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Achilles Tendinopathy: Advice and Management

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Department of Sport and
Exercise Medicine

Are we speaking your language?

If you would like information in another language or format please call 01865 738126.

Albanian

Në se e doni këtë dokument në një gjuhë tjetër, ju lutem telefononi Zyrën e Shërbimit Këshillimor dhe Ndërlidhës për Klientët (PALS) në: 01865 738126.

Bengali

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Chinese

如果你需要這文件以別的語文提供，請致電我們的病人諮詢聯絡服務 (PALS) 電話：01865 738126。

Gujarati

જો તમને આ દસ્તાવેજ કોઈ બિજા ભાષામાં જોઈતું હોય તો મહેરબાની કરીને અમારો પાલસ ઓફિસને (PALS Office) 01865 738126 ઉપર ફોન કરો.

Hindi

अगर आपको यह पत्रिका दूसरी भाषा में चाहिये कृपया हमारे पी ए पेल ऐस(PALS) ऑफिस के साथ 01865 738126 पर सम्पर्क कीजिये।

Polish

W celu uzyskania niniejszego dokumentu w innym języku należy dzwonić do Biura Doradztwa i Pomocy Pacjentom (The Patient Advice and Liaison Service – PALS) pod numer 01865 738126.

Punjabi

ਜੇ ਤੁਹਾਨੂੰ ਇਹ ਦਸਤਾਵੇਜ਼ ਹੋਰ ਭਾਸ਼ਾ ਵਿੱਚ ਚਾਹੀਦਾ ਕਿਰਪਾ ਕਰਕੇ ਸਾਡੇ ਪੈਲਸ (PALS) ਦਫਤਰ ਨੂੰ 01865 738126 ਉੱਤੇ ਟੈਲੀਫ਼ੋਨ ਕਰੋ

Urdu

اگر آپ کو یہ دستاویز کسی دوسری زبان میں درکار ہے تو برائے مہربانی ہمارے پالز (PALS) کے دفتر سے اس نمبر پر رابطہ کریں۔ 01865 738126

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This booklet has been designed to help guide you through the management of your Achilles tendinopathy. It is important that you read this booklet so that you have a better understanding of the condition and its management.

Prevalence of Achilles tendinopathy

Achilles tendinopathy is a relatively common soft tissue injury that can affect both athletes and non athletes. It is more common in people who participate in sports that predominantly involve running such as football, tennis, volleyball, badminton, middle and distance running. Achilles tendinopathy affects people of all ages and both men and women.

What causes Achilles tendinopathy?

The cause of Achilles tendinopathy still remains unclear. There are many factors that can lead to Achilles tendinopathy. A tendinopathy occurs when the tendon is unable to adapt to the strain being placed upon it. This leads to microdamage within the tendon fibres, and results in the tendon attempting to heal in response to the strain.

Many things affect the load being put through the tendon. It is not simply the result of exercising too much.

These may be:

- Age: More common in middle aged people.
- Gender: More common in the male population.
- Weight: Higher than average body weight.
- Diabetics: Increased risk of developing a tendinopathy.
- Tight and/or weak calf muscles.
- Poor endurance of the calf muscles.
- Poor core stability around the hip/knee.
- Stiff joints in the foot.

Training issues

These are thought to be the most common cause for developing Achilles tendinopathy.

Common training errors:

- Running too far.
- Running at a too high an intensity.
- Increasing running distances too soon.
- Lack of variation in training.
- Poor footwear.
- Too much hill running.
- For training tips please refer to page 17

Change in terminology

The term 'Achilles tendonitis' was used to describe this condition. The suffix 'itis' from the word *tendonitis* suggests that the Achilles tendon was inflamed. Recent studies have shown that there are no signs of inflammation but in fact show degenerative changes within the tendon. Achilles tendinopathy is now considered a more appropriate term. The term *tendinosis* describes the changes that are seen under a microscope. You may hear the doctor use the terms tendinosis or tendinopathy, but these terms are interchangeable.

Imaging

Commonly an Ultrasound Scan is used to confirm the diagnosis of Achilles tendinopathy. This is a quick, safe and effective way of visualising the tendon. Magnetic Resonance Imaging (MRI) can also be used but is a more time consuming scan and not as readily available as Ultrasound. Imaging is not always necessary. Achilles tendinopathy is often diagnosed on clinical findings alone.

