

Patient information from the BMJ Group

Heel pain

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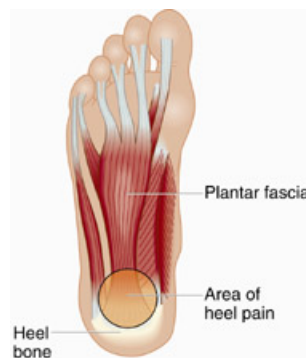
Heel pain

Heel pain can make it difficult for you to get on with your normal life. But it usually clears up on its own. Exercises and treatments might help too.

We've brought together the best research about heel pain and weighed up the evidence about how to treat it. You can use our information to talk to your doctor and decide which treatments are best for you.

What is heel pain?

Heel pain is a soreness or tenderness on the sole of your foot.



Doctors aren't sure why some people get a sharp pain in their heel when they stand up.

You will probably feel a sharp pain when you first stand up.^[1] After you've been standing for a while this might become more like a dull ache. The pain might spread from your heel to the arch of your foot.

Doctors call this type of heel pain **plantar fasciitis**. It means inflammation of the covering of a muscle (fascia). The **plantar fascia** is a band of tissue (a bit like a rubber band) that stretches from your heel to the ball of your foot. If the band is short, you'll have a high-arched foot. If the band is longer, your foot will have a low arch and you'll probably have flat feet. A pad of fat in your heel covers the plantar fascia to help absorb the shock when you walk.

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Older people are more likely to get heel pain than children and young adults.^[2] This might be because your plantar fascia may not stretch so well as you get older. Instead of being flexible like a rubber band, it can become stiffer like a rope.

The fat pad on the heel may also get thinner and not absorb so much of the shock as you walk, which might damage the plantar fascia. A spur of bone may sometimes grow where the plantar fascia joins your heel bone. This might make your heel painful.

Some people think their heel hurts because the plantar fascia is inflamed from too much heavy pounding (for example, from jogging on concrete). But doctors aren't really sure why some people get a pain in their heel.^[2]

What are the symptoms of heel pain?

Heel pain can feel like a knife or a pin sticking in the bottom of your foot.

The pain is usually worse when you first stand up. After standing for a while, the pain may become more like a dull ache.

Plantar heel pain causes soreness and tenderness only on the heel of your foot.^[3] You don't feel a pain on the back of your heel with this sort of heel pain. The pain often spreads from the centre of your heel and continues along the rubber band-like tissue (the plantar fascia) that runs along the bottom of your foot. The inside of the arch of your foot may ache.

Your heel pain may just be an irritation that you notice when you first get up. Or the pain can be severe enough to stop you doing the things you normally would.

How common is heel pain?

About 1 in 10 people may get a pain under their heel at some time during their life.^[2]

You're more likely to get heel pain when you're middle-aged or older.^[2]

What treatments work for heel pain?

The pain in your heel should go away by itself with time.

Until then you may find you're in a lot of pain and want some treatment. There are different things you can try, but we don't really know how much they will help.

- You can try a warm footbath or take a painkiller, to see if it helps.
- You might want to rest your foot. And stick to sports that don't involve putting too much weight on your foot, such as cycling and swimming.
- Wearing specially made insoles to support your foot may reduce pain and make it easier to move around.

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- Having your heel taped up may also help to reduce pain, although we're not sure how long the benefit will last.
- Doing exercises to stretch your plantar fascia (the band of tissue connecting your heel to the ball of your foot) may help.
- Other treatments include lasers, night splints, ultrasound, corticosteroid injections, and shockwave therapy. But there's not much evidence that these treatments work for heel pain.

Treatment Group 1

Treatments for heel pain

Treatments that are likely to work

- [Taping](#)

Treatments that need further study

- [Custom-made insoles](#)
- [Heel pads and heel cups](#)
- [Lasers](#)
- [Night splints plus nonsteroidal anti-inflammatory drugs \(NSAIDs\)](#)
- [Stretching exercises](#)
- [Fasciotomy \(surgery\)](#)
- [Ultrasound](#)
- [Shockwave therapy](#)
- [Corticosteroid injections](#)

What will happen to me?

Your heel pain should get better by itself.^[2] But it may take several months for you to get back to normal. Some people have heel pain that doesn't go away for a few years.

There was a survey of 100 people who had been treated for heel pain four years before.^[4] It found that:

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- 82 no longer had heel pain
- 15 still had heel pain, but this didn't stop them working or being active
- 3 had bad heel pain that stopped them doing things.

About a third of the people in the survey said their heel pain had felt so bad that they would have considered surgery at the time.

Treatments:

Custom-made insoles

In this section

A podiatrist (a health care professional who specialises in foot, ankle, and leg problems) can have an insole made to fit your foot. This can give your foot some support and reduce pressure on your heel.

