

# Pathophysiology Concepts Practice Test

1. Describe the symptoms associated with mitral regurgitation and their significance.
  - Symptoms include fatigue and dizziness, indicating anemia.
  - ✓  **Symptoms include shortness of breath and jugular vein distention, indicating**
  - Symptoms include cough and wheezing, indicating pulmonary issues.
  - Symptoms include chest pain and palpitations, indicating arrhythmias.
2. What is the characteristic of Stage II heart failure?
  - No limitation
  - Severe limitation with symptoms at rest
  - Moderate limitation with symptoms on less than ordinary activity
  - ✓  **Mild limitation with symptoms on exertion**
3. What is the primary purpose of measuring diffusing capacity in lung function tests?
  - To measure lung volume capacity.
  - To evaluate airway resistance.

- To determine oxygen saturation levels.
- ✓  **To assess gas exchange efficiency in the lungs.**

4. What is the primary benefit of pursed-lip breathing for patients with emphysema?
- Increases inhalation
  - Reduces coughing
  - ✓  **Improves expiration**
  - Enhances oxygen intake
5. This subtype of macrocytic anemia is due to deficiency or impairment of utilization of folate
- non-megaloblastic
  - ✓  **megaloblastic**
6. Describe the role of E. coli in urinary tract infections and why it is a common pathogen.
- coli is rarely found in urinary tract infections and is not a significant pathogen
  - ✓  **coli is a common pathogen in urinary tract infections due to its ability to adhere to the urinary tract lining and its prevalence in the gastrointestinal tract**
  - coli is only found in the bloodstream and does not affect the urinary tract
  - coli is primarily responsible for respiratory infections, not urinary tract infections
7. Which of the following is a cause of vitamin B-12 deficiency?

High levels of vitamin D

✓  **Absence of intrinsic factor**

Increased intake of vitamin B-12

Excessive absorption of vitamin B-12

8. Describe the relationship between left-sided heart failure and pulmonary edema.

Left-sided heart failure has no impact on fluid levels in the lungs.

✓  **Left-sided heart failure leads to increased pressure in the pulmonary causing fluid to leak into the lungs.**

Left-sided heart failure causes the lungs to produce excess mucus, leading to pulmonary edema.

Left-sided heart failure decreases blood flow to the lungs, preventing fluid accumulation.

9. What type of hypersensitivity is exemplified by contact dermatitis?

✓  **Type 4 hypersensitivity**

Type 1 hypersensitivity

Type 3 hypersensitivity

Type 2 hypersensitivity

10. If a patient with aplastic anemia presents with an MCV of 85, what does this indicate about blood cell morphology and potential treatment considerations?
- It indicates a severe deficiency in red blood cells, requiring immediate transfusion.
  - It indicates macrocytic anemia, suggesting vitamin B12 deficiency and treatment is needed.
  - ✓  **It indicates that the red blood cells are of normal size, suggesting the focus on stimulating bone marrow production rather than addressing deficiencies.**
  - It indicates microcytic anemia, suggesting iron supplementation is necessary.
11. Describe the significance of cardiac output in relation to overall cardiovascular health.
- Cardiac output is only important during exercise and has no effect at rest.
  - Cardiac output is irrelevant to cardiovascular health and only relates to heart rate.
  - ✓  **Cardiac output is crucial as it determines the amount of blood delivered to tissues, affecting oxygen and nutrient supply.**
  - Cardiac output is a measure of blood pressure in the arteries.
12. What is the definition of cardiac output?
- ✓  **The volume of blood pumped from each ventricle per minute.**
  - The amount of oxygen carried by the blood.

The total volume of blood in the circulatory system.

The pressure exerted by circulating blood on the walls of blood vessels

13. The most common cause of urinary tract obstruction is:

pregnancy

tumors

benign prostatic hypertrophy

✓  **renal calculi**

14. A nurse instructs a client diagnosed with COPD to use pursed-lip breathing. The nurse asks the client about the advantage of this kind of breathing. The nurse answers that the main purpose is to achieve maximum exhalation.

