



Non-Invasive Vascular Laboratory

Why Am I Having This Test: Reasons, Explanations, And Testing Preparations

Why Am I Having A Non-Invasive Vascular Exam?

A Non-Invasive Vascular Examination, often called a Vascular Ultrasound, gives your cardiovascular specialist a great deal of diagnostic information about your arteries or veins without the use of dyes or radiation. Doppler ultrasound is used to evaluate blood flow in your legs and can be helpful in identifying blockages in your arteries and clots in your veins. Vascular ultrasound also gives your cardiovascular interventionalist diagnostic information regarding previous interventions such as stenting, or opening of an artery/vein by balloon (angioplasty). Some of the most common sites where Doppler ultrasound is used are in the neck, abdomen, legs, arms, and heart.

All of your Non-Invasive Examinations and Physiologic Vascular procedures at First Coast Cardiovascular Institute will be performed at one of our four fully Accredited, Signature, Non-Invasive Vascular Labs.

Will it hurt? Are there any special preparations for the exam?

There is generally no pain involved in an ultrasound examination, and for most exams, no preparation is necessary. Your doctor may ask you to refrain from eating on the morning of your exam if the ultrasound scan involves your abdomen. A gel will be applied to your skin and an instrument, called a transducer, is then placed on the area to be examined. This gel can feel cool and even though it wipes off easily, it is a good idea to wear clothing that is easily washable.

What can I expect during the exam?

The images made by the returning echoes are displayed on one or more monitors, which look like small television screens. In addition, returning sound waves that have been reflected by moving blood can be heard by means of speakers in the instrument. The sounds could be compared to the sound of wind blowing through the trees. The room is usually darkened during the examination to make it easier for the vascular technologist and doctor to see the images on the monitor.

How long will the exam take?

The average Doppler ultrasound exam takes 30 to 60 minutes. The length of the exam depends on numerous factors, including the portion of your body to be examined and the complexity of the anatomy.

Who will perform the exam?

All Non-Invasive Vascular examinations performed at *First Coast Cardiovascular Institute* are by registered and competent vascular technologists/sonographers, in fully *Accredited, State of the Art Vascular Labs*. These technologists are highly trained specialist whose only focus is vascular disease, corresponding risk factors, and interventional surveillance. Post testing, one of *First Coast Cardiovascular Institutes* highly trained and *Board Certified Vascular Interventionalist* will interpret the examination results within 24 hours of testing, or immediately if warranted.

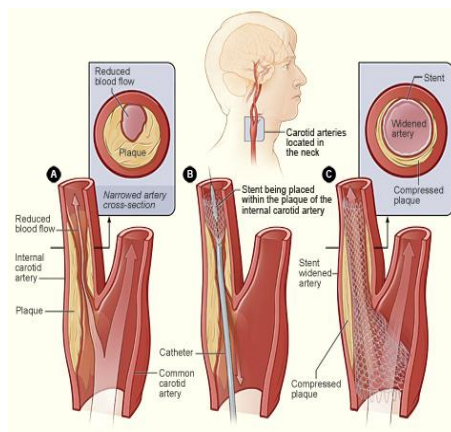
Will I need more than one exam?

In many cases, follow-up exams are necessary to evaluate the progress of your condition or your response to interventions or therapies. These will vary depending on your doctors' recommendation but generally fall within every month, six months, or annually. Once again, these are basic time frames, and only your doctor can give you more specific tailored medical plans.

Patient Preparation and Instructions

- **Carotid Duplex Ultrasound**

Ultrasound evaluation of the Carotid Arteries is a specialized ultrasound test which directly surveys the ***Common Carotid, Internal Carotid, and Vertebral Arteries***. These three sets of



arteries are the main suppliers of blood to the frontal, mid, and posterior portion of the brain. The *subclavian arteries* which are the main arteries of the arms are also examined as part of the examination as well.

