



PODIATRY

# Foot & Practice

A foot health message from  
Bayswater Allied Health

## FEET & THE HEART



### PODIATRIC SCREENING FOR PERIPHERAL ARTERIAL DISEASE

Poor diet and lifestyle choices along with underlying pathologies such as diabetes all lead to increased risk of heart attack and stroke. Atherosclerosis is a primary precursor to serious cardiac events and also leads to peripheral arterial disease (PAD), most often affecting the legs and feet. In Australia, approximately 12% of adults suffer from peripheral arterial disease with serious effects on quality of life, increased risk of lower limb amputation and death.

PAD is often undiagnosed until it is severe, despite the fact that it is a main risk factor for cardiovascular disease. Screening for PAD in the podiatric setting can greatly reduce morbidity and mortality through early treatment of both podiatric and cardiovascular conditions.

#### Key points for PAD screening:

1. Screening for cardiac risk factors including family history of heart disease or stroke, diabetes and smoking, have been shown to be effective in the diagnosis of PAD when more than two risk factors are present.
2. The main tool used for screening is the ankle-brachial index (ABI) to compare blood pressure readings between the ankle and the arm. In recent years, a blood pressure reading using the toe-brachial indices (TBI) has become an effective method to test for PAD. Studies have shown the TBI to produce more accurate results than the more traditional ABI.
3. Ultrasound is effective to identify narrowed arteries and reduced blood flow.
4. Angiography may be needed to get a clear image of circulation to the lower limbs.
5. Blood tests to check blood glucose levels, cholesterol and triglycerides.

Left untreated, PAD can lead to intermittent claudication, vascular ulcers, critical limb ischaemia and amputation. PAD can also lead to the spread of atherosclerosis to affect the heart and brain, seriously increasing the risk of death by heart attack or stroke. Screening for PAD and other cardiac risk factors can prevent serious cardiac events, reduce the financial burden of disease and improve quality of life for patients. With screening, early treatment can be as simple as the implementation of lifestyle changes in the form of diet, exercise and smoking cessation, before more invasive therapies are required to manage PAD and associated risk.

## RISK FACTORS AND SYMPTOMS FOR PERIPHERAL ARTERIAL DISEASE

Diagnosis of peripheral arterial disease (PAD) can prevent lower limb amputation as well as heart attack and stroke. However, PAD is an under-diagnosed condition that with greater awareness can improve patient outcomes, reduce the financial burden of disease and lower mortality rates.

### Risk factors

The effect of restricted circulation as a result of smoking and diabetes make them the primary risk factors for PAD. The full list of risk factors is listed below:

- Smoking
- Diabetes
- Obesity with a BMI >30
- Blood pressure >140/90 mmHg
- High cholesterol with total blood cholesterol >240 mg/dL
- Age older than 50 years
- Family history of PAD, heart disease or stroke
- High levels of homocysteine

### Symptoms

- Loss of sensation in the form of numbness or weakness in the lower leg.
- Intermittent claudication presenting as painful cramping of the calf, thigh or hip, particularly following exercise, but also at rest.
- Poikilothermy of the feet or legs, particularly when one leg is colder than the other.
- Sores or ulcers on the legs, feet or toes, that fail to heal.
- Altered pallour of the skin in one part of the feet or legs.
- Slow growth of hair and nails.
- Shiny skin on the legs.
- The absence of a pulse or a very weak pulse in the toes, feet or legs.
- Erectile dysfunction in men.

Patients with more than one of these symptoms are at particular risk for PAD.

## KEY POINTS FOR THE TREATMENT OF PAD IN THE PODIATRIC SETTING

The main goals of treatment should be to enable the patient to fully use their feet and legs without pain and to stop the spread of disease to the rest of the body, thereby preventing serious cardiovascular events. Patients should be encouraged to lead a

healthy lifestyle. Diet, exercise and smoking cessation all play a significant role in the prevention of PAD. Treating patients so that they are able to exercise without pain is therefore a major goal. Diabetics should be closely monitored to ensure that blood glucose levels remain stable.

The main patient education tips for management of PAD include:

- **Smoking cessation:** smokers suffering from PAD can reduce the severity of the disease by quitting smoking. Smoking cessation may ease existing symptoms and will certainly slow the progression of the disease.
- **Exercise:** a managed exercise plan may be required to assist the patient to exercise more and to exercise in ways that are effective for increased oxygenation to the lower limbs as well as for muscle conditioning. Pain is a major obstruction to exercise and pain will need to be managed before the patient starts an exercise program.
- **Diet:** patients should be encouraged to eat a diet low in saturated fats and with a wide variety of fruits and vegetables.

If lifestyle solutions are not practical or are insufficient without further medical assistance, more invasive therapies may be needed to treat the disease. The list below covers the primary medications available for the treatment of PAD.

- **Statins:** high cholesterol can be treated with statins to lower the patient's LDL cholesterol down to below 100mg/dL and lower in diabetic patients.
- **Blood pressure-lowering medication:** oral medication is available to lower blood pressure to <140/90mm/Hg, again, lower in diabetic patients.
- **Blood glucose:** both Type 1 and Type 2 diabetics should be on medication to control blood glucose levels, and this should be closely monitored by an endocrinologist for ongoing maintenance.
- **Aspirin:** blood thinning agents such as aspirin and clopidogrel are effective in the prevention of blood clots that form more easily in patients with PAD.
- **Increase blood flow:** drugs such as cilostazol are useful to increase blood flow to the lower limbs and to reduce the pain caused by claudication.

If both lifestyle and medication remain ineffective in treating PAD, surgical options are available to resolve pain and to repair some of the damage caused by disease. The main surgical options include angioplasty, artery bypass graft surgery and thrombolytic therapy.

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