

Doppler ultrasound: What is it used for?

What is a Doppler ultrasound?

Answers from [Sheldon G. Sheps, M.D.](#)

A Doppler ultrasound is a noninvasive test that can be used to estimate your blood flow through blood vessels by bouncing high-frequency sound waves (ultrasound) off circulating red blood cells. A regular ultrasound uses sound waves to produce images, but can't show blood flow.

A Doppler ultrasound may help diagnose many conditions, including:

- Blood clots
- Poorly functioning valves in your leg veins, which can cause blood or other fluids to pool in your legs (venous insufficiency)
- Heart valve defects and congenital heart disease
- A blocked artery (arterial occlusion)
- Decreased blood circulation into your legs (peripheral artery disease)
- Bulging arteries (aneurysms)
- Narrowing of an artery, such as in your neck (carotid artery stenosis)

A Doppler ultrasound can estimate how fast blood flows by measuring the rate of change in its pitch (frequency). During a Doppler ultrasound, a technician trained in ultrasound imaging (sonographer) presses a small hand-held device (transducer), about the size of a bar of soap, against your skin over the area of your body being examined, moving from one area to another as necessary.

This test may be done as an alternative to more invasive procedures, such as arteriography and venography, which involve injecting dye into the blood vessels so that they show up clearly on X-ray images.

A Doppler ultrasound test may also help your doctor check for injuries to your arteries or to monitor certain treatments to your veins and arteries.

With

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References

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Feb. 21, 2014

Original article: <http://www.mayoclinic.org/doppler-ultrasound/expert-answers/faq-20058452>

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