

# TRI CITIES VEIN AND VASCULAR INSTITUTE

## ULTRASOUNDS

**Abdominal: Renal, AAA (abdominal aortic aneurysm), Mesenteric, Portal Vein  
Carotid & Transcranial Imaging (TCI)**

**Peripheral Venous  
Peripheral Arterial  
Dialysis Access Evaluations  
Pre-Dialysis Mapping  
Vein Mapping  
Graft/Stent Evaluation  
Ankle Brachial Index (ABI)**

## CAROTID

This study tells us how the blood flow is getting to your brain. We look at the common carotid, external carotid, internal carotid, vertebral and subclavian arteries to see if there is any plaque that would be obstructing blood flow.

**Reasons to have this test:** If you are experiencing any dizziness, sudden vision changes or weakness on one side or the other; if you have a history of peripheral arterial disease (PAD), stroke or heart attack.

## VENOUS

This study helps us to rule out a deep vein thrombosis or incompetent veins. The veins in your legs have valves that help to push the blood back up to your heart; when these valves stop working blood can pool causing swelling and pain.

**Reasons to have this test:** If you are experiencing any pain or swelling in your legs, visible varicose veins or ulcers.

## ARTERIAL

This study tells us how the blood is flowing down into your legs. Atherosclerotic plaque can build up in your arteries restricting blood flow down to your feet causing pain after walking short distances.

**Reasons to have the test:** If after walking a short distance you start feeling pain or cramping in your buttocks, thighs or calves; if you have a history of diabetes, hypertension, high cholesterol, smoking, ulcers, and/or non-healing wounds in your feet, ankles or toes.

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## RENAL

This study tells us how the blood flow is getting to your kidneys. We look at the renal arteries, the flow within the kidney and the abdominal aorta.

**Reasons to have this test:** If you have uncontrollable high blood pressure, stents in your renal arteries, or a family history of abdominal aortic aneurysm.

## ABDOMINAL AORTIC ANEURYSM (AAA)

This study tells us if your aorta is becoming enlarged by measuring the abdominal aorta and the iliac arteries. An abdominal aorta over 3cm in diameter is considered aneurysmal. AAAs often have no symptoms; mortality rate is high if they rupture.

**Reasons to have this test:** If you have a family history of AAAs or are a male who is between 65-75 years old and has smoked at least 100 cigarettes in his lifetime. Medicare will now cover a one time AAA screening during your first year as part of the “Welcome to Medicare” packet.

## DIALYSIS ACCESS EVALUATION

This study tells us how the blood is flowing through your fistula. Dialysis fistulas are usually placed in your arm using either a graft or a vein to connect an artery and a vein together. This helps to have better access and blood flow during dialysis.

**Reasons to have this test:** If you are having any complications during dialysis.

## PRE-DIALYSIS MAPPING

This study looks at your veins and arteries in the arm to see if and where you could have a permanent fistula placement. We make sure all your veins are fully compressible and free from obstruction, and are large enough to use as an arteriovenous fistula. We also look at the arteries to make sure they have normal blood flow and there are no obstructions. If there are no adequate veins, a synthetic graft can be used to connect an artery and a vein to make a fistula.

**Reasons to have this test:** If you are in need of a permanent fistula placement due to chronic renal failure.

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## VEIN MAPPING

This study looks at the superficial veins in your legs and possibly your arms to see if they can be use as an arterial bypass graft. We make sure all of the veins are fully compressible and free from obstruction, and are large enough to use as an arterial bypass graft. If the vein is large enough then we use a permanent marker to map where the vein and it branches lay. This makes it easier for the doctor when it comes time for surgery.

**Reasons to have this test:** If you are in need of an arterial bypass graft due to PAD.

## BYPASS GRAFT EVALUATION

This study looks at the flow in a graft that has bypassed an occluded or highly obstructed artery. Bypass grafts can be either a vein or a synthetic graft.

**Reason to have this test:** If you have a bypass graft that might be showing signs of becoming occluded. Routine ultrasounds can see these signs and hopefully prevent a problem.

## TRANSCRANIAL IMAGING (TCI)

This study looks at the intracranial arterial flow that feeds the brain. We make sure that all the vessels are flowing the appropriate direction and that there are no narrowing in the vessels.

**Reasons to have this test:** If you have had a stroke, have high grade or occlusive carotid artery disease, experiencing any dizziness, sudden vision changes or weakness on one side or the other.

## ANKLE BRACHIAL INDEX (ABI)

This study looks at the blood pressures in your legs and compares it to the blood pressure in your arms. A person with no peripheral arterial disease will have the same pressure or slightly higher in their legs as compared to their arm pressure. A person who has PAD, will have a significantly lower blood pressure in their legs as compared to their arms.

**Reasons to have this test:** If you have pain and cramping in your legs while walking short distances.

### **Links:**

Society of Vascular Ultrasound <http://www.svunet.org>

The Intersocietal Commission for the Accreditation of Vascular Laboratories <http://www.icavl.org>

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