It's not clear from the research whether custom insoles help with heel pain or not.^[5] The research says that custom insoles:

- Don't seem to be any better than dummy insoles used for comparison in tests
- Don't seem to be any better than [night splints](#) . However, using both insoles and splints might help to reduce heel pain
- Might not work any better than ready-made insoles.
- Don't seem to be any better than having your foot manipulated and doing [stretching exercises](#) .

Most studies didn't say whether custom-made insoles were harmful in any way. Possible problems include more foot pain, an unstable ankle, and skin irritation.^[5]

Taping

In this section

A podiatrist (a health care professional who specialises in foot, ankle, and leg problems) can strap your heel using tape. The aim is to support the foot so that you can move about more easily with less pain.

Two studies have found that taping can help to reduce pain, but we don't know how long this benefit lasts.^[6] ^[7] In one study, taping helped for the first week but had no effect after that.^[6]

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Some people found that the tape was put on too tight or caused pain in their leg. Some were allergic to the tape.^[6] All these problems went away once the tape was removed.

Heel pads and heel cups

In this section

You can get a pad that goes under your heel or a cup that fits around your heel for cushioning and support. A podiatrist (a health care professional who specialises in foot, ankle, and leg problems) can tell you what sort might suit you best. Or you can buy cushioning for shoes in a pharmacy. Heel cups and heel pads can be made in different materials, such as rubber, felt, foam, elastic, sponge, and silicone.

We don't know if heel pads and heel cups really help pain. The results of the research are unclear, as wearing a heel pad is often combined with other treatments.

One study (a **randomised controlled trial**) found that wearing a silicone, rubber, or felt heel pad and doing [stretching exercises](#) reduced heel pain more than just doing exercises for eight weeks.^[2] Another study found that an [injection of corticosteroids plus local anaesthetic](#) reduced heel pain more than heel pads.^[2]

There's no evidence that wearing a heel pad or cup (inside your shoe) can do any damage.

Lasers

In this section

One small study (a **randomised controlled trial**) found no evidence that laser treatment relieves pain any better than a dummy treatment (a **placebo**). A **physiotherapist** might use a laser to treat your sore heel.^[2]

None of the people in the study had serious side effects, but a few people felt a mild sensation when treated with a laser.

Night splints plus nonsteroidal anti-inflammatory drugs (NSAIDs)

In this section

You can wear a splint at night to support your foot at an angle that might relieve your heel pain. A podiatrist (a health care professional who specialises in foot, ankle, and leg problems) can advise you on the type of splint that might help.

One study (a **randomised controlled trial**) found that people who wore a night splint for three months had just as much heel pain as those who didn't wear a splint.^[2] All the people who took part in the study also took painkillers called nonsteroidal anti-inflammatory drugs (**NSAIDs**) and did exercises to strengthen their ankle.

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The research doesn't say if wearing a night splint could be harmful.

Stretching exercises

In this section

There is some evidence that doing exercises to stretch the plantar fascia can reduce pain on the first step. In one study (a [randomised controlled trial](#)), some people did these exercises three times a day for eight weeks. They had less pain than people who did stretching exercises that didn't target the plantar fascia. ^[8]

You can try exercises at home to stretch your plantar fascia (the band of tissue running along the bottom of your foot):

- Sit down and cross your affected leg over your other leg
- Place your fingers across the base of your toes
- Pull the toes back until you feel a stretch in the arch of your foot.

But more research is needed to find out how much stretching exercises help with heel pain and if there are any risks. Many studies combine stretching exercises with other treatments, such as wearing [heel pads](#) or [custom-made insoles](#). So it's difficult to know how well exercises alone work.

The studies showed that stretching exercises combined with wearing a heel pad or custom-made insole relieved heel pain more than just doing the stretching exercises. ^[2]
^[9]

Fasciotomy

In this section

You might think about having surgery if your heel pain is severe and hasn't gone away after trying other treatments. But there's not enough research to tell us if having an operation can stop your heel hurting. We didn't find any good-quality studies ([randomised controlled trials](#)).

Surgery for heel pain is rarely done in the UK. But in the US, a surgeon may cut away a small part of the plantar fascia near the heel to release tension in the tissue that could be causing your heel pain. This operation is called a **fasciotomy**. You can have a fasciotomy using keyhole surgery, which involves tiny cuts in the skin and an instrument called an endoscope with a camera attached. Another operation is called **osteotripsy**. During this procedure the surgeon also files away a spur of bone on your heel.

There is a risk of serious problems (complications) with surgery for heel pain. ^[10] More than 1 in 3 people who have a fasciotomy using open surgery (through large cuts) have

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problems, such as more pain, nerve damage, and infection . With keyhole surgery, less than 1 in 5 people get these complications.

Ultrasound

In this section

One small study found that ultrasound treatment did not help people with heel pain. ^[2] Ultrasound uses sound waves to treat muscle pain and aches.

We don't know if ultrasound can be harmful, because the research didn't look at this. More studies are needed to find out if ultrasound can help heel pain.

