

Bypass Surgery for Peripheral Artery Disease

Suprainguinal Bypass



THE OHIO STATE UNIVERSITY

WEXNER MEDICAL CENTER



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Talk to your doctor or health care team if you have any questions about your care.

For more health information, go to wexnermedical.osu.edu/patiented or contact the Library for Health Information at 614-293-3707 or health-info@osu.edu.

Welcome

Your doctor is recommending that you have bypass surgery for peripheral artery disease (PAD). This is being done to carry blood around (bypass) a blocked blood vessel to allow more blood to flow to your legs.

We hope this book will help you to better understand how the bypass surgery is done, and what you can expect before and after the procedure.

Please review this book to learn what you need to do to prepare for your procedure. Call our office if you have questions or if there is anything that you do not understand.

For driving directions, billing and visitor information:

Visit: wexnermedical.osu.edu/patient-and-visitor-guide.

Hotel information can be found under Visitor Policies.

For a digital copy of this book, please visit:
go.osu.edu/pted4723.

Contact information

Call 614-293-8536

Before the procedure to:

- Ask questions.
- Check the arrival time for your procedure.
- Cancel or reschedule within 24 hours of the procedure.

After the procedure to:

- Ask questions.
- Report problems you are having.



Preparing for Your Bypass

Your procedure date is _____ with Dr. _____ .

A nurse from the doctor's office will call you 1 business day before your procedure with your arrival time and surgery time.

Weeks before your procedure

- **If you are on blood thinners or antiplatelet medicines**, please let your surgeon know in case any medicine needs to be stopped before surgery. Examples are:
 - Arixtra (Fondaparinux)
 - Brilinta (Ticagrelor)
 - Coumadin (Warfarin)
 - Effient (Prasugrel)
 - Eliquis (Apixiban)
 - Lovenox (Enoxaparin)
 - Plavix (Clopidogrel)
 - Pletal (Cilostazol)
 - Pradaxa (Dabigatran)
 - Savaysa (Edoxaban)
 - Ticlid (Ticlopidine)
 - Xarelto (Rivaroxaban)
- **You will be started on aspirin and a statin medicine** before your procedure if you are not already taking these and you have no allergies to these medicines.
- You may need to have lab work, a chest x-ray or other testing before this procedure, as directed.
- **If you smoke or use other tobacco products**, please stop right away to avoid wound healing problems. If you are not able to stop, please decrease the amount used each day to lessen your risk of wound healing problems or pneumonia after the procedure. If you would like more information on smoking cessation, please contact our smoking cessation clinic at 614-293-7677.
- **If you are feeling ill or develop a new rash during the week before**, please call the surgeon's office at 614-293-8536.
- Plan ahead for the help you will need after you leave the hospital. Refer to Planning for Recovery on page 8 for more information.
- Please complete the pre-procedure worksheet we gave you to bring with you the day of your procedure, which includes information that will help your health care team coordinate your care.

Evening before your procedure

- **Wash from the neck down with the chlorhexidine (CHG) soap** you were given. Please read the instructions, *Getting Your Skin Ready*, on page 6 of this book.
- **Do NOT eat or drink anything after midnight**, including gum or mints.

Morning of your procedure

- Wash again from the neck down with the CHG soap you were given.
- Follow your doctor's instructions about which of your medicines to take the morning of your procedure.

Please bring these items with you:

- Phone number for the doctors and pharmacy you use.
- List of preferred home health agencies or rehabilitation centers.
- Current copy of your medicine list or your bottles of medicines. Be sure to include any vitamins, herbals or other over the counter medicines.
- Your Living Will and Health Care Power of Attorney forms (if you have them).
- Comfortable clothing, such as a robe, slippers and toiletries.
- Do NOT bring jewelry, money or other valuables.
- Please bring your completed pre-procedure worksheet and give it to _____.

Getting Your Skin Ready

Evening Before and Morning of Procedure

Because germs live on everyone's skin, there is a chance of getting an infection when your skin is cut during surgery. To reduce the chance of infection, clean your skin with a special soap called 4% chlorhexidine gluconate or CHG.

- **Do not shave** for at least 48 hours near the site for your surgery cut.
- Clean your skin with CHG soap the night before your surgery and again the morning of your surgery.
- CHG soap does not bubble and lather like most soaps.
- Be careful not to get CHG into your eyes, nose, mouth or ears. If you do, rinse well with clean water.

