

1. If blood volume increases, what happens first?

- A. Afterload decreases
- B. Preload increases
- C. Stroke volume decreases
- D. Venous return decreases

2. High blood pressure activates which receptors?

- A. Chemoreceptors
- B. Baroreceptors
- C. Proprioceptors
- D. Nociceptors

3. Activation of baroreceptors leads to:

- A. Increased sympathetic output
- B. Decreased heart rate
- C. Increased heart rate
- D. Increased contractility

4. When blood pressure increases, which hormone is released?

- A. ADH
- B. Aldosterone
- C. ANP
- D. PTH

5. ANP release causes:

- A. Increased blood volume
- B. Increased sodium retention
- C. Lower blood pressure
- D. Increased aldosterone

6. High GFR stimulates macula densa to:

- A. Release renin
- B. Dilate afferent arteriole
- C. Constrict afferent arteriole
- D. Constrict efferent arteriole

7. Tubuloglomerular feedback reduces GFR by:

- A. Efferent dilation
- B. Afferent constriction
- C. Afferent dilation
- D. Efferent constriction

8. Low blood volume leads to activation of:

- A. ANP
- B. Parasympathetic system

- C. RAAS
- D. Chemoreceptors only

9. Angiotensin II preferentially constricts:

- A. Afferent arteriole
- B. Efferent arteriole
- C. Vasa recta
- D. Peritubular capillaries

10. ADH increases:

- A. Sodium secretion
- B. Water reabsorption
- C. Filtration fraction
- D. Afferent dilation

11. Low blood pressure stimulates:

- A. Baroreceptors → sympathetic activation
- B. Baroreceptors → parasympathetic activation
- C. Chemoreceptors → parasympathetic activation
- D. Vagal inhibition

12. Sympathetic stimulation causes:

- A. Afferent dilation
- B. Afferent constriction
- C. Increased urine output
- D. Decreased heart rate

13. Activation of chemoreceptors in hypoventilation causes:

- A. Increased parasympathetic output
- B. Increased sympathetic output
- C. Reduced cardiac output
- D. Reduced ventilation

14. Low GFR stimulates macula densa to:

- A. Release ANP
- B. Release NO and prostaglandins
- C. Reduce renin
- D. Constrict afferent arteriole

15. RAAS activation increases:

- A. Sodium excretion
- B. Blood volume
- C. ANP release
- D. Filtrate osmolarity

16. Aldosterone increases:

- A. K⁺ retention
- B. Na⁺ reabsorption
- C. Water excretion
- D. ADH inhibition

17. High ADH leads to:

- A. Dilute urine
- B. Concentrated urine
- C. Increased venous return
- D. Reduced water reabsorption

18. Severe dehydration increases:

- A. ANP
- B. ADH
- C. Sodium excretion
- D. Venous return

19. Increased sympathetic output increases:

- A. GFR
- B. Contractility
- C. Urine output
- D. ANP levels

20. Increased contractility leads to:

- A. Lower stroke volume
- B. Higher cardiac output
- C. Reduced blood pressure
- D. Reduced preload

21. Low venous return results in:

- A. Increased stroke volume
- B. Decreased cardiac output
- C. Increased CO₂
- D. Increased oxygen delivery

22. Low blood flow to kidneys activates:

- A. RAAS
- B. ANP
- C. Parasympathetic system
- D. Cardiac inhibition

23. Increased CO₂ activates:

- A. Chemoreceptors
- B. Proprioceptors

- C. Baroreceptors
- D. Pain receptors

24. Increased chemoreceptor firing causes:

- A. Parasympathetic activation
- B. Increased sympathetic tone
- C. Vasodilation
- D. Lower blood pressure

25. After RAAS activation, aldosterone leads to:

- A. More urine
- B. Na⁺ retention
- C. Lower blood volume
- D. Increased ANP

26. Increase in Na⁺ and water retention leads to:

- A. Hypovolemia
- B. Hypervolemia
- C. Increased urine
- D. Lower blood pressure

27. With low blood pressure, the body tries to:

- A. Produce dilute urine
- B. Produce concentrated urine
- C. Reduce ADH
- D. Reduce sympathetic activity

28. Increased ADH causes collecting ducts to:

- A. Become less permeable
- B. Increase water permeability
- C. Secrete sodium
- D. Reduce osmolarity gradient

29. In low blood pressure, which hormone increases most?

- A. ANP
- B. ADH
- C. PTH
- D. Calcitonin

30. Increased filtration and decreased reabsorption occur in:

- A. High blood pressure
- B. Low blood pressure
- C. Dehydration
- D. Sympathetic activation

Answer Key:

1. B
2. B
3. B
4. C
5. C
6. C
7. B
8. C
9. B
10. B
11. A
12. B
13. B
14. B
15. B
16. B
17. B
18. B
19. B
20. B
21. B
22. A
23. A
24. B
25. B
26. B
27. B
28. B
29. B
30. A