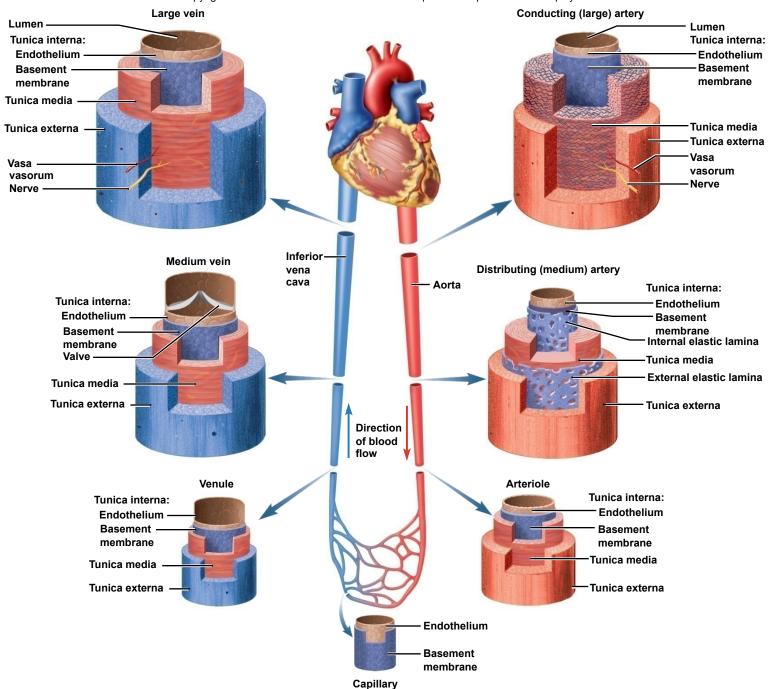
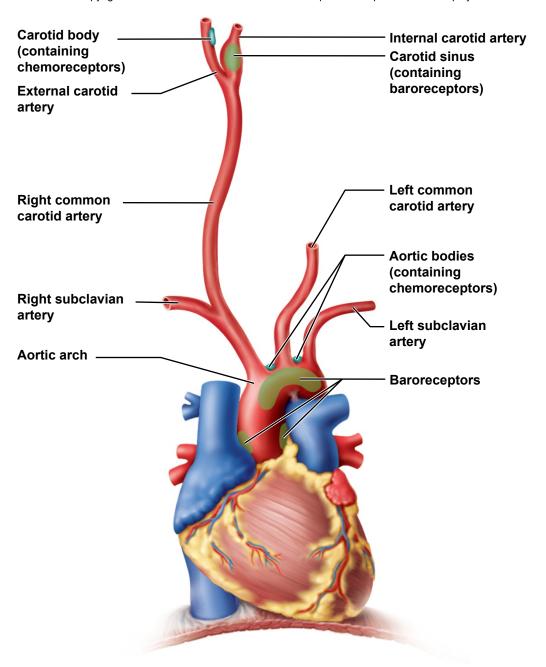
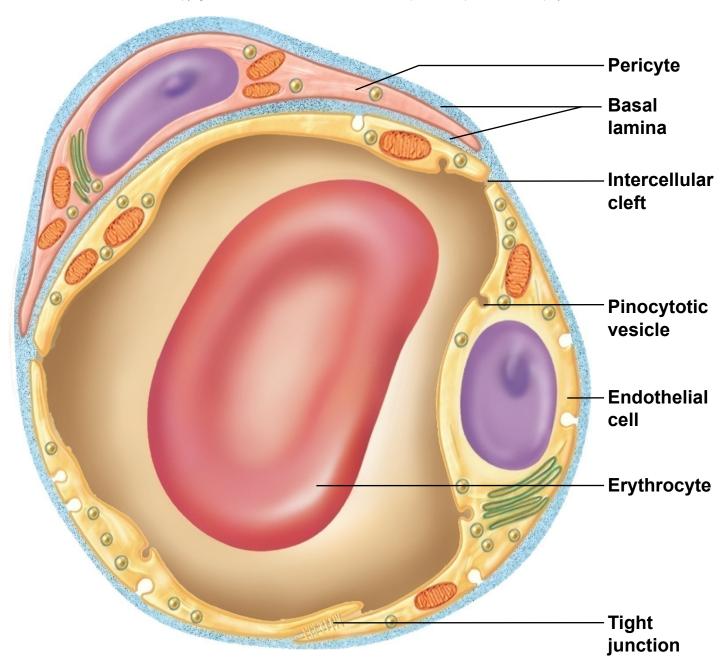


