

Peripheral arterial disease in legs

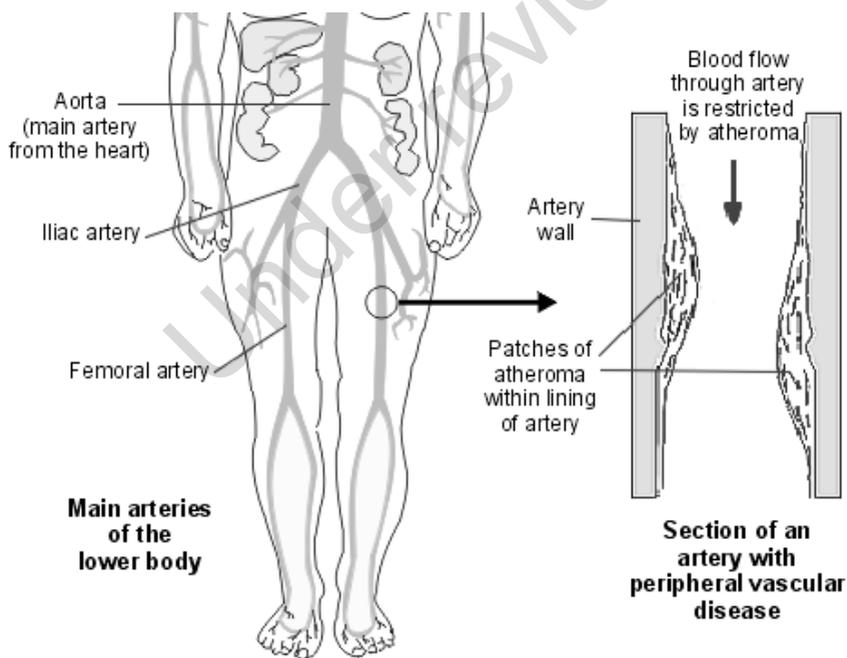
Vascular Surgery

Patient Information Leaflet

What is peripheral arterial disease (PAD)?

Peripheral arterial disease (PAD) is narrowing of one or more arteries (blood vessels). It mainly affects arteries that take blood to the legs. (Arteries to the arms are rarely affected and are not dealt with further in this leaflet.) The condition is also known as 'peripheral vascular disease'. It is also sometimes called 'hardening of the arteries' of the legs. In the UK, at least one in 20 people over the age of 55 have some degree of PAD. It becomes more common with increasing age.

What causes peripheral arterial disease?



The narrowing of the arteries is caused by atheroma. Atheroma is like fatty patches or 'plaques' that develop within the inside lining of arteries. A patch of atheroma starts quite small and causes no problems at first. Over the years a patch of atheroma can become thicker (it is a bit like scale that forms on the inside of water pipes).

A thick patch of atheroma makes the artery narrower. This reduces the flow of blood through the affected section of artery. Tissues 'downstream' have a reduced blood supply which can lead to symptoms and problems.

Atheroma can develop in any artery but the common arteries affected are:

- Arteries taking blood to the heart - this is called ischaemic heart disease and may lead to problems such as angina and heart attacks.
- Arteries taking blood to the brain - which may eventually lead to a stroke.
- Arteries taking blood to the legs - which may lead to PAD.

What causes atheroma?

Everybody has some risk of developing atheroma. However, certain 'risk factors' increase the risk. Risk factors include:

Lifestyle risk factors that can be prevented or changed:

- Smoking.
- Lack of physical activity (a sedentary lifestyle).
- Obesity.
- An unhealthy diet.
- Excess alcohol.

Treatable or partly treatable risk factors:

- Hypertension (high blood pressure).
- High cholesterol blood level.
- High triglyceride (fat) blood level.
- Diabetes.
- Kidney diseases causing reduced kidney function.

Fixed risk factors – ones that you cannot alter:

- A strong family history. This means if you have a father or brother who developed heart disease or a stroke before they were 55 or in a mother or sister before they were 65.
- Being male.
- An early menopause in women.
- Age. The older you become the more likely you are to develop atheroma.
- Ethnic group. For example people who live in the UK with ancestry from India, Pakistan, Bangladesh or Sri Lanka have an increased risk.

