Ankle Brachial Index (ABI)

What does an ankle-brachial index test assess?

The ankle-brachial index (ABI) test is a simple way for your doctor to examine the blood flow to your legs and feet. This test can expose problem areas like partial and full blockages. By measuring the blood pressure in various parts of your body, your doctor can better determine whether you have peripheral artery disease (PAD).

Who is a good candidate for this noninvasive test?

If you have pain, cramps, numbness, or coldness in your legs when walking, and if these symptoms go away when you rest, you could be at risk for PAD. Other factors that contribute to PAD include smoking, high blood pressure, high cholesterol, diabetes, and atherosclerosis. If left untreated, PAD could result in the loss of a limb, so getting tested is important if you have symptoms. ABI tests may also be ordered if have had blood-vessel surgery in your legs and your blood flow needs to be monitored. A post-exercise ABI test may also assist in diagnosing PAD because some patients have normal ABI results when they are at rest. PAD patients may also have atherosclerotic disease in other blood vessels, which can contribute to a stroke or heart attack. Other factors such as family history and smoking history will play into the diagnosis.

How is the test performed?

You will lie down for a few minutes in your doctor's office. Your blood pressure will be measured on both arms above your brachial pulse (just above the inside crease of your elbow). At the same time, a technician will use an ultrasound or Doppler probe to listen to your pulse and record it. The same technique will be used on both of your ankles. Then the technician will use all the measurements to calculate the ABI for each leg.

What is a normal reading?

Converted into a ratio, the ABI for your right leg would be the highest systolic blood pressure in your right foot divided by the highest systolic pressure in both arms. A healthy range is 0.9 – 1.4.

What if your reading falls outside this range?

Having a ratio lower than 0.9 may indicate cardiovascular risk.