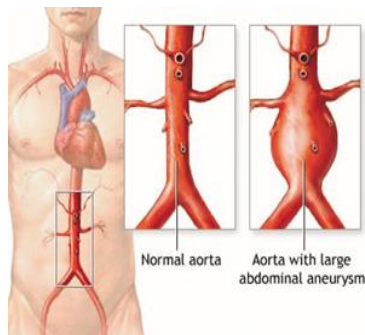
Your doctor may order a Carotid Artery Ultrasound for Several Reasons: *Stroke (CVA), Transient Ischemic Attack (TIA), Bruit (noise heard in neck or ear), Syncope, Dizziness, Numbness/Tingling of Face, Lips or Hands, Difficulty Speaking or Communicating, History of Stroke or TIA, and Visual Changes such as Loss of Vision, and Blurriness.*

Patient Preparation for Carotid Ultrasound:

No Preparation is needed for this test.

- **Aorta Duplex**

Ultrasound of the Aorta, which is the direct visualization of the main artery that carries blood away from the heart to the legs, is often the site of bulging or dilatation. Aortic Aneurysm's, better known as AAA, is a stretching or weakening of the arterial wall. This stretching or weakening of the vessel makes the artery susceptible to rupture.



Because there are certain risk factors associated with AAA such as: Family History, High Cholesterol, Poor Diet, Emphysema, Heart Disease, PAD, Smoking, and High Blood pressure, your doctor may order an ultrasound

to check for AAA.

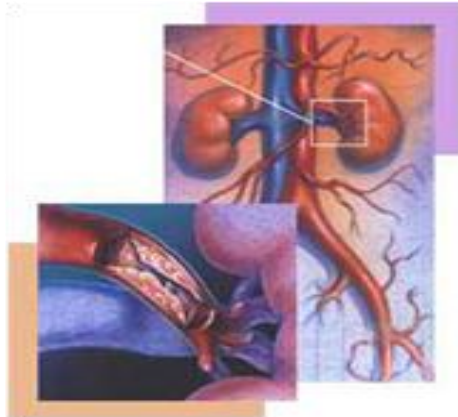
Patient Preparation for Aorta Ultrasound:

Nothing to eat or drink after midnight or 8 hours before testing. You may take all medicines with water only, no carbonated, sweetened, or caffeinated beverages these could possibly interfere with test results.

- **Renal Artery Duplex (Kidney and Kidney Vessels)**

Ultrasound examination of the Renal's (Kidneys), and Renal Arteries is a specialized ultrasound dedicated to the blood flow

to the kidney. Since the kidneys are two of the main organs which control blood pressure, a blockage in the renal artery may cause your blood pressure to become uncontrolled or unmanageable even if you are currently taking blood pressures medicine.



Your doctor may have ordered a Renal Artery Ultrasound test if you have: *Uncontrolled Hypertension (high blood pressure), Long Term Hypertension, Fluctuating Blood Pressure, Renal Artery Stenosis, Renal*

Insufficiency, Elevated Labs, Difference in Kidney size, or Interventional Surveillance such as Post Procedural Renal Artery Stenting Follow-Up.

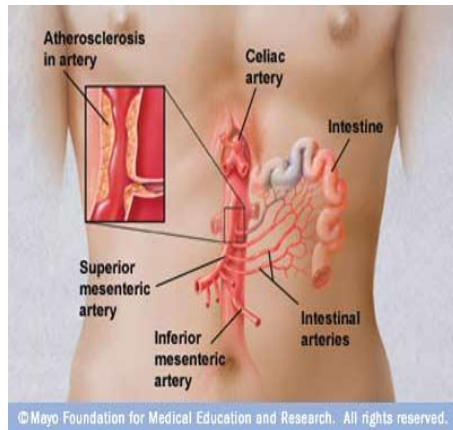
Patient Preparation for Renal Artery Ultrasound:

Nothing to eat or drink after midnight or 8 hours before testing. You may take all medicines with water only, no carbonated, sweetened, or caffeinated beverages these could possibly interfere with test results.

- **Mesenteric Artery Doppler Ultrasound (Intestinal Arteries)**

Duplex ultrasound evaluation of Mesenteric Arteries is a highly specialized ultrasound evaluation of the arteries feeding you stomach, intestines, liver, spleen, and abdominal aorta. This test allows the vascular technologist and your doctor to directly

visualize these arteries for blockages (Calcification) which may be contributing to your symptoms.



