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Doppler ultrasound exam of an arm or leg

This test uses ultrasound to look at the blood flow in the large arteries and veins in the arms or legs.

How the Test is Performed

The test is done in the ultrasound or radiology department, a hospital room, or in a peripheral vascular lab.

During the exam:

- A water-soluble gel is placed on a handheld device called a transducer. This device directs high-frequency sound waves to the artery or veins being tested.
- Blood pressure cuffs may be put around different parts of the body, including the thigh, calf, ankle, and different points along the arm.

How to Prepare for the Test

You will need to remove clothes from the arm or leg being examined.

How the Test will Feel

Sometimes, the person performing the test will need to press on the vein to make sure it does not have a clot. Some people may feel slight pain from the pressure.

Why the Test is Performed

This test is done as the first step to look at arteries and veins. Sometimes, arteriography and venography may be needed later. The test is done to help diagnose:

- Arteriosclerosis of the arms or legs
- Blood clot (deep vein thrombosis)
- Venous insufficiency

The test may also be used to:

- Look at injury to the arteries
- Monitor arterial reconstruction and bypass grafts

Normal Results

A normal result means the blood vessels show no signs of narrowing, clots, or closure, and the arteries have normal blood flow.

What Abnormal Results Mean

Abnormal results may be due to:

- Blockage in an artery by a blood clot
- Blood clot in a vein (DVT)
- Narrowing or widening of an artery
- Spastic arterial disease (arterial contractions brought on by cold or emotion)
- Venous occlusion (closing of a vein)
- Venous reflux (blood flow going the wrong direction in veins)
- Arterial occlusion from atherosclerosis

This test may also be done to help assess the following conditions:

- Atherosclerosis of the extremities
- Deep venous thrombosis
- Superficial thrombophlebitis

Risks

There are no risks from this procedure.

Considerations

Cigarette smoking may alter the results of this test. Nicotine can cause the arteries in the extremities to constrict.

Quitting smoking lowers the risk for problems with the heart and circulatory system. Most smoking-related deaths are caused by cardiovascular problems, not lung cancer.

Alternative Names

PVD - Doppler; PAD - Doppler; Blockage of leg arteries - Doppler; Intermittent claudication - Doppler; Arterial insufficiency of the legs - Doppler; Leg pain and cramping - Doppler; Calf pain - Doppler; Venous Doppler - DVT

References

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