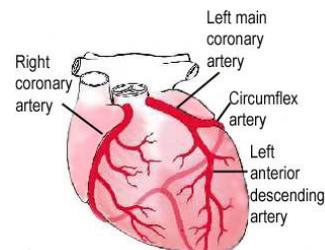


## Coronary Artery Bypass Surgery

### What is coronary artery bypass surgery?

Coronary artery bypass surgery is an operation to improve the flow of blood to the heart muscle when your coronary arteries are severely narrowed or blocked by atherosclerosis. Coronary arteries are blood vessels that carry oxygen and nutrients to the heart. Atherosclerosis, also called hardening of the arteries, occurs when certain substances build up in the walls of the arteries.



The operation involves taking blood vessels from other parts of your body and attaching them to the coronary arteries beyond the blockage. The blood is then able to flow around, or bypass, the blockages. If more than one artery is blocked, you may need more than one bypass.

The location and degree of coronary artery blockages are determined before surgery by using a procedure called heart catheterization, or coronary angiogram. This procedure provides an outline, like a road map, of the arteries of the heart.

### How do I prepare for coronary bypass surgery?



If you smoke, quit. Some surgeons will not perform bypass surgery on people who still smoke.

Knowing what to expect may help reduce the anxiety most people feel before any operation. Talking to your doctor or other people who have had the surgery may help.

You may also want to talk to your doctor about the possibility of setting aside some of your own blood before the surgery. Then, if you need a transfusion during your operation, your own blood will be available.



Plan for your care and recovery after the operation. Allow for time to rest, and try to find people to help you with your day-to-day duties.

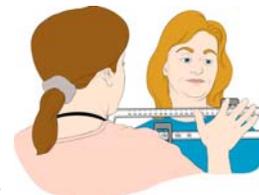
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Follow any instructions provided by your doctor. Shower and wash your hair the night before the procedure. Eat a light meal, such as soup or salad, the night before the procedure. Do not eat or drink anything after midnight before the procedure.

You will be weighed the morning of the procedure. After the operation you will be weighed again to see if you are retaining water.

To prevent infection, your legs, groin, and chest (if necessary) will be shaved before the operation.

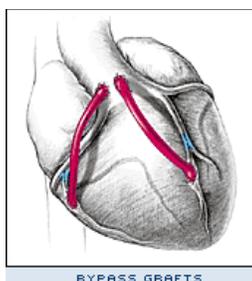


You may be given a mild sedative to help you relax before the general anesthetic is given. The anesthetic will relax your muscles, keep you from feeling pain, and put you in a deep sleep.



### **What happens during the procedure?**

Coronary artery bypass surgery is performed by a team of surgeons. The operation takes 2 to 6 hours, depending on how many blood vessels need to be bypassed. One cut (incision) is made in the center of the chest at the breastbone to allow the surgeon to see the heart. Another incision may be made in your leg to remove a vein that will be put in your chest. (Otherwise, an artery in the chest, called the internal mammary artery, is used.) You are then connected to a heart-lung machine that supplies oxygen to your blood and circulates it back into your body while the surgery is performed.



If a vein is used for the bypass, one end of it is sewn into the aorta (the main artery from the heart to the body). The other end is sewn into the area below the blockage in the coronary artery. If the mammary artery is used, the lower end of the mammary artery is cut and reattached to the coronary artery beyond the blockage. In either case, the blood then uses the new vessel as a detour to bypass the blockage.

When the surgery is finished, you are disconnected from the heart-lung machine, your breastbone is closed with wire, and your chest is closed with stitches or staples.

If the blocked coronary arteries are on the front side of the heart, it may be possible for the surgeon to do the bypass through a small incision in the upper

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hest. This approach does not require cutting the breastbone and makes recovery much easier, but it is not appropriate for most people. Check with your doctor to see if this approach will work for you.

## What happens after the procedure?

After surgery, you will go to the intensive care unit (ICU). You will stay in the ICU overnight or as long as you need for observation. A constant electrocardiogram (ECG) monitor will record the rhythm of your heart.



You will have respiratory therapy to prevent any lung problems, such as a collapsed lung, infection, or pneumonia. A nurse or therapist will give you a breathing treatment every few hours.