Shockwave therapy

In this section

Shockwave therapy directs strong sound waves at your heel with a special device.

One good-quality summary of the research (a systematic review), which included almost 900 people, showed that shockwave therapy reduced heel pain by only a small amount. ^[11]

However, a more recent summary of the research suggests that shockwave therapy may lead to sizable improvements for people who've had heel pain for a while. ^[12] It looked at seven studies with more than 650 people who'd had heel pain for at least three months, despite having other treatments (but not surgery). Those who had shockwave therapy were more likely to have their pain improve by at least 60 percent, compared with those who had a dummy (placebo) treatment. And the improvements with shockwave therapy seemed to last, with people still having less heel pain 12 weeks and 12 months later.

Shockwave therapy does have risks and can be painful if you don't have a local anaesthetic . Eight out of 10 people in one study said it was painful. ^[13] The treatment might make you feel numb or produce a hot, burning sensation in your heel and ankle. ^[14] Common side effects include swelling or skin reddening around your heel. ^[15] Some people have also complained of dizziness, nausea, disturbed sleep, bleeding under the skin, and hair loss.

Corticosteroid injections

In this section

We don't know if corticosteroid injections improve heel pain, because there hasn't been much research. (Corticosteroids are often called steroids for short. They are not the same as the anabolic steroids used by some athletes and bodybuilders. They are similar to natural hormones produced in the body to deal with inflammation.)

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You may feel less heel pain in the weeks after an injection into your plantar fascia (the band of tissue connecting your heel to the ball of your foot). One study (a [randomised controlled trial](#)) found that people who had a corticosteroid injection had less pain after six weeks and after 12 weeks, compared with people who had a dummy (placebo) injection. But we need more studies to confirm this. ^[16]

Corticosteroid injections usually contain one of these corticosteroids: methylprednisolone, hydrocortisone, or triamcinolone.

An injection into the heel of your foot can hurt, so the corticosteroid is usually combined with a [local anaesthetic](#).

Some studies have found that a combination injection that contains corticosteroids and a local anaesthetic reduces heel pain more than other treatments ([heel pads](#) or the combination injection plus a heel pad). But the difference between treatments may be only slight, so it might not mean that much to patients. ^[2]

There is a risk that your plantar fascia will rupture (burst) if you have a corticosteroid injection. ^[17] ^[18] In one study, this happened to 1 in 10 people. ^[18] The rupture might happen suddenly or come on gradually. It can take up to one year to occur. The rupture may relieve your heel pain, but you'll probably get other long-term foot problems.

You may get other complications from a corticosteroid injection, including infection, change in skin colour, nerve injury, and muscle damage. ^[19]

Further informations:

Glossary:

inflammation

Inflammation is when your skin or some other part of your body becomes red, swollen, hot, and sore. Inflammation happens because your body is trying to protect you from germs, from something that's in your body and could harm you (like a splinter) or from things that cause allergies (these things are called allergens). Inflammation is one of the ways in which your body heals an infection or an injury.

randomised controlled trials

Randomised controlled trials are medical studies designed to test whether a treatment works. Patients are split into groups. One group is given the treatment being tested (for example, an antidepressant drug) while another group (called the comparison or control group) is given an alternative treatment. This could be a different type of drug or a dummy treatment (a placebo). Researchers then compare the effects of the different treatments.

placebo

A placebo is a 'pretend' or dummy treatment that contains no active substances. A placebo is often given to half the people taking part in medical research trials, for comparison with the 'real' treatment. It is made to look and taste identical to the drug treatment being tested, so that people in the studies do not know if they are getting the placebo or the 'real' treatment. Researchers often talk about the 'placebo effect'. This is where patients feel better after having a placebo treatment because they expect to feel better. Tests may indicate that they actually are better. In the same way, people can also get side effects after having a placebo treatment. Drug treatments can also have a 'placebo effect'. This is why, to get a true picture of how well a drug works, it is important to compare it against a placebo treatment.

physiotherapist

A physiotherapist is a health professional who is trained to use physical activity and exercises to help people's bodies heal.

NSAIDs

NSAID stands for nonsteroidal anti-inflammatory drug. NSAIDs help with pain, inflammation and fever. They are called 'nonsteroidal' because they don't contain any steroids. Aspirin and ibuprofen are both NSAIDs.

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infection

You get an infection when bacteria, a fungus, or a virus get into a part of your body where it shouldn't be. For example, an infection in your nose and airways causes the common cold. An infection in your skin can cause rashes such as athlete's foot. The organisms that cause infections are so tiny that you can't see them without a microscope.

systematic reviews

A systematic review is a thorough look through published research on a particular topic. Only studies that have been carried out to a high standard are included. A systematic review may or may not include a meta-analysis, which is when the results from individual studies are put together.

local anaesthetic

A local anaesthetic is a painkiller that's used to numb one part of your body. You usually get local anaesthetics as injections.

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