Percutaneous Transluminal Angioplasty (PTA) and Stenting

There are two types of blood vessels in the body – arteries and veins. Arteries carry oxygen rich blood from the heart to all the organs of the body. Veins carry blood back to the heart. The aorta is the largest and most important artery in the body. If there is a problem with your aorta or arteries, there is less blood flow to the rest of your body.

Atherosclerosis causes the walls of the arteries to narrow because of plaque build-up. This can form a blockage. This occurs slowly over time. The plaque is made up of fat, cholesterol and calcium deposits. It can decrease blood flow to your legs and other organs.

Risk Factors
Risk factors that can be changed or treated:

- Tobacco use and secondhand smoke
- Hypertension (high blood pressure)
- High cholesterol
- Diabetes
- Obesity
- Lack of exercise

Risk factors that cannot be changed:

- Aging
- Sex (males have a higher risk)
- Family history

Symptoms of Atherosclerosis

- Leg pain that is relieved with rest
- Pain at rest, if blockage is severe
- Discolored skin
- Legs are cool to touch
- Loss of hair on toes, feet and legs
- Thick toenails
- Numbness and tingling
- Ulcers
- Male impotence

The leg pain is caused by the increased need for oxygen to your leg muscles during exercise. If the arteries are narrow or blocked, you will not get enough blood flow and oxygen to the muscles. This causes the pain. If the artery supplies other body organs, you may have other symptoms. If the kidney arteries are blocked, you may have high blood pressure or kidney failure. If the blood vessels are blocked to the intestine, you may have abdominal pain after eating.

Treatment
Mild artery disease can be treated with:

- Starting an exercise program
- Improve risk factors that can be controlled
- Angioplasty (PTA) or stenting

For severe artery disease, you may need arterial bypass surgery. A vein from your leg or arm is used to bypass the blockage. It is called a bypass because the graft will send blood around the blockage. A fabric graft will be used if one of your own veins can't be used.

Diagnostic Tests
You may have tests to find out more about your disease. Tests may include:

- Computerized tomography (CT)
- Magnetic resonance angiogram (MRA).
- Ankle brachial pressure index (ABI)
- Angiogram

Percutaneous Transluminal Angioplasty (PTA)

PTA is a series of x-ray pictures taken using contrast. Arteries or veins that are narrowed or blocked are opened. A special catheter with a balloon on the tip will inflate and deflate. This will open the blocked blood vessel.

This procedure is done in the Heart and Vascular Care Procedure Center. Before starting, our doctor will talk with you about what to expect and ask you for your consent to do it. **Be sure to tell the doctor if you have any allergies to contrast dyes, antibiotics, anesthetic agents, latex, or any medicines that you may have taken before.**

It often takes several hours, sometimes longer. You will have an IV (intravenous) inserted. You will get fluid through your IV. You may get medicine to help you relax.

