

Three Heads Are Better Than One: Hybrid Approach Meets a Patient's Challenge

Norma Luster is a real trouper. But when she suffered angina and an angiogram showed she had three plaque-blocked cardiac arteries, she put her foot down. “No more open heart surgery!” declared the 70-year-old, who had undergone open heart bypass surgery for the same condition a decade earlier.

Angina is a common symptom of a condition called atherosclerosis — or hardening of the arteries — one of the leading causes of death among Americans. It develops without symptoms, over decades, as circulating blood deposits fat, cholesterol, calcium and other substances on arterial walls. When severe atherosclerosis occurs in the coronary arteries, the heart's cry for oxygen is felt as angina. It is a precursor to a heart attack felt as pressure or a squeezing pain in the chest. It may also be felt in the shoulders, arms, neck, jaw or back. This pain tends to intensify with physical activity and often goes away with rest. Emotional stress also can trigger the pain.

Ms. Luster's Robert Wood Johnson University Hospital (RWJUH) cardiologist, **Sheldon Kukafka, MD**, of the New Brunswick Cardiology Group, worked with her to find an acceptable and effective alternative to further invasive surgery. One of the blocked arteries could be treated medicinally, but blockages in the two others were more troublesome. Dr. Kukafka conferred with his colleague, **Jack Stroh, MD**, an interventional cardiologist. The two doctors put their heads together with cardiothoracic surgeon **Mark Anderson, MD**, Associate Professor of Surgery at UMDNJ-Robert Wood Johnson Medical School and Chief of Cardiac Surgery at RWJUH. Together, they devised an innovative solution that married minimally invasive techniques of their individual specialties to treat a complex condition with minimum risk and discomfort to Ms. Luster.

Dr. Anderson used the robotic da Vinci surgical system to bypass one blockage with a vein graft. Thanks to the da Vinci technology, Dr. Anderson needed to make only a few small incisions through which the robot's arms and tiny, highly flexible "hands" and "wrists" passed to translate the surgeon's instructions with super-human precision and range of motion.

Diagnostic tests had shown that the robot couldn't reach the final blockage, in an artery that wraps around the back of the heart. But the tools and techniques of interventional cardiology were ideal for the situation. Dr. Stroh passed a catheter through a small incision in the patient's side and successfully performed a balloon angioplasty to open and stent the artery.

The two-stage surgery and the recovery went perfectly for Ms. Luster. It was especially helpful, says Dr. Anderson, that the hospital has equipped the operating room with the same technology used in the catheterization lab. Now cardiothoracic surgeons at RWJUH can operate with the same state-of-the-art imaging as interventional cardiologists and radiologists, while working with a specialized OR anesthesia team and advanced surgical technology like the robot.

Inheritance is a strong risk factor for atherosclerosis and sometimes medicine is needed to control the disease and its symptoms. If that's the case, all medications must be taken faithfully. Lifestyle changes are important, too, and are within everyone's reach: follow a heart-healthy, low-fat diet; quit smoking; exercise regularly and work toward attaining and maintaining a healthy weight.