

*Arterial vascular  
ultrasound  
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## Arterial Vascular Ultrasound Exams

Arteries deliver the blood from the heart to the body. An arterial exam often consists of a scan and a series of blood pressure (BP) readings. The scan uses sound waves to check how well the blood flows through the arteries to different parts of the body. The arterial vascular ultrasound exams include:

- *Upper extremities, bilateral with pressures.* This exam looks at the arteries from under your arm to the wrist. Both arms are examined.
- *Upper extremities, bilateral with digital pressures.* This exam is the same as the upper extremity exam, but includes the fingers.
- *Lower extremities, bilateral with pressures.* This exam looks at the arteries anywhere from the groin to the ankle or big toe. Both legs are examined.
- *Lower extremities, bilateral with pressures and exercise.* This exam checks the same arteries as the lower extremity exam but includes an exercise segment. Patients are asked to walk on a treadmill for 5 minutes or less. Exercise and resting BP readings in the ankle are compared. This test usually is not done in patients who are over 80 years of age; patients who have a systolic BP reading (upper number) greater than 200; or those who have had a heart attack, stroke or heart surgery within the last year.
- *Ankle or brachial pressure (right, left or bilateral).* This exam looks at the arteries in the ankle or arm.
- *Duplex upper extremity (right, left or bilateral).* This exam focuses only on a **selected** artery or area in the arm. A picture of the artery wall is taken.
- *Duplex lower extremity (right, left or bilateral).* This exam looks at only a **certain area or artery** in the leg. A picture of the artery wall is taken.
- *Graft (upper or lower extremity, right, left or bilateral).* This exam looks at the blood flow in a post-surgery bypass graft.

All of these exams help to detect a blockage in blood flow (such as a blood clot). If blockages are found, the exam tells us where and how severe they are. Each exam, done in the Vascular Lab, takes about 60 minutes.

### Before the test

There is no special preparation for this test. On the day of the test, plan to arrive 15 minutes before your test time.

Be sure to bring:

- Your physician's written order for the test, if one was given to you
- A list of allergies
- A list of all your current medications (prescription, over-the-counter and herbals)
- Photo ID
- Medical insurance information and card
- Medicare card (Medicare patients only)

For their own safety, children under the age of 16 may not visit in the testing area. They may stay in the waiting room with a responsible adult.

Please come to the Galter Pavilion, 201 East Huron Street, and check in at the reception desk on the 8th floor. Parking is available for patients and visitors in the garage at 222 East Huron Street, across from the Feinberg and Galter pavilions. For discounted rates, please bring your parking ticket with you. Tickets can be validated at the Customer Services Desks on the 1st and 2nd floor of the Feinberg and Galter pavilions, and on the 1st floor of Prentice (including the Prentice 24-hour desk near the Superior Street entrance).

## During the test

The technician (tech) will help you to lie flat on your back on the exam table. A warm gel will be applied to the skin. Then, the tech will move a small, hand-held device (transducer) on the skin over the arteries being examined. The transducer will transmit sound waves to a monitor, where images can be seen and saved for later review. During the test, you may be asked to take deep breaths. You may see the images on the monitor and hear some sounds as the tech records the blood flow. Depending on the area being tested, blood pressure readings may be taken in your arms or legs. The readings are recorded and compared.

For an *arterial exam of the lower extremities with pressures and exercise*, you will be asked to walk on a treadmill for 5 minutes. During exercise, you will be connected to a heart monitor. After you walk, the tech will take your blood pressure in your ankles and arms again. If there is an arterial blockage, your blood pressure in your ankle will drop. The tech will take these readings about every minute until your blood pressure returns to the pre-exercise level.

## After the test

The tech will provide towels to help remove the gel. You will receive test results at the end of the exam. You may resume your normal diet and activities. The vascular surgeon who reads the test will send the results to your referring physician. Most often, these findings are sent to your physician within 48 hours. A full report will follow in about 5 business days.

*Para asistencia en español, por favor llamar al Departamento de Representantes para Pacientes al 312.926.3112.*

The entities that come together as Northwestern Medicine are committed to representing the communities we serve, fostering a culture of inclusion, delivering culturally competent care, providing access to treatment and programs in a nondiscriminatory manner and eliminating healthcare disparities. For questions, please call either Northwestern Memorial Hospital's Patient Representatives Department at 312.926.3112, TDD/TTY 312.926.6363 or the Northwestern Medical Group Patient Representatives Department at 312.695.1100, TDD/TTY 312.926.6363.

Developed by: NMH Vascular Laboratory