

Patient Information

Distal Biceps Tendon Repair

Biceps Tendon Tear at the Elbow

The biceps muscle is located in the front of your upper arm. It is attached to the bones of the shoulder and elbow by tendons — strong cords of fibrous tissue that attach muscles to bones.

Tears of the biceps tendon at the elbow are uncommon. They are most often caused by a sudden injury and tend to result in greater arm weakness than injuries to the biceps tendon at the shoulder.

Once torn, the biceps tendon at the elbow will not grow back to the bone and heal. Other arm muscles make it possible to bend the elbow fairly well without the biceps tendon. However, they cannot fulfill all the functions of the elbow, especially the motion of rotating the forearm from palm down to palm up. This motion is called supination.

To return arm strength to near normal levels, surgery to repair the torn tendon is usually recommended. However, nonsurgical treatment is a reasonable option for patients who may not require full arm function.

Anatomy

The biceps muscle has two tendons that attach the muscle to the shoulder and one tendon that attaches at the elbow. The tendon at the elbow is called the distal biceps tendon. It attaches to a part of the radius bone called the radial tuberosity, a small bump on the bone near your elbow joint.

Biceps tendon tears can be either partial or complete.

Partial tears. These tears damage the soft tissue but do not completely sever the tendon.

Complete tears. A complete tear will detach the tendon completely from its attachment point at the bone.

In most cases, tears of the distal biceps tendon are complete. This means that the entire muscle is detached from the bone and pulled toward the shoulder.

Other arm muscles can substitute for the injured tendon, usually resulting in full motion and reasonable function. Left without surgical repair, however, the injured arm will have a 30% to 40% decrease in strength, mainly in twisting the forearm (supination).

Rupture of the biceps tendon at the elbow is uncommon. It occurs in only three to five people per 100,000 each year, and rarely in women.

Cause

The main cause of a distal biceps tendon tear is a sudden injury. These tears are rarely associated with other medical conditions.

Surgery

Surgery to reattach the tendon to the bone is necessary to regain full arm strength and function.

Surgery to repair the tendon should be performed as soon as possible after injury. From six weeks after your injury, the tendon and biceps muscle begin to scar and shorten, and restoring arm function with surgery may not be possible. While other options are available for patients requesting late surgical treatment for this injury, they are more complicated and generally less successful. If necessary your tendon may need to be reconstructed using allograft tendon from another person.

What happens before I come into hospital?

This information will help you prepare for admission to hospital. Treatment is always planned on an individual basis so your experience may differ slightly from the information given.

Dr Ratahi operates at both Kensington Hospital and Northland Orthopaedic Centre. If you do not go home on the day of your surgery, it will be done at Kensington Hospital.

All our staff are friendly and available to help answer any questions that you may have at any stage of your treatment.

Pre-assessment

If there are concerns around your fitness for an anaesthetic you may be asked to attend a pre-assessment. This is a medical examination made by the anaesthetist who works with Dr Ratahi to make sure you are well enough for surgery.

Transport

Patients are responsible for their own transport to and from the hospital. You will be informed of your admission and discharge date in advance so that you can arrange for a relative, friend or taxi to transport you.

What happens on the day of surgery?

On the morning of your surgery you will be greeted by the staff at the hospital reception on your arrival. Before being taken to the theatre suite you will be greeted by the nursing staff who will be looking after you and ask you to change into a hospital gown to get you prepared for theatre. You will be assessed by Dr Ratahi and the anaesthetist to perform a final check that you are fit for surgery and answer any questions you may have. You will be asked to sign a form giving your consent to the operation. You will then go to theatre, accompanied by a nurse where your personal details and the operation will be confirmed before you are given an inter-scalene nerve block and a general anaesthetic.

Inter-scalene Nerve Block

An inter-scalene block is an injection of local anaesthetic around the nerves that supply your arm. The purpose of the injection is to provide pain relief for the operation. When you wake up from the general anaesthetic the shoulder and upper arm will be numb. Inter-scalene block is offered for shoulder surgery because it is the best form of pain relief for this procedure in the first 24 hours

after the operation. It is important that you are aware that it is not the only method for providing pain relief for this type of operation and also that it does not affect what the surgeon will do. Your anaesthetist will discuss the pros and cons of this procedure as well as the possible complications and alternatives with you on the day.

The Procedure

There are several different procedures to reattach the distal biceps tendon to the forearm bone. Dr Ratahi prefers to use one incision at the front of the elbow.

The tendon (or graft) is attached with stitches through holes drilled in the radius bone. The stitches are held in place by a small metal button.

Complications: Surgical complications are generally rare and temporary.

- Numbness and/or weakness in the forearm can occur and usually goes away.
- New bone may develop around the site where the tendon is attached to the forearm bone. While this usually causes little limitation of movement, sometimes it can reduce the ability to twist the forearm. This may require additional surgery.
- Although uncommon, the tendon may re-rupture after full healing of the repair.

Rehabilitation

Right after surgery, your arm will be immobilized in a sling.

After seeing Dr Ratahi at 3 weeks following your operation you will begin physical therapy to gradually increase your motion and strength.

Since the biceps tendon takes over 3 months to fully heal, it is important to protect the repair by restricting your activities.

Light work activities can begin soon after surgery. But heavy lifting and vigorous activity should be avoided for several months.

Although it is a slow process, your commitment to your rehabilitation plan is the most important factor in returning to all the activities you enjoy.

Surgical Outcome

Almost all patients should eventually regain full range of motion and strength.

After time, return to heavy activities and jobs involving manual labor is a reasonable expectation.

Important Information and Disclaimer – Outcome of Surgery

The goals of surgery are discussed with you prior to the procedure; however, it is important to understand that these goals cannot be guaranteed in every case. In particular, improvement in pain levels may not be achieved, and in some cases symptoms may persist or change despite surgery.

Surgical outcomes may vary depending on individual factors, the nature of the condition, and findings at the time of surgery.

While imaging studies (such as MRI or CT scans) are an important part of preoperative assessment, they do not always fully reflect the condition of the tissues. Findings at surgery may differ from those reported on imaging, and intraoperative findings will guide final decision-making and treatment.