

Historical Milestones in Exercise Science

Exercise Science · Answer Key · 12 Questions

1. Which ancient Greek physician is often considered the "father of Western medicine" and emphasized the importance of exercise for health in his writings?

- A) Aristotle
- B) Hippocrates**
- C) Plato
- D) Socrates

2. In the early 20th century, August Krogh made significant contributions to understanding the physiological regulation of blood flow during exercise. For which discovery did he win the Nobel Prize?

- A) The role of lactic acid in muscle fatigue
- B) The mechanism of oxygen uptake by muscles
- C) The regulation of blood flow and the capillary bed in muscle**
- D) The effects of altitude on aerobic capacity

3. The development of the concept of VO₂ max, a key measure of cardiorespiratory fitness, is largely attributed to the work of which Scandinavian physiologist in the mid-20th century?

- A) Per-Olof Åstrand**
- B) Jonas Salk
- C) Ivan Pavlov
- D) Albert Szent-Györgyi

4. Who is credited with pioneering the use of electromyography (EMG) to study muscle activation patterns during human movement, significantly advancing biomechanics in the mid-20th century?

- A) Thomas Edison
- B) Nikola Tesla
- C) Ernst Weber
- D) Herman Kabat**

5. The famous "Harvard Fatigue Laboratory," established in 1927, played a pivotal role in advancing exercise physiology research. Who was its first director?

- A) D.B. Dill**
- B) L.E. Emerson
- C) W.B. Cannon
- D) A.V. Hill

6. In 1968, the International Olympic Committee (IOC) established a medical commission. What was one of its primary initial goals regarding athletes?

- A) To promote doping for performance enhancement
- B) To regulate sports nutrition guidelines
- C) To combat the use of performance-enhancing drugs**
- D) To standardize athletic training protocols

7. Which of these physiological principles, foundational to exercise training, was first systematically investigated and documented by scientists like W.E. Thornton and later expanded upon by others?

- A) The principle of specificity
- B) The principle of reversibility
- C) The principle of overload**
- D) The principle of variation

8. The discovery of the role of mitochondria as the "powerhouses" of the cell, crucial for energy production during exercise, was a significant breakthrough in cell biology. Which scientist is most associated with this discovery?

- A) Gerty Cori
- B) Albert Claude
- C) Christian de Duve
- D) George Palade**

9. The concept of the "ventilatory threshold" or "lactate threshold" as an indicator of endurance performance was extensively studied by which prominent exercise physiologist in the 1970s and 1980s?

- A) Jack Daniels**
- B) Michael Pollock
- C) Edward Fox
- D) Bill McArdle

10. Which historical event led to a surge in research on physical fitness and rehabilitation in soldiers, laying groundwork for modern exercise physiology and sports medicine?

- A) The Renaissance
- B) The Industrial Revolution
- C) World War II**
- D) The Cold War

11. The development of the concept of neuromuscular facilitation and its application in rehabilitation and training, particularly through methods like PNF (Proprioceptive Neuromuscular Facilitation), has roots in the work of which pair of researchers in the mid-20th century?

- A) Sherrington and Eccles
- B) Kabat and Knott**
- C) Hodgkin and Huxley
- D) Henneman and Clamann

12. The early understanding of how the nervous system controls muscle movement was greatly advanced by the work of Sir Charles Sherrington. What fundamental concept did he introduce regarding motor neurons?

- A) The motor unit**
- B) The reflex arc
- C) The stretch reflex
- D) The reciprocal inhibition