Common symptoms associated with Achilles tendinopathy

The most common symptoms that people complain of when presenting with an Achilles tendinopathy are:

- i) **Morning stiffness:** Many people complain of stiffness around the tendon on rising in the morning which usually resolves after a few minutes of walking. In some cases the stiffness may last longer.
- ii) **Tenderness over the Achilles tendon:** Often the tendon is very tender to touch when gently squeezed. In some cases there may be a tender lump and/or audible clicking from the tendon on moving the ankle.
- iii) **Variable pain:** Some people can 'exercise' through the pain. This means that the pain settles during exercise but after resting the pain may increase. Some people can experience severe pain from the Achilles tendon which stops them doing their sport.

Simple pain relief

Ice: Applying ice wrapped in a damp tea towel to the tendon helps reduce pain. Apply for 20 minutes, 4 times a day or after exercise.

Simple pain killers: Paracetamol or anti-inflammatories such as Ibuprofen or Diclofenac.

Relative rest: Maintain fitness using different forms of exercise but resting the tendon e.g. Swimming, cycling, aqua running

Stretching calf muscles: (see page 9).

Eccentric exercise program: to strengthen and lengthen the calf muscle. This forms the main component of the rehabilitation programme (see page 7).

Eccentric exercise programme.

Treatment

The eccentric exercises can take between 3 to 6 months to significantly improve your symptoms. In some cases it may happen more quickly. Approximately 70% of people are able to return gradually to their sport at around 3 months.

It is very important to note that during the eccentric exercise program you may experience an increase in pain but this will reduce as you continue your rehabilitation

A reduction in morning stiffness is usually the first symptom to improve. Pain or tenderness on the tendon is usually the last symptom to go.

When doing the eccentric exercises, do expect an increase in pain especially when progressing to each phase of the exercise program but this should not go beyond what you perceive to be **4 out of 10**. This is based on a scale from '0', being no pain to '10' being worst pain imaginable.

The eccentric exercise program is the 'gold standard' for treatment of this condition. However, it is estimated that between 10% and 30% of patients will not respond to this treatment. If this is the case then you will be referred back to oxsport@noc for a review and alternative treatments can be discussed with your doctor.

Your physiotherapist may also combine additional treatments to assist your progress.

Guidelines to the eccentric exercise programme

There are some important guidelines to observe whilst performing the exercises.

- You may experience an increase in pain from the outset of the eccentric programme. This is normal and should soon settle.
- While doing the eccentric exercises; if your perceived pain increases beyond 4 out of 10 ('0' is no pain and '10' is worst pain you can imagine) then you will need to reduce your repetitions or use the guidelines mentioned on page 6 for pain relief, until your pain becomes less than 4 out of 10. You can then resume your exercise programme.
- This programme should be done daily for at least 12 weeks. Although you may not feel any benefits from this exercise programme initially it is important to persevere.
- Morning stiffness is usually the first symptoms to improve while tenderness over the tendon is usually the last symptom to resolve.
- If your morning stiffness becomes prolonged as a result of doing the exercises, you will need to reduce your repetitions until this settles down,. If reducing your repetitions does not help, try resting.

Stretches

Stretching LEFT Soleus Muscle



Hold the stretch for 1 minute.
You should feel a stretch at the back of your calf muscle
DO NOT let your heel come off the ground

Stretching RIGHT Gastrocnemius muscle



Hold the stretch for 1 minute
You should feel the stretch at the back of your calf muscle
DO NOT let your heel come off the ground

To stretch the opposite leg, swap leg positions as shown above.

The Eccentric Program

Phase 1: Tiptoes with knee straight



Stand on both feet. Use your GOOD leg to raise up onto tiptoes. Transfer your weight across to your BAD leg and lower yourself down. Repeat.

Aim for 3 sets of 15 repetitions

TWICE a day

Phase 1: Tiptoes with knees bent



Stand on both feet. Use your GOOD leg to raise up onto tiptoes. Transfer your weight across to your BAD leg and lower yourself down. Repeat.

Aim for 3 sets of 15 repetitions

TWICE a day

Progress to phase 2 when these exercises become easier.

Phase 2: Unilateral tiptoes, knee straight.



Stand on both feet. Use your GOOD leg to raise up onto tiptoes, transfer your weight across to your BAD leg and lower yourself down. Repeat.

Aim for 3 sets of 15 repetitions,
TWICE a day.

Phase 2: Unilateral tiptoes, knee bent.



Stand on both feet. Use your GOOD leg to raise up onto tiptoes, transfer your weight across to your BAD leg and lower yourself down. Repeat.