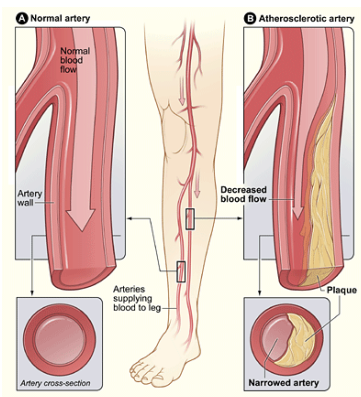
Your doctor may have ordered this test if you are experiencing: *Acute (Fast) or Chronic (Dull) Abdominal Pain (Ischemia), Abdominal Pain after Eating, Abnormal Weight Loss, Diarrhea, Abdominal Noise (Bruit), or Mesenteric Ischemia.*

Patient Preparation for Mesenteric Artery Ultrasound:

Nothing to eat or drink after midnight or 8 hours before testing. You may take all medicines with water only, no carbonated, sweetened, or caffeinated beverages these could possibly interfere with test results

- **Arterial Duplex of the Lower and Upper Extremities**

An Arterial Ultrasound of your legs or arms is used to directly visualize the arteries in your arms and legs without the use of dyes or radiation. This test allows the vascular technologist and doctor to directly visualize the arteries in your legs or arms for blockages, arterial abnormalities, or previous interventions.



Your doctor may have ordered this test if you have: *Peripheral Artery Disease (PAD), Diabetes, Pain when Walking-Relieved with Rest (Claudication), Atherosclerosis,*

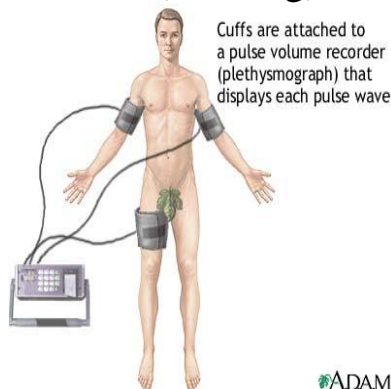
Arteriosclerosis, Diminished Foot Pulses, Non-Healing Sores on Your Feet or Heals (Ulcers), History or AAA, Leg Pain at Rest, or Any Post Procedural Catherization, Stenting or Bypasses in the Arteries.

Patient Preparation for Lower or Upper Extremity Arterial Duplex

No preparation is needed for this test.

- **Pulse Volume Record and Exercise Arterial Doppler (PVR)**

A Pulse Volume Record (PVR) is a completely physiological test, *meaning*, the vascular technologist will listen the arteries in your legs or arms with a Doppler, record blood pressures in your arms and legs, in combination with mild-to-moderate exercise (walking) on a treadmill.



Your doctor may have ordered this test if you have: *calf or thigh pain when walking relieved with rest (Claudication), History of AAA, Peripheral Artery Disease (PAD), Diabetes, Non-Healing Sores on Your Feet or Heals (Ulcers), Leg Pain at*

Rest, Raynaud's Disease, or Differences in Brachial Arm Pressure

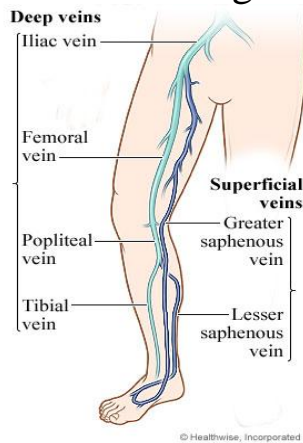
Patient Preparation for Pulse Volume Record (PVR)

No preparation is needed, however, since this test possibly involves walking on a treadmill you may consider wearing a comfortable pair of shoes you

can walk in. If not, we can provide you with a pair of slip-on booties.

- **Upper and Lower-Extremity Venous Doppler Ultrasound**

Ultrasound evaluation the upper or lower extremities venous system is highly sensitive vascular ultrasound test that allows the vascular technologist and doctor to examine the veins in your arms or legs for Deep Venous Thrombosis (DVT).



