KEY CONCEPT

The circulatory system transports materials throughout the body.
Arteries, veins, and capillaries transport blood to all parts of the body.

- Arteries carry blood **away** from the heart.
  - blood under great pressure
  - thicker, more muscular walls
• Circulatory diseases affect mainly the heart and the arteries.
  – artery walls become thick and inflexible
  – plaque blocks blood flow in arteries
30.4 Blood Vessels and Transport

- Veins carry blood **back** to the heart.
  - blood under less pressure
  - thinner walls, larger diameter
  - valves prevent backflow
30.4 Blood Vessels and Transport

- Varicose veins are enlarged veins that are raised above the skin.
- Valves in the veins do not function properly causing blood to remain in the veins.
Capillaries move blood between veins, arteries, and cells.
- thinnest blood vessels
- gas exchange take place
• Blood pressure is a measure of the force of blood pushing against artery walls.
  – systolic pressure: left ventricle contracts
  – diastolic pressure: left ventricle relaxes

Systolic pressure occurs when the left ventricle contracts. Diastolic pressure occurs when the ventricle relaxes. You can write these numbers as a fraction in which systolic pressure is always on top.

\[
\frac{120}{70} \quad systolic = \text{numerator} \\
\quad \text{diastolic} = \text{denominator}
\]

• High blood pressure can precede a heart attack or stroke.