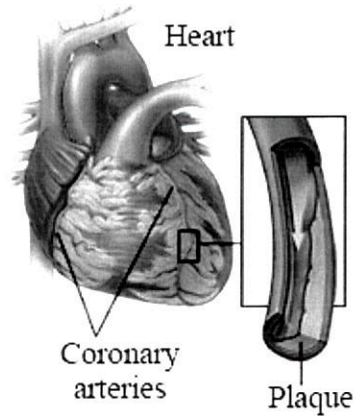


Learning About Coronary Artery Bypass Graft Surgery

What is bypass surgery?



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Coronary artery bypass graft (CABG) is surgery to treat coronary artery disease. The surgery helps blood make a detour, or bypass, around one or more narrowed or blocked coronary arteries. Coronary arteries are the blood vessels that bring blood to the heart. The surgery is also called coronary artery bypass or bypass surgery.

Your doctor will make a bypass using a piece of blood vessel from another part of your body. Your doctor will attach, or graft, this blood vessel above and below the narrowed or blocked section of your artery.

How is bypass surgery done?

The most common way to do bypass surgery is through a large cut, called an incision, in the chest. This is called open-chest surgery.

Your doctor will make the cut in the skin over your breastbone (sternum). Then the doctor will cut through your sternum to reach your heart and coronary arteries.

The doctor will connect you to a heart-lung bypass machine. This machine will let the doctor stop your heart while he or she works. The doctor will use a blood vessel from your chest, arm, or leg to bypass the narrowed or blocked arteries. When the blood vessels are in place, the doctor will restart your heart.

The doctor will use wire to put your sternum back together. The wire will stay in your chest. You will get stitches or staples to close the cuts in your skin. The cuts will leave scars that may fade in time.

Some hospitals offer less invasive bypass surgery. This includes surgery that is done without stopping the heart. The surgery also may be done through smaller cuts in the chest.

What can you expect after bypass surgery?

You will stay in the hospital for at least 3 to 8 days after the surgery. You will feel tired and sore for the first few weeks. Your chest, shoulders, and upper back may ache. You may have some swelling or pain in the area where the healthy vein was taken. These symptoms usually get better in 4 to 6 weeks. It may take 1 to 2 months before your energy level is back to normal.

You will probably be able to do many of your usual activities after 4 to 6 weeks. But for 2 to 3 months you will not be able to lift heavy objects or do activities that strain your chest or upper arm muscles.

After surgery, you will still need to make changes in your lifestyle. This lowers your risk of a heart attack or stroke. To help the bypass last as long as possible:

- Take your heart medicines.
- Do not smoke.
- Eat a heart-healthy diet.
- Get regular exercise.
- Stay at a healthy weight or lose weight if you need to.
- Reduce stress.

Smoking can make it harder for you to recover. It will raise the chances of your arteries getting narrowed or blocked again. If you need help quitting, talk to your doctor about stop-smoking programs and medicines. These can increase your chances of quitting for good.

You will likely start a cardiac rehabilitation (rehab) program in the hospital. This program will continue after you go home. It will help you recover. And it can prevent future problems with your heart. Talk to your doctor about whether rehab is right for you.

Follow-up care is a key part of your treatment and safety. Be sure to make and go to all appointments, and call your doctor if you are having problems. It's also a good idea to know your test results and keep a list of the medicines you take.

Where can you learn more?

Go to <http://www.healthwise.net/ed>

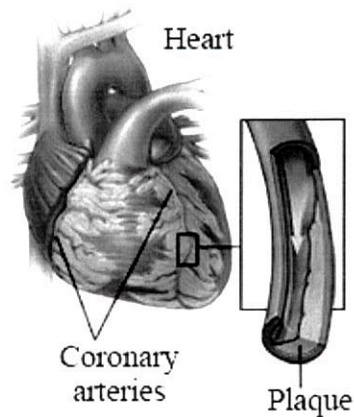
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Coronary Artery Bypass Graft: Before Your Surgery

What is coronary artery bypass graft surgery?



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Coronary artery bypass graft (CABG) is surgery to treat coronary artery disease. It helps blood make a detour, or bypass, around one or more narrowed or blocked coronary arteries. These arteries are the blood vessels that bring blood to the heart. This is also called coronary artery bypass or bypass surgery.

Your doctor will make the bypass with a healthy piece of blood vessel from another part of your body. Then he or she will attach, or graft, the healthy blood vessel both above and below the narrowed or blocked part of your artery.

