SUSSEX SHOULDER & ELBOW

09

Distal Biceps Tears

What are Distal Biceps Tears?

The distal biceps tendon crosses the front of the elbow joint and attaches to the radius, one of the two forearm bones. The biceps muscle tendon unit is important for normal arm function as it is the primary muscle responsible for outward forearm rotation (supination) and is key in providing normal bending power of the elbow. When it is damaged or torn, patients typically experience weakness with these movements as well as chronic fatigue and cramping in the arm. When the distal biceps is torn, the normal contour of the arm is altered which may be unacceptable to some people.

Acute Distal Biceps rupture

The distal biceps typically tears from its attachment on the radial tuberosity in the forearm. The injury usually occurs in men and occurs suddenly after a rapid contraction of the biceps during resisted elbow activity. There is usually sudden, severe pain in the elbow which may be accompanied by a 'pop' or tearing sensation. You may develop bruising in the forearm and the shape of the arm will be altered as the torn tendon retracts into the upper arm. This is called a 'popeye' deformity because of the shape of the arm. With time the biceps retracts further proximally into the arm, hence it is recommended this injury is recognized and treated soon after the event. The goal of surgery is to repair the distal biceps tendon to where it has been torn from on the radius in order to optimise elbow function.

Chronic Distal Biceps Rupture

Once the distal biceps has ruptured, it tends to progressively retract into the proximal upper arm because it is still attached up at the shoulder. Most people with this injury are of working age and typically complain of chronic weakness, loss of arm contour and cramping pain. The problem is that, with time it may not be physically possible to pull the native biceps tendon back to its insertion on the radial tuberosity, which means a tendon graft may be necessary to 'bridge' the gap between the native tendon and the radius. We prefer to use an Achillies tendon allograft, which is a tendon that has been donated for use as a graft and provides durable fixation in the chronic setting.

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What you can expect from surgery?

Surgery is done as a day case under general anaesthetic, often with a local anaesthetic block to numb the arm for post-operative pain relief.

A small incision is made over the front aspect of the forearm and this is usually enough to perform the procedure through. Occasionally for acute ruptures and for all chronic ruptures a second incision is made above the elbow to retrieve the retracted tendon. The tendon is fixed to the radial tuberosity using a combination of drill holes, sutures and a metallic button. For chronic ruptures, the Achilles tendon allograft is fixed to the radius in the same way and is weaved through the native biceps at the upper end. Following the surgery the arm is placed in a light bandage and sling and range of motion exercises with physiotherapy supervision are commenced. In some instances when the repair is tight (because of retraction) the arm will take several weeks to straighten out while the repair heals and it is important not to force the arm during this period. While the tendon heals we advise only minimal lifting with the operated arm for around 6 weeks and to aim for return to heavy work or sports by 3-6 months.

What are the risks of surgery?

The main risk of surgery is damage or stretching of one of the nerves that crosses the elbow. It is not uncommon for patients to experience some transient numbness in the outer aspect of the forearm because of stretching of the lateral cutaneous nerve of the forearm. Less commonly (2%) the posterior interosseous nerve may be affected. This nerve is responsible for straightening of the fingers and thumb. If this nerve is injured your surgeon may recommend surgical exploration of the nerve. However, the natural history is that the nerve recovers function in the vast majority of cases, although this process may take around 6 months.

Other uncommon risks (1-2%) include heterotopic ossification (new bone formation in the soft tissues), infection, fracture of the radius bone and re-rupture of the repaired tendon.

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