

# Robotics and Human Health Facts

Robotics · Answer Key · 10 Questions

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**1. Which type of robotic system is commonly used in minimally invasive surgery to enhance surgeon precision and dexterity?**

- A) Industrial robotic arms
- B) Autonomous delivery robots
- C) Surgical robotic systems**
- D) Exploration rovers

**2. Exoskeletons, a form of wearable robotics, are primarily designed to assist individuals with what type of challenge?**

- A) Cognitive decline
- B) Visual impairment
- C) Mobility impairment**
- D) Auditory processing issues

**3. Prosthetic limbs that incorporate advanced robotic components often utilize sensors to mimic which aspect of biological function?**

- A) Digestive processes
- B) Nerve signal transmission**
- C) Blood circulation
- D) Respiration

**4. In rehabilitation robotics, therapists often use robotic devices to help patients regain strength and coordination in what part of the body?**

- A) Internal organs
- B) Skeletal structure
- C) Musculoskeletal system**
- D) Nervous system

**5. Robotic endoscopes, used for internal medical imaging and procedures, are often designed to be highly flexible to navigate what biological structures?**

- A) Bone marrow cavities
- B) Blood vessels
- C) Intricate digestive tract**
- D) Joint capsules

**6. The development of advanced robotic prosthetics aims to replicate not only movement but also what sensory feedback that is normally transmitted from the limb?**

- A) Olfactory signals
- B) Tactile sensations**
- C) Gustatory inputs
- D) Proprioception

**7. Robots assisting in pharmaceutical research can precisely handle and test compounds that interact with specific molecular targets in the human body, such as:**

- A) Cell walls
- B) Enzymes**
- C) Connective tissues
- D) Hair follicles

**8. Robots are being developed for targeted drug delivery, which involves navigating through the body to release medication at specific locations. What biological barrier do these robots often need to overcome?**

- A) Epidermal layer
- B) Cell membranes**
- C) Dermal connective tissue
- D) Subcutaneous fat

**9. In physiotherapy, robotic devices that provide controlled resistance can be used to strengthen muscles and improve the range of motion in joints affected by conditions like:**

- A) Dry eye syndrome
- B) Osteoarthritis**
- C) Migraines
- D) Tinnitus

**10. Robots designed to assist elderly individuals with daily tasks, such as reaching for objects or assisting with movement, aim to support their independence and reduce the risk of what common health issue?**

- A) Heart palpitations
- B) Falls**
- C) Allergies
- D) Indigestion