Cleaning your skin with CHG

1. Get in the shower and wash your hair with your normal shampoo and wash your body with regular soap. Rinse your hair and body very well.
2. Wet a clean washcloth and then turn off the shower.
3. Put **4 ounces (½ cup) of CHG soap or 4 to 5 pumps of CHG foam** on the wet, clean washcloth.
4. Wash your whole body from the neck down with the CHG soap or foam the night before your surgery and then again the morning of your surgery. Continue to wash your body gently for 5 minutes, paying special attention to the part on your body where the surgery will be done. Be sure to wash the back of your neck, under your arms, your belly button, private parts and your legs down to your toes. Do not scrub too hard.
5. Turn the shower back on and rinse well to get the CHG soap off of your body.
6. Pat yourself dry with a clean, dry towel.

After using CHG

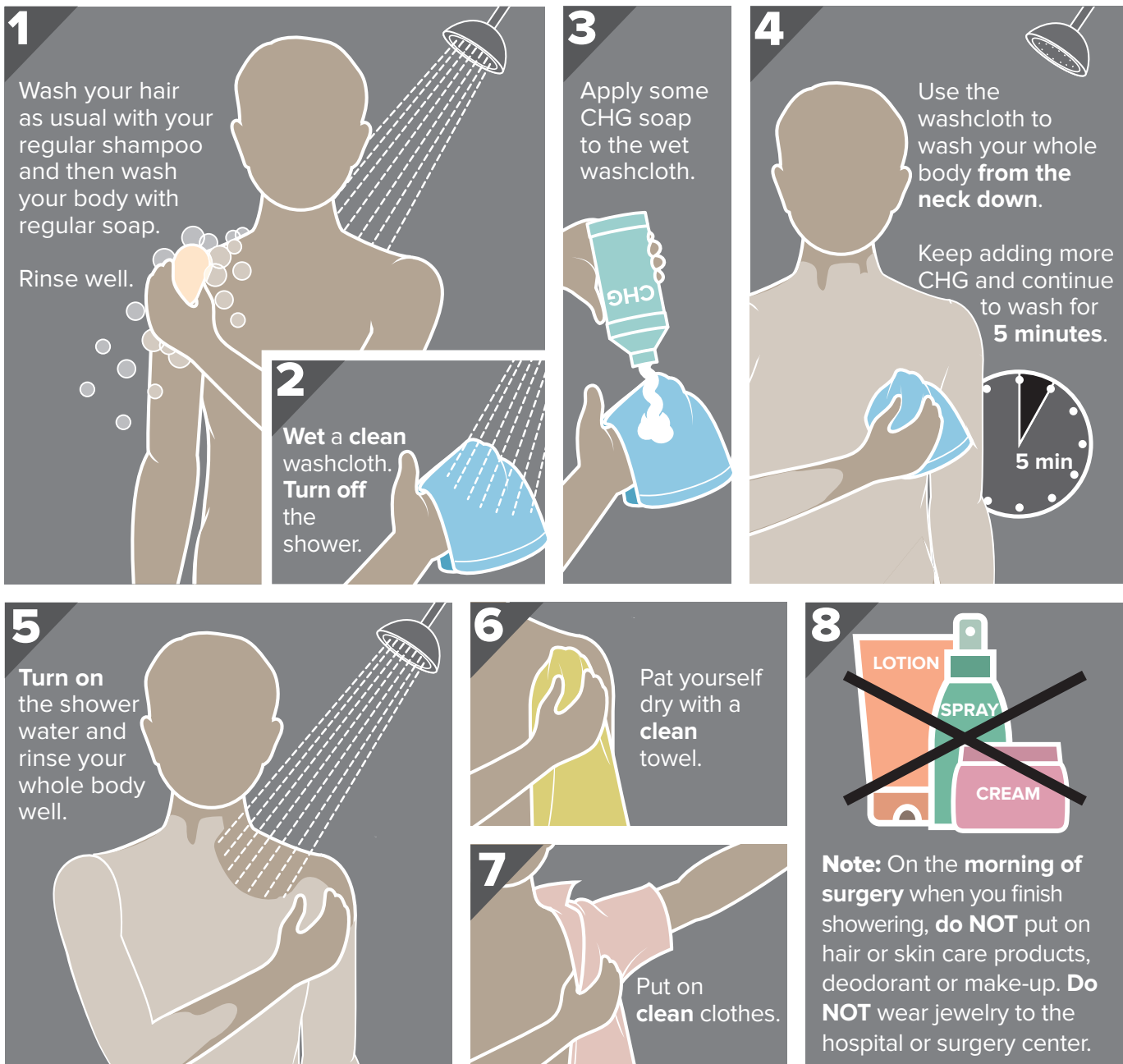
- Do not use deodorant, lotions, powders, make-up or other products on the skin near the part of your body that will be cut for surgery.
- Put on clean clothes.

