Anatomy Of The Hand Quiz Questions and Answers PDF

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Which artery is primarily responsible for supplying blood to the thumb?

- ◯ Ulnar artery
- ◯ **Radil artery ✓**
- ◯ Brachi artery
- ◯ Axillary artery

> The artery primarily responsible for supplying blood to the thumb is the radial artery. It branches off from the brachIAL artery and provides oxygenated blood to the lateral aspect of the hand, including the thumb.

Which bone is located in the proximal row of the carpal bones?

- ◯ Trapezium
- ◯ **Scaphoid ✓**
- ◯ Capitate
- ◯ Hamate

> The proximal row of the carpal bones includes the scaphoid, lunate, triquetrum, and pisiform. These bones are located closest to the forearm and play a crucial role in wrist movement and stability.

Explain how the structure of the hand allows for both strength and dexterity in its movements.

The hand's design includes a strong skeletal framework with the metacarpals and phalanges providing stability, while the presence of multiple joints and tendons allows for a wide range of motion and fine motor skills, facilitating both strength in gripping and dexterity in manipulation.

Which of the following are common symptoms of carpal tunnel syndrome? (Select all that apply)

- [x] **Numbness in the thumb ✓**
- [x] **Pain in the wrist ✓**
- [ ] Weakness in the little finger
- [x] **Tingling in the index finger ✓**

Common symptoms of carpal tunnel syndrome include numbness, tingling, and pain in the hand and fingers, particularly the thumb, index, and middle fingers. These symptoms often worsen at night or with repetitive hand movements.

Explain the role of the radial and ulnar arteries in the vascular supply of the hand.

The radial artery runs along the thumb side of the forearm and supplies blood to the lateral side of the hand, while the ulnar artery runs along the little finger side and supplies blood to the medial side of the hand. Together, they form the superficial and deep palmar arches, ensuring adequate blood flow to the hand and fingers.

Which muscle is part of the thenar group?

- ○ Abductor digiti minimi
- ○ **Flexor pollicis brevis ✓**
- ○ Opponens digiti minimi
- ○ Palmaris longus

The thenar group consists of muscles located at the base of the thumb, primarily responsible for its movement and opposition. Key muscles in this group include the abductor pollicis brevis, flexor pollicis brevis, and opponens pollicis.

What are the potential consequences of an untreated scaphoid fracture?

The potential consequences of an untreated scaphoid fracture include nonunion of the bone, avascular necrosis, chronic pain, and impaired wrist function.

Describe the anatomical structure and function of the metacarpophalangeal joints.

The metacarpophalangeal joints are synovially structured joints that connect the metacarpal bones to the proximal phalanges, allowing for a range of movements including flexions, extensions, and some degree of abduction and adduction.

What are the functions of the ulnar nerve in the hand? (Select all that apply)

- [ ] Innervates the thenar muscles
- [ ] **Provides sensation to the little finger ✓**
- [ ] **Controls the hypothenar muscles ✓**
- [ ] Supplies the lateral two lumbricals

The ulnar nerve is responsible for the sensation in the little finger and half of the ring finger, as well as controlling the intrinsic muscles of the hand, which are crucial for fine motor skills and grip strength.

Which of the following are intrinsic muscles of the hand? (Select all that apply)

- [ ] **Lumbricals ✓**
- [ ] Flexor digitorum profundus

- [x] **Interossei ✓**
- [x] **Abductor pollicis brevis ✓**

> The intrinsic muscles of the hand include the thenar muscles, hypothenar muscles, lumbricals, and interossei. These muscles are responsible for fine motor movements and dexterity of the fingers.

Discuss the differences between the intrinsic and extrinsic muscles of the hand.

> **Intrinsic muscles include the lumbricals and interossei, which facilitate precise finger movements, whereas extrinsic muscles, such as the flexor and extensor muscles, are responsible for larger movements and grip strength.**

Which carpal bone is most commonly fractured?

- ◯ Lunate
- ◯ Pisiform
- ◯ **Scaphoid ✓**
- ◯ Trapezoid

> The scaphoid bone is the most commonly fractured carpal bone, often due to falls on an outstretched hand. This injury can lead to complications if not properly diagnosed and treated.

Which structures pass through the carpal tunnel? (Select all that apply)

- [x] **Median nerve ✓**
- [ ] Ulnar artery
- [x] **Flexor digitorum superficialis tendons ✓**
- [x] **Flexor pollicis longus tendon ✓**

> The carpal tunnel contains several important structures, including the median nerve and the flexor tendons of the fingers. These structures are crucial for hand movement and sensation.

Outline the pathway and function of the median nerve in the hand.

The median nerve arises from the medial and lateral cords of the brachical plexus, travels down the arm, enters the hand through the carpal tunnel, and innervates the thenar muscles and the lateral two lumbricals, providing sensation to the palmar side of the thumb, index, middle, and half of the ring finger.

Which nerve is most commonly associated with carpal tunnel syndrome?

- ◯ Ulnar nerve
- ◯ Radical nerve
- ◯ **Median nerve ✓**
- ◯ Axillary nerve

Carpal tunnel syndrome is primarily associated with the median nerve, which becomes compressed in the carpal tunnel of the wrist, leading to symptoms such as pain, numbness, and tingling in the hand.

What type of joint is the metacarpophalangeal joint?

- ◯ Hinge joint
- ◯ Ball and socket joint
- ◯ Saddle joint
- ◯ **Condyloid joint ✓**

The metacarpophalangeal joint, commonly known as the MCP joint, is classified as a synovIAL joint, specifically a condyloid joint. This type of joint allows for movement in two planes, enabling flexION, extension, abduction, and adduction of the fingers.

Which bones form the distal row of the carpal bones? (Select all that apply)

- ☐ **Trapezium ✓**
- ☐ Lunate
- ☐ **Capitate ✓**
- ☐ **Hamate ✓**

> The distal row of the carpal bones consists of the trapezium, trapezoid, capitate, and hamate. These bones are located closest to the metacarpals in the wrist.

What is the primary function of the flexor retinaculum?

- ◯ Stabilize the wrist joint
- ◯ **Form the carpal tunnel ✓**
- ◯ Protect the ulnar nerve
- ◯ Connect the phalanges

> The flexor retinaculum is a fibrous band that serves to hold the flexor tendons in place as they pass from the forearm into the hand, preventing bowstring effects during movement.

How many phalanges are present in one human hand?

- ◯ 10
- ◯ 12
- ◯ **14 ✓**
- ◯ 16

> Each human hand contains 14 phalanges, which are the bones in the fingers. This includes three phalanges in each of the four fingers and two in the thumb.

Which of the following are types of grips performed by the hand? (Select all that apply)

- ☐ **Power grip ✓**
- ☐ **Precision grip ✓**
- ☐ **Hook grip ✓**
- ☐ Ball grip

> The types of grips performed by the hand include various classifications such as power grips and precision grips, which are essential for different tasks and activities.