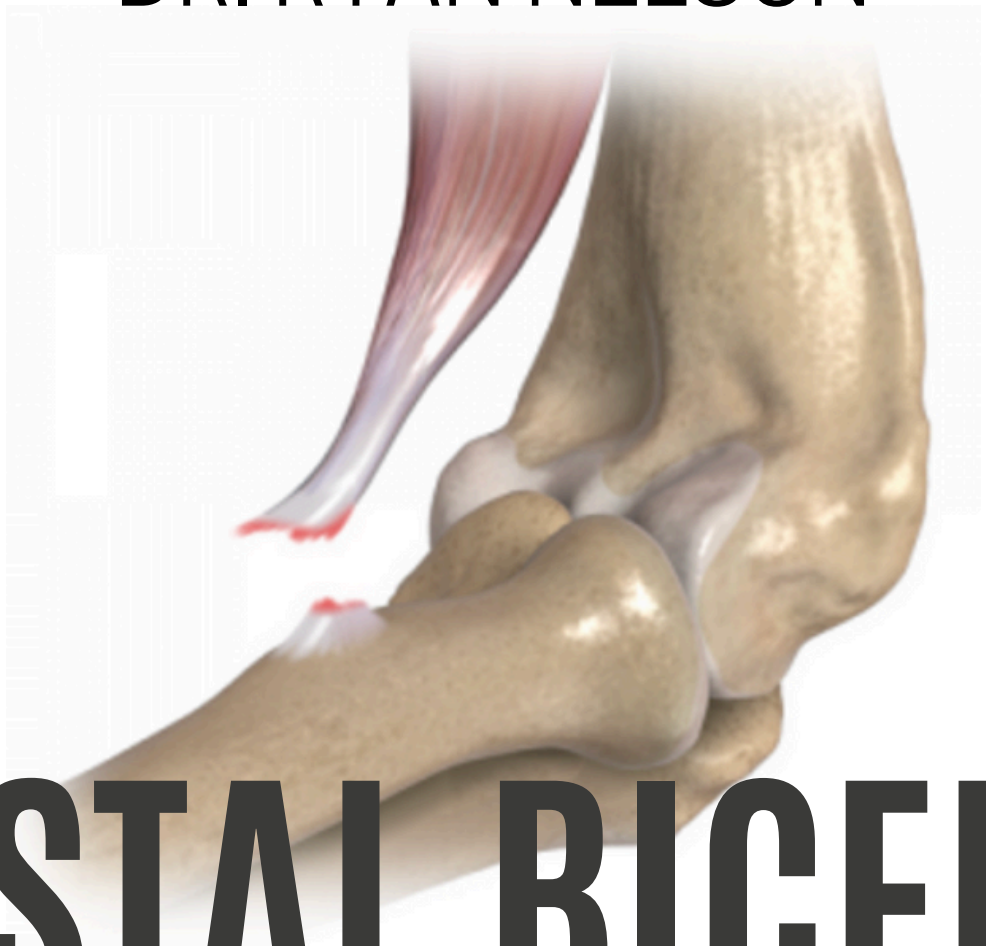
GREATER MICHIGAN ORTHOPEDICS

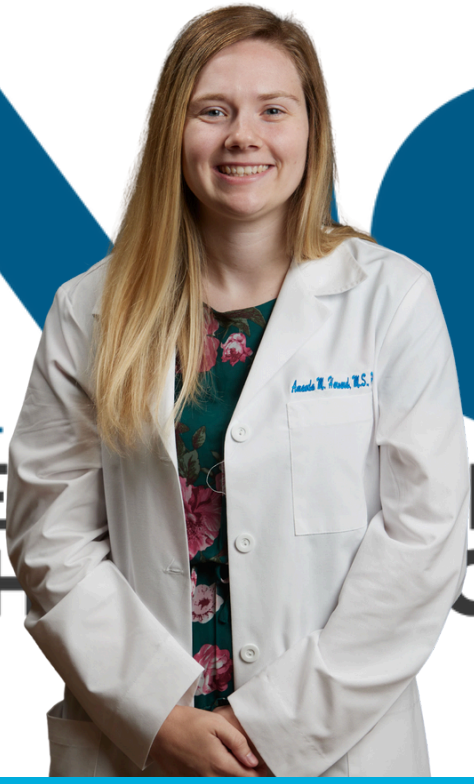
DR. RYAN NELSON



DISTAL BICEPS REPAIR

YOUR STEP BY STEP GUIDE TO SUCCESS

Meet the team



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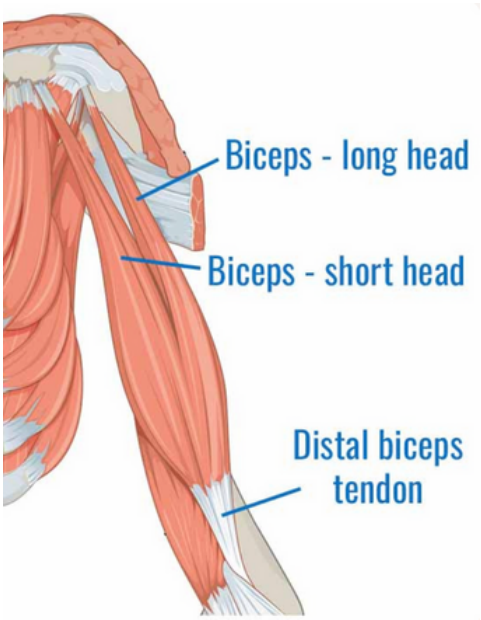
Distal Biceps Injuries



Distal biceps ruptures occurs when the tendon attaching the biceps muscle to bone is torn off the bone. The injury is more common in males than females during lifting events.

Anatomy -

The biceps muscle goes from the shoulder to the elbow on the front of the upper arm. Tendons attach muscles to bone. Two separate tendons conncet the upper part of the biceps muscle to the shoulder. One tendon connects the lower end of the biceps to the elbow. The lower biceps tendon is called the distal biceps tendon. The word distal means further down the arm.

The distal biceps attatches to a small bump on the radius bone called the radial tuberosity. The radius is the smaller of the two bones between the elbow and the wrist that make up the forearm.

Contracting the biceps muscle can bend the elbow upward. The biceps can help flex the shoudler, raising the arm up over heard. The biceps rotates, or twists, the forearm in a way that points the palm of the hand up. This motion is called supination and the biceps is a powerful supinator.

Why did I tear my biceps?

The most common cause is forceful contraction when lifting with the elbow bent.

Symptoms

What does a distal biceps rupture feel like?

