

# Information for patients and carers

## Intermittent Claudication and Peripheral Arterial Disease Risk Factors and Management



This booklet is designed to help you understand more about Peripheral Arterial Disease and Intermittent Claudication – what happens when you have it and how you can manage it.

Peripheral arterial disease is a condition in which there is narrowings of the arteries that carry blood to the legs and arms. The main cause is atherosclerosis. This can also be known as hardening of the arteries.

If you have been diagnosed with peripheral arterial disease, you are at an increased risk of having either a heart attack or a debilitating stroke.

About 20% of people over the age of 60 have peripheral arterial disease. The positive news is that the majority of patients live with, and can manage this condition well, when they follow the recommended guidance.

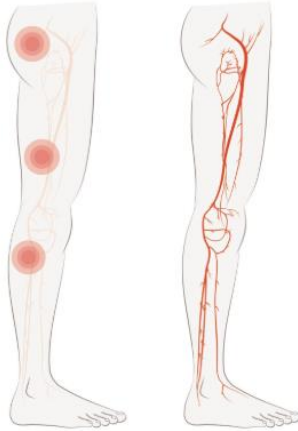
The circulatory system not only supplies your leg and feet with blood, but also your heart and brain. When following the recommended guidance, you also reduce your risk of heart attack and stroke.

## **What is Intermittent Claudication?**

Intermittent claudication is a symptom which can be caused by peripheral arterial disease. This happens where there are some narrowings in the arteries that supply your legs and feet. You may experience cramping or aching in the leg, usually in the calf muscle, but can occur in the thigh or buttock.

You may notice when you walk that you experience a cramping or aching in your calf muscle, which eases off when you have stopped walking.

Without adequate blood flow the muscles are starved of oxygen causing the pain when you walk. When you rest the muscles are not working as hard, and do not require as much blood and oxygen so the pain eases off.



## Critical limb threatening ischaemia

Critical limb threatening Ischaemia (CLTI) is a severe progression of peripheral arterial disease and is an indication that there could be significant narrowings and/or occlusion in the arteries which supply blood to the legs and feet.

Critical limb threatening ischaemia can cause severe and constant pain in your legs and feet. You may notice that, when you are in bed at night, you cannot tolerate your legs being elevated and may find some relief from hanging your legs/feet over the side of the bed. This helps the flow of blood to your feet. Some patients also find some relief from sleeping in the chair.

You may notice that you have developed ulcer/sores to your legs and feet that are slow to heal. There also may be change in foot colour and temperature.

Once reviewed by your medical team, they can discuss your treatment and/or management options. This could include more in-depth scans such as ultrasound scans or CT scans, and/or surgical options.

**Critical Limb Threatening Ischaemia is serious, and if you start to develop any of the symptoms you need to seek urgent medical advice.**

## **What causes the arteries to become narrowed?**

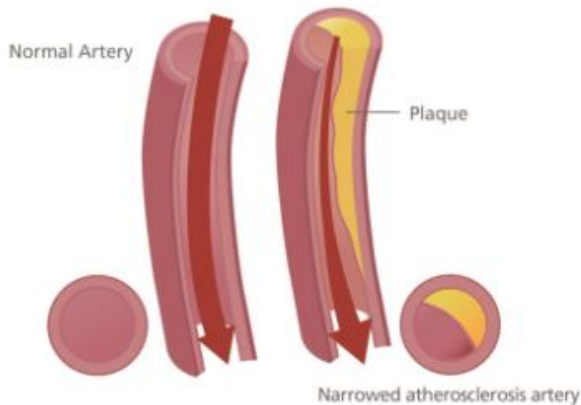
Problems with narrowings of the arteries tend to become more common as people age. There are many risk factors that can contribute to the progression of this including:

- ❖ Smoking – the biggest risk factor
- ❖ Diabetes
- ❖ High cholesterol
- ❖ High blood pressure
- ❖ Lack of physical activity
- ❖ Obesity

The risk factors that contribute to the symptoms of intermittent claudication, are the same factors that can cause other conditions relating to narrowings of the arteries, such as heart attacks and strokes. Therefore, managing the risk factors will help keep your arteries throughout your body as healthy as possible.

The risk of peripheral arterial disease increases from the age of 40 years old and doubles with each further decade of life.