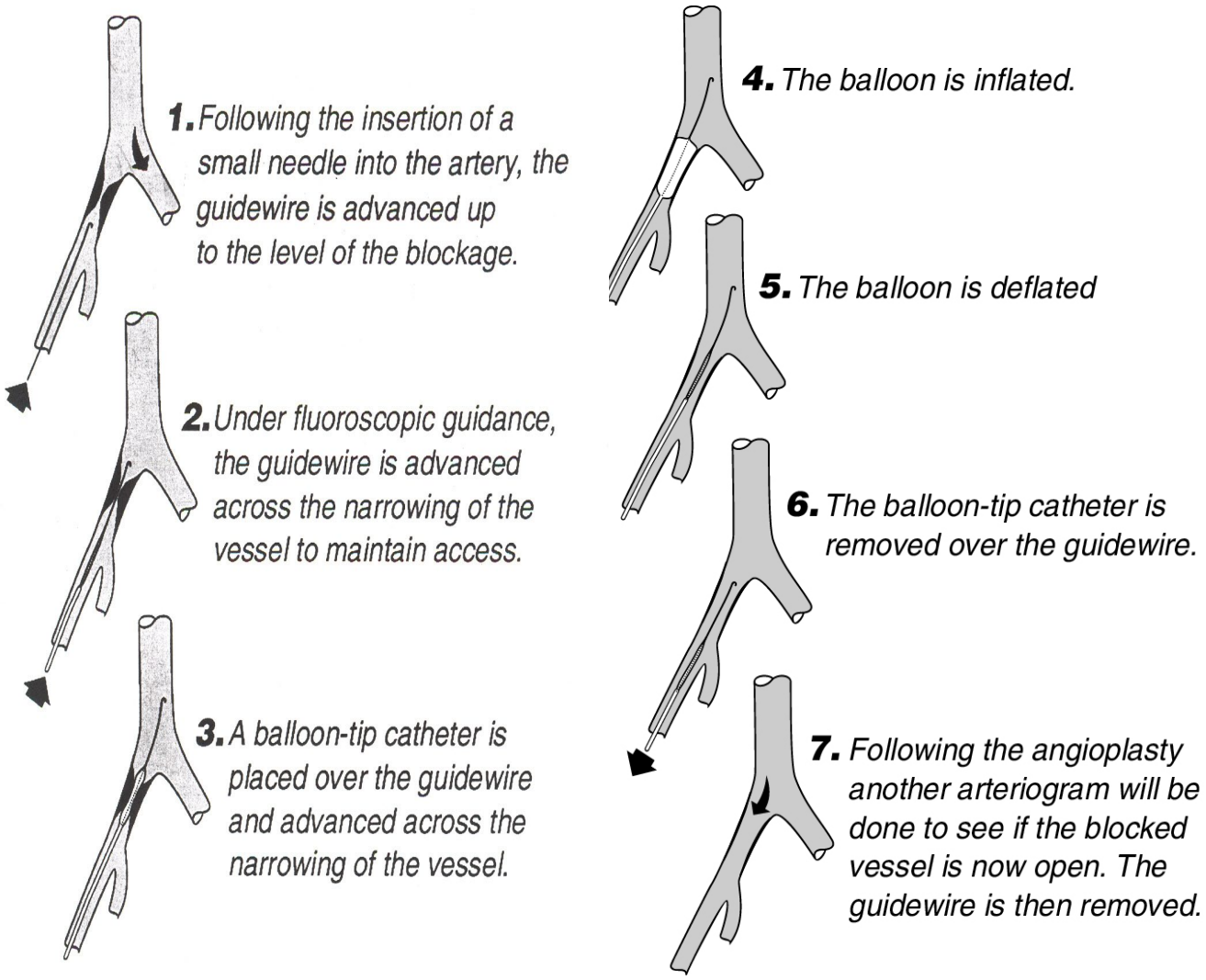
During the PTA, the nurse will check your vital signs. The doctor or tech will find your femoral or radial artery and mark it. This area will be shaved and cleaned. You will be covered with sterile drapes to help prevent infection.

You will get numbing medicine so you will have little pain. Most patients do not feel a lot of pain. You may feel pressure during the procedure. Using x-ray, a small tube (catheter) is placed into the artery. The doctor will move the tube into the area that needs to be studied.

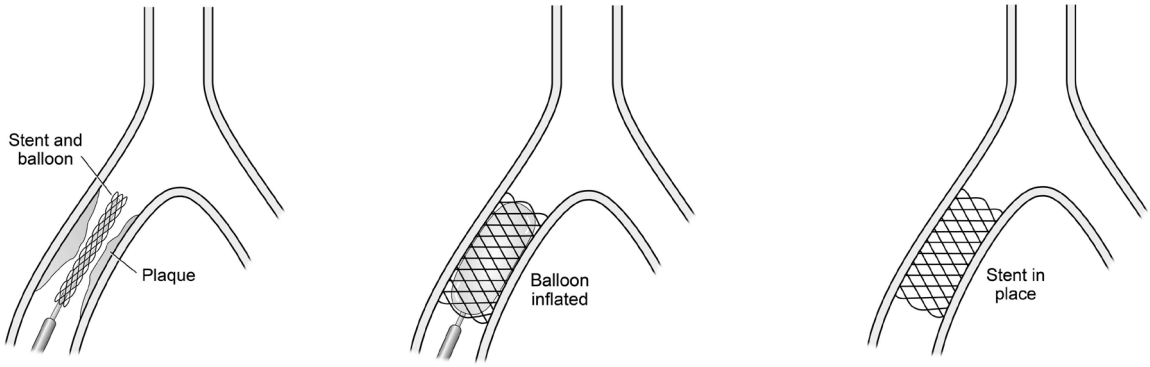
"Contrast" or dye will be injected into the catheter. The contrast highlights the vessels. During this process you may feel warmth or heat. This is normal and is often felt in the abdomen and buttocks. We will ask you to hold your breath so you do not move while the pictures are being taken. We will repeat this process several times.