If you are not able to shower

If you do not have a shower or if you are not able to get into the shower, do a sponge bath with CHG soap instead.

1. First, bathe with a washcloth and regular soap. Rinse with clean water.
2. Wet a clean washcloth and apply ½ cup (or 4 to 5 pumps) of CHG soap to your whole body from the neck down for 5 minutes. Pay special attention to the part of the body where the surgery will be done.
3. Rinse well with another clean washcloth and plain water.
4. Pat yourself dry with a clean, dry towel.

How to shower with CHG soap



Be sure to repeat your shower with CHG in the morning before your procedure.

Planning for Recovery

Your care after leaving the hospital

Most often, patients having this procedure will stay in the hospital for 1 to 4 days. If there are problems or if you need to be watched longer, it may require a stay of a few days.

You should have someone to help you around the clock for the first day after you leave the hospital and then for parts of the next few days to help you as needed.

Your incision sites may be sore and you may feel some discomfort in your abdomen for a few days. You may need some help to care for your incisions.

You may have some leg swelling after your procedure. This is common and can last for several weeks.

You will need to limit any lifting to less than 10 pounds for 2 weeks after your procedure.

Plan for help after your procedure

Our goal is for you to be able to return home from the hospital to recover. However, some patients may need home health services or a short stay in a skilled nursing or rehabilitation center.

Contact your insurance provider to get a list of recommended in network care providers for home health services, skilled nursing facilities, or rehab centers close to your home, if you should need one.

Bring your list of 2 or 3 home health services or nursing facilities to share with your social worker or case manager. They will help to make arrangements before you leave the hospital.

If you do not have benefits for home health services, skilled nursing facilities, or rehab centers, make a plan with your family and friends to help you at your home or their home for a few days.

Talk to your insurance provider

Know your options to help you plan for your care after your procedure.

If you have Medicare A or B:

- Ask for lists of nursing homes or home health services in your area.
- You can also get the lists at **www.Medicare.gov**.

If you have private insurance or Medicare Advantage:

- Call the phone number on the back of your insurance card. Tell them you are having surgery, and you want to know about your skilled nursing or nursing home benefits. Ask them for a list for your area.
- Review the list and call the Admissions Director at several sites. If you can, visit the sites to see which sites you prefer.

Peripheral Arterial Disease (PAD)

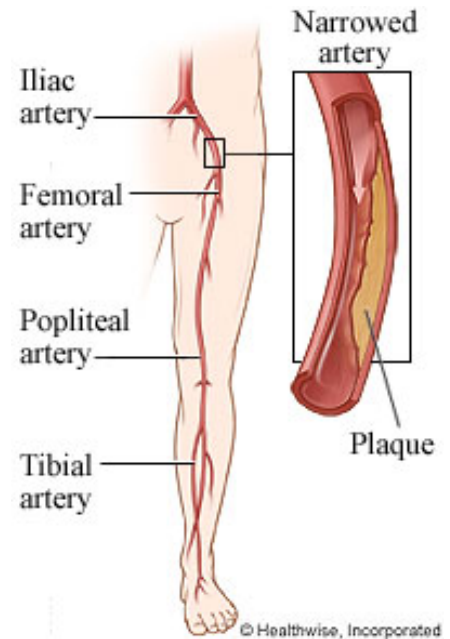
Peripheral arterial disease (PAD) in the legs is the narrowing or blockage of the vessels that carry blood from the heart to the legs. It is most often caused by the buildup of fatty plaque in the arteries, called atherosclerosis. PAD can happen in any blood vessel, but it is more common in the legs than in the arms.

Treatment may include exercise, a healthy diet, and certain medicines. In severe cases, surgery may be needed to increase blood flow to the legs. This is called bypass surgery.

