

Physiology of Public Speaking

Public Speaking · Answer Key · 18 Questions

1. Which endocrine gland is primarily responsible for releasing adrenaline into the bloodstream during the 'fight-or-flight' response common in public speaking?

- A) Pituitary gland
- B) Adrenal gland**
- C) Thyroid gland
- D) Pineal gland

2. What is the typical effect of high-stress levels during public speaking on the body's digestive system?

- A) Increased nutrient absorption
- B) Temporary inhibition of digestive processes**
- C) Faster gastric emptying
- D) Hyper-activation of stomach acid

3. Which physiological symptom occurs during public speaking due to the body redirecting blood flow toward skeletal muscles?

- A) Increased skin temperature in extremities
- B) Dilation of the pupils
- C) Peripheral vasoconstriction**
- D) Enhanced fine motor skills in fingers

4. What role does cortisol, released during the anticipation of public speaking, play in the body?

- A) Decreasing blood sugar levels
- B) Increasing glucose metabolism for energy**
- C) Lowering heart rate
- D) Inducing immediate sleepiness

5. Chronic public speaking anxiety can lead to a sustained elevation of which neurotransmitter, often associated with heart rate acceleration?

- A) Norepinephrine**
- B) Serotonin
- C) GABA
- D) Melatonin

6. Why do vocal cords often feel 'tight' or experience increased tension during a nervous presentation?

- A) Dehydration of the mucosal layer
- B) Contraction of the laryngeal muscles**
- C) Reduced blood flow to the larynx
- D) Excessive production of saliva

7. What is the primary reason for 'dry mouth' (xerostomia) during a high-stakes public speaking engagement?

- A) Over-hydration
- B) Inhibition of salivary gland secretion by the sympathetic nervous system**
- C) Increased inhalation through the mouth
- D) Rapid cooling of oral tissues

8. Which part of the brain initiates the initial stress response to the perceived threat of a public audience?

- A) Prefrontal cortex
- B) Amygdala**
- C) Cerebellum
- D) Hippocampus

9. How does shallow, rapid breathing (hyperventilation) during public speaking affect blood chemistry?

- A) It increases oxygen saturation in tissues
- B) It lowers carbon dioxide levels, potentially causing dizziness**
- C) It increases blood pH levels
- D) It decreases the heart rate

10. During a public speaking event, which physiological change is primarily responsible for the appearance of 'flushing' or redness in the face and neck?

- A) Vasodilation of surface capillaries**
- B) Increased melanin production
- C) Decreased cardiac output
- D) Activation of sweat glands

11. What effect does the 'fight-or-flight' response have on the body's pupillary muscles?

- A) Constriction to focus on notes
- B) Dilation to increase light intake**
- C) Involuntary blinking
- D) Paralysis of the iris

12. Which muscle group is most commonly affected by the 'tremor' effect often seen in the hands of public speakers?

- A) Smooth muscles
- B) Cardiac muscles
- C) Skeletal muscles**
- D) Visceral muscles

13. Regular engagement in public speaking has been linked to the long-term regulation of which 'stress hormone'?

- A) Insulin
- B) Cortisol**
- C) Estrogen
- D) Testosterone

14. What physiological function is suppressed during the 'fight-or-flight' response to prioritize immediate physical readiness?

- A) Immune system response**
- B) Blood pressure regulation
- C) Brain oxygenation
- D) Muscle contraction

15. The 'butterflies in the stomach' sensation during public speaking is caused by:

- A) A decrease in stomach acid
- B) The reduction of blood flow to the stomach, affecting the enteric nervous system**
- C) Hyper-digestion of food
- D) Spasms of the diaphragm

16. What is a verifiable physical impact of maintaining 'power poses' or expansive body language before speaking?

- A) Increased testosterone and decreased cortisol levels**
- B) Immediate muscle fatigue
- C) Increased bone density
- D) Instantaneous drop in blood pressure

17. How does adrenaline affect the respiratory system during a speech?

- A) It causes the bronchioles to dilate to increase airflow**
- B) It slows down the rate of breathing
- C) It prevents the exchange of oxygen in the alveoli
- D) It triggers chest muscle atrophy

18. Which involuntary physical response is a common side effect of the adrenaline surge experienced before stepping onto a stage?

- A) Increased fine motor precision
- B) Involuntary twitching of the eyelids
- C) Temporary increase in body temperature and sweating**
- D) Increased production of digestive enzymes