

MAKING HEART SURGERY MUCH EASIER FOR PATIENTS

The Region's Most Experienced Robotic Cardiac Surgeons use the World's Most Advanced Robot

At 58, Bruce Henderson wasn't slowing down. He knew that his mitral valve prolapse had been worsening over the past decade, but he was still biking 70 miles a week. He felt good except for a little shortness of breath.

Yet after a regular echocardiogram, his cardiologist at Heart Center of the Rockies, Dr. Stephen Treat, told him it was time to have his mitral valve replaced.

Lucky for Bruce, the region's most experienced cardiac robotic surgeon—Dr. Michael Stanton—also practices at Heart Center of the Rockies. After examining Bruce and reviewing his ultrasounds, Dr. Stanton told him he could likely repair—not replace—Bruce's mitral valve and he could do it robotically, so Bruce's sternum wouldn't need to be split open.

How it works

Dr. Stanton performs cardiac robotic surgery at Poudre Valley Hospital in Fort Collins with the sophisticated daVinci™ robotic surgical system, which consists of four robotic arms controlled by a computerized console.

During a robotic surgery, Dr. Stanton makes three or four dime-sized incisions between the patient's ribs and inserts a robotic arm through each opening. One of the arms holds a camera with 10X magnification and the others hold microsurgical instruments with the same full range of motion as the surgeon's wrist and hand. Dr. Stanton then sits at the console a few feet away from the patient and—very precisely and in real-time—operates the microsurgical instruments.

Surgeons at Poudre Valley Hospital have been using the da Vinci robot since late 2004. On September 13, the hospital announced it has added a second, more advanced robot—the da Vinci “S”—making the hospital the leading medical center for robotic surgery in Colorado and the seven-state Rocky Mountain region.

The arms of the “S” have an extended reach, wider range of motion and more flexibility to work in multiple directions, allowing for more complex cardiac surgeries. The new robot also has an enhanced viewing system that provides the surgeon with better depth perception. These and other new features make the “S” robot particularly useful for cardiac surgery.

A kinder, gentler approach

For chest surgery patients like Bruce, the biggest benefit of robotic surgery is that the sternum doesn't need to be cut.

Traditionally, the term “open heart surgery” means that the surgeon has to cut the breastbone vertically down the middle and spread the ribcage apart to be able to get his hands and instruments on the heart. Patients with full sternal incisions typically spend five-seven nights in the hospital and when they return home, generally aren't allowed to drive, lift anything that weighs more than a few pounds, or return to work for six-eight weeks—followed by an extended “light activity” restriction period. The incision is also very painful for weeks.

Robotic cardiac surgery patients, on the other hand, recover much more quickly from the three or four dime-sized incisions between their ribs. The hospital stay is only two to three days and they are able to return to work and normal activities much sooner. They also report experiencing almost no pain.

Coronary bypass, mitral valve repair and more

Dr. Stanton began performing robotic cardiac and lung surgeries in 2005 and has since completed dozens of procedures. His Heart Center of the Rockies surgical colleague Dr. Fernando Lamounier is also trained to perform robotic cardiothoracic surgeries on the da Vinci system.

Dr. Stanton has found that the robotic technique is extremely effective for repairing mitral valves, closing holes in the heart, removing cardiac and lung tumors, and performing single-vessel cardiac bypass surgery. He and Dr. Lamounier expect to add multiple-vessel bypass, mitral valve replacement and aortic valve replacement to their robotic capabilities within the coming year.

The best choice for Bruce

A research and development manager at Hewlett Packard, Bruce understands the value of researching and understanding your medical options. He read medical journal articles about mitral valve repair and robotic surgery and did a lot of online research. He concluded that robotic mitral valve repair with Dr. Stanton was his best bet.

“It went very well,” he said of his surgery. “Dr. Stanton was able to do an excellent repair on the valve. I wasn’t sure what to expect, but I had no pain. I was in the hospital just three days. And I recovered quickly. I was back to work in four weeks.”

Today—thanks to the miracle of robotic technology and the skill of the region’s most experienced robotic cardiac surgeons—he’s back to biking, working and enjoying life.