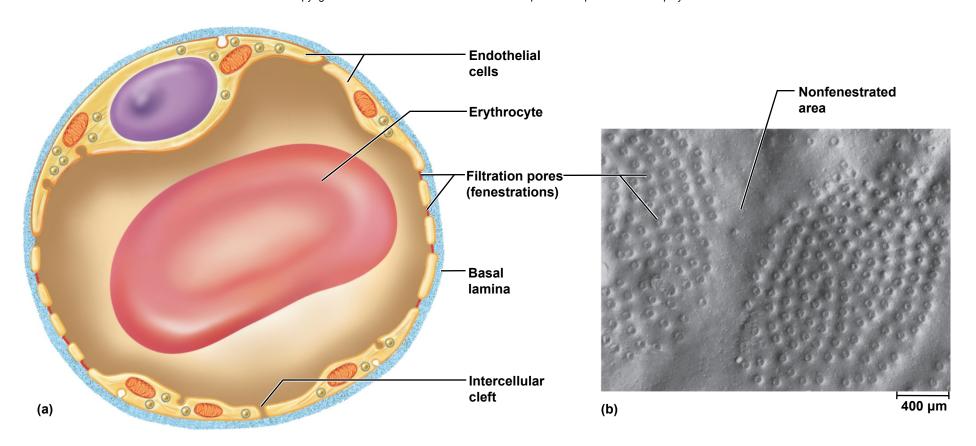
a: ©The McGraw-Hill Companies, Inc.; b: ©Wolf H. Fahrenbach/Visuals Unlimited



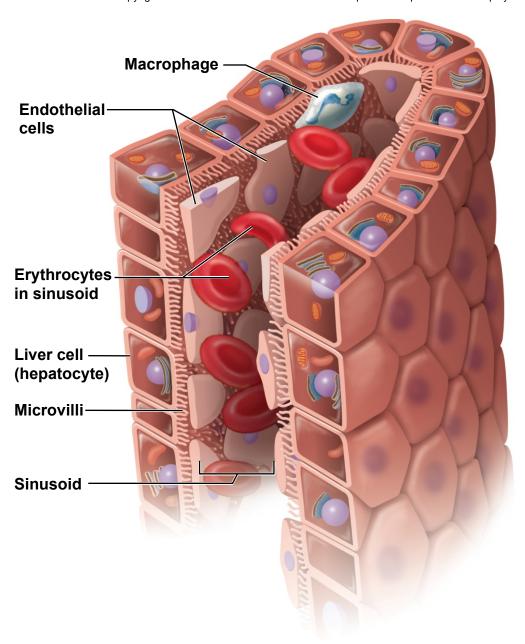


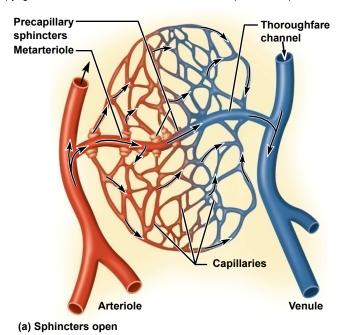


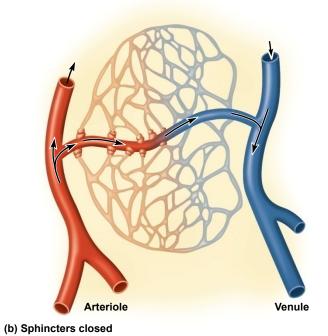
Copyright © McGraw-Hill Education. Permission required for reproduction or display.

