

# Elbow Anatomy: A Detailed Guide to Elbow Bones, Ligaments, Muscles, and Nerves

The elbow is a complex joint that allows for a wide range of motion. It is made up of three bones: the humerus, the radius, and the ulna. These bones are connected by a series of ligaments and muscles, which help to stabilize the joint and allow for movement. The elbow is also home to a number of nerves, which provide sensation to the arm and hand.



## Advanced Reconstruction: Elbow 2 (AAOS - American Academy of Orthopaedic Surgeons) by Amy Chazkel

★★★★★ 5 out of 5

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## Elbow Bones

The humerus is the upper arm bone. It extends from the shoulder to the elbow. The head of the humerus fits into the glenoid cavity of the scapula (shoulder blade). The trochlea and capitulum are two bony prominences on the distal end of the humerus that articulate with the ulna and radius, respectively.

The radius is the forearm bone that lies on the thumb side of the arm. It extends from the elbow to the wrist. The proximal end of the radius has a radial head that articulates with the capitulum of the humerus. The distal end of the radius has a radial styloid process that articulates with the carpal bones of the wrist.

The ulna is the forearm bone that lies on the little finger side of the arm. It also extends from the elbow to the wrist. The proximal end of the ulna has an olecranon process that fits into the trochlear notch of the humerus. The distal end of the ulna has an ulnar styloid process that articulates with the carpal bones of the wrist.

## **Elbow Ligaments**

The elbow is stabilized by a number of ligaments. The medial collateral ligament (MCL) runs along the inside of the elbow and helps to prevent the elbow from buckling inward. The lateral collateral ligament (LCL) runs along the outside of the elbow and helps to prevent the elbow from buckling outward. The anterior cruciate ligament (ACL) runs from the front of the humerus to the back of the tibia and helps to prevent the tibia from sliding forward on the femur. The posterior cruciate ligament (PCL) runs from the back of the humerus to the front of the tibia and helps to prevent the tibia from sliding backward on the femur.

## **Elbow Muscles**

The elbow is moved by a number of muscles. The biceps brachii muscle is located on the front of the upper arm and helps to flex the elbow. The triceps brachii muscle is located on the back of the upper arm and helps to extend the elbow. The brachialis muscle is located deep to the biceps

brachii muscle and also helps to flex the elbow. The anconeus muscle is located on the back of the elbow and helps to extend the elbow.

## Elbow Nerves

The elbow is innervated by a number of nerves. The median nerve runs through the carpal tunnel and provides sensation to the thumb, index finger, middle finger, and ring finger. The ulnar nerve runs through the ulnar groove and provides sensation to the little finger and the medial half of the ring finger. The radial nerve runs through the radial groove and provides sensation to the back of the hand and the thumb, index finger, middle finger, and ring finger.

The elbow is a complex joint that allows for a wide range of motion. It is made up of three bones, a number of ligaments, muscles, and nerves. Understanding the anatomy of the elbow is essential for diagnosing and treating elbow injuries.



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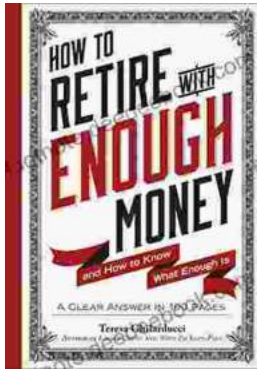
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