Common signs

When you have PAD of the legs and you walk or exercise, your leg muscles may not get enough blood. This may cause leg pain, heaviness or early fatigue during exercise. Not everyone with PAD has leg pain.

If PAD gets worse, you may have other signs, such as numbness or pain in your foot that wakes you up at night.



Risk factors

PAD is most common in people over the age of 60, but can occur at any age. Men are more likely than women to have it. Other risk factors include:

- Smoking or other tobacco use
- High blood pressure
- Family history of PAD
- History of atherosclerosis, also known as hardening of the arteries
- High blood pressure
- Diabetes
- High cholesterol

Treatment

Your doctor will recommend treatment based on the signs you are having. This may include:

- Lifestyle changes, such as smoking cessation and lowering your blood pressure.
- Regular checkups to check for changes in blood flow or circulation.
- Surgery to carry blood flow around the blocked area.

Types of Bypass for PAD

Suprainguinal (Above Groin Level)

Bypass surgery done above groin level (called suprainguinal) is done to reroute the blood supply around a blocked artery in one or both of your legs. A graft (man-made tube or one of your own blood vessels) to carry blood around (bypass) a blocked part of your blood vessel that can happen when you have peripheral artery disease (PAD). This allows more blood to flow to your legs.

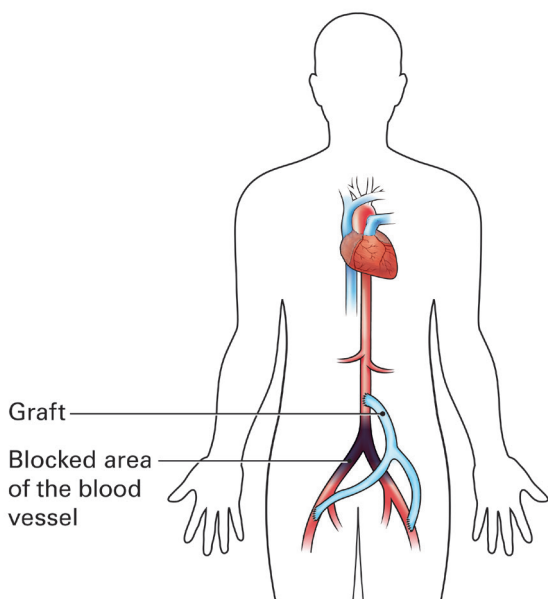
There are different types, depending on where the blockage is and which of your arteries are best to use.

Blockage affecting both legs

Aorta Bi-Femoral Bypass

If both legs are affected by a blockage, you may have an aorta bi-femoral bypass to connect blood vessels in your abdomen and groin.

A cut is made down your abdomen and a smaller cut is made on each side of the groin. A graft is then used to connect the main artery in the abdomen (aorta) to the arteries in the groin to carry blood around the blockage.

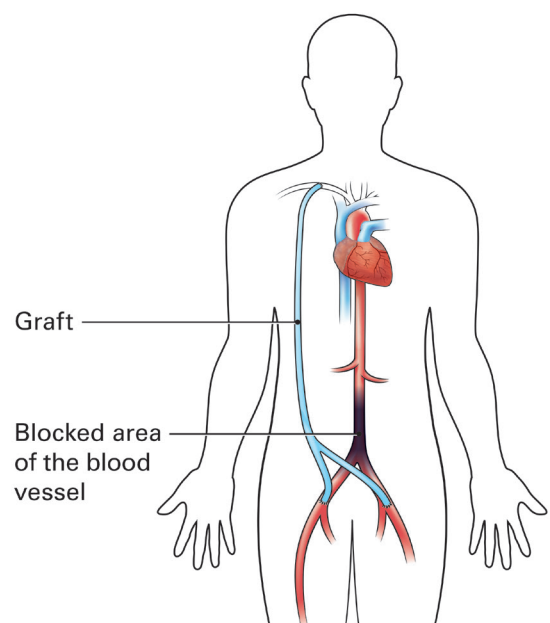


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Axillo Bi-Femoral Bypass

If both legs are affected by a blockage and you have had certain problems with your chest or heart, you may have an axillo-bi-femoral bypass to connect a main artery in your arm with your legs.

A small cut is made in each side of the groin and under your collarbone on one side. A graft is used to connect the blood vessels between your collarbone and groin.



