

Surgery of the Aorta: Arterial Bypass and Endarterectomy

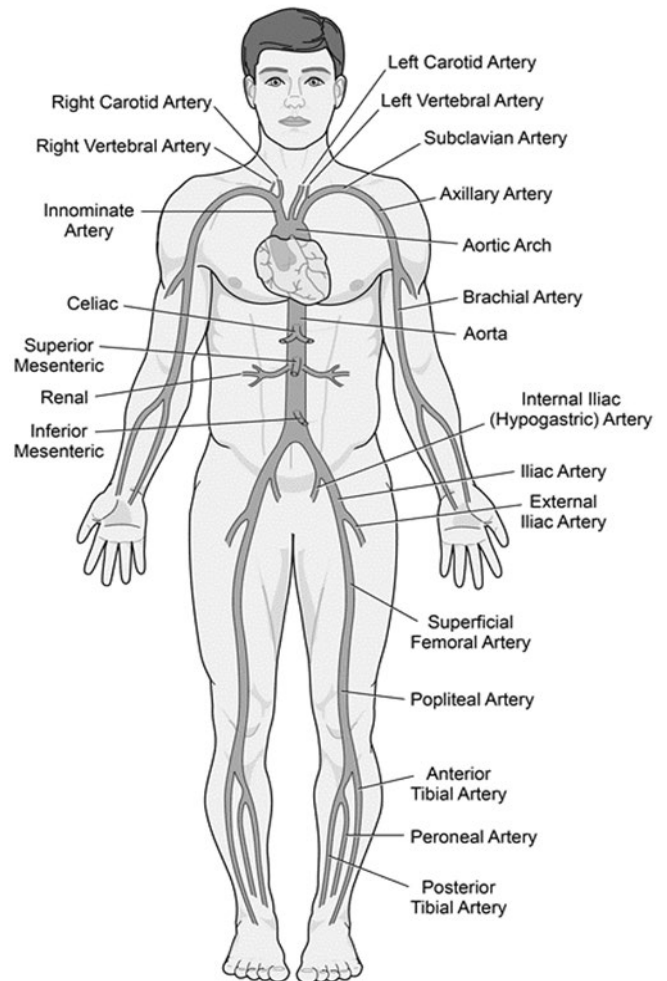
The Aorta

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

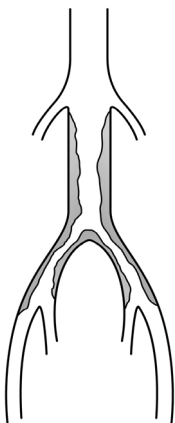
Atherosclerosis

With atherosclerosis, the walls of the arteries are narrowed 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 cause less blood flow to your legs and other organs.

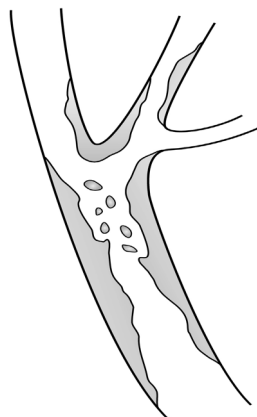
Blood clots can stick to the wall of the arteries causing atherosclerosis. These blood clots can break off and get stuck in the artery and block blood flow. This is called an embolus.



Atherosclerosis



Embolus



Risk Factors

Risk factors that can be changed or treated:

- Tobacco use and exposure to 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 Peripheral Arterial Disease

- 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

Diagnostic Tests

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

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

Treatment

Treatment to fix a blockage depends on the extent of your disease and your health. Mild disease may improve with:

