

I have had a heart attack. Do I need open heart surgery or a stent?

August 25 2018

New advice on the choice between open heart surgery and inserting a stent via a catheter after a heart attack is launched today. The European Society of Cardiology (ESC) and European Association for Cardio-Thoracic Surgery (EACTS) Guidelines on myocardial revascularization are published online in *European Heart Journal*.

Coronary artery disease, also called ischaemic heart disease, is the top cause of death worldwide. Arteries supplying oxygen-rich blood to the heart become narrowed with fatty material, causing chest pain and increasing the risk of heart attacks and death. Patients should stop smoking, be physically active, and consume a healthy diet. They also need lifelong medication which can include a statin to control blood lipids, blood pressure lowering drugs, and aspirin.

Myocardial revascularization can be performed in patients with stable (chronic) [coronary artery disease](#) or an acute event (heart attack) to improve blood flow to the heart, reduce chest pain (angina), and improve survival. There are two types of myocardial revascularization: open heart surgery to bypass clogged arteries ([coronary artery bypass](#) grafting; CABG) and percutaneous coronary intervention (PCI) to open clogged arteries with a stent.

Patients should be involved in choosing the procedure, state the guidelines. They need unbiased, evidence-based information with terminology they can understand explaining the risks and benefits in the short- and long-term such as survival, relief of chest pain, quality of life,

and requirement for a repeat procedure. In non-emergency situations, patients must have time to reflect on the trade-offs and seek a second opinion. Patients have the right to obtain information on the level of experience of the doctor and hospital in performing these procedures.

Outcomes from the two procedures vary according to the anatomical complexity of coronary artery disease. This is graded using the SYNTAX Score, which predicts whether PCI can provide similar survival as bypass. For patients with more simple disease, surgical bypass and PCI provide similar long-term outcomes. For patients with complex disease, long-term survival is better with surgical bypass. Also, patients with diabetes have better long-term outcomes with surgical bypass even with less complex disease.

A heart team of cardiologists, cardiac surgeons and anaesthetists should be consulted for patients with chronic coronary artery disease and a complex coronary anatomy, while respecting the preferences of the patient.

Professor Miguel Sousa-Uva, EACTS Chairperson of the Guidelines Task Force, Santa Cruz Hospital, Carnaxide, Portugal, said: "Despite the development of new stents, studies show that patients with complex coronary artery disease have better survival with bypass surgery and this should be the preferred method of revascularization."

In patients with stable disease, another aspect to consider when choosing the procedure is whether it is possible to bypass or insert a stent into all blocked [arteries](#), as this improves symptoms and survival. Preference should be given to the procedure most likely to achieve this so-called complete revascularization.

When PCI is chosen, stents that release a drug to prevent clots, heart attacks, and reinterventions should be used in all procedures.

Bioresorbable stents, which are absorbed by the body, should only be used in clinical trials.

Professor Franz-Josef Neumann, ESC Chairperson of the Guidelines Task Force, University Heart Centre Freiburg ? Bad Krozingen, Germany, said: "The guidelines aim to help patients and doctors make a logical decision on the type of revascularization based on the scientific evidence. They will also be consulted by governments and health insurers as the standard of care for coronary artery disease."

More information: 2018 ESC/EACTS Guidelines on myocardial revascularization. *European Heart Journal*. 2018. [DOI: 10.1093/eurheartj/ehy394](https://doi.org/10.1093/eurheartj/ehy394).

Provided by European Society of Cardiology

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