After finding the place and size of the blockage, the angioplasty will begin. The tube is inserted until it reaches the blocked area. At the end of the tube is a balloon. The balloon is inflated for 15-60 seconds and then deflated. This process may be done several times. You may feel pressure at the site where the inflation occurs. Some patients have some pain as the balloon is being inflated. If this happens, you can be given IV pain medicine. Blood flow often improves right away. Your leg or arm color will improve. Your leg or arm pain may be less.

How the PTA Will Be Done



PTA with Stenting



PTA with Stenting
You may have a stent placed during your PTA. This is a small metal coil that helps keep the narrowed artery open. The stent is attached to the catheter and expanded with a balloon.

After Your Procedure
- You will need to lie flat with your leg or arm straight for 6 or more hours after your sheath (a large IV in your groin or elbow) is removed.
- We will take your vital signs such as blood pressure, pulse and temperature often. We will also check circulation of your leg or arm.
- We will check the groin or elbow site for bleeding.
- You may eat and drink after the sheath is removed.
- You may start taking most of the medicines you took before the procedure. Your blood thinners (Coumadin®, Plavix®, aspirin) may be changed. A doctor, nurse, or pharmacist will talk with you about this.
- You will have an IV to make sure you have enough fluids.

Before You Go Home
- You will learn how to apply direct pressure to the site in case it bleeds.
- Talk with your doctor about when you can return to work or normal routines and resume driving.

Home Care
Leave the Tegaderm® dressing on during your first shower after PTA. After your shower, remove the dressing and leave the site open to the air. If you notice drainage, place a band-aid over the site. Do not take a tub bath for the first 24 hours.

Drink at least 10-20 (8 oz.) glasses of fluid (water, coffee, juice, tea, etc) for the first 24 hours. Do not drink alcohol the first day.

Keep your leg or arm (with the puncture site) straight when sitting or lying down for the first 24 hours.

No heavy lifting (more than 10 pounds) for 1 week.

When to Seek Medical Help
Call **911** and go to the nearest ER if:
- Bleeding occurs at the site. Apply direct pressure.
- You feel extreme dizziness, faint or lightheaded. These symptoms may be due to low blood pressure. You could have internal bleeding.

Puncture Site
Once a day for five days, look at puncture site on your leg or arm for signs of infection. Call your doctor if you notice:
- Redness or warmth at the site
- Foul-smelling, yellowish or greenish drainage from puncture site
- Increased swelling at puncture site
- Fever above 101.5°F or 38.5°C, by mouth

Pain Medicine
You should feel only a little pain after you are home. For relief, take acetaminophen (such as Tylenol®).

When to Call

- An increase in redness or warmth at the site of your incision.
- Red streaks on your skin that extend from the incision.
- New drainage or bleeding from your incision
- Large firm area under and around the puncture site
- Sudden increase in pain that is not relieved by your pain medicine.
- A temperature over 101.5°F (38.5°C) by mouth for two readings taken 4 hours apart.
- A new onset of weakness or numbness in your legs, arms, hands, or feet.
- Cold or discolored legs or arms.
- Tingling or loss of movement in your legs.
- Sudden increase in tenderness or swelling in your leg.