Aim for 3 sets of 15 repetitions
TWICE a day.

Progress to phase 3 when these exercises become easier

Phase 3: Unilateral heel drops, knee straight, over edge of a step



Stand on both feet. Use your GOOD leg to raise up onto tiptoes, transfer your weight across to your BAD leg and lower yourself down, (see picture below). Repeat.

Aim for 3 sets of 15 repetitions

TWICE a day

Phase 3 : Unilateral heel drops, knee straight, over edge of a step



The end position.

Aim for 3 sets of 15 repetitions

TWICE a day

To progress this phase, you can wear a rucksack with books in to increase the weight and load through the tendon.

Phase 3: Unilateral heel drops, knee bent, over edge of a step



Stand on both feet. Use your GOOD leg to raise up onto tiptoe, transfer your weight across to your BAD leg and lower yourself down, (see picture below). Repeat.

Aim for 3 sets of 15 repetitions.

TWICE a day.

Phase 3: Unilateral heel drops, knee bent, over edge of a step



The end position.

Aim for 3 sets of 15 repetitions.

TWICE a day.

To progress this phase, you can wear a rucksack with books in to increase the weight and load through the tendon.

FAQs

Q. What is an eccentric exercise programme?

A. There are two types of muscle contraction, concentric and eccentric. Concentric muscle action is where a muscle shortens while doing work, for example lifting a weight in your hand by bending your elbow shortens the bicep muscle. Eccentric muscle action is the opposite of concentric for example when lowering a weight in your hand by straightening your elbow you will notice the bicep muscle lengthening as the weight is lowered. This translates to the ankle in that when you rise up on tiptoes the calf muscle shortens (concentric) and as you lower yourself down from tiptoes, the calf muscle lengthens (eccentric).

Q. Is there a risk that my tendon will rupture while doing my exercises?

A. There is no evidence that the tendon is at risk of rupture while doing these exercises.

Q. Will I be able to return to my sport?

A. If you respond to the eccentric programme then there is no reason why you cannot return to your sport without pain

Q. When can I go back to my sport?

A. The return to your sport is guided by your symptoms and your sport. We advise a gradual return to your sport. You may be de-conditioned and you should remember that the primary cause of a tendinopathy is commonly thought to be due to overuse and training errors

Q. Can I still run during my rehabilitation phase?

A. There is no evidence that you will do yourself further harm. You can run providing there is little discomfort. However, you may prolong your rehabilitation as running may aggravate your pain. You may want to consider alternative forms of exercise such as swimming or cycling to maintain your cardiovascular fitness.

Q. Will I always have to do my exercise programme?

A. Not normally. If you find your symptoms returning then it is advisable to return to your exercise programme initially.

However if your symptoms do not improve then see your GP.

Q. What happens if I do not respond to the eccentric exercise programme?

A. Between 10%-30% of patients do not respond to the eccentric programme. In the event that you do not respond to the exercise programme you can either email us at oxsport@noc.nhs.uk or your physiotherapist will refer you back to our clinic. There are alternatives that can be explored and these will be discussed with you at your appointment.

Q. Is surgery better than an eccentric programme?

A. Surgery tends to be the last resort when all other modalities have failed. It is not guaranteed to relieve your symptoms.

Q. Will I benefit from a steroid injection into the tendon?

A. There is evidence to suggest that there is a risk of the tendon rupturing following a steroid injection so it is not encouraged. Steroid injections are used for inflammatory conditions and there is no evidence of inflammation within the tendon.

Helpful tips for training

- Increase your running distance or time by 10% each week.
- Renew your trainers every 300 to 500 miles. Consider having two pairs of trainers 'on the go' at the same time.
- Vary your training. Combine different speeds, distances and times during your training period. This will allow the tendon to adapt to the loads placed upon it.
- Plan your training regime. Use websites such as www.runnersworld.co.uk for advice on training tips.
- Make training more fun. Vary your exercise in different ways to train other parts of your body. This is termed 'cross training' and is a valuable method of reducing injury by distributing the loads placed upon your body.

Here are some examples of cross training that you may find useful:

- Swimming
- Spin classes
- Pilates
- Circuits
- Gym equipment
- Rowing
- Weight training
- Aerobics
- Alternative sport
- Cycling

Contact Details

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If you have any problems or questions
at any stage throughout your rehabilitation
please do not hesitate to ask your
Physiotherapist for advice.

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