The doctor will make a cut in the skin over your breastbone (sternum). This cut is called an incision. Then the doctor will cut through your sternum to reach your heart and coronary arteries. The doctor may connect you to a heart-lung bypass machine. It adds oxygen to the blood and moves the blood through the body. The machine will allow the doctor to stop your heartbeat while he or she works on your arteries. The doctor will use blood vessels from your chest, arm, or leg to bypass the narrowed or blocked parts of your arteries. When the blood vessels are in place, the doctor will restart your heart. In some cases, the doctor may be able to do the surgery without using a heart-lung machine. This is called "off-pump" surgery.

The doctor will use wire to put your sternum back together. He or she will use stitches or staples to close the incisions in the skin over your sternum and where your healthy blood vessel was taken. The wire will stay in your chest. The incisions will leave scars. They may fade with time.

You will stay in the hospital for 3 to 8 days after surgery. You will probably be able to do many of your usual activities after 4 to 6 weeks. But for 2 to 3 months you will not be able to lift heavy objects or do things that strain your chest or upper arm muscles. At first you may notice that you get tired quickly. You may need to rest often. It may take 1 to 2 months before your energy is back to normal.

Follow-up care is a key part of your treatment and safety. Be sure to make and go to all appointments, and call your doctor if you are having problems. It's also a good idea to know your test results and keep a list of the medicines you take.

What happens before surgery?

Surgery can be stressful. This information will help you understand what you can expect. And it will help you safely prepare for surgery.

Preparing for surgery

- Understand exactly what surgery is planned, along with the risks, benefits, and other options.
- Tell your doctors ALL the medicines, vitamins, supplements, and herbal remedies you take. Some of these can increase the risk of bleeding or interact with anesthesia.
- If you take blood thinners, such as warfarin (Coumadin), clopidogrel (Plavix), or aspirin, be sure to talk to your doctor. He or she will tell you if you should stop taking these medicines before your surgery. Make sure that you understand exactly what your doctor wants you to do.
- Your doctor will tell you which medicines to take or stop before your surgery. You may need to stop taking certain medicines a week or more before surgery. So talk to your doctor as soon as you can.
- If you have an advance directive, let your doctor know. It may include a living will and a durable power of attorney for health care. Bring a copy to the hospital. If you don't have one, you may want to prepare one. It lets your doctor and loved ones know your health care wishes. Doctors advise that everyone prepare these papers before any type of surgery or procedure.
- Do not smoke. Smoking can make your coronary artery disease worse. If you need help quitting, talk to your doctor about stop-smoking programs and medicines. These can increase your chances of quitting for good.

What happens on the day of surgery?

- Follow the instructions exactly about when to stop eating and drinking. If you don't, your surgery may be canceled. If your doctor told you to take your medicines on the day of surgery, take them with only a sip of water.
- Take a bath or shower before you come in for your surgery. Do not apply lotions, perfumes, deodorants, or nail polish.
- Do not shave the surgical site yourself.
- Take off all jewelry and piercings. And take out contact lenses, if you wear them.

At the hospital or surgery center

- Bring a picture ID.
- The area for surgery is often marked to make sure there are no errors.
- You will be kept comfortable and safe by your anesthesia provider. You will be asleep during the surgery.
- The surgery will take about 3 to 6 hours. This depends on the number of arteries that are bypassed and the type of surgery you have.
- You will go to the intensive care unit (ICU) right after surgery. You will probably stay in the ICU for 1 or 2 days before you go to your regular hospital room.

- You will have a breathing tube down your throat. This is usually removed within 6 hours after surgery. You will not be able to talk or drink liquids while the tube is in your throat. After the tube is removed, your throat will feel dry and scratchy. Your nurse will tell you when it is safe to drink liquids again.
- You will have a thin plastic tube, called a catheter, in a vein in your neck. It is used to keep track of how well your heart is working. This is usually removed in 1 to 3 days.
- You will have chest tubes to drain fluid and blood after surgery. The fluid and extra blood are normal and usually last only a few days. The chest tubes are usually removed in 1 or 2 days.
- You will have several thin wires coming out of your chest near your incision. These wires can help keep your heartbeat steady after surgery. They will be removed before you go home.

Going home

- Be sure you have someone to drive you home.
- You will be given more specific instructions about recovering from your surgery. They will cover things like medicines, diet, wound care, follow-up care, cardiac rehab, driving, and getting back to your normal routine.

When should you call your doctor?

