Quiz Yourself: Chapter 16

Choices can be used more than once or not at all

1-5. Matching

A)	QRS waves	represents atrial depolarization	1) __D__
B)	PR interval	represents ventricular repolarization	2) __E__
C)	QT interval	represents ventricular depolarization	3) __A__
D)	P wave	corresponds to time of atrial contraction	4) __B__
E)	T wave	corresponds to time of ventricular contraction	5) __C__

6-10. Matching

A)	Ventricular contraction	blood is pulled into the ventricles	6) __B__
B)	Ventricular relaxation	blood is pushed out of the ventricles	7) __A__
		blood is pulled out of the atria and veins	8) __B__
		semilunar valves close and AV valves open	9) __B__
		AV valves close and semilunar valves open	10) __A__

11-15. Place in order the events responsible for the cycling of pacemaker cells.

A)	Ca^{2+} "T" channels open upon entry of Na^{+} ; "F" channels close	11) __D__
B)	Ca^{2+} "L" channels open (for about 150 msec) upon entry of Ca^{2+}	12) __A__
C)	K^{+} delayed rectifier channels open after a delay upon entry of Ca^{2+}	13) __B__
D)	"F' channels are opened by voltage moving toward hyperpolarization	14) __C__
E)	Ca^{2+} "L" channels close and K^{+} delayed rectifier channels close slowly	15) __E__

16-20. Matching (stimulus: reflex response)

A)	When carotid sinus pressure decreases	heart rate increases	16) __A__
B)	When carotid sinus pressure increases	heart rate decreases	17) __B__
		blood vessels constrict	18) __A__
		baroreceptor activity increases	19) __B__
		baroreceptor activity decreases	20) __A__

Fill in

21. The **_SA_** node has an intrinsic rate of about 80-100 action potentials / minute.

22. **_Epinephrine_** activates β-1 receptors in the heart and causes rate to **_increase_**.

23. **_Acetylcholine_** activates Muscarinic M_2, G-protein coupled receptors in the heart and causes heart rate to **_decrease_**.

24. Stroke volume (SV) equals **_EDV_** - **_ESV_**.

25. Low arterial pressure will cause a reflex **_increase_** in heart rate.

Study Questions

1. Explain the inter-relationships among cardiac output, heart rate, end diastolic volume (EDV), and end systolic volume (ESV). Include a description of what affects EDV and ESV.
2. Explain the causal relationship between the electrical activity of the ECG and systolic and diastolic blood flow.
3. Explain the significance of ions, especially K^{+} and Ca^{2+}, and various membrane channels, in the production of normal pacemaker rhythms and cardiac pumping.
4. Explain the role of the sympathetic nervous system and various hormones in the control of heart rate and force of contraction. Include the role of baroreceptor reflexes

Quiz Yourself: Chapter 17

Choices can be used more than once or not at all

1-5. Matching (pick the nearest match)

A)	95 mmHg	Vena cava pressure	1) __E__
B)	40 mmHg	Mean aortic pressure	2) __A__
C)	32 mmHg	Pre-capillary pressure	3) __C__
D)	12 mmHg	Post-capillary pressure	4) __D__
E)	5 mmHg	Mean Ventricular pressure	5) __B__

6-10. Matching

A)	MAP = 116.66	BP = 90/70	6) __E__
B)	MAP = 97.50	BP = 120/80	7) __C__
C)	MAP = 93.33	BP = 140/70	8) __C__
D)	MAP = 80.00	BP = 110/85	9) __C__
E)	MAP = 76.66	BP = 150/100	10) __A__

11-15. Matching

A)	Causes vasoconstriction	Adenosine and nitric oxide	11) __B__
B)	Causes vasodilation	Vasopressin acting on V1a receptors	12) __A__
C)	None of the above	Angiotensin II acting on AT-1 receptors	13) __A__
		Epinephrine acting on beta-2 receptors	14) __B__
		Norepinephrine acting on alpha-1 receptors	15) __A__

16-20. Matching (TPR ≈ VR; MAP ≈ MAP-CVP)

A)	Total peripheral resistance (TPR)	CO/TPR	16) __D__
B)	Mean arterial pressure (MAP)	COxTPR	17) __B__
C)	Cardiac Output (CO)	MAP/CO	18) __A__
D)	None of the above	MAP/TPR	19) __C__
		MAPxTPR	20) __D__

Fill in

21. Blood flow equals pressure in minus pressure out, divided by **_vascular_ _resistance_**.

22. As blood vessels get smaller the resistance of those vessels gets **_greater_**.

23. Norepinephrine leads to vasoconstriction due to activation of **_alpha-1_** receptors.

24. CO x TPR = **_MAP_**.

25. **_Carotid_ _sinus_ _baroreceptors_** respond to changes in arterial pressure to the head.

Study Questions

1. Explain the role of blood vessel size in determining blood flow and the distribution of blood flow in the body.
2. Explain the role of the sympathetic nervous system and various hormones in the control of vasoconstriction.
3. Explain how the heart and blood vessels work together to influence blood pressure.
4. Explain how and why baroreceptor reflexes control heart rate, cardiac output, and vascular resistance.

Quiz Yourself: Chapter 18a

Choices can be used more than once or not at all

1-5. Matching

A)	Blood plasma	contain(s) electrolytes, nutrients, organic wastes	1) __A__
B)	Red blood cells	contain(s)hemoglobin	2) __B__
C)	White blood cells	contain(s) fibrinogen	3) __A__
		contain(s) albumins	4) __A__
		contain(s) globulins	5) __A__

6-10. Matching

A)	Basophils	engulf and digest parasites	6) __D__
B)	Monocytes	large cells that restrain pathogens	7) __B__
C)	Neutrophils	are the most common phagocytes	8) __C__
D)	Eosinophils	are subdivided into B, T, and NK cells	9) __E__
E)	Lymphocytes	release histamine that in turn dilates blood vessels	10) __A__

11-15. Matching

A)	Intracellular fluid	extracellular fluid	11) __D__
B)	Interstitial fluid	is about 3L of fluid	12) __C__
C)	Vascular fluid	is about 11L of fluid	13) __B__
D)	B and C	is about 28L of fluid	14) __A__
		found mainly in the spaces of connective tissues	15) __B__

16-20. Place in order the events leading to blood clotting.

A)	Blood vessels are damaged	first	16) __A__
B)	Fibrinogen converted to fibrin	second	17) __E__
C)	Prothrombin activator is formed	third	18) __C__
D)	Prothrombin converted to thrombin	fourth	19) __D__
E)	Platelets are activated and/or tissues factors are formed	fifth	20) __B__

Fill in

21. As capillary blood pressure increases, fluid movement into the **_interstitial_ _space_** increases.

22. Increased capillary osmotic pressure enhances capillary **_absorption_** (fluid movement).

23. **_Thrombiin_** converts fibrinogen to fibrin.

24. Fibrinolysis involves cleaving of plasminogen to **_plasmin_** and the dissolving of clots.

25. Blood type O+ typically has antibodies to the **_AB_** protein (s).

Study Questions

1. Explain the importance of blood plasma to the functions of blood.
2. Explain the inter-relationship between vascular fluid, interstitial fluid, and intracellular fluid. Include the role of capillary absorption and filtration.
3. Explain the process of hemostasis after tissue injury.
4. Explain the significance of Rh incompatibility, especially during pregnancy.