

## Vascular Unit

# Why do my legs hurt? - intermittent claudication

The pain you feel in your leg muscles is because your blood circulation does not deliver enough blood to your legs when you are walking. When you stop walking, the blood received by the muscle tissue is adequate for its needs, so after a short while it stops hurting. If you put greater demand on the muscle, such as walking uphill, the muscle needs extra blood, so the pain occurs more quickly.

The name for the cramp-like pain you feel in your leg muscles is **intermittent claudication**. 'Intermittent' means the pain is not there all the time. 'Claudication' is named after the Roman Emperor Claudius, who had a limp.

Intermittent claudication is usually the first sign of **peripheral arterial disease**. This is caused by a build-up of fatty deposits on the inside walls of your arteries. This narrows the hole down the middle of your artery, leaving a smaller space for blood to flow through – this reduces the amount of blood circulating in your legs. The name for this condition is **atherosclerosis**, although it is often known as 'hardening of the arteries'. The fatty deposits are called **atheroma** or **plaques**.

## What causes peripheral arterial disease?

Atherosclerosis usually takes many years to develop. Most patients are, or have been, smokers. Diabetes, high blood pressure, high cholesterol (blood fat levels), diets that are high in fat, a stressful lifestyle and a lack of regular exercise also contribute.



### **Will it get worse?**

Unfortunately, atherosclerosis is naturally progressive, but there are several things you can do to slow down or stop this.

The atheroma causing the narrowing or blockage in your artery will not clear itself, but it is usually possible to reduce the symptoms, such as intermittent claudication, and prevent the atherosclerosis worsening. Most people with intermittent claudication continue with the same, or reduced, symptoms for many years if they are prepared to make a few changes to their lifestyle.

In a few people, the pain may start after walking shorter distances, and you may start to experience **night pain** - pain in your feet in bed at night - when you are in bed. This is a sign that the narrowing in your artery is becoming more severe, or the artery may be blocked completely by the atheroma or a blood clot.

Another sign that the disease is progressing is the development of ulcers (non-healing open sores) on your legs or feet. If these should occur, you may need an angioplasty or bypass operation to improve the blood flow in your leg (see “**What else could be done?**”). If you should develop either night pain or ulcers, please contact the vascular nurse specialist.

Atheroma does tend to build up in arteries throughout the whole body, not just in your legs, so people with peripheral arterial disease do have a slightly higher than usual risk of having a heart attack or stroke - another reason to try to stop the progression of atherosclerosis.

### **What can I do to help myself?**

There is usually a lot that individuals can do for themselves to halt or slow the progress of peripheral arterial disease.

### **If you smoke, you must stop**

Stopping smoking is the most important thing you can do to prevent your problem getting worse. Indeed, other lifestyle changes are likely to be less effective if you do not stop smoking as well. Each time you smoke a cigarette it squeezes up your arteries, making them even narrower. This reduces the amount of blood flowing down your legs and raises your blood pressure. Smoking also prevents your blood carrying as much oxygen as it should, and makes it more likely to clot and block an artery or bypass graft.

Stopping smoking may not be as difficult as you think. Nicotine Replacement Therapy (NRT) from your doctor or local Smoking Cessation team will make stopping smoking much easier. Advice about which type of NRT would support you and ongoing support is available – ask the vascular nurse specialist or your local cessation team at the GP practice or pharmacy.

### **Reduce the fat in your diet**

If you eat a diet which is high in animal fat, it will raise the levels of cholesterol in your blood, which increases the development of atheroma. Lots of fresh fruit and vegetables are beneficial - you should try to eat at least 5 portions each day.

Oily fish provides Omega-3 which is known to reduce cholesterol and prevent further arterial damage. It is also important to keep your weight within normal limits to prevent your legs having to work harder.

You will be prescribed a 'statin' tablet which will reduce your blood cholesterol level and provide some protection against the progression and complications of arterial disease.

