

11

PART B

The Cardiovascular System

PowerPoint® Lecture Slide Presentation by Jerry L. Cook, Sam Houston University



ESSENTIALS OF HUMAN ANATOMY & PHYSIOLOGY

EIGHTH EDITION

ELAINE N. MARIEB

Pulse

- Pulse – pressure wave of blood
- Monitored at “pressure points” where pulse is easily palpated

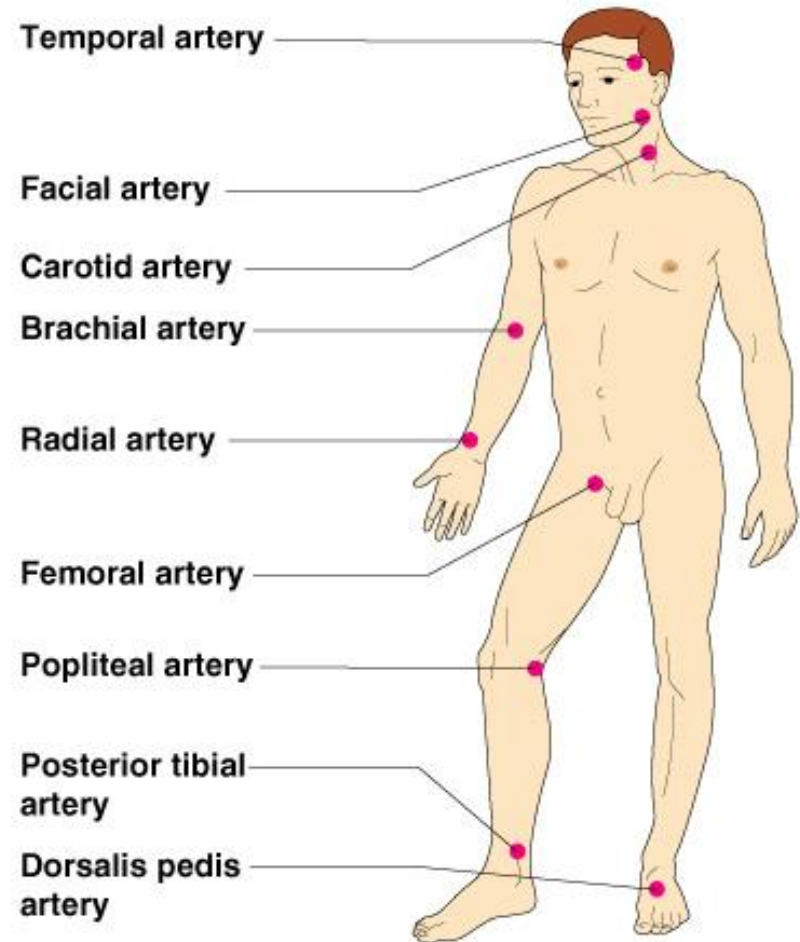


Figure 11.16

Blood Pressure

- Measurements by health professionals are made on the pressure in large arteries
 - Systolic – pressure at the peak of ventricular contraction
 - Diastolic – pressure when ventricles relax
- Pressure in blood vessels decreases as the distance away from the heart increases

