

Ankle-Brachial Index (ABI)

What you need to know about the ABI examination for peripheral artery disease (PAD)

What is the ABI?

The ankle-brachial index (ABI) is a simple and reliable means for diagnosing peripheral artery disease or PAD. Blood pressure measurements are taken at the arms and ankles using a pencil shaped ultrasound device called a Doppler (an instrument that produces sound waves not xrays) or other specialized measuring instrument. These are considered noninvasive because they do not require the use of needles or catheters. The ABI is one of the most reliable tests for PAD.

The ABI exam can be used to assess whether PAD is getting worse, the severity of an individual's atherosclerosis (build up of plaque) as well as the risk of leg problems, such as development of leg rest pain, poor healing of foot wounds, the need for bypass surgery, or amputation.

How is the exam given?

You will be asked to lie on your back while standard blood pressure cuffs are placed around your ankles and arms. These cuffs will be inflated briefly above your normal systolic blood pressure. Once the cuffs are deflated, blood pressure measurements are taken using a Doppler instrument or other specialized measuring instrument. The arm and ankle systolic blood pressure measurements are recorded.

If you have symptoms of PAD you may be asked to walk on a treadmill or down the hallway and the ankle pressure measurements are repeated to see if they have changed.

Alternatively, a leg arterial ultrasound test or pulse volume recording using pressure cuffs on the thigh can also detect PAD when the ABI cannot be performed.

Interpreting the ABI

Refer to the values below.

>1.3 = calcified

- triphasic=normal

- bi/monophasic=abnormal

0.9-1.3 triphasic=normal

- bi/monophasic=abnormal

0.7-0.9 = mild disease

0.4-0.7 = moderate disease

<0.4 = severe disease