Ask for pain medication if you need it. Therapy may include:

deep breathing exercises

coughing while holding a pillow against your chest to protect your breastbone

chest percussion, which is a gentle clapping on the back to help loosen lung secretions that may have accumulated after surgery

moving your legs to reduce the chance of blood clots.

While in the ICU, you may have the following in your body to help your recovery:

a tube in your mouth or nose that goes into your lungs and is connected to a ventilator to help you breathe

a tube through your nose and down to your stomach to drain out natural fluids that may cause discomfort until you are able to eat food again

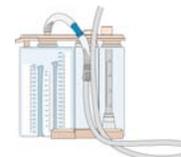
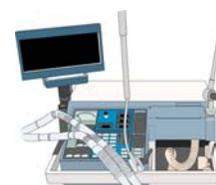
a catheter to empty your bladder

intravenous (IV) tubes in your arms or neck so that you can be given fluids, nutrients, and medications

chest tubes to drain blood from your chest cavity and to help detect any excessive bleeding in your chest

an arterial line in your wrist to measure the pressure of the blood flowing through your arteries

a pacemaker wire.



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These tube and wires will be removed when you no longer need them.



You will have physical therapy, which includes walking around the hospital and other strengthening activities. You will learn how to move your upper arms without hurting your breastbone, and you will receive more respiratory therapy. You will be told about specific foods to avoid when you get home, such as foods high in fat, cholesterol, and sodium.

### **What are the risks associated with this procedure?**

1. If you are otherwise healthy and your heart function is normal, your risk of death is very low. If you are older, and if you have heart damage, your risk of death is higher.
2. There are some risks any time you have general anesthesia. Discuss these risks with your doctor.
3. Infection, particularly of the lungs, may be a problem.
4. Bleeding after the operation sometimes requires a return to the operating room.
5. Blockages can develop in the bypass grafts.
6. There is a risk of stroke during and after the operation.
7. Abnormal heart rhythms are fairly common but usually respond to treatment.

### **How can I take care of myself?**

Follow the full treatment and take all medications as prescribed by your doctor.

In addition:



- ◆ Get enough rest. Plan at least two rest periods during the day (more if you still are tired).
- ◆ Enjoy the support and visits of family and friends, but keep visits short and allow yourself time to rest.
- ◆ Learn deep breathing and relaxation techniques.
- ◆ Talk about your feelings.
- ◆ Lose weight slowly if you are overweight.
- ◆ Follow a healthy, well-balanced diet that is low in salt, saturated fats, and cholesterol.



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- ◆ Weigh yourself every morning. A sudden weight gain of more than 3 pounds should be reported to your doctor.
  - ◆ Follow the exercise program prescribed by your doctor.
  - ◆ If you feel constipated, ask your doctor about a stool softener or a fiber-based laxative. (Constipation is a common problem after prolonged bed rest in the hospital or at home.)
  - ◆ Your doctor may suggest you wear support hose to prevent swelling and circulatory problems in your legs. Putting powder on your legs can help you pull hose on more easily. Smooth out any wrinkles to avoid pressure spots.



## **How can I prevent problems from occurring during recovery?**

1. Follow your doctor's recommended schedule of activity after surgery.
2. Have someone help you with your bath or shower if you feel dizzy. Consider using a waterproof chair in the shower for safety.
3. Avoid extremely hot water in your shower, bath, or hot tub because it can affect blood flow and cause lightheadedness.
4. Initially, avoid lifting anything heavier than 5 to 10 pounds.
5. Avoid driving, mowing the lawn, mopping, vacuuming, and any other activities that strain your upper arms and chest as long as your doctor tells you to.
6. Avoid sexual intercourse until your doctor tells you it's okay to resume it.
7. Ask your doctor whether you can drink any alcoholic beverages.



## **When should I call the doctor?**

Call the doctor right away if:

You develop a fever.

You become short of breath.

You have worsening chest pain.

Call the doctor during office hours if:

You have questions about the procedure or its result.

You want to make another appointment.

Developed by McKesson Clinical Reference Systems.

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