However if you have a fixed risk factor you may want to make extra effort to tackle any lifestyle risk factors that can be changed.

Please note that some risk factors are more 'risky' than others for example smoking causes a greater risk to health than obesity. Also risk factors interact so if you have two or more risk factors, your health risk is much more increased than if you just have one. For example a middle-aged male smoker who does little physical activity and has a strong family history of heart disease has quite a high risk of developing a cardiovascular disease such as a heart attack, stroke or peripheral arterial disease before the age of 60.

Research is looking at some other factors that may be risk factors for example high blood levels of apolipoprotein B or homocysteine are being investigated as possible risk factors.

What are the symptoms of PAD?

The typical symptom is pain which develops in one or both calves when you walk. This is called intermittent claudication. It is due to narrowing of the femoral artery which is the most common site for atheroma to develop in PAD. When you walk the calf muscles need an extra blood and oxygen supply.

The narrowed artery cannot deliver the extra blood and so pain occurs from the oxygen-starved muscles. The pain soon goes when you stop. The pain comes on more rapidly when you walk up a hill or stairs than when you walk on flat ground.

If an artery higher 'upstream' is narrowed such as the iliac artery or aorta then you may develop pain in your thighs or buttocks when you walk. If the blood supply to the legs becomes worse the following may be found by a doctor who examines you:

- Poor hair growth below your knee and poor toenail growth.
- Cool feet.
- Weak or no pulses in the arteries of your feet.

Severe cases

If the blood supply is very much reduced then you may develop pain even at rest, particularly at night when the legs are raised in bed. Typically rest pain first develops in the toes and feet rather than in the calves. Ulcers (sores) may develop on the skin of your feet or lower leg if the blood supply to the skin is poor. In a small number of cases gangrene (death of tissue) of a foot may result. This is usually preventable.

How is PAD diagnosed?

The diagnosis is usually made by the typical symptoms. A simple test that your doctor may do is to check the blood pressure in your ankle and compare this to the blood pressure in your arm. If the blood pressure in your ankle is much different to that in your arm then this usually means that one or more arteries going to your leg or in your leg are narrowed.

More sophisticated tests are not needed in most cases. They may be done if the diagnosis is in doubt or if surgery is being considered (which is only in the minority of cases). For example a CT scan, an MRI scan or an ultrasound scan of the arteries can build up a 'map' of your arteries and show where they are narrowed.

What is the outlook (prognosis) for PAD?

Studies that have followed up people with PAD have shown that:

- Symptoms remain stable or improve in about 15 out of 20 cases.
- Symptoms gradually become worse in about four out of 20 cases.
- Symptoms become severe in about one out of 20 cases.

So in most cases the outlook for the legs is quite good. However if you have PAD it means that you have an increased risk of developing atheroma in other arteries. Therefore you have a higher than average risk of developing heart disease (such as angina or a heart attack) or of having a stroke.

The main concern for most people with PAD is not that they might need an amputation but the increased risk of having a heart attack or stroke. The chance of developing severe PAD (and heart disease or a stroke) is much reduced by the self help measures and treatments described in the next section.

What self help measures can I do?

Stop smoking

If you smoke then stopping smoking is the best treatment. Stopping smoking doubles or triples walking distance without pain in over eight out of 10 people with PAD. (Stopping smoking also greatly reduces your risk of having a heart attack or stroke.) See your practice nurse for help if you find it difficult to stop smoking. Nicotine gum or tablets to help you stop may be an option. There are also other medicines that are sometimes prescribed to help people stop smoking.

Exercise regularly

Regular exercise encourages other smaller arteries in the legs to enlarge and improve the blood supply. If you exercise regularly there is a good chance that symptoms will improve and the distance that you can walk before pain develops will increase.

Walking is the best exercise if you have PAD. Regular exercise means a walk every day or on most days. Walk until the pain develops then rest for a few minutes. Carry on walking when the pain has eased. Keep this up for at least 30 minutes each day and preferably for an hour a day. The pain is not damaging to the muscles.

Other exercises such as cycling and swimming will also help you to become fit and are good for the heart. However these should be done in addition to walking, as walking has been shown to be the best exercise to improve symptoms of PAD.