Your doctor may have ordered this test if you are having: *Shortness of Breath, Acute or Chronic Limb Swelling or Pain, History of DVT, Long Term Immobility, Post Operative Limb Pain or Swelling, Non-Healing or Weeping Ulcer of the Calf, Superficial Phlebitis, Painful Inflamed Varicosed Veins, or after any*

Trauma such as a Fall or Accident.

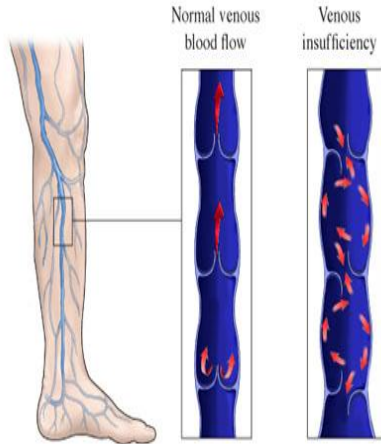
Patient Preparation for Lower or Upper Extremity Venous Duplex

No preparation is needed for this test.

- **Venous Insufficiency Ultrasound of the Lower Extremities**

A Venous Insufficiency Ultrasound is a highly specialized test in the detection of valvular dysfunction (Leaky Veins) of the deep and superficial venous system. This is a very involved and comprehensive ultrasound of the all the major veins in your legs

and their tributaries. The diagnostic information obtained during this test will be reviewed by one of our dedicated vascular specialist and the absolute best, and comprehensive clinical plan available will be discussed.



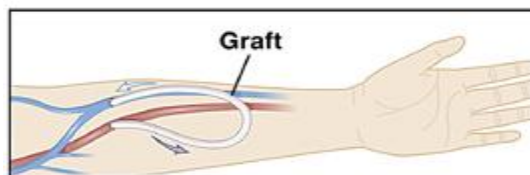
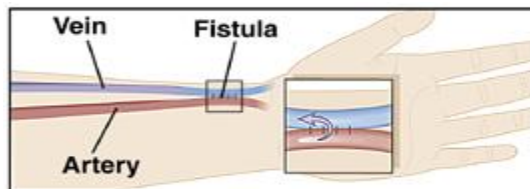
Your doctor may have ordered this test if you have: *Non-Healing or Weeping Lower Leg Sores (Stasis Ulcers), History of Calf Ulcers, Calf Discoloration, Long Term Leg Swelling or Edema, Bulging Varicose Veins, Superficial Phlebitis, Restless Legs*

at Night, Itching or Burning of the Legs, Large Networks or Small Leg Veins (Reticular Veins or Spider Veins, Leg Heaviness, Throbbing, and overall Leg Fatigue.

Patient Preparation for Venous Insufficiency of the Lower Extremities

No preparation is needed for this test.

- **Hemodialysis Access Evaluation (AVF)**



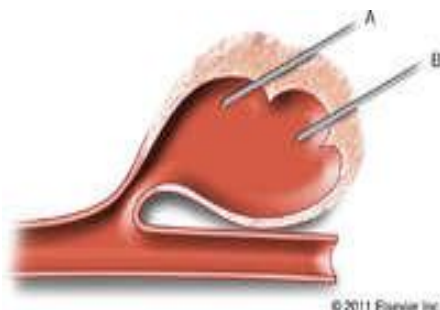
Hemodialysis Access Ultrasound is a very sensitive and highly specialized test for those patients receiving Hemodialysis. Immediately after testing the results will be reviewed by one of our vascular specialists, and the best course of Intervention will

be discussed. You may even be referred to *First Coast Cardiovascular Institutes Catheterization Laboratory* post Non-Invasive Testing for further diagnostic work-up and intervention.

**Patient Preparation for
Hemodialysis Access
Evaluation (AVF)**

No preparation is needed for this test.

- **Pseudoaneurysm Evaluation and Injection**



Doppler ultrasound evaluation following heart or peripheral (arms or legs) catheterization for possible arterial injury. If an injury or pseudoaneurysm to the artery is found, it may be amendable with an in-office repair by injecting a clotting agent into the pseudoaneurysm, closing it. This is typically not a painful procedure and relief is generally felt immediately.

**Patient Preparation for
Pseudoaneurysm Evaluation
and Injection**

No preparation is needed for this test.