- You have questions or concerns.
- You do not understand how to prepare for your surgery.
- You become ill before surgery (such as fever, flu, or a cold).
- You need to reschedule or have changed your mind about having the surgery.

Where can you learn more?

Go to <http://www.healthwise.net/ed>

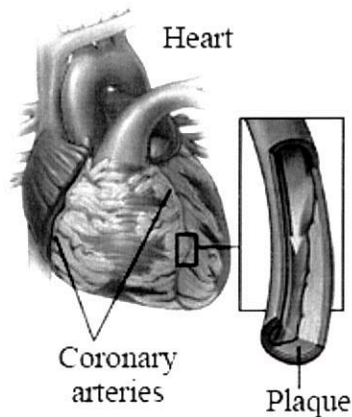
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Coronary Artery Bypass Graft: What to Expect at Home

Your Recovery



Coronary artery bypass graft (CABG) is surgery to treat coronary artery disease. The surgery helps blood make a detour, or bypass, around one or more narrowed or blocked coronary arteries. Coronary arteries are the blood vessels that bring blood to the heart. Your doctor did the surgery through a cut, called an incision, in your chest.

You will feel tired and sore for the first few weeks after surgery. You may have some brief, sharp pains on either side of your chest. Your chest, shoulders, and upper back may ache. The incision in your chest and the area where the healthy vein was taken may be sore or swollen. These symptoms usually get better after 4 to 6 weeks.

You will probably be able to do many of your usual activities after 4 to 6 weeks. But for 2 to 3 months you will not be able to lift heavy objects or do activities that strain your chest or upper arm muscles. At first you may notice that you get tired easily and need to rest often. It may take 1 to 2 months to get your energy back.

Some people find that they are more emotional after this surgery. You may cry easily or show emotion in ways that are unusual for you. This is common and may last for up to a year. Some people get depressed after CABG surgery. Talk with your doctor if you have sadness that continues or you are concerned about how you are feeling. Treatment and other support can help you feel better.

Even though the surgery may improve your symptoms, you will still need to make changes in your lifestyle to lower your risk of a heart attack or stroke. It will be important to eat a heart-healthy diet, get regular exercise, not smoke, take your heart medicines, and reduce stress.

You will likely start a cardiac rehabilitation (rehab) program in the hospital. You will continue with this rehab program after you go home to help you recover and prevent problems with your heart. Talk to your doctor about whether rehab is right for you.

This care sheet gives you a general idea about how long it will take for you to recover. But each person recovers at a different pace. Follow the steps below to get better as quickly as possible.

How can you care for yourself at home?

Activity

- Rest when you feel tired. Getting enough sleep will help you recover. Try to sleep on your back for 4 to 6 weeks while your breastbone (sternum) heals. This usually takes about 4 to 6 weeks.
- Try to walk each day. Start by walking a little more than you did the day before. Bit by bit, increase the amount you walk. Walking boosts blood flow and helps prevent pneumonia and constipation.
- Avoid strenuous activities, such as bicycle riding, jogging, weight lifting, or heavy aerobic exercise, until your doctor says it is okay.
- For 3 months, avoid activities that strain your chest or upper arm muscles. This includes pushing a lawn mower or vacuum, mopping floors, or swinging a golf club or tennis racquet.
- For 2 to 3 months, avoid lifting anything that would make you strain. This may include a child, heavy grocery bags and milk containers, a heavy briefcase or backpack, or cat litter or dog food bags.
- Hold a pillow firmly over your chest incision when you cough or take deep breaths. This will support your chest and reduce your pain.
- Do breathing exercises at home as instructed by your doctor. This will help prevent pneumonia.
- Ask your doctor when you can drive again.
- You will probably need to take 4 to 12 weeks off from work. It depends on the type of work you do and how you feel.
- You may shower as usual. Pat the incision dry. Do not take a bath for the first 3 weeks, or until your doctor tells you it is okay.
- Do not swim or use a hot tub for at least 1 month, or until your doctor says it is okay.
- Ask your doctor when it is okay for you to have sex.

Diet

- Eat a heart-healthy diet. If you have not been eating this way, talk to your doctor. You also may want to talk to a dietitian. A dietitian can help you learn about healthy foods.
- Drink plenty of fluids (unless your doctor tells you not to).
- You may notice that your bowel movements are not regular right after your surgery. This is common. Try to avoid constipation and straining with bowel movements. You may want to take a fiber supplement every day. If you have not had a bowel movement after a couple of days, ask your doctor about taking a mild laxative.