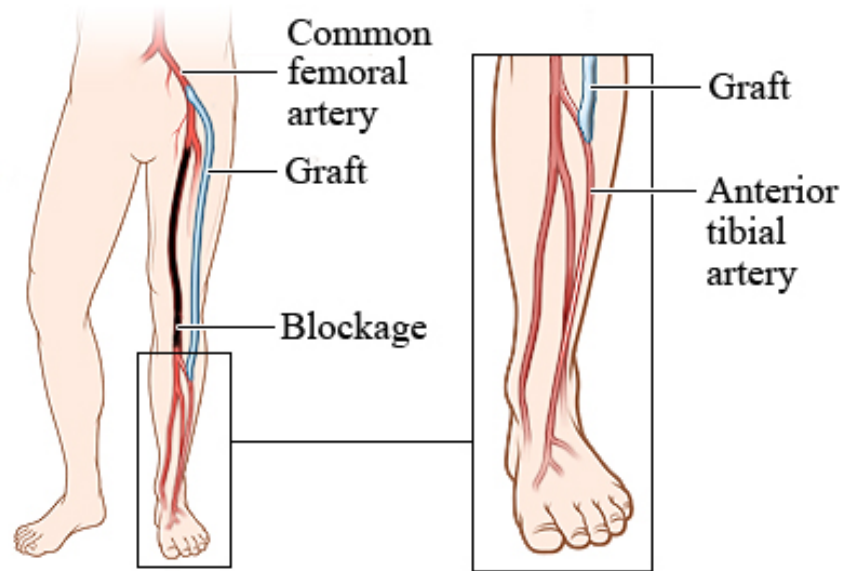
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Blockage affecting one leg

Iliofemoral Bypass

If one leg is affected by a blockage, your surgeon may decide to do a Iliofemoral bypass. A blood vessel in the abdomen, called the iliac artery, is connected with a graft to the femoral artery in the leg.

A cut is made across the lower abdomen and in the groin area of the affected leg. A graft is used to connect the 2 arteries to allow blood to pass around the blockage and down into the leg.