### **Do more regular exercise**

Physical activity promotes the growth of smaller blood vessels to bypass the narrowing or blockage in your artery. This will allow you to walk further before the pain starts.

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A purposeful daily walk is the most important exercise. Walk as far as you can without stopping at a comfortable pace. Try to continue until the pain becomes so severe that you have to stop and rest. Continue again when the pain disappears.

Try to get a little farther each day, before you have to stop, even if it's only a few steps more. This is not the same as stop-start walking which you may do at work or when shopping – it's important to keep walking to the point of maximum pain before you stop. See diagram at the end of this information pack for more details on walking.

The vascular nurse may show you simple exercises which you should try to do every day at home, gradually increasing the amount you do.

If you have no heart or breathing problems, you may be able to join a supervised exercise programme for people with intermittent claudication which are held at Atrium Health in Coventry City Centre and at Rugby St Cross Hospital, but this does involve regular weekly attendance.

### **Be sure to take any medication your doctor has prescribed**

You will be advised to take a small daily dose of clopidrogel (75mg). This is to 'thin' the blood, which means there is a lower chance of a clot forming which may block a narrowed artery. If there is a reason why you should not take clopidrogel, aspirin may be prescribed instead.

A 'statin' will be prescribed to provide protection against further arterial disease and lower your cholesterol if necessary.

It is important to have your blood pressure checked regularly, aiming for no higher than 140/90. If you have high blood pressure (**hypertension**), your doctor will prescribe tablets to reduce it. This will reduce your risk of a heart problem or stroke.

### **Be aware of your feet**

By regularly looking closely at your feet, you are more likely to notice any significant changes, such as the development of hard skin or sores which may indicate the start of an ulcer. As the blood supply to your feet and lower legs is reduced, any skin damage will not heal as well as it usually would.

Wash your feet regularly every day and dry them thoroughly. Use this opportunity to look at them, using a mirror if necessary. This is particularly important if you have diabetes, as you may have associated **neuropathy**, or altered sensation, in your feet, which makes you more likely to damage the skin without realising it.

Make sure you have your feet measured before buying new shoes, don't walk around barefoot, and be sure to report any non-healing sores promptly.

### **What else could be done?**

If your disease is more severe, your vascular consultant may feel surgery would be appropriate.

To find out the extent and position of narrowing or blockages in your arteries, you may be given an appointment for tests in the Vascular Laboratory. These may include doppler studies, a treadmill test and an ultrasound scan of your blood vessels. All of these tests are simple and painless, and certainly nothing to worry about.

The vascular consultant will decide whether an **angioplasty** or **open surgery** would be the most appropriate treatment for you.

An **angioplasty** involves having a small tube (catheter) inserted into the affected artery through a very small incision, with a local anaesthetic. A balloon on the end of the catheter is guided into the necessary position under X-ray control and inflated to re-open the artery.

**Open surgery** involves placing a graft (either a vein or man-made material) to bypass the blockage. However, both angioplasty and open

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surgery involve risks as well as benefits – you would need to discuss these with your vascular consultant.

### **It's up to you**

Severe peripheral vascular disease can lead to gangrene and amputation, especially if you continue to smoke. It is important that you think seriously **now** about whether you are prepared to make the few lifestyle changes described in this booklet in order to do your very best to prevent this.

Do not try to make all the changes at once. If you need to stop smoking, concentrate on this initially.


Set yourself achievable goals, perhaps aim to walk to the shops instead of catching a bus – and work towards it **every day**. Make the daily walk and home exercises part of your usual daily routine. Make dietary changes you feel able to maintain initially, aiming to make a healthy diet your usual choice.

Your walking distance will not increase overnight – it may take several weeks or months before you notice any improvement, but it is worth persevering.