Medicines

- Your doctor will tell you if and when you can restart your medicines. He or she will also give you instructions about taking any new medicines.
- If you take blood thinners, such as warfarin (Coumadin), clopidogrel (Plavix), or aspirin, be sure to talk to your doctor. He or she will tell you if and when to start taking those

medicines again. Make sure that you understand exactly what your doctor wants you to do.

- Your doctor may give you medicines to prevent blood clots, keep your heartbeat steady, and lower your blood pressure and cholesterol. Take your medicines exactly as prescribed. Call your doctor if you think you are having a problem with your medicine.
- Be safe with medicines. Take pain medicines exactly as directed.
 - If the doctor gave you a prescription medicine for pain, take it as prescribed.
 - If you are not taking a prescription pain medicine, ask your doctor if you can take an over-the-counter medicine.
 - Do not take aspirin, ibuprofen (Advil, Motrin), naproxen (Aleve), or other nonsteroidal anti-inflammatory drugs (NSAIDs) unless your doctor says it is okay.
- If you think your pain medicine is making you sick to your stomach:
 - Take your medicine after meals (unless your doctor has told you not to).
 - Ask your doctor for a different pain medicine.
- If your doctor prescribed antibiotics, take them as directed. Do not stop taking them just because you feel better. You need to take the full course of antibiotics.

Incision care

- If you have strips of tape on the incisions the doctor made, leave the tape on for a week or until it falls off.
- Wash the area daily with warm, soapy water, and pat it dry. Don't use hydrogen peroxide or alcohol, which can slow healing. You may cover the area with a gauze bandage if it weeps or rubs against clothing. Change the bandage every day.
- Keep the area clean and dry.
- If you have an incision in your leg:
 - Wear support stockings on your legs during the day for the first 2 weeks. You can take the stockings off at night while you sleep.
 - Raise your legs above the level of your heart whenever you lay down for the first 4 to 6 weeks.

Other instructions

- Keep track of your weight. Weigh yourself every day at the same time of day, on the same scale, in the same amount of clothing. A sudden increase in weight can be a sign of a problem with your heart. Tell your doctor if you suddenly gain weight, such as 3 pounds or more in 2 to 3 days.
- Do not smoke. Smoking can make it harder for you to recover and it will raise the chances of your arteries narrowing again. If you need help quitting, talk to your doctor about stop-smoking programs and medicines. These can increase your chances of quitting for good.

Follow-up care is a key part of your treatment and safety. Be sure to make and go to all appointments, and call your doctor if you are having problems. It's also a good idea to know your test results and keep a list of the medicines you take.

When should you call for help?

Call 911 anytime you think you may need emergency care. For example, call if:

- You passed out (lost consciousness).
- You have severe trouble breathing.
- You have sudden chest pain and shortness of breath, or you cough up blood.
- You have severe pain in your chest.
- You have symptoms of a heart attack. These may include:
 - Chest pain or pressure, or a strange feeling in the chest.
 - Sweating.
 - Shortness of breath.
 - Nausea or vomiting.
 - Pain, pressure, or a strange feeling in the back, neck, jaw, or upper belly or in one or both shoulders or arms.
 - Lightheadedness or sudden weakness.
 - A fast or irregular heartbeat.

After you call 911, the operator may tell you to chew 1 adult-strength or 2 to 4 low-dose aspirin. Wait for an ambulance. Do not try to drive yourself.

- You have angina symptoms (such as chest pain or pressure) that do not go away with rest or are not getting better within 5 minutes after you take a dose of nitroglycerin.

Call your doctor now or seek immediate medical care if:

- You have pain that does not get better after you take pain medicine.
- You have a fever over 100°F.
- You have loose stitches, or your incision comes open.
- Bright red blood has soaked through the bandage over your incision.
- You have signs of infection, such as:
 - Increased pain, swelling, warmth, or redness.
 - Red streaks leading from the incision.
 - Pus draining from the incision.
 - Swollen lymph nodes in your neck, armpits, or groin.
 - A fever.
- You have signs of a blood clot, such as:
 - Pain in your calf, back of the knee, thigh, or groin.
 - Redness and swelling in your leg or groin.
- Your heartbeat feels very fast or slow, skips beats, or flutters.
- You are dizzy or lightheaded, or you feel like you may faint.
- You have new or increased shortness of breath.