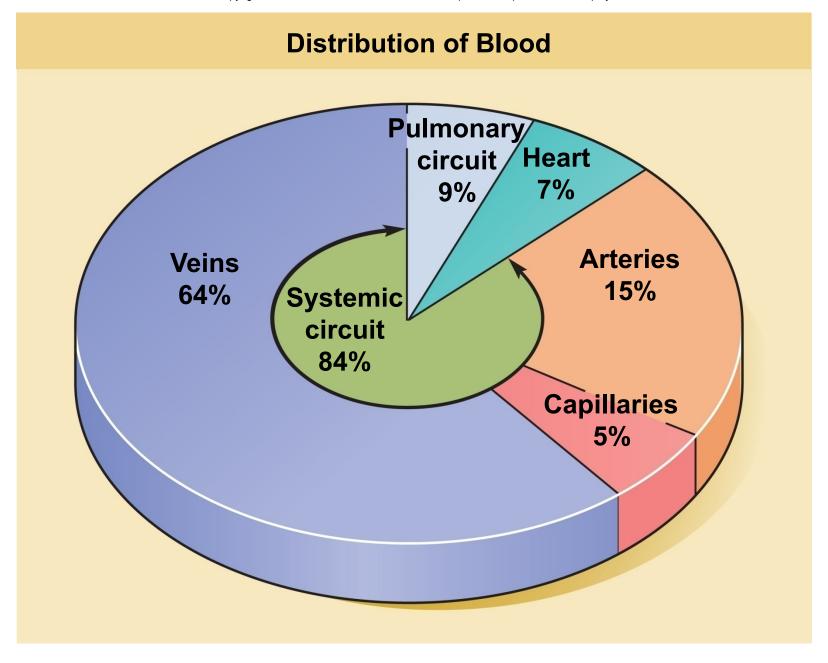


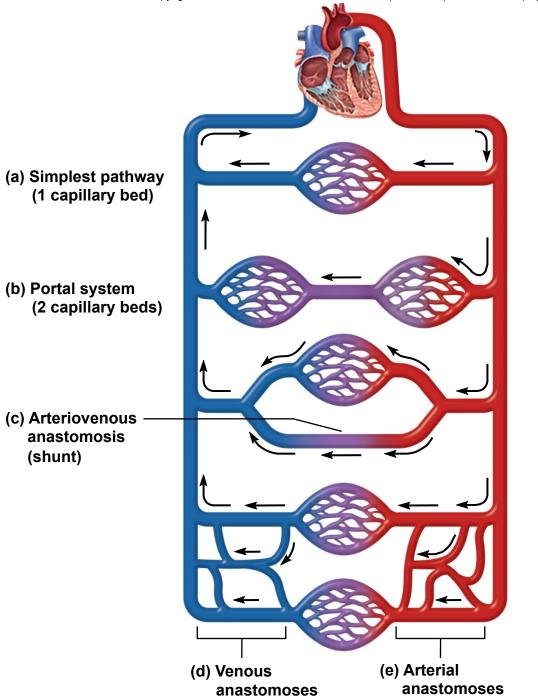
b: Courtesy of S. McNutt

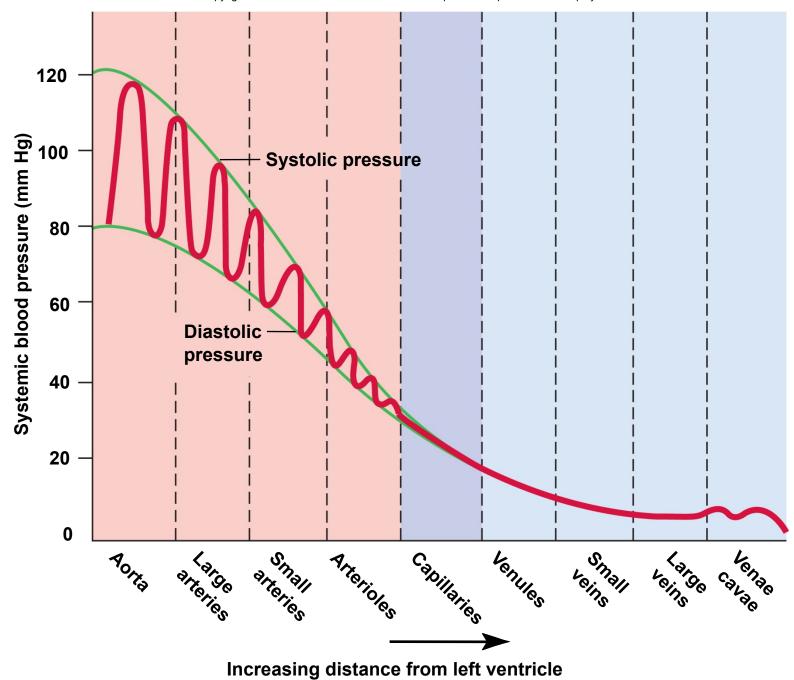


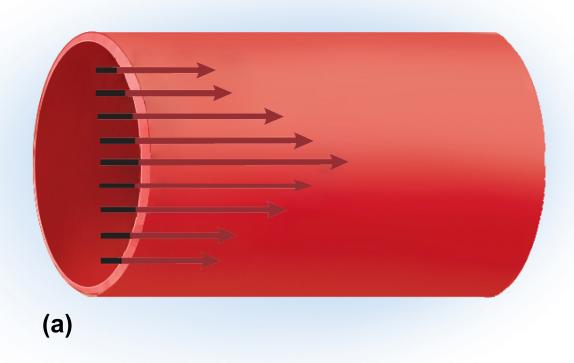


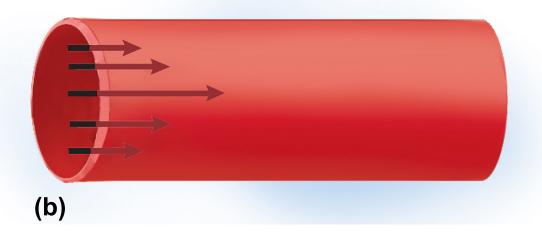


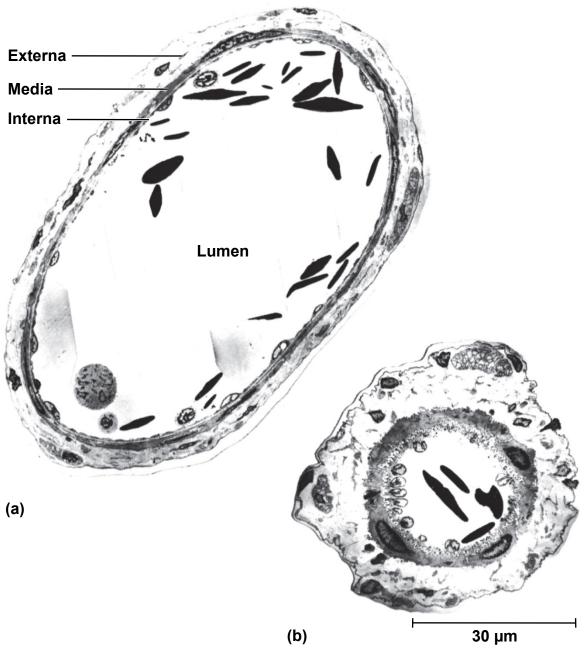








