



Melbourne Vascular Imaging LEG ARTERIES

Atherosclerosis is commonly found in the leg arteries of elderly patients or diabetics. Tight stenosis or occlusions can cause claudication. Claudication is the pain or tightness experienced in the thigh or calf when exercising with insufficient blood flow to the muscle. The syndrome is similar in nature to angina. Pain in the calf is associated with femoral or popliteal artery stenosis and pain in the thigh or buttock regions is consistent with iliac artery disease.

The leg arteries are scanned in a similar method to the carotid arteries. The arteries are scanned using B mode to visualise the vessel walls and Doppler is used to measure the blood speed. The stenotic areas are marked and measured in relation to the groin crease; the knee crease, or the medial malleolus. Focal stenosis may be treated with a balloon angioplasty and sometimes a stent. Longer stenosis or occlusions can be bypassed using a superficial vein graft harvested from the leg or the arm. Duplex scanning is used in conjunction with angiography and magnetic resonance angiography to image the diseased arterial segments and the arteries distal to the stenosis to assess their compatibility with surgery.

Following leg artery surgery the patient is scanned every 3 months for the first year and annually every subsequent year to check for graft failure or a possible re-stenosed artery. Graft failure can often be prevented using this surveillance program. Sometimes previously healthy leg arteries, can become suddenly occluded by thrombus or an embolic event. When an artery slowly narrows (as in the case of an atherosclerotic artery), collateral arteries get time to develop, which reduces the incidence of distal ischemia. With

acute major arterial occlusions there are no large collateral arteries and there is a strong risk of irreversible ischemic changes in the leg. Ultrasound can differentiate between chronic and acute occlusions helping the clinician in diagnosis and treatment.