- Exercise
- Control of risk factors
- Balloon angioplasty or stenting

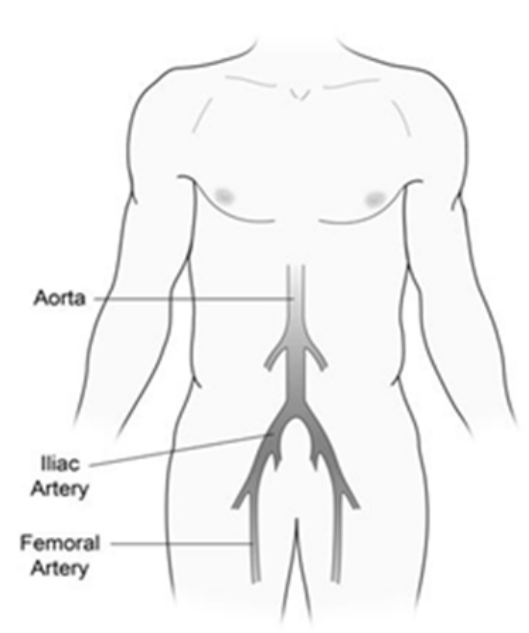
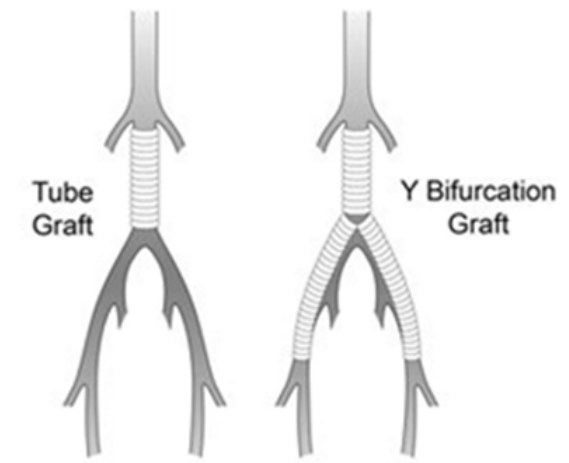
Surgery can help bypass or remove the blockage. This will increase the blood flow to your legs. The surgery to bypass the blockage in the lower aorta is called an aortobifemoral bypass. If the blockage is removed, it is called an endarterectomy.

Surgery

Surgery to fix a blockage in the aorta or other artery is done under general anesthesia. This means you will be asleep during surgery. Your incision will be on your chest or abdomen. You may also have incisions in your groin.

Surgical techniques include:

- **Endarterectomy:** removal of the plaque. The plaque is cut from the blood vessel wall.
- **Embolectomy:** removal of a blood clot.
- **Bypass graft:** going around a blockage or aneurysm. A vein from your leg or arm may be used to bypass the blockage. A fabric graft will be used if one of your own veins can't be used. It is sewn to make the walls of the aorta stable.



What to Expect After Surgery

After surgery you may be moved to an intensive care unit (ICU) or to an intermediate care unit (IMC). We will closely watch your heart rate, blood pressure, and blood oxygen level. When you wake up you will have some tubes and lines attached to you.

- **Breathing tube:** You may have a breathing tube to help you breathe. We will take it out when you can breathe on your own.
- **IV:** You will have an IV in your arm or neck. The nurses will use the IV to give you medicine and fluids.
- **Arterial line:** You may have an arterial line in the artery in your wrist. The arterial line is used to measure your blood pressure and draw blood.
- **Urinary catheter:** You may have a urinary catheter in your bladder to drain urine.
- You may have other drains in your stomach, incision, or spine.

You will be given medicine to help manage your pain. You will not be able to eat or drink right away. You will slowly be able to eat more each day. You will work with nurses and physical therapists to get back your strength.

Most patients who have this surgery can go home within 4-6 days.

Wound Care

Your incision is closed with stitches or staples. You will receive instructions before you are discharged home. Most incisions can be left open to air except for incisions in the groin. These should be covered with a dry gauze dressing or Mepilex dressing. Be sure your incision is dry before you apply the gauze or Mepilex dressing.

Key points:

- You may get your incision wet in the shower. Do not swim or take tub baths.
- Clean the incision gently with mild soap and water.
 - Remove any dried drainage.
 - Do not scrub the incision.
 - Rinse it and pat dry.
- Do not use any lotions, alcohol or powders.

Activity

When you go home you should be able to do most of your basic daily routines. You will need to give yourself time for rest. You will tire easily. You may feel weaker. This is normal. Your strength and energy level will increase as your body heals.

Walking is good for you. Start slowly and increase your distance a little bit each day. This will help you become stronger. Walking also helps prevent constipation and blood clots.

You will have some restrictions. For the first few weeks after surgery:

- Do not lift more than 10 pounds during the first 6 weeks at home. This includes groceries, pets and children. One gallon of milk weighs about 8 pounds.
- Do not drive until your doctor says it is okay. **Do not** drive while taking narcotic pain medicine.
- Do not play contact sports or any exercise other than walking until your doctor approves.
- Ask your doctor at your first clinic visit when you may return to work and resume sex.
- If you had an aortobifemoral bypass, you should not sit for longer than 1 hour at a time. Be sure to elevate your legs when sitting.