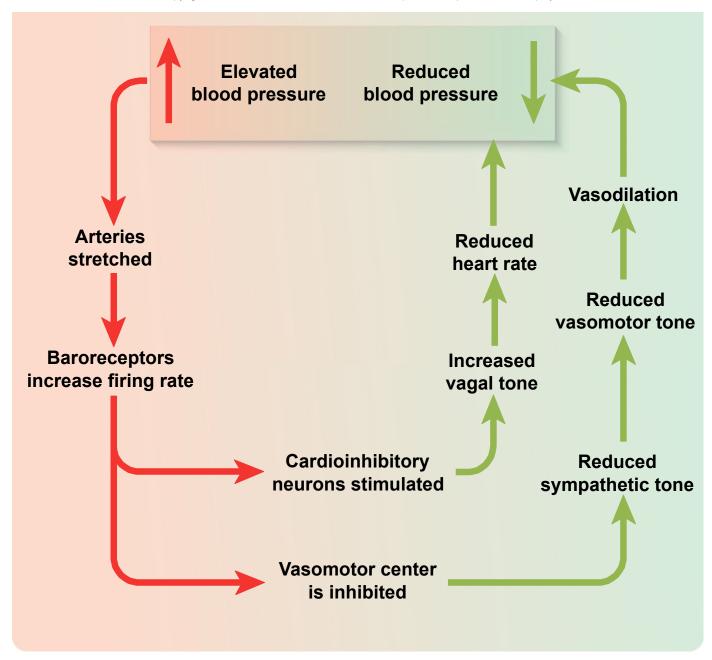


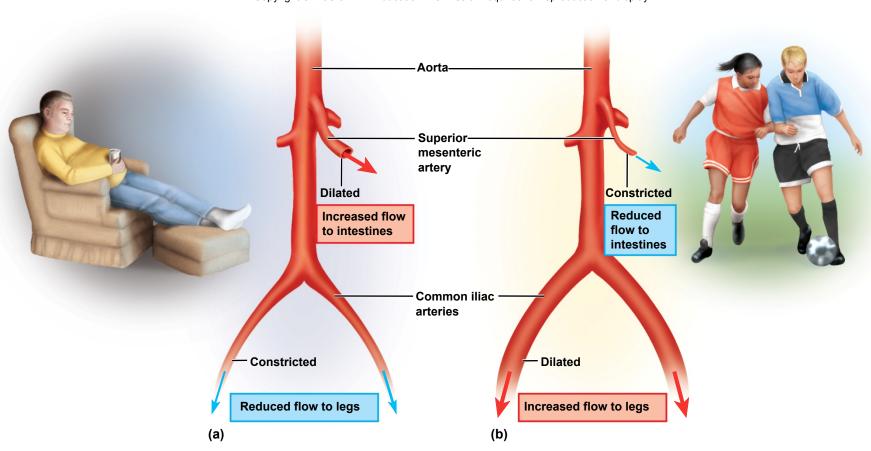


Copyright © McGraw-Hill Education. Permission required for reproduction or display.

TABLE 20.1	Blood Velocity in the Systemic Circuit	
Vessel	Typical Lumen Diameter	Velocity*
Aorta	2.5 cm	1,200 mm/s
Arterioles	20–50 μm	15 mm/s
Capillaries	5–9 μm	0.4 mm/s
Venules	20 μm	5 mm/s
Inferior vena cava	3 cm	80 mm/s

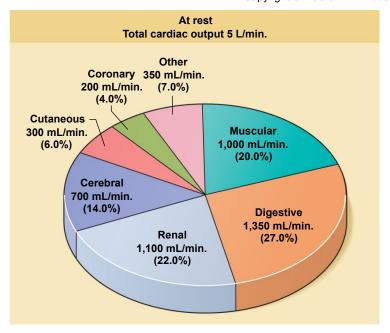
^{*}Peak systolic velocity in the aorta; mean or steady velocity in other vessels, assuming no upstream vasoconstriction adding to resistance

