

CORONARY BYPASS (BYPASS) SURGERY



Patients suffering from serious heart disease may need to undergo coronary bypass surgery to restore the flow of blood through the coronary arteries with the objective of supplying the heart muscle with adequate oxygen and nutrients. In some patients, there may be too many blockages for angioplasty to be effective (a procedure for opening up

blockages without resorting to surgery). In other cases, the blockage may be located in a place in the coronary artery where it is not possible to perform angioplasty or it is very risky. These blockages are caused by atherosclerosis, a disease caused by the accumulation of fat on the walls of the arteries that supply the flow of blood to the heart. These blockages of fat, known as plaque, decrease the flow of blood that nourishes the heart muscle. In advanced cases, plaque can impede the flow of blood completely.

Coronary bypass surgery consists of removing a blood vessel from another part of the body and connecting it to construct a bypass around the area of the obstructed coronary artery. The sternum is split and the chest cavity is opened to have access to the heart. The coronary arteries are on the exterior surface of the heart. The heart itself is not opened up.

There are two common procedures:

- An artery is detached from the inside of the chest wall and the open end is connected to the coronary artery below the obstructed part. The blood then flows through the transplanted (displaced) artery toward the coronary artery outside the area of blockage.
- Part of a leg vein may be taken and one end of the coronary artery may be sutured above the area of blockage. The other end of the vein is grafted onto the coronary artery below the obstructed area. This way a path is formed in which the blood is bypassed for its flow, avoiding the blockage.

With either of the procedures, the flow of blood can be reestablished to the area of the heart muscle that previously did not receive enough blood due to the blockage.

Minimally invasive coronary bypass surgery is a new technique that is being evaluated as an alternative to conventional coronary bypass surgery. It involves the use of special instruments to perform coronary bypass surgery without splitting the sternum and without using a cardiopulmonary machine (this machine supplies oxygen to the body during conventional bypass surgery while the heart is stopped). This procedure causes less pain and reduces the hospital stay. It is a new technique that many medical centers are not able to carry out. Minimally invasive coronary bypass surgery cannot be performed in all cases of obstruction, since it depends on the location of the blockage. Your doctor will help you decide what the best treatment for you is.

What to expect:

Coronary bypass surgery is carried out at the hospital. Before the surgery, a complete medical and cardiac exam will be performed on you, which generally includes a heart catheterization. (A procedure in which images are taken of the heart and of the coronary arteries). In general, you must be admitted the same day as the surgery. You will not be able to eat or drink anything after midnight on the night before the surgery. Check with the doctor for him to instruct you how to take medications before the surgery. You will be transferred to a pre-operative area, where you will be prepared for the surgery. Your medical history will be reviewed, including all medications and allergies. You will have to change and put on a hospital gown. Intravenous lines will be placed on you to administer you medications during the surgery. Coronary bypass surgery is carried out under general anesthesia.

After the surgery, you will recover at the hospital intensive care unit where you will be carefully monitored for 2 or 3 days. A tube will be placed in your lungs, which goes through the throat (called endotracheal tube) to help you breathe. A catheter will also be placed in your bladder. You will continue having an intravenous line for the administration of medications. Once your condition is stable, you will be transferred to a regular hospital room, where you will spend several more days. You will receive physical, respiratory and occupational therapy. Coronary bypass surgery is a major surgical intervention, so it is important for you to talk to your doctor beforehand about possible complications.

Care after surgery

The recovery time at home will be approximately one to two months. You will have to make follow-up visits during that period to monitor your progress and determine if the surgery was successful. The doctor will register you in a post-operative rehabilitation and prevention program. You will receive medications after the surgery to decrease the risks of suffering complications. It is essential that you follow the doctor's instructions with respect to post-operative care. It is very important for you to change your lifestyle to reduce the risk of atherosclerosis progressing. You must quit smoking (if you smoke), decrease the

consumption of high-fat and high-cholesterol foods, follow the exercise program that the doctor recommended to you and control your weight and blood pressure. To control some of these risk factors, it will be necessary for you to take medications. Normally, you can resume sexual activity in 3 or 4 weeks. You must be careful and protect the area of the leg where the vein was removed. Several months may pass before this returns to normal.

Most people who have sedentary office jobs can return to work between four to six weeks later. Those who have jobs that require physical exertion have to wait longer. In some cases, you may have to look for less demanding work.