

Ulnar Collateral Ligament Rupture (UCL)

What is an Ulnar Collateral Ligament Rupture?

The Ulnar collateral ligament, also known as the medial collateral, or 'Tommy John' ligament, helps to stabilize the elbow joint. It does so by connecting the ulna, a bone in the forearm, to the humerus, or arm bone. When this ligament is stretched, or injured, the bones of the elbow may separate during intense activities, such as throwing. This causes pain on the inside of the elbow.

What causes an Ulnar Collateral Ligament Rupture?

Trauma is the main cause of ulnar collateral ligament tears. These occur with direct blows to the outside of the elbow, or with elbow dislocations. In throwing athletes, repetitive use may lead to stretching of the ligament. When the ligament is stretched too far, it no longer functions. Throwing related tears of the UCL occur with overuse, or when the muscles that stabilize the elbow joint are fatigued.

What are the symptoms?

Patients will complain of pain over the attachment site of the ulnar collateral ligament on the ulna. There may be swelling in the joint, bruising, and loss of elbow motion. In tears that occur suddenly, a 'pop' may be heard or felt. Throwing athletes will complain of loss of velocity and control.

How is a UCL tear diagnosed?

A tear is diagnosed on physical exam. The surgeon will press on the ligament and reproduce pain. Swelling or motion loss can be identified in the elbow. A milking maneuver or moving stress test designed to test the ligament causes pain. X-rays are usually normal, but in severe case, a stress x-ray of the elbow may show widening of the joint. An MRI may show the tear, particularly if it occurs in the setting of trauma or if there is fluid in the joint. For tears occurring without trauma, such as those in throwers, the ligament may appear normal on MRI. Adding dye to the joint prior to the MRI will increase the likelihood that a tear will be identified.

How is it treated?

Non-operative

Most patients can be treated non-operatively with rest, ice, anti-inflammatory medications and physical therapy. A brace or sling may be prescribed for comfort. Activity may be resumed when normal range of motion and strength return.

Operative

For throwing athletes who wish to continue their careers, surgery is recommended. The surgeon will reconstruct a new ligament using a tendon found in the forearm. The tendon is removed, and tunnels are drilled on both sides of the elbow where the old ligament attached. The tendon is routed through those tunnels, and sewn to itself, or held in place with screws. A splint is applied initially, and physical therapy is begun to preserve motion at the elbow joint.

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