# Exercise for Intermittent Claudication

### What is intermittent claudication?

- Leg muscle pain or discomfort during walking
- Usually caused by narrowed arteries



**NICE** National Institute for Health and Care Excellence


**RECOMMENDS EXERCISE**

Supervised exercise classes produce the greatest benefits - ask your doctor or specialist if these are available locally

### Benefits of exercise

- Reduces pain
- Reduces the need for vascular procedures
- Improves heart and vascular health
- Improves mood
- Improves sleep
- Maintains healthy weight

Walk at a speed that you can maintain for 3-10 minutes



to reduce pain and improve fitness

## Walk regularly for exercise

some is good, more is better, make it a habit

### Key recommendations

- Aim to complete 30-60 minutes of walking per session
- Follow the walk-rest-walk pattern (central diagram)
- 3-5 sessions per week


### Further guidance

- Do not fear walking with leg pain – it will not harm you
- Build up gradually – your walking speed and time
- Be patient – it usually takes several weeks of exercise to improve symptoms

### General tips

- Wear comfortable clothing, keep hydrated
- Choose routes with resting places
- Build in variety, involve others, keep it fun
- Do not exercise if you are unwell
- Seek medical advice if you experience chest pain, dizziness or sickness

### Do strengthening and balance activities as well




... on at least 2 days per week  
... to stay strong and reduce the risk of falling

**Where can I find out more information about this condition?**  
The Circulation Foundation: [www.circulationfoundation.org.uk](http://www.circulationfoundation.org.uk)

**Source:**  
Based on the BASES Expert Statement by Tew, Harwood, Ingle, et al. in The Sport and Exercise Scientist, Issue 57 (Autumn 2018), [https://www.bases.org.uk/imgs/autumn\\_2018\\_7801\\_bas\\_expert\\_statement\\_v2\\_569.pdf](https://www.bases.org.uk/imgs/autumn_2018_7801_bas_expert_statement_v2_569.pdf)

**Disclaimer:**  
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## Glossary

### Angioplasty

Treatment using a balloon catheter to open a narrowed artery.

### Atheroma (or plaque)

Fatty material that builds up gradually on the inner lining of artery walls

### Atherosclerosis

The condition which involves the build-up of atheroma, otherwise known as 'hardening of the arteries'

### Hypertension

High blood pressure

### Intermittent claudication

Pain felt in your leg muscles while walking which is relieved when you stop.

### Neuropathy

Altered, reduced sensation in your feet, often associated with diabetes.

### Peripheral arterial disease

The disease in which atherosclerosis affects arteries anywhere in the body except the heart, when it is called cardiovascular disease, or the brain, cerebrovascular disease

### Night pain

Reproducible pain in your feet in bed at night that is relieved with hanging your leg down off the side of the bed

If you would like to discuss the information in this booklet, please contact the Vascular Nursing team on **024 7696 5569** or **024 7696 6914**

We hope that you have found your treatment by the Vascular Services team to your satisfaction. In order to improve our service, we welcome your **comments, compliments** and **complaints** concerning the care that you have received. This can be done by contacting the Vascular Nurses as above or PALS.



Patient Information

## Useful contacts

**PALS (Patient advice and Liaison Service):** 0800 0284203

**Stop Smoking Coventry:** 0300 200 0011      [www.covwarkpt.nhs.uk/](http://www.covwarkpt.nhs.uk/)

**Stop for Life:** 0800 612 4580      [help@stop4life.co.uk](mailto:help@stop4life.co.uk)

**Stop Smoking services:** 024 7696 4760

[stopsmoking.services@uhcw.nhs.uk](mailto:stopsmoking.services@uhcw.nhs.uk)

**Benefit Enquiry Line:** 0800 882200

**Vascular Conditions:** [www.circulationfoundation.org.uk](http://www.circulationfoundation.org.uk) /

[www.vascularsociety.org.uk](http://www.vascularsociety.org.uk)

The Trust has access to interpreting and translation services. If you need this information in another language or format, please contact us on 024 7696 5569 and we will do our best to meet your needs.

The Trust operates a smoke free policy.

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[www.uhcw.nhs.uk/feedback](http://www.uhcw.nhs.uk/feedback)



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