



# Magnetic Resonance Imaging Findings After Elbow Dislocation: A Descriptive Study

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## Introduction:

- The elbow is one of the most commonly dislocated joints and is usually accompanied with an assortment of soft tissue injuries.
- The purpose of this study was to retrospectively analyze and describe the patterns of ligamentous, tendinous, and muscular injuries in patients with an acute elbow dislocation and subsequent MRI evaluation.

## Methods:

- The MRI's of twelve patients with an acute elbow dislocation were retrospectively evaluated.
- Images were evaluated by both a radiologist and an upper extremity orthopaedic surgeon.
- MRI's were assessed for injury to the ulnar collateral ligament (UCL), radial collateral ligament (RCL), lateral ulnar collateral ligament (LUCL), common flexor and extensor tendons, biceps, brachialis, and triceps tendons, fracture, and joint effusion.

## Results:

- MRI findings included the following: UCL was injured in 11/12 patients, RCL was injured in 9/12, LUCL was injured in 9/12, common flexor tendon was injured in 11/12, and the common extensor tendon was injured in 9/12 elbows.
- The biceps, brachialis, and triceps tendons showed injury in 1/12, 2/12, and 2/12 elbows respectively.
- Four elbows had at least one fracture present, while eight demonstrated an effusion.

## Conclusions:

- In this series, injuries to the UCL and common flexor tendon were most common.

### Table 1: Patient Injuries

Patient ID	UCL	RCL	LUCL	Common Flexor Tendon	Common Extensor Tendon	Fracture	Biceps Tendon	Brachialis Tendon	Triceps Tendon	Bone Bruise	Effusion	Additional Injuries
1	Complete tear			Partial tear	Partial tear	Coronoid Process					Large	
2	Complete tear	Complete tear	Diffuse laxity	Full thickness avulsion	Partial tear					Capitellum and radial head	Large	Anconeus muscle belly edema
3	Partial tear	Complete tear	Complete tear	Partial tear	High-grade partial tear	Microfx of lat. condyle, radial head					Moderate	Muscle tear of anconeus, brachialis, pronator teres
4	Complete tear	Complete tear	Complete tear	Complete tear	High-grade partial tear		High-grade strain	High-grade strain	High-grade strain	Coracoid process and radial head	Present	
5	Complete tear			Complete tear								Hematoma in medial muscle compartment
6	Complete avulsion proximally	Complete avulsion proximally	Complete avulsion proximally	High-grade partial tear	Complete avulsion					Capitellum		Lateral capsule disruption, hematoma medially, anconeus, brachioradialis, common flex/ext. muscle strains
7	Ant. band avulsed, post. torn		Complete tear	Complete tear	High-grade partial tear				High-grade strain	Capitellum	Moderate	
8	Partial tear of anterior band	Partial tear	Partial tear	Partial tear						Both epicondyles, radial head	Small	
9	Complete tear	Complete tear	Complete tear	Partial tear	Partial tear					Capitellum		Anterior joint capsule tear, partial tear of coracobrachialis muscle belly
10	Partial tear	Partial tear	Partial tear	Partial tear	Partial tear	Coronoid process						Intra-articular body, ant./post. capsule damage, supinator strain, ulnar nerve hyperintensity on T2
11		High-grade partial tear		Partial tear	Partial tear	Coronoid process		High-grade strain		Radial head	Small	Partial tear of supinator
12	Partial tear	Partial tear	Diffuse laxity							Radial head	Small	