When the distal biceps tendon ruptures, it usually sounds and feels like a pop directly in front of the elbow. At first the pain is intense. The pain often subsides quickly after a complete rupture because of the tension is immediately taken off the pain sensors in the tendon. Swelling and bruising ensues and starts to develop shortly after the pop. The biceps may appear to have balled up near the elbow. The arm often feels weak with attempts to bend the elbow, lift the shoulder, or twist the forearm.

How to diagnose Distal biceps ruptures?

An early diagnosis is best. If surgery is needed, people who've ruptured their distal biceps tendon usually have a better result when surgery is done soon after the injury. Dr. Nelson and team will first understand your medical history, how the biceps will afftect your life and work. The physical exam is helpful in diagnosis a rupture. The hook test is very sensitive and specific to distal biceps injuries. X-rays and MRI may be ordered to undertsand certain pathologies.

Non Surgical Treatment

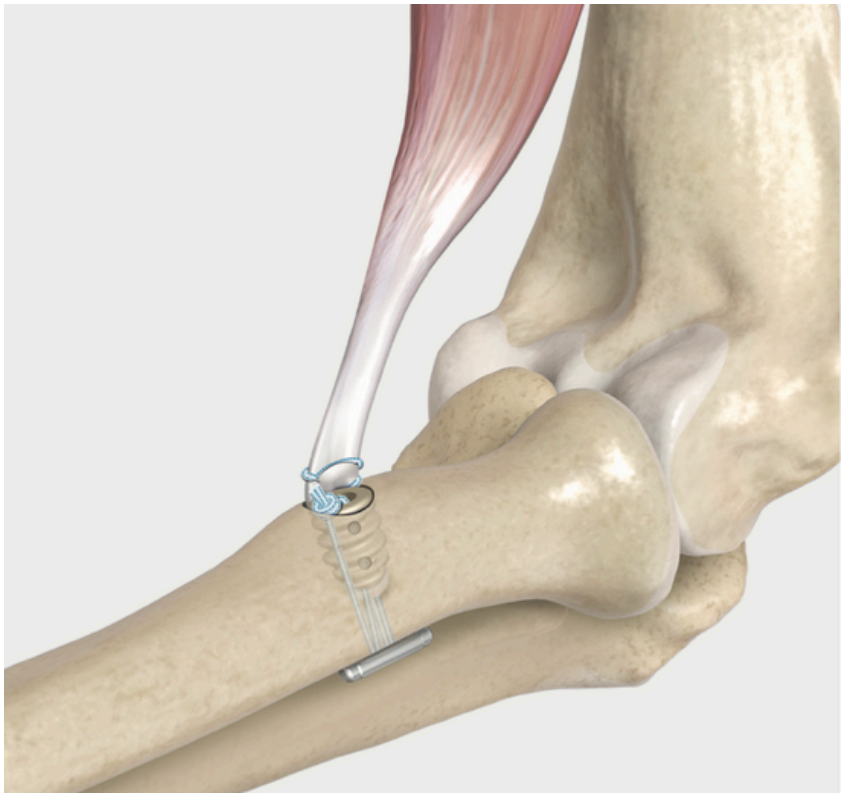
Many doctors prefer to treat distal biceps tendon ruptures with surgery. Nonsurgical treatments are usually only used for people who do minimal activities and require minimal arm strength. Nonsurgical treatments are only used if arm weakness, fatigue, and mild deformity aren't an issue. If you are an older individual who can tolerate loss of strength, or if the injury occurs in your nondominanat arm, you and Dr. Nelson may decide that surgery is not necessary.