Measuring Arterial Blood Pressure

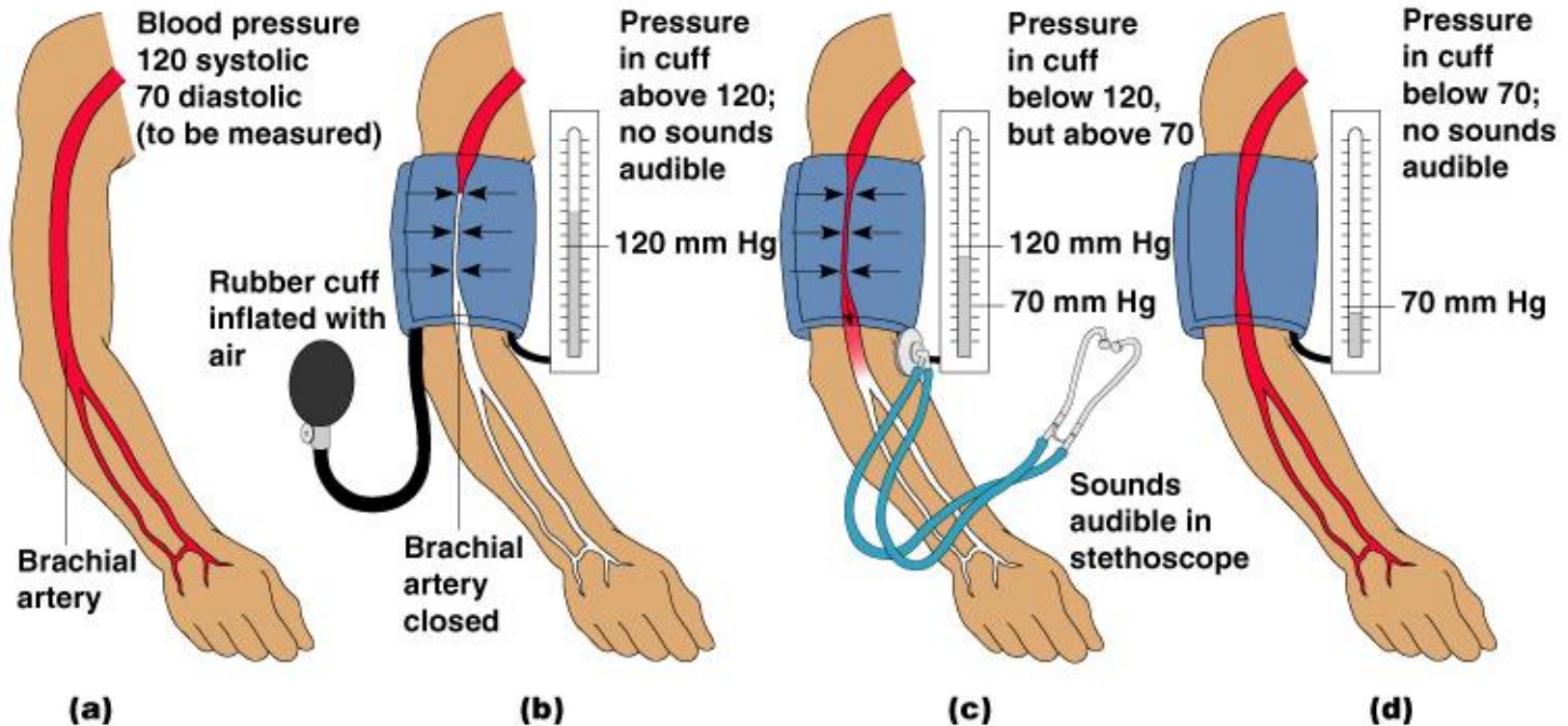


Figure 11.18

Comparison of Blood Pressures in Different Vessels

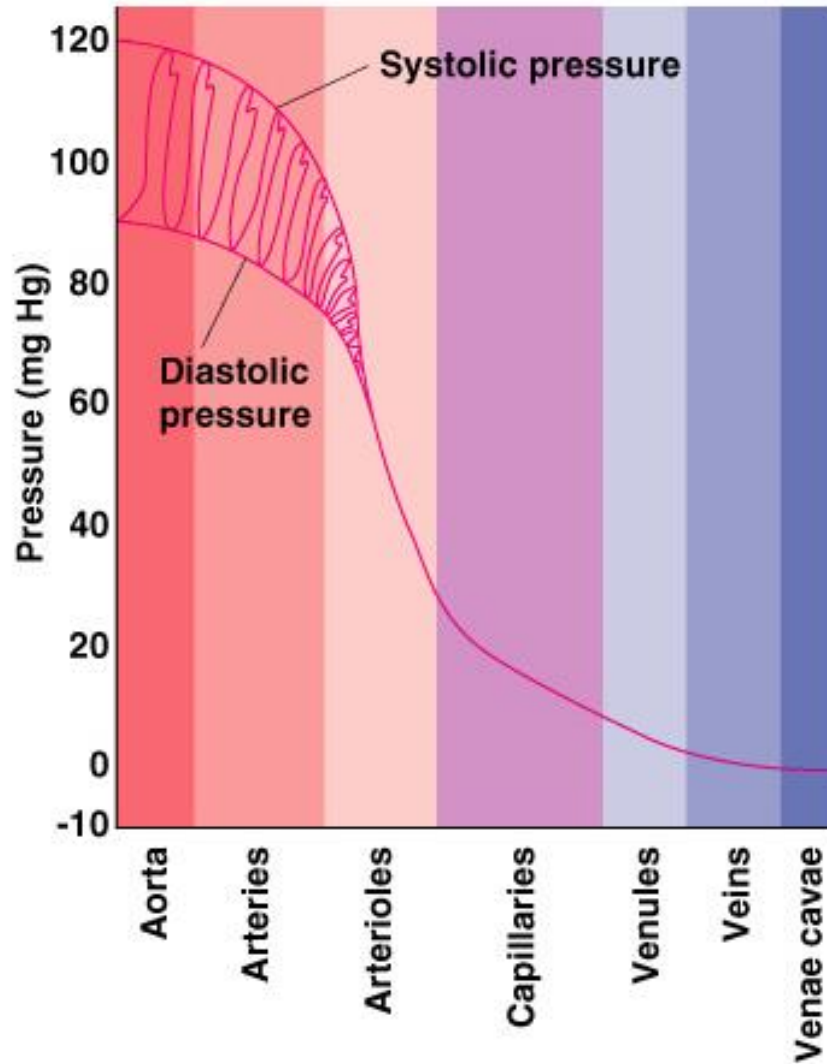


Figure 11.17

Blood Pressure: Effects of Factors

- Neural factors
 - Autonomic nervous system adjustments (sympathetic division)
- Renal factors (kidneys)
 - Regulation by altering blood volume
 - Renin – hormonal control