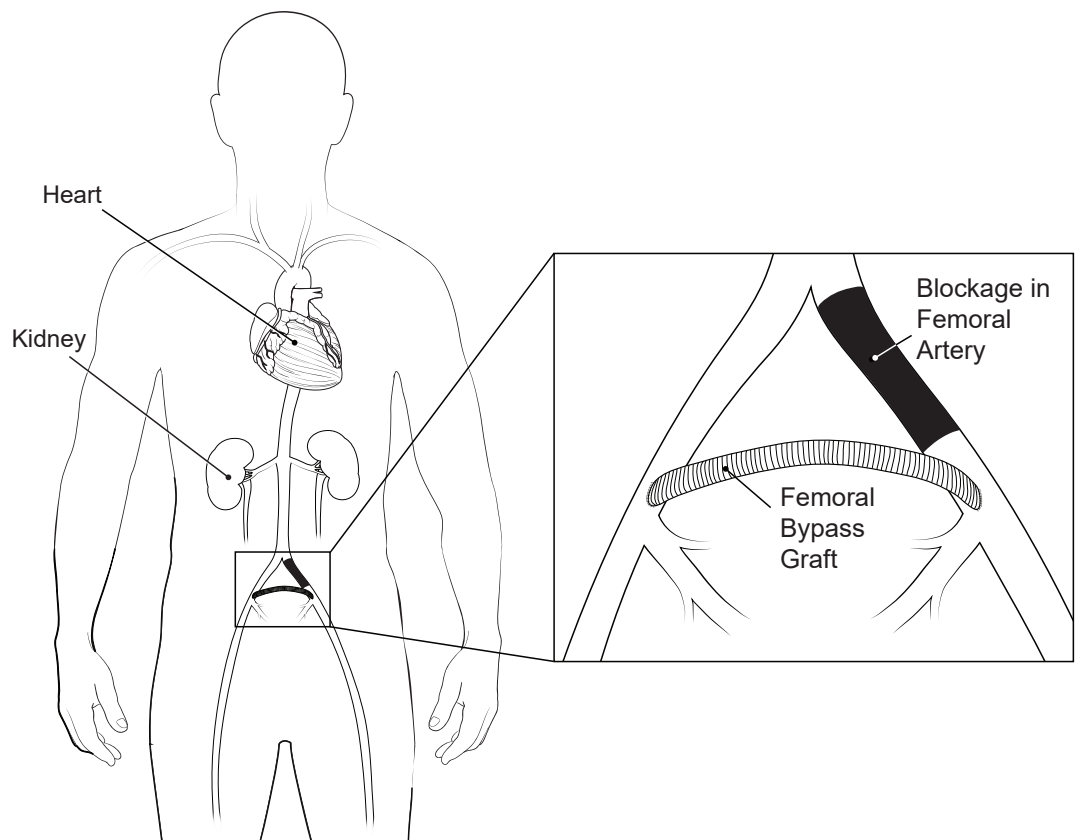


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Femoral-Femoral Bypass

A femoral-femoral bypass is sometimes done when only one leg is affected by a blockage.

In this type of bypass, only a small cut in each side of the groin is made. A graft is then used to connect the blood vessel in the good leg to a blood vessel in the affected leg past the blockage.



During and After Your Procedure

How the procedure is done

- You will have general anesthesia, so you will be asleep for the procedure. The anesthesiologist will meet with you before the procedure in the Pre-op area and have you sign a consent form.
- After you are asleep in the operating room, you will have a tube, called a Foley catheter, placed to drain urine from your bladder during the procedure.
- Incisions will be made where the graft will be placed. If one of your own blood vessels is being used for the graft, you may have other incisions. The graft is used to connect certain blood vessels so that blood can flow around the blockage. The incisions are then closed.

Care after procedure

- After surgery, you will be taken to the Post Anesthesia Care Unit (PACU), where you will be watched closely. After a few hours, you will be moved to a hospital room for care for another 1 to 3 days.
- Your blood pressure, heart rate, breathing and temperature will be checked often, including during the night.
- Your incision sites will be checked for bleeding.
- Pulses in your feet will be checked to make sure there is enough blood flow and that the bypass is open.
- You may need to lay flat for several hours to prevent bleeding at the incision site.
- You will be **helped to get out of bed, to walk in your room, and in the hallway**. Be sure you call for help before getting out of bed.
- Pain at the incision site is often able to be managed, but medicine will be available if needed.
- The Foley catheter will stay in place until you are able to be up. It is often removed before you leave the hospital.
- Use your breathing exerciser (incentive spirometer), every 1 or 2 hours while you are awake.
- If you are a male with an enlarged prostate, you may be put on a medicine called Flomax. You may also be scheduled for a urology follow up visit.

Care at home

You will be given discharge instructions before you leave the hospital. Care will often include:

- **Antiplatelet or blood thinner medicine** to prevent clots from forming in the bypass.
- **Statin medicine**, such as Lipitor, may be ordered to keep your blood cholesterol lower to reduce plaque build up in your arteries.
- You may have sutures, staples or glue holding your incisions closed. The nurse will teach you about caring for your incision sites before you leave the hospital.
- You will be given instructions about when it is safe for you to shower and how to do it.

- You may have some tenderness or swelling at the incision sites for a few days. It is normal to have discomfort there for several weeks, especially when coughing,
- Use your breathing exerciser every 2 hours or as directed when you are awake. Do this for the next 2 weeks to help reduce your risk of pneumonia.
- Take it easy the first few days you are home, but walk 3 to 4 times each day on flat surfaces. Slowly increase your activity as directed.
- Lifting will be limited to less than 10 pounds for 2 weeks. A gallon of milk weighs about 8 pounds.
- When resting, raise you legs up above the level of your heart with pillows or blankets to help your blood flow and reduce leg swelling.
- Do not drive until you have your first follow up visit or while you are taking pain medicine. Your doctor will talk to you about when you can start driving again.



Follow up care

- You will be scheduled for follow up appointment with your surgeon in about 2 to 4 weeks to make sure your wounds are healing well.
- You should be able to return to work in within 3 months after surgery. Your doctor will talk to you about this during your first follow up visit.
- You should avoid lifting anything heavy at work for 6 weeks.

Lifestyle changes

After your recovery, talk with your doctor about your activities and diet and what changes you may need to make for your health. Common changes include:

- No smoking or using of any tobacco products.
- Eating a heart healthy diet.
- Exercising for at least 30 minutes on 5 days each week.
- Taking your medicines as ordered by your doctors.
- Controlling your blood pressure, lowering your cholesterol, and keeping your blood sugar at a healthy level if you have diabetes.