Prevent bronchial collapse

✓  **Achieve maximum exhalation**

Allows air trapping

Strengthen the intercostals muscle

15. Describe how pursed-lip breathing can affect a patient with a respiratory condition such as emphysema.

Pursed-lip breathing increases the rate of breathing, which helps in oxygen absorption.  Pursed-lip breathing helps in the diagnosis of respiratory conditions.

✓  **Pursed-lip breathing improves expiration and reduces air trapping, for better airflow.**

Pursed-lip breathing decreases the need for medication in respiratory patients.

16. Type 1 Hypersensitivity-Allergic -IgE reactions: \_\_\_\_\_ = Severe system reaction; such as wheezing and shortness of breath as bronchioles constrict; edema- airway

✗  **Anaphylactic shock**

✓  **Anaphylactic reaction**

17. What is the primary cause of pre-renal failure?

Obstruction in the urinary tract

✓  **Sudden reduction in blood flow to the kidneys**

Chronic kidney disease

Intrinsic kidney damage

18. Describe how pre-renal failure impacts kidney function without causing intrinsic

Pre-renal failure results in increased urine output and kidney regeneration.

✓  **Pre-renal failure leads to renal hypoperfusion, which results in loss of kidney function without intrinsic kidney damage.**

Pre-renal failure is characterized by inflammation of the kidney tissues.

Pre-renal failure causes direct damage to kidney tissues, leading to renal failure.

19. Regarding hypersensitivity, contact dermatitis is\_\_\_\_\_.

✓  **Type 4**

Type 3

Type 1

Type 2

20. What term describes the resistance the heart must overcome to eject blood during systole?

Cardiac output

✗  **Preload**

✓  **Afterload**

Stroke volume

21. Which bacterium is most frequently associated with urinary tract infections?

Clostridium

Staphylococcus aureus

Salmonella

✓  **E. coli**

22. What happens to a person with emphysema?

- ✓  **Air is trapped in the alveoli**
- The body gets too much oxygen
- The alveoli shrink
- Sputum produced is clear

23. Describe the physical characteristics of red blood cells in macrocytic megaloblastic anemia.

- The red blood cells are smaller than normal.
- ✓  **The red blood cells are larger than normal.**
- The red blood cells are fragmented.
- The red blood cells are irregularly shaped.

24. : Which diagnostic test is essential to confirm the diagnosis of asthma and distinguish it from other obstructive lung diseases?

- Chest X-ray
- Electrocardiogram (ECG)
- ✓  **Pulmonary function tests (PFTs)**
- Complete blood count (CBC)

25. A patient presents with symptoms of fatigue and neurological issues. Upon examination, it is found that they have undergone a gastrectomy. What is the most likely cause of vitamin B-12 deficiency?

- ✓  **Decreased intrinsic factor production due to gastrectomy**
- Increased intake of vitamin B-12 supplements
- Increased absorption of vitamin B-12 from diet
- Autoimmune destruction of parietal cells unrelated to surgery

26. A patient presents with a total lung capacity (TLC) of 130%. What does this suggest about lung function and potential diagnosis?

- The patient has normal lung function.
- ✓  **The patient likely has an obstructive lung disease.**
- The patient is experiencing acute respiratory distress.
- The patient may have restrictive lung disease.

27. If a patient presents with hemolytic anemia following a blood transfusion, what intervention should be taken?

- Administer iron supplements to increase red blood cell production.
- ✓  **Investigate for a transfusion reaction and provide appropriate treatment.**

- Monitor the patient for signs of dehydration.

Schedule a follow-up appointment in one month.

28. If a patient has a reduced residual volume, what might this indicate about their

It suggests the presence of obstructive lung disease.

It indicates normal lung function and capacity.

It shows an increase in lung compliance.

✓  **It may indicate restrictive lung disease or impaired lung expansion.**

29. What type of blood does the right ventricle pump?

Waste-rich blood

Nutrient-rich blood

✓  **Deoxygenated blood**

Oxygenated blood

30. In patients diagnosed with obstructive lung disease, which of the following is the calculated FEV1 / FVC ratio?

FEV1 / FVC ratio is elevated

Both FEV1 and FVC are equally reduced; therefore, ratio is normal

✓  **FEV1 / FVC ratio is reduced**

- Both FEV1 and FVC are equally elevated; therefore, ratio is normal