There are some non-modifiable risk factors that cannot be controlled which can increase the risk of developing peripheral arterial disease. These include gender, ethnicity, genetics and some medical conditions.



## Smoking

- ❖ Smoking is the biggest risk factor for narrowing the arteries. It is essential that you stop for two reasons. Smoking speeds up the hardening of the arteries which is the reason you are getting your leg symptoms
- ❖ Cigarette smoke prevents development of the collateral vessels which we are trying to build by walking which help re-route blood flow down the leg around where the artery has narrowed.
- ❖ Smoking also thickens the blood making it harder to pass through the narrowed arteries.

Stopping smoking can help improve your leg symptoms and improve your walking distance. We also know that stopping smoking improves your heart health and reduces your risk of heart attack and stroke. Vaping is also not recommended. Vapes have not been around for long enough for us to know the long-term risks. While vaping is thought to be less harmful than smoking, it is not totally harmless.

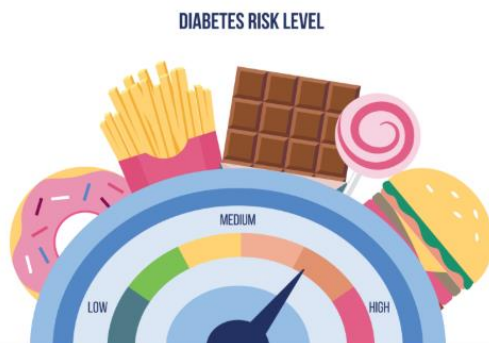
There is lots of help and support available to help you stop. You can find local quit smoking services and other useful tools online such as the [NHS Choices](#) website which has a useful phone APP, and Smoke Free Lancashire.

## Diabetes

Diabetes is a major risk factor for developing and accelerating peripheral arterial disease. People with diabetes should be very closely monitored to ensure good control of raised blood sugars and to help prevent a build-up of fatty deposits in your arteries.

Having diabetes means you are at greater risk of developing problems with your feet. Raised blood sugar levels can damage the sensation in your feet therefore it is important to check your feet regularly. Damaged skin and cuts on your feet and legs can lead to infections and non-healing ulcers. If you spot something new that you are concerned about, contact your GP or nurse.

Eating a healthy diet can help to manage your diabetes and help prevent worsening of your peripheral arterial disease. Make sure you include plenty of fruit, vegetables, lean meat and whole grains and reduce the amount of saturated fat, salt and sugar in your diet.



# Blood Pressure

Your arteries carry the blood pumped by your heart all around your body and blood pressure is the measurement of this flow in your arteries. The medical name for high blood pressure is hypertension.

High blood pressure means that your heart is having to work a lot harder to pump the blood around your body and also over time your arteries lose their stretchiness and can become narrowed. The narrowing makes it easier for fatty plaque to build up in the arteries.

Up to 5 million people in the UK have been diagnosed with high blood pressure. 1 in 4 people have high blood pressure. It is often present without symptoms.

High blood pressure can be managed with medication, but also modifying your lifestyle could help to manage your blood pressure. Such as, maintaining a healthy diet, stopping smoking, exercising regularly and maintaining a healthy weight.

## Target Blood pressure readings

**In clinic** - adults under the age of 80 aim for BP 140/90  
adults over the age of 80 aim for BP 150/90

**At home**- adults under the age of 80 aim for BP 135/85  
adults over the age of 80 aim for BP 145/85

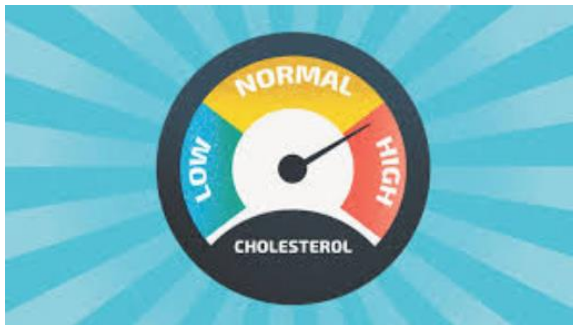


# Cholesterol

Cholesterol is a natural fatty substance within your blood. It is produced in the liver, and it is also in some of the food we eat. Too much cholesterol in the blood leads to a build up of fatty deposits inside the walls of the blood vessels. This can build up can cause narrowing's in the arteries, leading to an increased risk of heart attack or stroke.