Blood Pressure: Effects of Factors

- Temperature
 - Heat has a vasodilation effect
 - Cold has a vasoconstriction effect
- Chemicals
 - Various substances can cause increases or decreases
- Diet

Factors Determining Blood Pressure

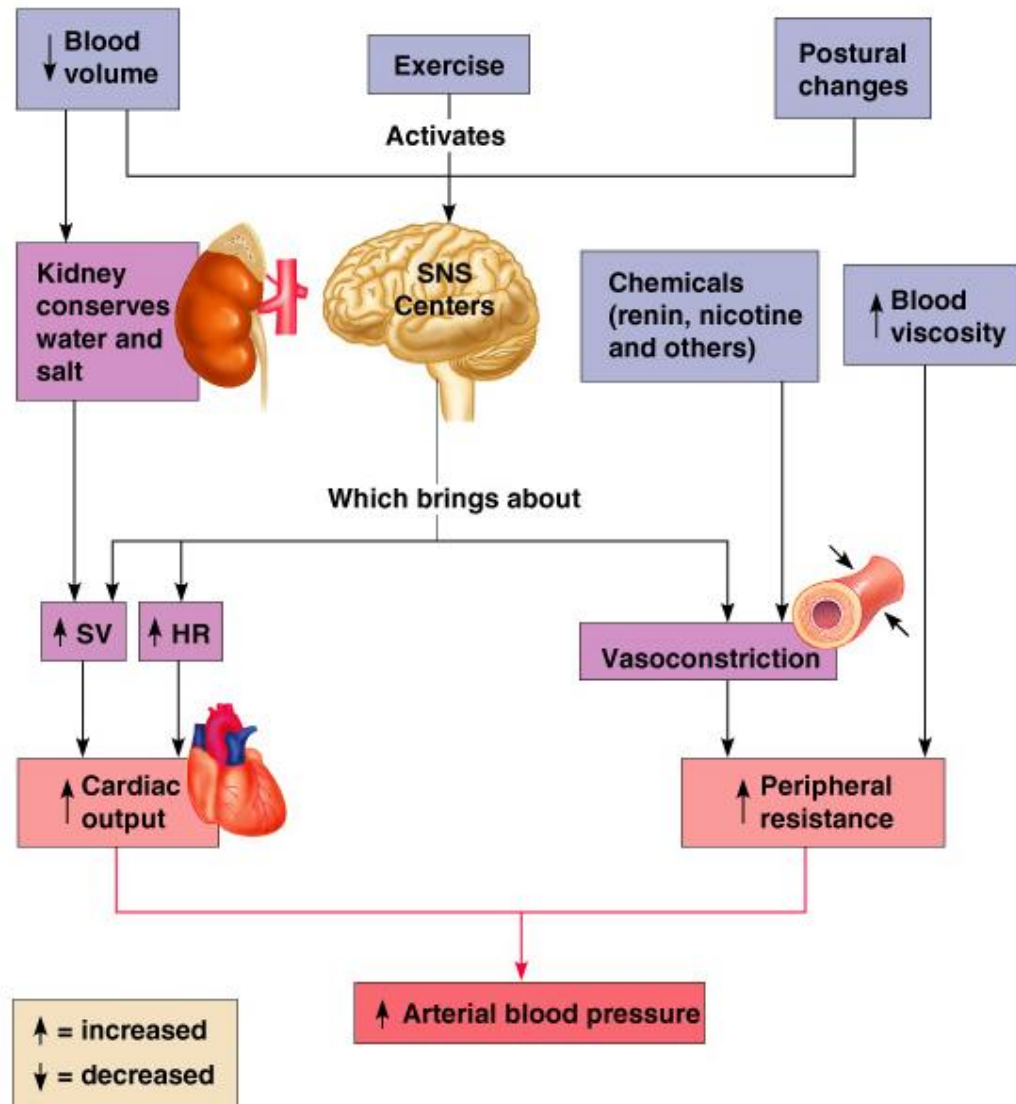


Figure 11.19

Variations in Blood Pressure

- Human normal range is variable
 - Normal
 - 110–140 mm Hg systolic
 - 70–80 mm Hg diastolic
 - Hypotension
 - Low systolic (below 110 mm Hg)
 - Often associated with illness
 - Hypertension
 - High systolic (above 140 mm Hg)
 - Can be dangerous if it is chronic