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Distal Biceps Rupture

What Is The Bicep?

The bicep is a muscle of two parts (bi = 2) in the arm. The bicep muscle attaches to both the shoulder and the forearm. The ‘long head' enters the shoulder and the long and ‘short heads' combine to form one tendon at the elbow. The tendon at the shoulder is called the proximal biceps tendon and the tendon at the elbow is called the distal biceps tendon.

Distal Biceps Tendon Rupture

Rupture of the distal biceps tendon at the elbow joint is uncommon and accounts for less than 5% of biceps tendon ruptures. There is usually some degree of degenerative change within the tendon that predisposes it to rupture and it is seen almost exclusively in males. Ruptures of the distal tendon near the elbow usually occur when an unexpected force is applied to a bent arm. This is most commonly an activity such as lifting a heavy rock or doing weights at the gym. It can also happen during sports such as a rugby tackle or a snowboarder using the arm to try to break a fall.

Without surgical repair, patients who experience complete rupture of the distal biceps tendon will notice loss of strength at the elbow. The strength will affect both the ability to bend the elbow against resistance and the ability to turn the forearm to the palm-up position against resistance (for example, turning a doorknob). Typically patients get fatiguing and pain in the elbow with repetitive use.

What Are The Symptoms Of Distal Biceps Tendon Rupture?

The patient usually experiences sudden pain over the front of the elbow after a forceful effort against a flexed elbow. There may be a snap and the muscle may curl up into the arm. Swelling and bruising around the elbow are common. Movement usually returns over a few days and the abnormal muscle shape becomes more obvious.

What Is The Treatment Of Distal Biceps Rupture?

There is no doubt that the best results are achieved with surgery, ideally within 3 weeks and certainly within 6 weeks of the injury. After this time patients are still better off with surgery but a reconstruction procedure with a hamstring tendon may be required rather than a direct repair.

If the tear is incomplete then surgery may not be needed (or if the patient is elderly or has very low demands of the arm). Most patients who want more normal use of their arm will benefit from surgery to repair the ruptured tendon to the bone. It is my experience that even patients with a partial tear continue to be symptomatic and request the surgery eventually.

The surgery is usually performed through 2 incisions, one at the front of the elbow and one at the back. This allows me to retrieve the torn end of the tendon, gain access to the bone and reattach the tendon to where it came from.

You will wake up in a backslab (half plaster) which stays in place for one week. After one week the plaster and your sutures will be removed. You will be placed in a sling and start bending and rotation exercises. Typically you will not be permitted to fully straighten the elbow for six weeks. Light lifting starts at 6 weeks and full usage is allowed at between 3 and 6 months depending on the strength of the repair.

All surgical procedures have risks. While they are uncommon the complication which is most troublesome from this operation is called a cross union or synostosis. Bone grows in tissues that it would not normally form in as part of the healing process. This blocks the rotation of the radius and the patient loses the ability to turn the hand up and down. It is not usually painful and usually responds well to a surgical release performed a few months later.

Generally speaking the procedure is a very successful one with patients returning to their previous level of activity.