



Coronary Artery Bypass Graft Surgery: A Lifeline for Heart Health

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DESCRIPTION

In the realm of modern medicine, few procedures have had as profound an impact on cardiac health as Coronary Artery Bypass Graft (CABG) surgery. This intricate surgical technique has been a lifeline for countless individuals suffering from Coronary Artery Disease (CAD)-a condition characterized by the narrowing or blockage of blood vessels that supply the heart muscle with oxygen and nutrients. CABG surgery, often referred to as bypass surgery, aims to restore proper blood flow to the heart by creating detours around clogged arteries. In this article, we will delve into the details of CABG surgery, including its history, procedure, indications, recovery, and the advancements that have transformed it into a remarkably safe and effective intervention. The origins of CABG surgery can be traced back to the mid-century. Dr. Rene Favour, an Argentine surgeon, is credited with performing the first successful coronary artery bypass graft in 1967. At that time, the procedure was experimental and carried significant risks. The initial grafts involved using veins from the legs to bypass blocked coronary arteries. Over the years, the technique evolved as surgical skills improved, and the use of arterial grafts, such as the internal mammary artery, gained prominence due to their superior long-term patency rates. The advent of technology, such as advancements in anaesthesia, surgical instruments, and post-operative care, further facilitated the refinement of CABG surgery. Minimally invasive techniques, robotic assistance, and enhanced imaging have also contributed to the procedure's evolution, making it safer and more effective. Arteries and veins are chosen as grafts to create bypasses. The most commonly used arteries are the internal mammary artery and the radial artery, while veins like the saphenous vein are often used. A vertical incision is made in the middle of the chest to access the heart. Alternatively, min-

imally invasive approaches involve smaller incisions between the ribs. The patient's blood is rerouted through a heart-lung machine, allowing the heart to be temporarily stopped while maintaining circulation and oxygenation. The chosen grafts are then sewn onto the coronary arteries, bypassing the blocked or narrowed sections. This restores normal blood flow to the heart muscle. Once the grafting is complete, the heart is restarted, and the patient is weaned off the heart-lung machine. The chest is closed, and the patient is monitored closely during the recovery period. CABG surgery is recommended for individuals with severe coronary artery disease, where lifestyle modifications, medications, or less invasive procedures like angioplasty and stenting have proven inadequate. When multiple or critical coronary arteries are blocked or narrowed, limiting blood flow to a considerable portion of the heart muscle. Blockage of the left main coronary artery, a vital vessel supplying a significant portion of the heart muscle, warrants surgical intervention. Diabetic patients with multiverse disease may benefit from CABG due to its superior outcomes in this group compared to angioplasty. Individuals with previously unsuccessful angioplasties or stent placements might require CABG surgery for effective treatment. CABG may be considered in patients with reduced heart function (low ejection fraction) and significant coronary artery disease. The recovery period following CABG surgery varies from patient to patient.

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CONFLICT OF INTEREST

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