter on each side.
- The bladder stores urine before the urethra expels it.

Filter and return

- Place filtration and reabsorption on the nephron.
- Name the organs that store and expel urine.

Hormones change the last duct

- The collecting duct can return more water or let it stay in the urine.
- ADH is the signal the next lesson adds.