

Questions

15. The tendency for blood flow to be turbulent is increased by

- (A) increased viscosity
- (B) increased hematocrit
- (C) partial occlusion of a blood vessel
- (D) decreased velocity of blood flow

16. A patient experiences orthostatic hypotension after a sympathectomy. The explanation for this occurrence is

- (A) an exaggerated response of the renin-angiotensin-aldosterone system
- (B) a suppressed response of the renin-angiotensin-aldosterone system
- (C) an exaggerated response of the baroreceptor mechanism
- (D) a suppressed response of the baroreceptor mechanism

18. In which of the following situations is pulmonary blood flow greater than aortic blood flow?

(A) Normal adult

(B) Fetus

(C) Left-to-right ventricular shunt

(D) Right-to-left ventricular shunt

(E) Right ventricular failure

(F) Administration of a positive inotropic agent

21. An acute decrease in arterial blood pressure elicits which of the following compensatory changes?

(A) Decreased firing rate of the carotid sinus nerve

(B) Increased parasympathetic outflow to the heart

(C) Decreased heart rate

(D) Decreased contractility

(E) Decreased mean systemic pressure

27. An increase in arteriolar resistance, without a change in any other component of the cardiovascular system, will produce

- (A) a decrease in total peripheral resistance (TPR)
- (B) an increase in capillary filtration
- (C) an increase in arterial pressure
- (D) a decrease in afterload

32. The greatest pressure decrease in the circulation occurs across the arterioles because

- (A) they have the greatest surface area
- (B) they have the greatest cross-sectional area
- (C) the velocity of blood flow through them is the highest
- (D) the velocity of blood flow through them is the lowest
- (E) they have the greatest resistance

33. Pulse pressure is

- (A) the highest pressure measured in the arteries
- (B) the lowest pressure measured in the arteries
- (C) measured only during diastole
- (D) determined by stroke volume
- (E) decreased when the capacitance of the arteries decreases
- (F) the difference between mean arterial pressure and central venous pressure

38. Which of the following is an effect of histamine?

- (A) Decreased capillary filtration
- (B) Vasodilation of the arterioles
- (C) Vasodilation of the veins
- (D) Decreased P_c
- (E) Interaction with the muscarinic receptors on the blood vessels

39. Carbon dioxide (CO₂) regulates blood flow to which one of the following organs?

(A) Heart

(B) Skin

(C) Brain

(D) Skeletal muscle at rest

(E) Skeletal muscle during exercise

42. Blood flow to which organ is controlled primarily by the sympathetic nervous system rather than by local metabolites?

(A) Skin

(B) Heart

(C) Brain

(D) Skeletal muscle during exercise

43. Which of the following parameters is decreased during moderate exercise?

(A) Arteriovenous O₂ difference

(B) Heart rate

(C) Cardiac output

(D) Pulse pressure

(E) Total peripheral resistance (TPR)