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Biceps Tendon Rupture

What is it?

The biceps muscle is the large muscle in the front of your upper arm. It is a muscle most flexed by strong men in demonstrating the size and strength of their muscles. This attaches at the top of your arm, inside the shoulder joint and below the elbow into the radius bone by strong tendons at either end. The tendon at the elbow can rupture under very strong contraction of the biceps muscle. This occurs generally in males over the age of 35 years and strength athletes, body builders and heavy manual workers are more likely to suffer this condition.

What are the symptoms?

There is usually localised pain at the front of the elbow including bruising and swelling. The biceps muscle may retract up the arm creating a prominent bump known as the "Popeye sign" which may be visibly different to the other side, especially on contracting the muscle.

Clinical Examination

The patient is asked to flex the arm demonstrating the strength of the biceps. The biceps tendon is palpated in the arm just above the elbow joint to see if a palpable tendon is present and this is compared with the other side.

What investigations are required?

Usually, a clinical examination is enough to diagnose a biceps rupture. An ultrasound scan or an MRI scan may be required if the clinical diagnosis is uncertain.

What are the treatment options?

Non-Operative:

Patients who are unable to take the time off work and are not dependent on full strength of their elbow flexion, and especially supination, may elect for this treatment. A biceps tendon rupture can lead to weakness of the elbow and forearm. If left patients may state they have difficulty twisting a screwdriver, turning a key, or lifting weights and this is due to a 55% reduction in forearm twisting strength and a 36% reduction in elbow bending strength of flexion power. However, non-operative treatment may be suitable for patients whose livelihood and interests do not require the full strength of their arm.

Operative:

If an operative repair is considered, it should be undertaken within three weeks of the injury or as soon as possible to make the surgery technically easier and allow a smaller scar and better tendon healing. If the surgery is delayed, the tendon is often more difficult to repair directly and the tendon may retract up the arm and require a longer and more difficult procedure. The tendon is located through a longitudinal incision over the front of the elbow, mobilised down to its insertion on the radius bone where it is torn off and reinserted into the bone. The tendon fixed with a small metal button on the other side of the bone and supported with an interference screw. After surgery, patients may work on maintaining the range of motion immediately. Patients can come out of the sling from six weeks after the surgery and start doing light exercises. No strengthening should be performed until at least three months after the surgery.

Possible Complications

Overall, greater than 95% of patients who have the surgery are happy with the results of surgery, however, complications may occur.

Some complications related to this condition include:

- Infection - less than 1% chance.
- Damage to the surrounding nerves or blood vessels - also less than 1% chance.
- Further rupture of the repaired tendon (in an acute case, if treated quickly which is rare).
- A reduction in range of motion of the elbow which is also rare.