Pain

It is normal to have some pain at your incision. You may also have pain in your abdomen, chest, back or groin. The pain will decrease as the incision heals. You should take the pain medicine prescribed by your doctor. As time passes, you should need less pain medicine. You may then wish to use an over-the-counter pain medicine but talk to your doctor before starting this. It may interfere with other medicines you are taking. Do not drive while taking narcotic pain medicine.

Narcotic pain medicine can make you constipated. Use over-the-counter stool softeners as needed. Drink plenty of fluids and eat high fiber foods. Fruits and vegetables (prunes, raisins, apples, oranges, potatoes, spinach and carrots) and whole grain breads or rice have fiber. Staying active also helps prevent constipation.

Diet

You may have loss of appetite and even lose weight. Try to eat a healthy diet to help your body heal. You may want to eat small amounts of food several times a day instead of eating three large meals.

You should also drink enough fluid to stay hydrated. Dehydration can make you feel more tired and weak. Drink at least 8 to 10 eight-ounce glasses of fluid each day. Water and milk are good options. Limit the amount of drinks with caffeine (soda, coffee) because they can dehydrate you.

Eat a heart healthy diet:

- Eat less saturated fat. Eat less fatty meats, fried foods, butter and whole milk dairy products. Eat more fish, chicken, turkey and veal and less beef, lamb and pork.
- Limit eating organ meats (liver, kidneys, etc) to once a month.

- Use polyunsaturated oils, such as canola, safflower, soybean, sunflower, sesame and cottonseed oils.
- Drink skim milk instead of whole milk.
- Eat sherbet or Italian ice instead of ice cream.
- Eat less trans fats. Eat less sweets such as donuts, cookies, and desserts.
- Eat less carbohydrates. Eat less sugars and sweetened drinks.
- Eat less salt. Do not add extra salt to your food.
- Eat less processed foods.
- Eat less cholesterol. Eat less egg yolks and shrimp.

Antibiotics

If you have an artificial graft, you will need antibiotics before dental cleanings or dental procedures. You will only need antibiotics for the first year after your surgery. Tell your dentist or doctor about your artificial graft so you can get antibiotics. This may prevent a graft infection.

Leg Swelling

As you become more active, your legs may swell. If this happens, raise your legs when you sit. Your doctor may want you to wear stockings or ace bandages when you go home. These help reduce swelling and return blood to the heart. Apply them before walking. If you wear ace bandages, they should be wrapped snugly from toe to knee. Your nurse will show you how to wrap them. Remove them when you go to bed.

You may need to wear stockings or ace wraps for the first 2 weeks, or until the swelling is gone. If you are still having swelling, keep wearing them for support. Ask your doctor when you can stop wearing them.

Do not wear clothes that constrict your legs or feet such as tight socks or garters. Buy shoes that fit well to prevent pressure sores or swelling in your feet. Wear socks with your shoes to prevent blisters.

Smoking

Try to quit smoking. Smoking delays wound healing, and can decrease blood flow, shrink arteries, and raise your blood pressure. If you would like help quitting, call the Quit Line: **1-800-784-8669**.

Follow Up

You will be seen in the Vascular Surgery Clinic about 2 weeks after you go home. If you still have staples or stitches, they may be removed at this visit.

When to Call the Doctor

- An increase in redness or warmth at the site of your incision.
- Red streaks on your skin that extend from the incision.
- Bulging or swelling at the incision.
- New drainage or bleeding from your incision. Call if drainage is cloudy, yellow, green or foul-smelling.
- Open spots between the stitches or staples where the skin is pulling apart.
- If you notice the skin along the incision is getting darker or turning black.
- Sudden increase in pain that is not relieved by your pain medicine.
- A fever over 101.5°F (38.5°C) taken by mouth for two readings, 4 hours apart.

- A new onset of weakness or numbness in your legs or feet.
- Cold or discolored legs.
- Numbness, 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**.

Your health care team may have given you this information as a part of your care. If so, please use it and call if you have any questions. If this information was not given to you as a part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright © 1/2020 University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing. HF#7571