Watch closely for changes in your health, and be sure to contact your doctor if:

- You gain weight suddenly, such as 3 pounds or more in 2 to 3 days.
- You have increased swelling in your legs, ankles, or feet.
- You have any concerns about your incision.

- You feel very sad or have other signs of depression, such as trouble sleeping or eating.
- You have questions about diet, exercise, quitting smoking, or stress reduction after surgery.

Where can you learn more?

Go to <http://www.healthwise.net/ed>

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Sternotomy Precautions: What to Expect at Home

Your Recovery

A sternotomy is a procedure that allows your doctor to reach your heart or nearby organs and blood vessels. First the doctor made a cut (incision) in the skin over your breastbone (sternum). Then he or she cut through your sternum. When your surgery was finished, the doctor reconnected your sternum. The doctor most likely used wire, which will stay in your body even after your sternum has healed.

Full recovery from surgery that includes a sternotomy can take months. Recovery from the sternotomy includes healing of the sternum and slowly building up your physical strength.

This care sheet gives you a general idea about how long it will take for you to recover. But each person recovers at a different pace. Follow the steps below to feel better as quickly as possible.

How can you care for yourself at home?

For the first 3 months

- Avoid activities that strain your chest or upper arm muscles. This includes pushing a lawn mower or vacuum, mopping floors, or swinging a golf club or tennis racquet.
- Avoid strenuous activities, such as bicycle riding outdoors, jogging, weight lifting, or heavy aerobic exercise, until your doctor says it's okay.
- For 2 to 3 months, avoid lifting anything that would make you strain. This may include heavy grocery bags and milk containers, a heavy briefcase or backpack, cat litter or dog food bags, a vacuum cleaner, or a child.
- Avoid pulling yourself up using your arms. Do not use your arms to lift yourself into a high truck or sport utility vehicle (SUV).
- Try to walk each day. Start by walking a little more than you did the day before. Bit by bit, increase the amount you walk. Walking boosts blood flow and helps prevent pneumonia and constipation. You can also use an indoor stationary bicycle, but take it easy.
- Rest when you feel tired. Getting enough sleep will help you recover. Try to sleep on your back while your chest heals.
- Hold a pillow over your incisions when you cough or take deep breaths. This will support your sternum and decrease your pain.
- You can do easy chores around the house and yard, like washing dishes, folding clothes, or trimming flowers.
- You can enjoy social activities, like going to the movies, church, and restaurants.
- Ask your doctor when you can drive again.

For the next 3 months

- You can keep doing the same activities you did during the first 3 months, especially walking.

- You can return to work part-time if your doctor says it is okay and heavy lifting isn't part of your job.
- You can do heavy housework (vacuuming, sweeping, laundry) and yard work (mowing the lawn, raking leaves).
- You can travel for business or pleasure.
- You can drive a car or small truck.

Getting out of and into a bed or chair

Using your arms to get out of and into a bed, chair, or couch can put pressure on your healing sternum. These instructions show you how to do these things safely.

Your nurse or doctor may have shown you a different way to do these things. If so, follow his or her instructions.

- **Getting out of bed:**

1. Lie on your side, facing the direction you want to get out of the bed. Bend both knees.
2. Use your elbow to help raise your upper body as you lower your legs to the floor. Keep your elbow as close to your side as you can.
3. Scoot to the edge of the bed and position your feet under your buttocks.
4. Rest a moment, then stand up.

- **Getting into bed:**

1. Stand with the back of your legs touching the bed.
2. Sit down on the edge of the bed.
3. Scoot your buttocks back onto the bed. Try not to use your arms.
4. Use your elbow to help you lie down on your side as you raise your legs up to the bed. Keep your elbow as close to your side as you can.

- **Getting up from a chair (or couch):**

1. Scoot forward to the edge of the chair by pushing your shoulders against the back of the chair.
2. Bring your feet in toward the chair until your toes are right under your knees.
3. Lean forward until your nose is over your toes, then use your legs to stand up. If you need to, rock back and forth once or twice to help you stand up. Don't push or pull with your arms, but you can use them for balance.

- **Sitting down on a chair (or couch):**

1. Stand with the back of your legs touching the chair.
2. Sit down without pushing or pulling with your arms or hands. You can use your arms and hands for balance.
3. Use your legs to push yourself back into a comfortable position on the chair.

Follow-up care is a key part of your treatment and safety. Be sure to make and go to all appointments, and call your doctor if you are having problems. It's also a good idea to know your test results and keep a list of the medicines you take.

Where can you learn more?

Go to <http://www.healthwise.net/ed>

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