Not having surgery often results in significant loss of strength. Flexion of the elbow is somewhat affected, but supination (which is the motion of twisting the forearm, such as when you use a screwdriver) can be very affected. A distal biceps rupture that is not repaired reduces supination strength by about 50 percent.

Nonsurgical measures may include a sling to rest the elbow. Patients may be given anti- inflammatory medicine to help ease pain and swelling and get them back to activities sooner. These medications include common over-the-counter drugs such as ibuprofen. Dr. Nelson may have you work with a physical or occupational therapist. At first, your therapist will give you tips how to rest your elbow and how to do your activities without putting extra strain on the joint. Your therapist may apply ice and electrical stimulation to ease pain. Exercises are used to gradually strengthen other muscles that can help do the work of a normal biceps muscle.

Surgical Management

People who need normal arm strength get best results with surgery to reconnect the tendon right away. More urgent surgery is needed to avoid tendon retraction. When the tendon has been completely ruptured, contraction of the biceps muscle pulls the tendon further up the arm. When the tendon recoils from its original attachment and remains there for a very long time, the surgery becomes harder, and the results of surgery are not as good.



Scan for
Surgical animation

Rehab Protocol

The intent of this protocol is to provide the clinician with a guideline of the post- operative rehabilitation course for a patient that has undergone a distal biceps tendon repair. It is by no means intended to be a substitute for one's clinical decision making regarding the progression of a patient's post-operative course based on their physical exam/findings, individual progress, and/or the presence of post-operative complications. If a clinician requires assistance in the progression of a post-operative patient they should consult with the referring Surgeon.

Rehab Phases

- PHASE I: IMMEDIATE POST-OP (Day 0-1 WEEK AFTER SURGERY)
- PHASE II: INTERMEDIATE POST-OP (2-6 WEEKS AFTER SURGERY)
- PHASE III: LATE POST-OP (7-10 WEEKS AFTER SURGERY)
- PHASE IV: TRANSITIONAL (11-15 WEEKS AFTER SURGERY)
- PHASE V: RETURN TO SPORT/WORK (4-6 MONTHS AFTER SURGERY)

Phase 1: Weeks 1-2

- **Goals:**
  - **Reduce post-op pain**
  - **Reduce Swelling (edema)**
  - **Protect the repair**
  - **Optimize healing environment**
  - **Regain Elbow motion**

- **Precautions**
  - Non-Weight bearing to the upper extremity
- **Intervention**
  - Ice can improve the pain and is a powerful anti-inflammatory. Utilize Ice and or an Ice machine to help with the pain and swelling
  - Start early range of motion with flexion and extension and pronation and supination of the forearm to tolerance.

Phase 2: Weeks 2-6

- **Goals:**
  - **Regain full motion and start grip strengthening**
  - **Protect the repair**

- **Precautions**
  - **No Lifting more than 3 lbs**
- **Intervention**
  - **P**assive elbow extension exercises may be started if needed.
  - Light strengthening exercises are started with light tubing or 2-3lb weights for elbow flexion, extension, forearm
  - rotation and wrist flexion and extension.
  - Shoulder Theraband and strengthening exercises are started. Supine scapula stabilization with 2-3 lb weight.
  - Ice after strengthening exercises.

Phase 3: Weeks 6-12 weeks

- **Goals:**
  - **Regain full motion strength**
  - **Protect the repair**

- **Precautions**
  - **progress lifting and pushing/pulling**
- **Intervention**
  - **The strengthening program is gradually increased so that the patient is using full weights by 3 months. as long as 6 months before a patient returns to heavy work.**
  - **Testing use grip strenth and Elbow ROM**
  - **Start ball toss an job specific duties.**
  - **Clinical Follow-up at 3 months**

Questions

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