Research studies have shown that if you stop smoking and exercise regularly then symptoms of PAD are unlikely to become worse and they often improve. Your risk of developing heart disease or a stroke will also be reduced.

Lose weight if you are overweight

Losing weight reduces the demands on the heart and leg muscles and reduces the risk of atheroma forming.

You should eat a healthy diet

This is the same as advised to prevent heart disease. This reduces the chance of atheroma forming. A practice nurse may advise you on how to eat a healthy diet and there is another leaflet about healthy eating which gives details. Briefly a healthy diet means:

- At least five portions of a variety of fruit and vegetables a day.
- The bulk of most meals should be starch-based foods (such as cereals, wholegrain bread, potatoes, rice, pasta) plus fruit and vegetables.
- Not much fatty food such as fatty meats, cheeses, full-cream milk, fried food, butter etc. Use low-fat, mono-, or poly-unsaturated spreads.
- Include two to three portions of fish a week. At least one of which should be 'oily' (such as herring, mackerel, sardines, kippers, salmon or fresh tuna).
- If you eat meat it is best to eat lean meat or poultry such as chicken.
- If you do fry choose a vegetable oil such as sunflower, rapeseed or olive oil.
- Try not to add salt to food and limit foods that are salty such as processed foods.

Alcohol

Drinking a small or moderate amount of alcohol helps to reduce the risk of developing cardiovascular diseases such as PAD. That is one to two units a day which is up to 14 units a week. Drinking more than 15 units a week does not reduce the risk and drinking more than the recommended upper limits can be harmful. That is men should drink no more than 21 units a week (and no more than four units in any one day). Women should drink no more than 14 units a week (and no more than three units in any one day). One unit is in about half a pint of normal strength beer, two thirds of a small glass of wine or one small pub measure of spirits.

Take care of your feet

Try not to injure your feet. Injury may lead to an ulcer or infection developing more easily if the blood supply to the feet is reduced. Do not wear tight shoes or socks which may reduce blood supply. Tell your doctor if you have any foot injury, pain in a foot when you are resting or any marked change in skin colour or temperature in either of your feet.

What are the treatments for PAD?

The self help measures mentioned in the section before are the most important part of treatment. In addition medication is often advised. Surgery is only needed in a small number of cases.

Medicines

- Aspirin is usually advised. A daily low dose (75 mg) is usual. This does not help with symptoms of PAD but helps to prevent blood clots (thrombosis) forming in arteries. It does this by reducing the 'stickiness' of platelets in the blood stream (aspirin is an 'antiplatelet' medicine.) A blood clot is a rare complication of PAD.

However, people with PAD have a higher than average risk of developing a heart attack or stroke (which are usually caused by blood clots). A daily low dose of aspirin reduces this risk too. If you cannot take aspirin then alternative antiplatelet medicines such as clopidogrel and dipyridamole may be advised.

- A 'statin' medicine is usually advised to lower your cholesterol level. This helps to prevent a build-up of atheroma.
- If you have diabetes then good control of the blood glucose level will help to prevent PAD from getting worse.
- If you have high blood pressure then you will normally be advised to take medication to lower it.
- Other medicines are sometimes used to try to 'open up' the arteries for example cilostazol and nifedipine. One may be tried and may help. However they do not work in all cases therefore there is no point in continuing with these medicines if you do not notice an improvement in symptoms within a few weeks.

Surgery

Most people with PAD do not need surgery. Your GP may refer you to a surgeon if symptoms of PAD become severe particularly if you have pain when you are resting. Surgery is considered a last resort. Surgery is not easy and does have complications. There are three main types of operation for PAD:

- Angioplasty is where a tiny 'balloon' is inserted into the artery and 'blown up' at the section that is narrowed. This widens the affected segment of artery. This is only suitable if a short segment of artery is narrowed.

- Bypass surgery is where a graft (like a flexible pipe) is connected to the artery above and below a narrowed section. The blood is then diverted around the narrowed section.
- Amputation of a foot or lower leg is needed in a small number of cases. It is needed when severe PAD develops and a foot develops gangrene due to a very poor blood supply.

