Coronary Artery Bypass Surgery

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 onto the large artery leaving your heart -- the aorta. 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 bypasses, depending on how many coronary arteries are blocked.

Cardiopulmonary bypass with a pump oxygenator (heart-lung machine) is used for nearly all coronary bypass graft operations. This means that besides the surgeon, cardiac anesthesiologist and surgical nurse, a competent perfusionist (blood flow specialist) is required.

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. Family members can visit periodically. 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. Painkillers are given as needed.

Patients usually stay in the hospital at least three to five days and sometimes longer. During this time, some tests will be done to assess and monitor the patient's condition. After release from the hospital, the patient may experience side effects such as:

- Loss of appetite, constipation
- Swelling in the area from which the segment of blood vessel was removed
- Fatigue, mood swings, feelings of depression, difficulty sleeping
- Muscle pain or tightness in the shoulders and upper back

Many of these side effects usually disappear in four to six weeks, but a full recovery may take a few months or more. When the patient is ready, he or she may be 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 re-build their strength and confidence.

Patients are often advised to eat less fat and cholesterol walk or do other 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.

Most people with sedentary office jobs can return to work in four to six weeks. Those with physically demanding jobs will have to wait longer. In some cases they may have to find other employment.

What about alternatives to coronary artery bypass?

The American Heart Association doesn't have a policy on this issue. In some patients, alternative treatment of coronary artery disease includes medical therapy with specific medication or non-surgical treatment such as balloon angioplasty, laser angioplasty, stents or atherectomy (plaque removal). Your physician (cardiologist) will help decide which treatment is best for you.