

Automated Doppler test for diagnosing peripheral arterial disease in people with leg ulceration (provisional title)

Leg ulcers are long-lasting sores that usually develop on the inside of the leg, just above the ankle. When the leg ulcer is caused by a problem in the blood flow in the veins, the treatment involves using compression, such as bandages or stockings. But compression therapy can disturb the arterial blood supply in the leg and so should not be offered to people with peripheral arterial disease.

To help diagnose peripheral arterial disease, and identify people who should not have compression therapy, the Ankle Brachial Pressure Index reading is used. Currently, this is done using a hand-held Doppler ultrasound probe and a manually inflated blood pressure cuff (sphygmomanometer). The test procedure takes around 30 minutes to complete; it includes patient resting time, locating arterial pulses, taking manual blood pressure measurements first in the arms and then ankles, and calculating the Ankle Brachial Pressure Index.

When using an automated Doppler device, resting before the test and locating of the pulses is not needed. Blood pressure measurement in the arms and ankles is automated and recorded simultaneously, and the Ankle Brachial Pressure Index is calculated by the device. Automated Doppler devices could help reduce the time it takes to do the Doppler test, make it more convenient for people with leg ulcers and free up staff time. They may also increase the accuracy of detecting peripheral arterial disease leading to improved outcomes for people with leg ulcers.

The NICE diagnostics assessment programme will assess whether automated Doppler devices are a clinically and cost effective alternative to a manual Doppler test for assessing Ankle Brachial Pressure Index and diagnosing peripheral arterial disease in people with leg ulcers. NICE will make recommendations on their use in the NHS.