

## Bypass Surgery, Coronary Artery

### What is coronary artery bypass surgery?

This is a type of heart surgery. It's sometimes called CABG ("cabbage"). The surgery reroutes, or "bypasses," blood around clogged arteries to improve blood flow and oxygen to the heart.

### Why is this surgery done?

The arteries that bring blood to the heart muscle (coronary arteries) can become clogged by plaque (a buildup of fat, cholesterol and other substances). This can slow or stop blood flow through the heart's blood vessels, leading to chest pain or a heart attack. Increasing blood flow to the heart muscle can relieve chest pain and reduce the risk of heart attack.

### How is coronary bypass done?

Surgeons take a segment of a healthy blood vessel from another part of the body and make a detour around the blocked part of the coronary artery.

- An artery may be detached from the chest wall and the open end attached to the coronary artery below the blocked area.
- A piece of a long vein in your leg may be taken. One end is sewn above the blocked area and the other end of the vein is attached or "grafted" to the coronary artery below the blocked area.
- Either way, blood can use this new path to flow freely to the heart muscle.

A patient may undergo one, two, three or more bypass grafts, depending on how many coronary arteries are blocked. Cardiopulmonary bypass with a pump oxygenator (heart-lung machine) is used for most coronary bypass graft operations. This means that besides the surgeon, other surgical staff members include a cardiac anesthesiologist, surgical nurses, and a perfusionist (blood flow specialist).

During the past several years, more surgeons have started performing off-pump coronary artery bypass surgery (OPCAB). In it, the heart continues beating while the bypass graft is sewn in place. In some patients, OPCAB may reduce intraoperative bleeding (and the need for blood transfusion), renal complications and postoperative neurological deficits (problems after surgery).

### What happens after bypass surgery?

After surgery, the patient is moved to a hospital bed in the cardiac surgical intensive care unit. Heart rate and blood pressure monitoring devices continuously monitor the patient for 12 to 24 hours. Medications that regulate circulation and blood pressure may be given through the I.V. (intravenously). A breathing tube (endotracheal tube) will stay in place until the physicians are confident that the patient is awake and ready to breathe comfortably on his or her own.

The patient may feel groggy and disoriented, and sites of incisions — both the chest and the leg, if a segment of blood vessel was taken from the leg — may be sore. Patients usually stay in the hospital for four to six days and sometimes longer. During this time, some tests will be done to assess and monitor the patient's condition.

After leaving the hospital, the patient is usually enrolled in a physician-supervised program of cardiac rehabilitation. This program teaches stress management techniques and other important lessons (e.g., about diet and exercise) and helps people rebuild their strength and confidence. Patients are often advised to eat foods low in cholesterol and saturated fat and to avoid trans fat while increasing daily physical activity to help regain strength. Doctors also often recommend following a home routine of increasing activity — doing light housework, going out, visiting friends, climbing stairs. The goal is to return to a normal, active lifestyle.