Talk to your doctor about making a plan for you.

Call your doctor right away if you have

- Pain in your belly or back that does not go away.
- Bleeding from the site that does not stop after applying direct pressure.
- Excessive drainage with pus.
- Change in color, temperature or sensation in the leg.
- Increased swelling at the site.

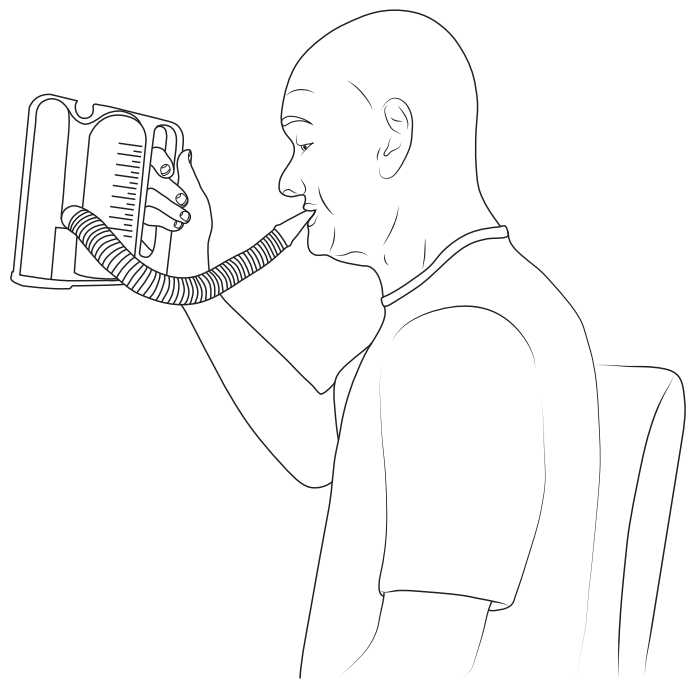
How to Use an Incentive Spirometer

Breathing Exerciser

Use your incentive spirometer, also called a breathing exerciser, to help you take deep breaths to open the air sacs in your lungs. This helps to reduce the chance of developing breathing problems, like pneumonia, after surgery. Use your breathing exercises every 1 or 2 hours each day. You will do these exercises in the hospital and for 2 to 3 weeks at home, as you recover from surgery.

Steps for use

1. If possible, sit up straight. It may help to sit on the edge of a chair or your bed.
2. Hold the incentive spirometer upright.
3. Breathe out and then close your lips tightly around the mouthpiece. Take in a slow deep breath through your mouth.
4. As you take a deep breath, the piston in the clear chamber of the incentive spirometer will rise. Breathe in slowly to allow the air sacs in your lungs time to open. Your incentive spirometer has an indicator to let you know if you are breathing in too fast.
5. After you breathe in as deeply as you can, hold your breath for 3 to 5 seconds. Set the goal indicator tab at the level that you reached.
6. Take out the mouthpiece and breathe out slowly. Relax and breathe normally for a few seconds until the piston returns to the bottom of the chamber.
7. Repeat these steps a total of 10 times. If you start to feel light-headed or dizzy, slow down your breathing and give yourself more time between the deep breaths.
8. After doing the 10 deep breathing exercises, take a deep breath and cough to clear the mucus from your lungs.



Follow Up with Vascular Surgery

Risks after surgery

- You may have patches of numbness around the wound due to cutting of nerves in the skin. This may go away in several weeks or it may not go away.
- Infections in the abdomen and groin can occur after surgery, especially if you use tobacco. Contact your surgery team if the surgery sites appears red, has drainage with pus, or your pain gets worse in the weeks after surgery. If an infection occurs, you may need antibiotics.
- Sometimes the intestines or bowels are slow to return to normal after surgery. We will take steps to help with this while you are in the hospital. We recommend drinking fluids and having liquid foods until your digestive system has returned to normal. Contact your surgery team if your abdomen feels uncomfortable or you become constipated.

Follow up appointments

- You will first be seen in about 2 to 4 weeks after surgery.
- Most surgeons will order a duplex ultrasound of your bypass every 3 months for the first year after your procedure, every 6 months for the second year after your procedure, and then yearly there after.

Call if you need to reschedule

If for some reason you are not able to keep your appointment with your surgeon, please contact us at 614-293-8536. We can make other arrangements for you to have imaging and follow up.



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