High cholesterol can be managed with medication but can also be managed by maintaining a healthy diet, stopping smoking, getting enough sleep and plenty of exercise.

If lifestyle changes are not enough to lower your high cholesterol, your doctor may suggest medication. A blood test can be done yearly by your GP. If lifestyle changes are not enough to lower your high cholesterol, your doctor may suggest medications usually statins, but alternatives are available.



## Walking and supervised exercise

Walking is first line treatment in managing intermittent claudication. Research shows walking over a period of time can improve your circulation and help to increase the activity you can take without pain. Walking helps to develop the formation of new smaller blood vessels around your blocked artery to carry more blood to your muscles. In addition to managing other risk factors, walking can help to reduce the risk of deterioration and the need for an operation.

Not only does exercise help with your intermittent claudication symptoms but it will help to improve your general health by reducing blood pressure and cholesterol, help to keep a healthy weight or to lose weight and help with diabetic control. It can also boost your self-esteem, mood, sleep quality and energy.

You are advised to walk 30 minutes a day at least 5 days a week, or walk to the point of maximal leg pain, stop and rest and, then continue.

Your nurse maybe able to offer you a supervised exercise programme at a local centre where you will be offered 2 hours of supervised exercise per week over a period of six months.



**You may find it helpful to complete a walking diary to keep a record of your walking distance and symptoms.**

<b>DATE and TIME</b>	<b>Length/ distance onset of symptoms start</b> eg: 100, 200, 500 yards, 1 mile. – <b>STEPS</b>	<b>TOTAL DISTANCE WALKED – before first REST –</b>	<b>TOTAL TIME WALKING</b> mins &secs	<b>Comments – eg: flat/ incline/ rough terrain</b> /Reason for stopping joint pain /Shortness of breath

**WEEK 2**


### WEEK 3


### WEEK 4


## Footcare

If you have been diagnosed with peripheral arterial disease and/or have a diagnosis of diabetes it is very important to take care of your feet.

It is really important to check your feet regularly to ensure there are not any new sores or cuts to your feet and in-between your toes as these can lead to non-healing ulcers developing.

**TOP TIP:** If you struggle to check the bottom of your feet, try using a mirror to help you see the sole of your foot.

Keep your legs and feet well moisturised to help prevent the skin becoming dry and cracking, especially on your heels.

It is also important, if you cut your own toenails, to not cut them too short or cut your surrounding skin as this could lead to infection or sores that take longer or do not heal.

It may be worth visiting a chiropodist to help you. Please inform them that you have reduced blood supply to your legs and feet.



**If you develop any critical limb ischaemia symptoms, or find you have a deterioration in your symptoms you can contact your vascular specialist nurse locally.  
Or if out of hours please seek urgent medical advise.**

## **Contact details**

Vascular Specialist Nurse Team based at Royal Preston Hospital  
**01772 523757**-Available Mon-Fri 08.30-16.30pm (excluding weekends and bank holidays)

Vascular Specialist Nurse Team based at Blackpool Victoria Hospital  
**01253 953379**-Available Mon-Fri 9am-5pm (excluding weekends and bank holidays)

Vascular Specialist Nurse Team based at Royal Lancaster Infirmary  
**07834327649**-Available Mon-Fri 9am-5pm (excluding weekends and bank holidays).

## **Sources of further information**

[www.lancsteachinghospitals.nhs.uk](http://www.lancsteachinghospitals.nhs.uk)

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

[www.accessable.co.uk](http://www.accessable.co.uk)

[www.patient.co.uk](http://www.patient.co.uk)

[www.lancsteachinghospitals.nhs.uk/veteran-aware](http://www.lancsteachinghospitals.nhs.uk/veteran-aware)

<https://bepartofresearch.nihr.ac.uk/>

<https://www.nhs.uk/better-health/quit-smoking/ready-to-quit-smoking/vaping-to-quit-smoking/>

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If you want to stop smoking, you can also contact Smokefree Lancashire on Freephone **08081962638**

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**This information can be made available in large print, audio, Braille and in other languages.**

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[patientexperienceandinvolem@LTHTR.nhs.uk](mailto:patientexperienceandinvolem@LTHTR.nhs.uk)

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