

# Peripheral Arterial Disease and Smoking

## Smoking damages your blood vessels

Tobacco smoke contains over 4000 different types of chemicals.<sup>1</sup> Every time you inhale tobacco smoke, many of these chemicals enter your blood stream and are carried around your body.

These chemicals make the walls of blood vessels (arteries) harden and they make blood cells sticky, which allows cholesterol and other dangerous fatty material to build up inside the arteries.

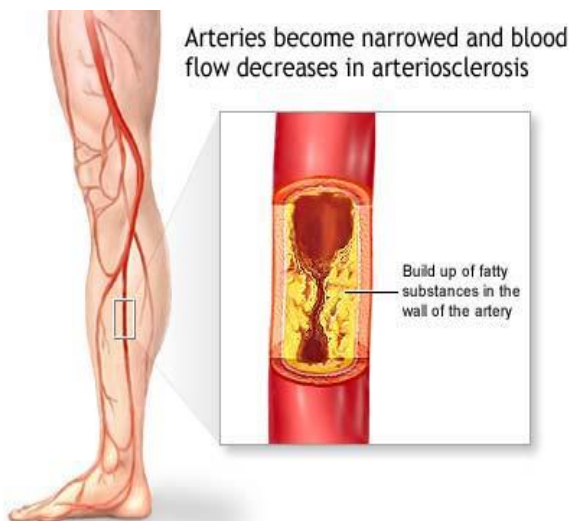
This build-up starts to clog the arteries and, together with the hardened artery walls, makes it more difficult for blood to flow through, especially when a greater blood flow is needed, for example during exercise. This can lead to a condition known as Peripheral Arterial Disease (PAD). Another term is Peripheral Vascular Disease (PVD).

## What is PAD?

PAD is the narrowing and hardening of the arteries resulting in decreased blood flow in parts of the body other than the heart or brain.<sup>2</sup>

PAD more commonly occurs in the legs and feet however it can also develop in the arms and hands.<sup>3</sup>

When the arteries that carry blood to your legs or arms become partially or totally blocked by the build up of fatty material on the artery walls, the tissue dies. The dead tissue is called gangrene.



## Did you know....

- Gangrene always leads to amputation
- Smoking is one of the main causes of Peripheral Arterial Disease (PAD).
- Smoking is responsible for at least half of the cases of PAD affecting the lower limbs.<sup>4</sup>
- More than 500 Australians die every year from PAD caused by their smoking.<sup>4</sup>
- In Australia, more than 10,000 hospital admissions for treatment of PAD are due to smoking.<sup>4</sup>
- Every year, around 600 amputations are performed on people with PAD.<sup>4</sup>
- More than one person a day in Australia suffers the loss of a leg or foot because they smoked.

## Is smoking the only thing that causes PAD?

No. Smoking is one of the main causes of PAD and smokers are significantly more likely than non-smokers to develop it.

Other underlying causes of the blocked arteries leading to PAD range from illnesses such as diabetes to kidney disease as well as manageable conditions such as being overweight, having high blood pressure, a high cholesterol level or having a family history of heart disease or stroke.

You couldn't choose the parents who gave you your genes, but you can choose to quit smoking or to never start.

## What are the symptoms of PVD/PAD?

About half of all people with PAD do not have any symptoms.<sup>5</sup> For people who have symptoms, the first symptom of PAD you are likely to feel is aching and tired legs with cramp-like pains during any exercise including walking. The pain is relieved when you stand still. This is called intermittent claudication. Your legs and feet might also feel a bit numb or cold and might look pale.

The next stage is suffering pain in the legs at rest, typically at night. This is called critical limb ischaemia.

Then ulcers can develop around the toes and the lower legs. By this time, blood flow is severely restricted but treatment is still possible however treatment can't revive dead tissue.

**How is PVD/PAD treated and can it be cured?**

Many people think the early symptoms are just normal signs of getting older, so only about half of those with symptoms of PAD have been diagnosed and are seeing a doctor for treatment. If it is diagnosed early enough, the effects of smoking on the arteries can be diminished over time by stopping smoking. This is helped by taking some exercise and having a good diet. Certainly, the progression of the disease will be slowed down by making these changes.

Drugs can help widen the blocked artery and/or thin the blood, thus improving the flow. In severe cases, there are several surgical options, including inserting a stent (a small wire mesh tube) permanently into the artery to hold it open so that blood can flow through. This is called bypass surgery.

In very severe cases of PAD, where there is not enough blood supply to the feet or toes, gangrene can occur. Gangrene is when the tissue becomes blackened and dead. The dead tissue must be cut from the body or it will rot endangering the smoker's life. The cutting away of gangrenous tissue often results amputation of the limb, often the toes, sometimes the foot or part of the leg.

**How long does it take for tissue with blocked arteries to turn black?**

Once the blood stops flowing completely and the surrounding tissue dies, this can occur very quickly. For the type of gangrene caused by smoking, it can happen in a matter of days or weeks. For gangrene caused by infection, it can happen in hours. Gangrene can be extremely painful.

**Quitting smoking reduces your risk**

Quitting smoking will reduce your risk of developing PAD, but ex-smokers are still more likely to develop PVD than people who have never smoked.<sup>6</sup>

The longer you have quit, the lower your chance is of developing PAD and for those experiencing symptoms, quitting smoking slows down the progress of the disease.

It is necessary to completely quit as even one or two cigarettes a day can increase your chances of developing PAD.

Call the Quitline on 13 7848 for information and support to help you quit smoking.

**References**

<sup>1</sup> United States. Department of Health and Human Services. *Reducing the health consequences of smoking : 25 years of progress : a report of the Surgeon General*. Rockville, Md.: U.S. Dept. of Health and Human Services Public Health Service Centers for Disease Control Center for Chronic Disease Prevention and Health Promotion Office of Smoking and Health; 1989.

<sup>2</sup> Australian Institute of Health and Welfare. *Heart, stroke and vascular diseases : Australian facts 2004*. Canberra: Australian Institute of Health and Welfare and National Heart Foundation of Australia; 2004.

<sup>3</sup> American Council on Science and Health. *Cigarettes: What the warning label doesn't tell you*. Second edition. New York, American Council on Science and Health, 2003.

<sup>4</sup> Data tables available from the Cancer Institute NSW on request.

<sup>5</sup> Fowler B, Jamrozik K, Norman P, Allen Y. Prevalence of peripheral arterial disease: persistence of excess risk in former smokers. *Aust N Z J Public Health*. 2002;26(3):219-24

<sup>6</sup> United States. Department of Health and Human Services. *The health benefits of smoking cessation: a report of the Surgeon General*. Rockville. Maryland: United States, Public Health Service, Office on Smoking and Health; 1990.

