Precision matters: Choose Mazor Robotic spine surgery

In 2012, **Tri-City Medical Center** was one of the first four hospitals in the country to use the Mazor Robotic Renaissance® surgical guidance system for minimally invasive spine surgeries. Every day, Drs. Neville Alleyne and Payam Moazzaz, orthopedic spine surgeons, perform this procedure that they helped pioneer almost a decade ago for patients suffering from degenerative disc conditions, kyphosis, scoliosis, spinal canal narrowing, spondylolisthesis or vertebral compression fractures.

"The technology is a game changer and continues to get better," said Dr. Moazzaz. "Minimally invasive Mazor robotic spine surgery can be performed with extreme accuracy and low complication rates. It's very rewarding to see patients, who were in severe pain and unable to walk, literally change their lives after spine surgery."

To prepare, surgeons use Mazor's advanced 3D planning software to create a virtual 3D "blueprint" of the patient's spine to serve as their guide during the procedure. Once in the operating room, a rigid mounting platform is attached to the patient's spine to eliminate movement and 3D markers and fluoroscopy images are used to sync alignment with the blueprint. During the procedure, surgeons use the Mazor system to guide them to the precise, pre-planned location with the highest level of accuracy. Because of its predictability, surgeons are able to operate consistently with 1 mm accuracy.

"Prior to Mazor, the national average to accurately place a pedicle screw in the spine for surgeries such as a spinal fusion, was approximately 10%," said Dr. Alleyne, Chief of Orthopedics at Tri-City Medical Center. "Now with Mazor, the screw placement accuracy is about 99% and it takes less time in the OR."

Drs. Neville Alleyne and Payam Moazzaz, orthopedic spine surgeons, perform minimally invasive spine surgeries for patients suffering from degenerative disc conditions, kyphosis, scoliosis, spinal canal narrowing, spondylolisthesis or vertebral compression fractures.

"One of the more complex spinal procedures that we do is revision surgery, which involves taking down scar tissue," said Dr. Alleyne. "In the past, to find normal landmarks in the spine without a robot, you had to peel away scar tissue from previous spine surgeries, but this is no longer necessary with the Mazor system. It will tell you where the center of the pedicle is every single time. Pedicles are the part of the vertebrae where screws are often inserted into the bone."

"Other benefits for patients choosing Mazor robotic spine surgery include less damage to surrounding tissue and post-operative pain, as well as a shorter recovery period. Patients no longer need to be so afraid of having back surgery as the technology has made it extremely safe," added Dr. Moazzaz.

Because the spine is one of the most intricate parts of the body, surgeons can't afford to take risks when working on patients with spinal issues. Having performed almost 1,500 Mazor robotic spine surgeries at Tri-City, Drs. Alleyne and Moazzaz are committed to sharing their expertise with others. Not only do they proctor doctors at other hospitals who are learning this technology, they have also established Tri-City as a teaching facility for visiting surgeons and had their innovative techniques adopted by the manufacturer for training purposes.

Both share a similar sentiment, but Dr. Alleyne said, "We have the greatest job in the world. Whether it's marathon runners, martial artists, triathletes or weekend warriors, people of all types come to us and put their lives in our hands because they are hurting. They trust us and it is a privilege to be able to do something to change their lives for the better."

For more information about robotic spine surgery or to make an appointment with an orthopedic surgeon, visit Orthopedic Specialists of North County.