

Ankle-brachial index

Overview

The ankle-brachial index test is a quick, noninvasive way to check for peripheral artery disease (PAD). The disease occurs when narrowed arteries reduce the blood flow to your limbs. PAD can cause leg pain when walking and increases the risk of heart attack and stroke.

The ankle-brachial index test compares the blood pressure measured at your ankle with the blood pressure measured at your arm. A low ankle-brachial index number can indicate narrowing or blockage of the arteries in your legs.

You may have ankle-brachial index testing before and immediately after walking on a treadmill. An exercise ankle-brachial index test can assess the severity of the narrowed arteries during walking.

Why it's done

The ankle-brachial index test is done to check for PAD — narrowed arteries that reduce blood flow, usually in your legs. Research indicates that PAD affects about 10 percent of people over age 55.

Your doctor might recommend an ankle-brachial index test if you have leg pain while walking or risk factors for PAD, such as:

- History of tobacco use
- Diabetes
- High blood pressure
- High cholesterol
- Restricted blood flow (atherosclerosis) in other parts of your body

Risks

You may feel some discomfort when the blood pressure cuffs inflate on your arm and ankle. But this discomfort is temporary and should stop when the air is released from the cuff.

If you have severe leg pain, your doctor may recommend a different imaging test of the arteries in your legs.

How you prepare

No special preparations are needed for an ankle-brachial index test. The test is painless and similar to getting your blood pressure taken in a routine visit to your doctor. You might want to wear loose, comfortable clothing that allows the technician performing your ankle-brachial index test to easily place a blood pressure cuff on your ankle and upper arm.

What you can expect

During the procedure

You likely will be asked to rest for 5 to 30 minutes before the test.

Typically, you lie on a table on your back, and a technician measures your blood pressure in both arms and both ankles, using an inflatable cuff and a hand-held ultrasound device that's pressed on your skin. The device uses sound waves to produce images and allows your pulse to be heard in your ankle arteries after the cuff is deflated.

After the procedure

The ankle-brachial index test should take only a few minutes. You don't need to follow any special precautions afterward. Your doctor will discuss your test result with you.

Results

Your doctor uses the blood pressure measurements from your arms and ankles to calculate your ankle-brachial index.

Based on the number your doctor calculates, your ankle-brachial index may show you have:

- **No blockage (1.0 to 1.4).** An ankle-brachial index number in this range suggests that you probably don't have [PAD](#). But if you have symptoms of [PAD](#), your doctor might perform an exercise ankle-brachial index test.
- **Borderline blockage (0.91 to 0.99).** An ankle-brachial index number in this range indicates that you have borderline [PAD](#). Your doctor might recommend an exercise ankle-brachial index test.
- **[PAD](#) (less than 0.90).** An ankle-brachial index number in this range is considered abnormal and indicates a diagnosis of [PAD](#). Your doctor may recommend additional testing, such as ultrasound or angiography, to view the arteries in your legs.

If you have severe diabetes or significantly blocked arteries, your doctor may need to read your blood pressure at your big toe (toe-brachial index) to get an accurate test result.

Depending on the severity of your blockage, your doctor may recommend:

- Lifestyle changes
- Medication
- Surgery to treat [PAD](#)

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