



## **Pacific Cardiovascular Associates Medical Group**

### **Imaging Testing (Ultrasound/Doppler)**

#### **Ankle—Brachial Index (ABI)**

The ankle-brachial index test is a quick, noninvasive way to check your risk of peripheral arterial disease (PAD). People with blockages of a peripheral artery are also at a high risk of heart attack, stroke, poor circulation and leg pain.

This test is done by measuring blood pressure at the ankle and in the arm while the person is at rest. Measurements are usually repeated at both sites (leg & arm) after 2 minutes of toe raises.

#### **No Preparation is Needed**

**Appointment Time:** 30 min

**This test is non-invasive**

#### **Aortic Duplex**

The aorta is the largest and most important blood vessel in the body, as it pumps oxygenated blood throughout the body. This procedure is used to detect signs of abdominal aortic aneurysm (AAA), a condition when the walls of the abdominal aorta become weak and began to expand outward. It also can detect tears in the aorta, calcification, blockages and other plaque buildup.

**Preparation:** do not eat after midnight, however medications may be taken.

**Appointment Time:** 1 hour

**This test is non-invasive**

#### **Echocardiogram**

An echocardiogram is a safe, non-invasive procedure used to examine your heart. It uses high-frequency sound waves (ultrasound) to see all four chambers of the heart, the heart valves, the great blood vessels entering and leaving the heart, as well as the sac around the heart. Early detection of many heart disorders and disease is possible through the use of echocardiography performed within PCA's facilities. This test primarily assesses heart structure but can also help assess heart function.

**Preparation:** wear loose & comfortable clothing that can be removed from the waist up.

**Appointment Time:** 1 hour

**This test is non-invasive**

## Inguinal Duplex

This test is used by cardiologists to rule out the presence of a pseudoaneurysm, also known as a false aneurysm, which can also be accompanied by a hematoma that forms as the result of a leaking hole in an artery after a heart catheterization procedure is performed. It would only be necessary to check the side where the catheter was placed. This is an uncommon occurrence but is important to diagnose soon after an arterial puncture procedure.

**No Preparation Needed**

**Appointment Time:** 1 hour

**This test is non-invasive**

## Transcranial Doppler

This ultrasound test is a non-invasive, yet effective means to detect abnormal communications between the heart chambers such as atrial septal defects (ASD) or patent foramen ovale (PFO). These abnormal communications are usually present between the right and left upper chambers of the heart. Other abnormal communication can also be detected by assessing the appearance of injected microbubbles in an arm artery and monitoring for their appearance in the brain.

**Preparation:** Please wear a short sleeve shirt

**Appointment Time:** 1 hour

**This test requires the insertion of an IV catheter temporarily**

## Venous Duplex—Lower/Upper Extremity

Ultrasound is used to image the veins from the groin to the ankle (or neck to the wrist) to evaluate blood flow. This test evaluates for possible blood clots, also known as a thrombus, that has formed in a vein deep within the body (Deep Vein Thrombosis; DVT). DVT may or may not have symptoms but can lead to a pulmonary embolism (PE) if the clot breaks loose and travels to the lungs.

**No Preparation Needed**

**Appointment Time:** 1 hour

**This test is non-invasive**

### **Arterial Duplex—Lower/Upper Extremity**

Ultrasound is used to image the arteries from the groin to the ankle (or neck to the wrist) to evaluate blood flow. This test will show if there is blockage in the arteries or other disturbances in arterial flow.

\* An Ankle Brachial Index Test must be performed prior to an Arterial Duplex Test is ordered.

**No Preparation Needed**

**Appointment Time:** 1 hour

**This test is non-invasive**

### **Renal Duplex**

The renal arteries carry blood to the kidneys. If these arteries become narrowed, or blocked, it may lead to kidney failure or high blood pressure. This test will locate any clots or narrowed areas within the arteries and also determine the size of the kidney and presence of cysts in the kidney.

**Preparation: do not eat after midnight**

**Appointment Time:** 60 minutes

**This test is non-invasive**

### **Carotid Duplex**

This test checks blood flow in the carotid arteries (located in the neck). These arteries supply blood directly to the brain. This image can detect:

- Blood clotting (thrombosis)
- Narrowing in the arteries (stenosis)
- Other causes of blockage in the carotid arteries
- Other disturbances in flow

This test is very important in helping assess patients who may be at risk of a stroke

**No Preparation Needed**

**Appointment Time:** 30 min

**This test is non-invasive**

## Venous Duplex Reflux

Ultrasound is used to image the leg veins from the groin to the ankle to evaluate blood flow and assess the competence of the valves within the veins. When the valves that keep the blood flowing back to the heart no longer function the blood pools and can cause pain, swelling, heaviness, fatigue and changes to the skin. This test allows us to confirm venous insufficiency which is very treatable and can provide relief of these symptoms.

### Preparation:

- Patient should not perform any significant exercise 24 hours prior to the study.
- Patient should not wear compression stockings for 48 hours prior to the study.
- Patient should hold diuretics for the day until after study if possible.
- Patient should be told to be well hydrated prior to the study.

Appointment time: 90 minutes

This test is non-invasive