

# Robot-assisted minimally-invasive CABG surgery

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Dr. Robert Poston is a pioneer in the use of robotics for minimally invasive cardiac surgery. He recently joined BMC as chief of cardiac surgery. With his arrival, BMC has become one of only one of 9 hospitals across the country, and the only hospital in Boston, to offer robot-assisted minimally invasive coronary artery bypass, the most advanced treatment available for coronary artery disease (the most common form of heart disease - 16 million Americans have -- and the leading cause of death - 1 million/year --in the U.S.)

For patients with severe blockages, coronary artery bypass graft surgery (cabg) allows surgeons to remove or re-direct a blood vessel from one part of the body and place it around the obstructed part of the artery, effectively by-passing it, and restoring blood flow to the heart muscle.

Minimally invasive, robotically-assisted bypass surgery allows physicians to gain access to the heart with several small incisions, unlike conventional bypass surgery which requires the chest to be opened with a 6-10 inch incision at the breastbone (sternum.)

Using small incisions between the ribs, the arms of the robot and a small camera are placed to allow the surgeon to look through lenses on a computer console that provide a 3-dimensional, 10-times-magnified image inside the patient's body.

The surgeon's hands control the instrument's arms to perform the procedure. The robot's "wristed" instruments effectively mimic the

movements of the surgeon's hands and wrist, providing the surgeon with flexibility and precise motion control as he 'harvests' one or more blood vessels from inside the chest cavity, to redirect one end to the heart surface beyond the blockage, bypassing the blockage, to restore blood flow to the heart.

In addition to smaller incisions (and smaller scars) the patient benefits are fewer side effects and complications, less pain, reduced risk of infection and faster recovery.

Source: Boston University

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