Further help and information

British Heart Foundation
14 Fitzhardinge Street,
London
W1H 6DH
Tel (Heart Help Line): 08450 70 80 70
Web: www.bhf.org.uk

The Circulation Foundation
Web: www.circulationfoundation.org.uk
Publishes a number of patient information leaflets about vascular illness. It also funds research into the prevention and causes of vascular disease.

Your comments

Patient Advice and Liaison Service (PALS) Freephone 0800 073 0510.

PALS is here to support patients, relatives or carers when they have concerns or queries. They will do their best to resolve any concerns you may have and can also give advice on making a formal complaint.

If you require any further information regarding our services or if you have any questions about the management of your condition, please contact your consultant or vascular nurse on the telephone numbers below.

Russells Hall Hospital, Dudley

Mr Jayatunga	Consultant vascular surgeon	Tel: 01384 244243
Mrs Shiralkar	Consultant vascular surgeon	Tel: 01384 244246
Mr Pathak	Consultant vascular surgeon	Tel: 01384 244245
Mr Rehman	Consultant vascular surgeon	Tel: 01384 244176
Mr Newman	Consultant vascular surgeon	Tel: 01384 244243
Mr Wall	Consultant vascular surgeon	Tel: 01384 456111 Ext 1235
Joy Lewis/Sharron Cole	Vascular nurse specialist	Tel: 01384 456111 Ext 2456 (answer machine)

New Cross Hospital, Wolverhampton

Mr Garnham	Consultant vascular surgeon	Tel: 01902 695977
Mr Hobbs	Consultant vascular surgeon	Tel: 01902 695971
Paula Poulton/Val Isgar	Vascular nurse specialist	Tel: 01902 695984

Manor Hospital, Walsall

Mr Abrew	Consultant vascular surgeon	Tel: 01922 721172 Ext 7763
Mr Khan	Consultant vascular surgeon	Tel: 01922 721172 Ext 6669
Fiona Fox	Vascular nurse specialist	Tel: 01902 721172 Ext 7648

This leaflet can be made available in large print, audio version and in other languages, please call 0800 0730510

ਜੇਕਰ ਇਹ ਲੀਫਲੈੱਟ (ਛੋਟਾ ਇਸਤਿਹਾਰ) ਤੁਸੀਂ ਆਪਣੀ ਭਾਸ਼ਾ (ਪੰਜਾਬੀ) ਵਿੱਚ ਲੈਣਾ ਚਾਹੁੰਦੇ ਹੋ ਤਾਂ ਕ੍ਰਿਪਾ ਕਰ ਕੇ ਪੇਸ਼ਟ ਇੰਨਫਰਮੇਸ਼ਨ ਕੋ-ਆਰਡੀਨੇਟਰ ਨਾਲ **0800 0730510** ਟੈਲੀਫੋਨ ਨੰਬਰ ਤੇ ਸੰਪਰਕ ਕਰੋ।

यदि आपको यह दस्तावेज़ अपनी भाषा में चाहिए तो पेशेंट इनफ़रमेशन को-आरडीनेटर को टैलीफ़ोन नम्बर **0800 0730510** पर फ़ोन करें।

જો તમને આ પત્રિકા તમારી પોતાની ભાષા (ગુજરાતી)માં જોઈતી હોય, તો કૃપા કરીને પેશન્ટ ઈન્ફોર્મેશન કો-ઓર્ડિનેટરનો **0800 0730510** પર સંપર્ક કરો.

आपनि यदि এই প্রচারপত্রটি আপনার নিজের ভাষায় পেতে চান, তাহলে দয়া করে পেশেন্ট ইনফরমেশন কো-অর্ডিনেটরের সাথে **0800 0730510** এই নম্বরে যোগাযোগ করুন।

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0800 0730510 على التلفون Information Co-ordinator

مہم ضرورت اریلف ایٹ کوٹھا زبان (اردو) میں حاصل کرنے کے لئے رپوہر ہائی ٹیلیفون نمبر **0800 0730510** پروفٹ ایفیشن کو-آورڈینٹر (مریضوں کے لئے معلومات کی فراہمی کے سلسلے میں) کے ساتھ رابطہ کریں۔

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