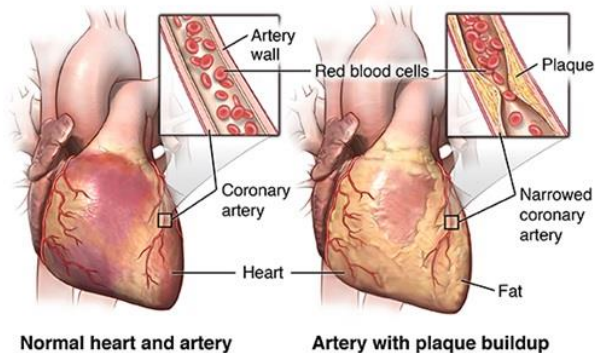


What is coronary bypass graft surgery

Coronary artery bypass graft surgery (CABG) is a procedure used to treat coronary artery disease. Coronary artery disease (CAD) is the narrowing of the coronary arteries – the blood vessels that supply oxygen and nutrients to the heart muscle. CAD is caused by a build-up of fatty material within the walls of the arteries. This build-up narrows the inside of the arteries, limiting the supply of oxygen-rich blood to the heart muscle.



One way to treat the blocked or narrowed arteries is to bypass the blocked portion of the coronary artery with a piece of a healthy blood vessel from elsewhere in your body. Blood vessels, or grafts, used for the bypass procedure may be pieces of a vein from your leg or an artery in your chest. An artery from your wrist may also be used. Your doctor attaches one end of the graft above the blockage and the other end below the blockage. Blood bypasses the blockage by going through the new graft to reach the heart muscle. This is called coronary artery bypass surgery.

Traditionally, to bypass the blocked coronary artery, your doctor makes a large incision in the chest and temporarily stops the heart. To open the chest, your doctor cuts the breastbone (sternum) in half lengthwise and spreads it apart. Once the heart is exposed, your doctor inserts tubes into the heart so that the blood can be pumped through the body by a heart-lung bypass machine. The bypass machine is necessary to pump blood while the heart is stopped.

While the traditional "open heart" procedure is still commonly done and often preferred in many situations, less invasive techniques have been developed to bypass blocked coronary arteries. "Off-pump" procedures, in which the heart does not have to be stopped, were developed in the 1990's. Other minimally invasive procedures, such as keyhole surgery (done through very small incisions) and robotic procedures (done with the aid of a moving mechanical device), may be used.