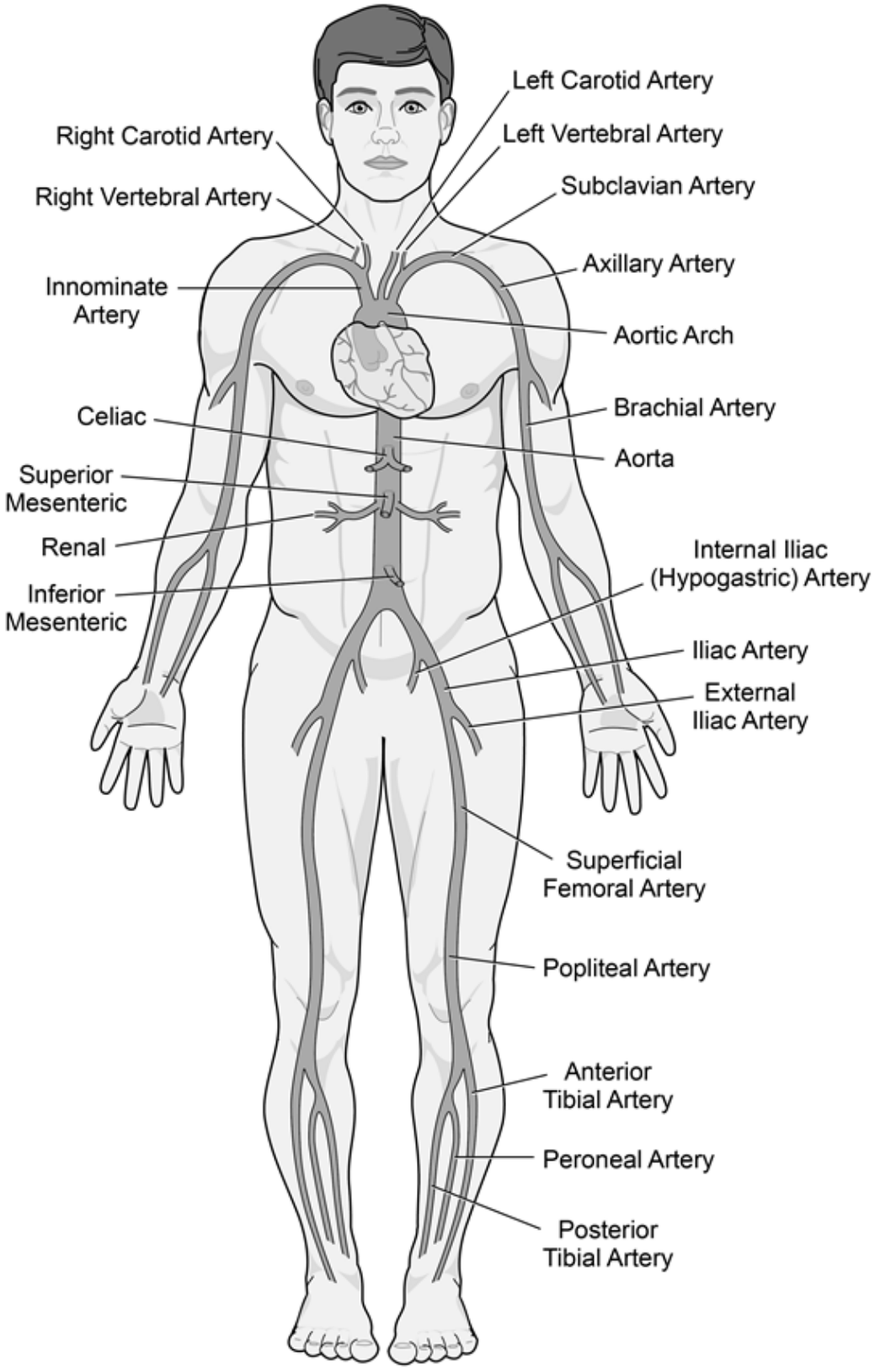
Who to Call

Vascular Surgery Clinic at **(608) 263-8915** from 8:00 am to 5:00 pm Monday through Friday.

After hours, your call will be answered by a paging operator. Ask for the Vascular Surgery doctor on call. Give your name and phone number with area code. The doctor will call you back.

If you live out of the area, call **1-800-323-8942.**

If you are a patient receiving care at UnityPoint – Meriter, Swedish American or a health system outside of UW Health, please use the phone numbers provided in your discharge instructions for any questions or concerns.


Left Carotid Artery
Right Carotid Artery
Left Vertebral Artery
Right Vertebral Artery
Subclavian Artery
Axillary Artery
Innominate Artery
Aortic Arch
Brachial Artery
Celiac
Aorta
Superior Mesenteric
Renal
Internal Iliac (Hypogastric) Artery
Inferior Mesenteric
Iliac Artery
External Iliac Artery
Superficial Femoral Artery
Popliteal Artery
Anterior Tibial Artery
Peroneal Artery
Posterior Tibial Artery