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Perspective

Procedures Involved in Coronary Artery Bypass Graft Surgery

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DESCRIPTION

Coronary Artery Bypass Graft Surgery (CABG) is a procedure used to treat coronary artery disease. Coronary Artery Disease (CHD) is a narrowing of the coronary arteries, the blood vessels that carry oxygen and nutrients to the muscles of the heart. CAD is caused by the accumulation of fatty substances in the arterial wall. This accumulation narrows the interior of the arteries and limits the supply of oxygen-rich blood to the heart muscle.

One way to treat an occluded or narrowed artery is to bypass the occluded part of the coronary artery with healthy blood vessels from elsewhere in the body. The blood vessels or grafts used for bypass surgery can be fragments of veins in the legs or fragments of arteries in the chest. Wrist arteries can also be used. The doctor places one end of the graft above the obstruction and the other end under the obstruction. Blood avoids obstruction by reaching the heart muscle through new grafts. This is called coronary artery bypass graft surgery.

Traditionally, to bypass the occluded coronary arteries, doctors make a large incision in the chest and temporarily stop the heart. To open the chest, the doctor cuts the sternum (sternum) in half and unfolds it. Once the heart is exposed, the doctor inserts a tube into the heart and uses a cardiopulmonary bypass device to allow blood to be pumped into the body. A bypass device is needed to pump blood while the heart is at rest.

Traditional "open heart" procedures are still commonly performed and preferred in many situations, but minimally invasive techniques have been developed to bypass occluded coronary arteries. "Off-pump" surgery, which does not require the heart to stop, was developed in the 1990s. Other minimally invasive procedures such as Keyhole surgery (performed with a very small incision) and robotic surgery (performed using a movable mechanical device) can be used.

Doctor needs to temporarily stop your heart in order to sew a graft into a very small coronary artery. A tube is inserted into the heart so that blood can be pumped into the body using a heart-lung machine. When blood is pumped to the bypass device, the doctor injects a cold solution into the heart to stop it. When the heart stops, the doctor will perform a bypass graft by passing one end of the vein through a small opening in the aorta and the other end through a small opening in the coronary artery just below the occlusion. When a doctor uses the internal breast artery of the chest as a bypass graft, the lower end of the artery is cut from the inside of the chest and sutured to the opening made in the coronary artery below the occlusion. Depending on the number and location of obstructions, multiple bypass surgeries may be required. After all the transplants are complete, the doctor will scrutinize them with the blood flowing through them to make sure they are working. After the bypass graft is checked, the doctor returns the blood circulating in the bypass machine to the heart and removes the tube to the machine. The heart may restart spontaneously, or it may restart using a mild electric shock. Doctors may temporarily insert a wire into the heart for irritation. These wires can be connected to a pacemaker and can stimulate the heart as needed during the initial recovery period.

The situation that`s maximum probable to result in CABG is coronary heart disorder, a set of situations that consists of coronary heart assault and coronary artery disorder. Other situations below coronary heart disorder consist of angina pectoris, that's chest ache as a result of ischemia to your coronary heart, and silent myocardial ischemia, that's coronary heart ischemia with none symptoms.

Conditions that fall below coronary heart disorder generally contain a narrowing of the arteries to your coronary heart due to a buildup of a fatty, wax-like residue known as plaque. As plaque builds up at the interior of your coronary heart`s arteries, the arteries emerge as stiffer and narrower. If a place of plaque breaks open, blood clots can shape there and create blockages in the ones arteries. Those blockages motive ischemia in elements of your coronary heart that may result in a coronary heart attack.

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