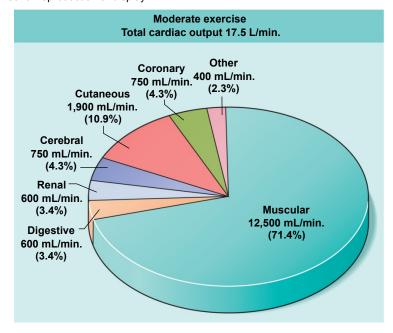


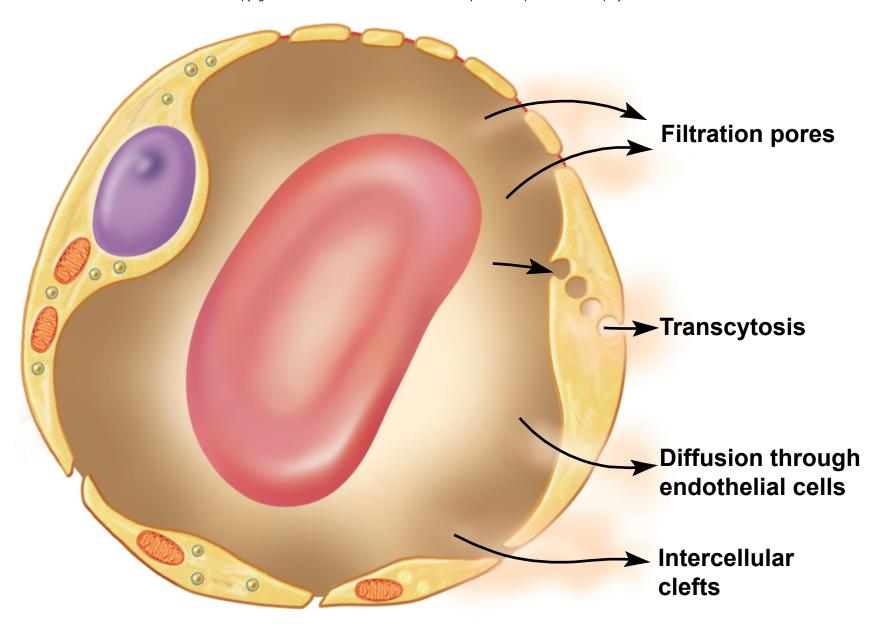


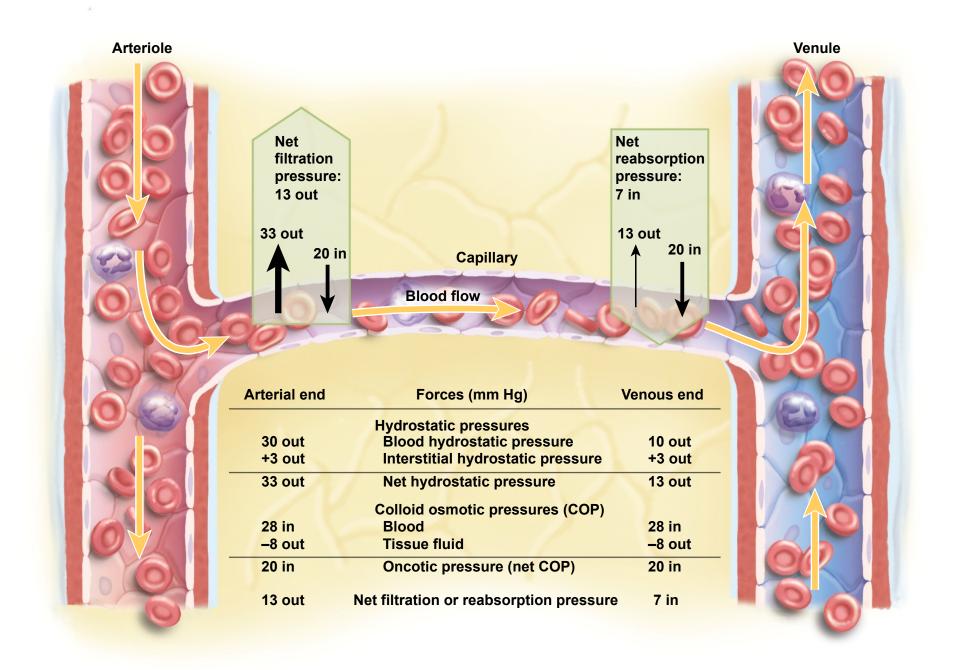
Copyright © McGraw-Hill Education. Permission required for reproduction or display.

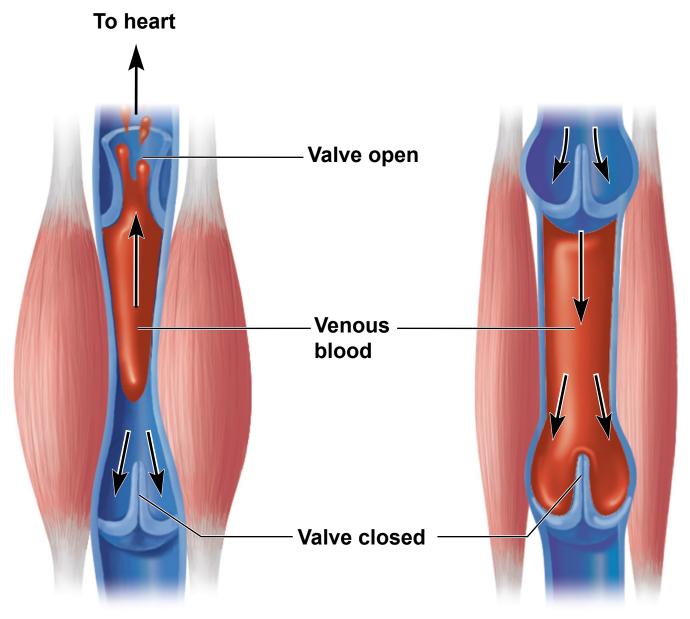
Copyright © McGraw-Hill Education. Permission required for reproduction or display.











(a) Contracted skeletal muscles

(b) Relaxed skeletal muscles