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Arthroscopic Decompression for Patellar Tendonitis: Physiotherapy and Rehabilitation

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Introduction

Patellar tendonitis is a condition in which the upper end of the patellar tendon at the lower pole of the patella becomes inflamed. This often results from excessive sport or driving. Jumping, running and soccer are particular problems. Physiotherapy (eccentric exercises) and non-steroidal anti-inflammatory drugs (NSAID's) may be helpful but is commonly ineffective in allowing a full return to sporting activity.

Aetiology / Anatomy

The patellar tendon is the tendon below the knee that connects the patella (knee cap) to the tibia (shin bone). Patellar tendonitis is a condition caused by an impingement of the inferior tip or pole of the patella impinging into the posterior superior aspect of the patella tendon repetitively. This is usually associated with impact type sports such as jumping, running and soccer.

Symptoms on presentation

Patients usually complain of pain or an ache in relation to the inferior pole of the patella which occurs during or after sporting activities. There is usually only slight swelling, the knee itself is not affected and stiffness is not a general feature of the condition.

Physiotherapy treatment

The initial treatment should always consist of stretching exercises to the hamstring and calf muscles that are often tight restricting movement. Drug treatment should include non-steroidal anti-inflammatory drugs (NSAID's) which may be helpful. Often a rest from sport will ease the condition. If using these measures allows the condition to settle then sport can be gently and gradually resumed. Ice should be used after exercise to cool the affected area and to help avoid swelling of the area. If the symptoms return then further measures are necessary.

Formal physiotherapy includes stretching exercises to the hamstrings, calf and back muscles. Static strengthening of the quadriceps muscle and the Vastus medialis part of this muscle should be undertaken. Electrotherapy or ultrasound is commonly used but the results from this are variable. Massage of the tender area is used by some practitioners. The only validated effective treatment is that of eccentric quadriceps exercises. These take the form of repetitive lunging exercises onto the painful knee. These exercises can be associated with pain. The reported results show that over a long period at least 44% of patients are helped.

Surgical treatment

The arthroscopic treatment of patellar tendonitis was first described by David Johnson MD in 1994. Since that time the technique has been adopted around the world and is generally regarded as the procedure of choice. Arthroscopy is used rather than open surgery as this results in as little disruption to the knee as possible. As compared to the traditional method of opening the knee are removal of part of the patella or tendon the arthroscopic technique is associated with a minimum of post-operative pain and with a rapid return of function. However, arthroscopic decompression of the patellar tendon is more a more painful procedure than a simpler meniscectomy or cartilage operation. The knee tends to be a little more swollen and the soreness lasts for 2-3 weeks rather than days. Patients can generally return to work in 3 to 7 days, and to driving at the same time if patients consider themselves to be safe to drive.

Post-operation rehabilitation

a) In patient

Following the operation you usually wake up without or with only modest pain because local anaesthetic is inserted into the joint at the end of the procedure. This may wear off after 4 - 6 hours. Medication to relieve pain and/or inflammation may be prescribed. By the following morning the leg is usually comfortable whilst taking only regular anti-inflammatory medication. Generally only a few hours after your operation you will be able to get around walking without too much difficulty and sometimes with crutches. Most arthroscopic surgery patients can be discharged from hospital later the same day as a "Day Case". Sometimes when extensive surgery is performed or operations preformed simultaneously on both legs, patients are kept in hospital overnight.

b) Out patient

After patients go home, they should keep bending and lifting the knee in order to strengthen the muscles and regain movement.

A tubigrip elasticated support should be worn for 7 - 10 days. The wound if dry and the sutures have been removed or dissolved then the wound can be washed, and pool exercises can be begun.

Patients should undertake straight leg raising exercises regularly after surgery to strengthen the muscles. If the leg is kept straight when undertaking these exercises, the muscles can be strengthened without moving the knee, aggravating the operation site or causing excessive discomfort. More gentle range of motion exercises should be undertaken to ensure that the knee does not become stiff.

c) Gym and field work

Initially static cycling type exercises and gentle swimming can generally be started around 6 weeks after surgery. However this should be dependent upon the symptoms experienced and the degree of tenderness. If the knee remains swollen or there is significant tenderness around the inferior pole of the patella then progression should be delayed. Return to normal swimming, cycling and weight training can usually be undertaken at the 9 week mark and a return to jogging thereafter only if there is no swelling or tenderness around the patella. NSAID's may be occasionally necessary to avoid any stiffness or swelling in the recovery period.

d) Long term exercises

In the long term exercises should be continued. These include stretching of the calf and hamstring muscles. Regular weight training to keep the quadriceps muscle strong should also be performed.

Success of Arthroscopic Decompression for Patellar Tendonitis

The long term success of the procedure has been reported to be 100% in terms of improvement in the symptoms experienced with 94% of patient being able to return to some sporting activities. As with any procedure there are some potential complications. Generally with arthroscopy these are less than 1% of procedures but may be a failure of the procedure, persistent pain, infection, thrombosis or anaesthetic problems. Arthroscopy is generally one of the most common, most successfully and safe procures undertaken.

Further information

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