

## BroadcastMed | MaxorX\_closedcaption

If the mizor X Robot is a robot designed that's to assist surgeons for surgery spine and it has applications in Pediatrics playing deformity surgery. So we see a fair number of patients in pediatric Orthopedics who have scoliosis or kyphosis or some sort of spine deformity and for some of those patients that have occur that's at risk of progressing into adulthood. We will recommend surgical intervention and that usually comes in the form of a spinal fusion. The MUSC is fortunate to have developed a recent partnership with Medtronic. So we were very fortunate to acquire this new technology and we were able to acquire a machine specifically for the Sean Jenkins Children's Hospital to help us with pediatric spine deformity surgery and correction.

We feel really proud that we're one of a few places really in the Southeast that can offer this to patients and families. And so that's a very exciting thing for us.

The representative case here was an adolescent female with her Progressive curve, and she was one that was at risk for a progression to adulthood. So Med indications for a spinal fusion. She underwent a poster spinal fusion from T4 to L4.

Current platform that we use is called a scan and plan where by the patients in the room the the exposure spine occurs. The robot isn't actually mounted interoperatively to the operating room table. We then Mount the robot to the patient via a clamp and then we use some markers to confirm where the robot is relative to the patients and then some images are acquired and then we map the images on top of where the robot is when we're robot is relative to the patient to then recreate in 3D space where the spine is relative to the robotic arm and confirm with imaging platform if you will and then once that's completed we are able to template out and plan each one of those vertebral bodies. So in cases of scoliosis where there's a fair amount of vertebral body rotation in some cases deformity we can look at each single level and then Temple it out the perfect trajectory for the screw in terms of the orientation as well as the screw diameter and the screw length and that allow to move through the procedure safely. It allowed us to move through the procedure quickly and confidently and have those implants exactly where we where we wanted them to be to effectuate the best correction that we could do.

Surgery is not just about the surgeon. It's about the entire team the vendors the radiation technologists are anesthesia team interoperative neural monitoring. There's a whole Cadre of folks there. They're really focused on that patient in that case.

So when I talk to patients and families about utilization of Robotics, I like to tell them that what a robot allows me to do is have some confidence about almost perfect accuracy for each one of my screws that that are placed, you know in their child if you will and again, the ultimate goal here obviously is for patient safety. We want to perform an operation in a timely fashion with Minimal risk for neurologic injury but also to have appropriate Place implants so that we can effectuate as much correction as possible. So by having screws that are put in the vertebral body in a perfect position I'm able to correct more powerfully that deformity which should give that child. Hopefully a better long-term outcome when patients and families ask is robotics the wave of the future and is this for every single patient? I'm pretty transparent when I say probably not there. We're going to be some clinical scenarios. They're going to be some particular patients conditions that may not be exactly suited or optimized for robotic arm screw placement. And so that's why it's so important to feel comfortable with the various different techniques that you have, you know in your toolbox if you will and we're fortunate that we have this one to use and we've onboarded here. But again we go back over and over again, you know patient safety is what's most important and we want to do the right procedure for that child and family for the condition they have