

## BroadcastMed | scoliosis\_captions

Really our primary goal is not to do surgery pretty much anytime somebody walks in the office. You know, some things have clear indication some things you can try to manage your work with and some things just flat don't need surgery. You know, this is somebody you had this deformity and just didn't have surgery when she was, you know, 13 or 14 or 15. I think her Curve was somewhere in the 50 range. Her main curve was in the thoracic spine. And then she had a reasonably large curve compensatory in the lower, know you thorical lumbar spine, but it was very mobile.

And so we didn't address that curve. We just addressed the curve that was stiff and then you know the mobile spine should accommodate back to that. So if we were to address her whole curve, you know, it would be T4 to L4 or something like that. But again, we can spare spine the lower and lumbar I think you know help with long term. So I've seen her back and you can see you know, how she has to compensatory lower curve and you know that her spine overall is much straighter, but you know, if we to instrument and more levels maybe didn't cosmetically you straighten everything straight as an arrow, you know, functionally, they're much better off for that. She had a lot of rotation in been, you know some what so imbalanced even regionally though her overall.

You know alignment top to bottom if you just looked at her head and looked at her pelvis. It was looked, you know pretty well lined up, you know within that area the curve it was fairly marked and you know a lot of rotation or twisting so our goals were, you know, just to improve her alignment balance her spine and you know minimize the number of levels we've used to mitigate, you know adjacent segment problems and and really help her keep, know you maintain her function. The left side is the correction side. So we put up what we would call a high density of implants on that side pretty much try and get Usually screws into the pedicle screws into the vertebra at each level and if you have like like segmental that fixation with high density, you can really influence the curve correction. And then on the opposite side, we just put in a much lower density of implants just to kind of help hold I think with modern-day what what modern day implants have done really is to allow you to fuse fewer levels. So that's good. The more levels you can spare and still deformity correct and the maintain it, you know, the better they'll be long term and I think you know in general from my point of view the more levels you can in spare below. the So lumbar spine the much better off you are probably the less likely you are to develop Adjacent saying my problems so, you know you can imagine if you fuse this one that's going to play stress on other areas of the spine and the lower you go, you know towards the tailbone or sacrum the more localized stress and the more you're gonna affect mechanics. If you can limit, you know, most of the fusion to just the rib cage area thoracic spine that really has a lot on less influence the overall mechanics of the spine. We do have a navigation some system take sort of CT scan during surgery. So three-dimensional study the machine then records and then the tools you use during surgery are, know you navigated or track so you can watch on a screen and see where you're trajectory is you have to know how to do order open surgery to in be a good surgeon with navigation and the navigation just helps know, ensure, especially you in those where you have a really tight.

Tolerance that you're in the right direction, I think you know it also in deformity because things are twisted and aimed in odd directions.

It's just more challenging anyway than you know, just a straight spine. So it does I think it allows you to instrument it more safely. You have an idea of what the spine should look like just based on normal anatomy. And so generally you bend.

The rod to the position you want the spine to be not to the position. She's in part of the surgery is doing facetectomies or removing basically all partially the joints. So you loosen everything up I do that with an osteotome where like it's old but some people use other ultrasonic type cutting devices or other device, but you need to loosen up all the joints. So essentially you tear down the spine and then rebuild it again, but because it's loose and mobile especially in younger patients, you can get it to move to the rod and get it straighter, you know, it went from Plus or minus 50 whatever it was to probably you know that 10 15 degree range. So that's you know, it's not perfectly straight, but it's good. You can still see a little rotational deformity as well. You know, that that worked well, and then the last part is just the actual Fusion process because in the end the implants just there to hold the position like an internal brace, but you need to get all of those.

Bones, essentially to grow together because screws won't hold up for 80 years, you know and at 20 year old. So all that bone needs to grow together.

So we prepare the bone by the essentially injuring bone or decorticating as the fancy term. We use with either the osteotomes or birds so that it provides a surface for new bone growth and then we recycle her bone from all of the decortic caves that we do and we use alligat bone as well to supplement that are expand that what musc's unique for really the is complex for me so hers I would not consider complex, you know, and of some the Certainly, some of the Pediatric cases can get much more complex, especially those that are due to congenital more congenital problems or neuromuscular problems. And then in the adult, you know, people have had prior surgery have had prior decompressions need revision decompressions along with, you know, procedures like osteotomies, which are really, you know, cutting out wedges out of fused areas and reshaping the spine totally doing front and back from surgery the surgery side in the back. They're big surgery. You know, you need good anesthesia team. You need a good ICU team you get blood bank. There are a lot of you know components that go into those so I think the more complex The deformity and the problem becomes I think the more MUSC stands out as a center of excellence.