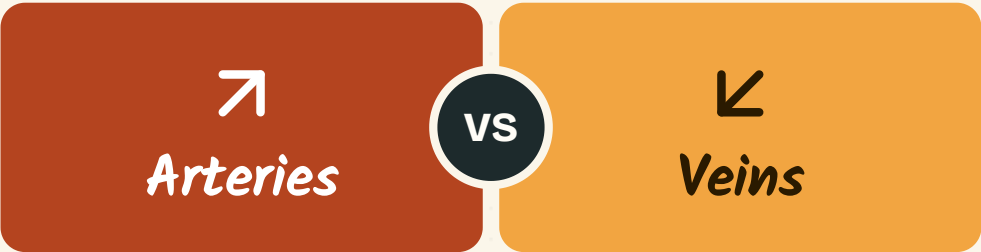


Arteries, Veins and Capillaries

Arteries take blood out, veins bring it home, and the tiny capillaries in between do the real work of exchange.



DIRECTION	
Carry blood away from the heart	Carry blood back to the heart

OXYGEN	
Oxygen-rich, except the pulmonary artery, which takes oxygen-poor blood to the lungs	Oxygen-poor, except the pulmonary veins, which bring oxygen-rich blood from the lungs

PRESSURE	
High: blood surges in with every beat of the ventricles	Low: the pressure has dropped after the capillaries

WALLS	
Thick, with layers of muscle and elastic fibres that stretch and recoil	Thinner, with less muscle and elastic tissue

LUMEN (SPACE INSIDE)	
Narrow compared with the thick wall	Wide, so blood flows back easily at low pressure

VALVES	
None along their length	Many have valves, especially in the limbs, to stop blood flowing backwards



Capillaries: the link between them

Arteries branch into capillaries only 5–10 micrometres wide, with walls one cell thick. Here oxygen and glucose pass out to the cells and carbon dioxide passes in. Capillaries then join up to form veins.

NEXT IN THE SERIES
5. Heart Key Terms and Definitions