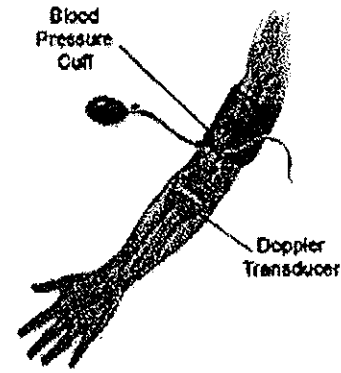




Doppler Studies... What "U" Can Expect



How to Prepare

Nicotine causes blood vessels to constrict; therefore, you may be asked to avoid products that contain nicotine (cigarettes, chewing tobacco) for 30 minutes to 2 hours before the test.

How is it Done

You will need to remove any jewelry that might interfere with the Doppler ultrasound scan. For an arm scan, your head is slightly raised and the exposed arm is turned slightly outward.

Gel is applied to the skin to promote the passage of the sound waves. The transducer is placed in the gel and moved along the skin. You need to lie very still during the procedure. You may hear sounds that represent the flow of blood through the blood vessels.

Arteries in the Arms

This test is often performed on both arms for comparison. Depending on which blood vessels are being tested, a blood pressure cuff may be wrapped around one or both limbs so the blood pressure can be taken at several different places. When testing the arms, the pressure cuff may be wrapped first around the forearm and then around the upper arm.

Veins in the Arms

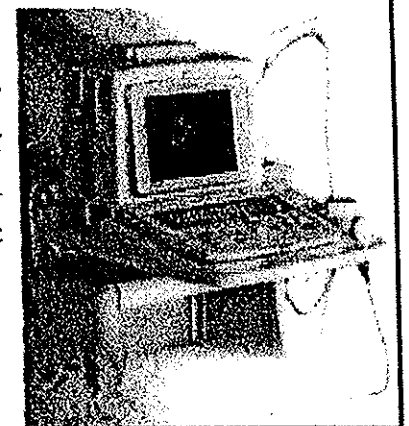
For this test, you will be asked to lie down and breathe normally. You must lie very still. Any changes in blood flow that occur as a response to your breathing patterns are noted.

How the Test Feels

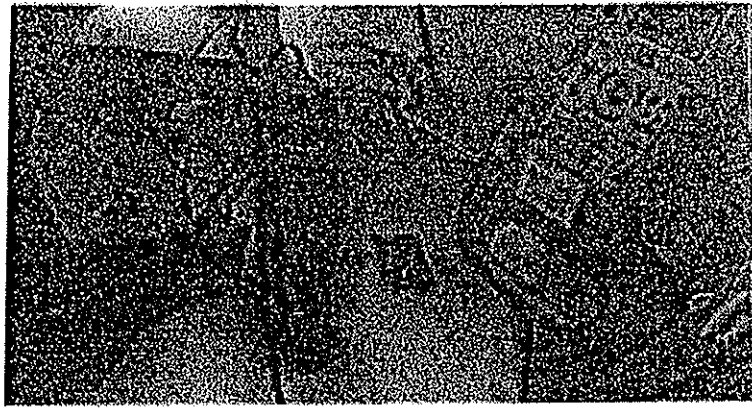
There is normally no discomfort involved with having a Doppler ultrasound test. The gel may feel cold when it is applied to your skin unless it is first warmed to body temperature. If your blood pressure is taken during the test, you will feel pressure when the blood pressure cuffs are inflated.

Risks

There are no known risks associated with a Doppler ultrasound.

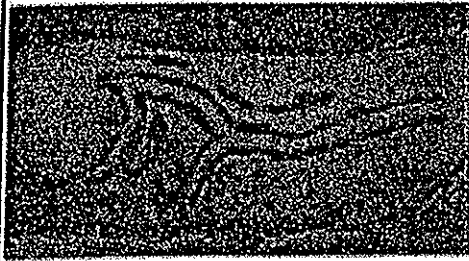


Photos courtesy and utilized with express written consent of Dr. William Jennings, M.D., F.A.C.S



The patient is undergoing a doppler study (left). Below is a patient's "road map".

Vein Mapping and Doppler Studies



A Doppler ultrasound test uses sound waves to evaluate blood as it flows through a blood vessel. It assists a doctor in evaluating the flow of blood through the major arteries and veins in your arm. It also allows the doctor to make a "road map" of your veins and arteries.

During duplex Doppler ultrasound, a handheld instrument (transducer) is passed lightly over the skin above a blood vessel. The transducer sends and receives sound waves that are amplified through a microphone. The sound waves bounce off solid objects, including blood cells. The movement of blood cells causes a change in pitch of the reflected sound waves (called the Doppler effect). If there is no blood flow, the pitch does not change. Information from the sound waves can be processed by a computer to provide graphs or pictures that represent the flow of blood through the blood vessels. These graphs or pictures can be saved for future review or evaluation.

There are several types of Doppler ultrasound that may be used. These are:

1. Duplex Doppler ultrasound uses standard ultrasound methods to produce a picture of a blood vessel and surrounding organs. In addition, a computer converts the Doppler sounds into a graph that provides information about the speed and direction of blood flow through the blood vessel being evaluated.

2. Color Doppler uses standard ultrasound methods to produce a picture of a blood vessel. In addition, a computer converts the Doppler sounds into colors that are overlaid on the image of the blood vessel and that represent the speed and direction of blood flow through the vessel.

