Spinal Revision Surgery: Physicians' & Patients' Greatest Challenges (Part 1 of 3)

Written by Heather Linder | Thursday, 23 January 2014 08:37

This is part one of a three-part series on spine surgeons discussing spinal revision surgery and efforts to avoid failed back surgery syndrome.

Robert Watkins Jr., MD, is the co-director of the Marina Spine Center at Marina Del Rey (Calif.) Hospital. His practice focuses on minimally invasive spine surgery, computer-assisted image guidance surgery, disc replacement and spinal deformity. He completed his fellowship at The Queen's Medical Centre in England and was a traveling spine fellow throughout Europe focusing on artificial disc replacement and scoliosis surgery.

Here Dr. Watkins discusses how various challenges and technology play key roles in whether or not spine surgery outcomes are successful.

Question: How would you define failed spinal surgery?

Dr. Robert Watkins: When trying to define failed spinal surgery, I try to make sure my patients have realistic expectations of what surgery can do for them in the first place. The spine is a highly complex structure. The lumbar spine alone has 15 moveable parts and each one can develop degeneration and arthritis and be a source of pain.

One of the first things I discuss about surgery with a patient is for them to understand we don't have a cure for their problem. We don't have a cure for degeneration; it's slowing accumulating in all of us, and we don't have a way to stop that process. With surgery, we try to address the most painful pathology with the least invasive surgery, but unlike a total knee or hip replacement, we aren't curing the inherent problem.

When we talk about failed back surgery, if someone has a herniated disc, and we go in and do surgery to take the disc out, there is an 80 to 90 percent chance the patient will do well and the surgery will help almost immediately. If years later the condition progresses into degeneration and re-herniates and the patient develops the same symptoms again, is that considered failed surgery?

Some insurance companies may consider that failed spinal surgery, but in fact that's just the natural progression that exists. If the patient enjoyed a significant period of less pain from the initial surgery, then the surgery was probably worth it and not a failure. The

spine is different than other parts of the body as far as what surgery can reasonably accomplish. A fusion surgery stops the motion at a degenerated segment and can help the segment's pain be relieved effectively, but it can also put more stress on a disc above or below, which can accelerate the natural degeneration already occurring.

Q: How can failed surgeries be prevented?

RW: The first thing for a surgeon to do is understand what the pathology is causing the patient's symptoms. Physicians need to spend a lot of time evaluating their patients and doing a thorough history. They need to measure with diagnostic studies to understand why exactly is the pathology occurring in the spine and what is causing the person's pain.

The hard part is that reimbursements are continually going down, and we are not able to spend as much time evaluating each individual patient. The success of the surgery hinges on being able to evaluate the individual pathology. A lot of people have multiple pathologies in their spine and we are not going to operate on everything. We want to target what is causing the symptoms to help them most.

Q: How is technology helping to reduce spine surgery failures?

RW: One of the great things about living in America is that we have the best technology for spine surgery. I've operated all over the world, and I know our technology is better than anywhere. It allows us to have a good quality microscope so we can visualize neurologic structures and different abnormal pathologies better, which makes for less invasive cases.

Computer guidance system used to put instrumentation into the spine also gives us a 3-D picture of the spine in the operating room and helps direct instrumentation into the bone, avoiding nerves. Technology such as this is expensive, and a lot of countries' healthcare systems can't afford this technology. But using it makes surgery safer, and it makes us less likely to have a failed back surgery and more likely to have good outcomes.

Q: What is the biggest challenge to bettering spinal surgery?

RW: I really hope as a doctor that in the future I'm able to spend as much time as is required for each individual patient. I also hope our healthcare system supports the continual research and development in new technology, which has made spinal surgery in America the safest and best of any country in the world. I hope the money and energy of physicians contributing to that process to develop technology in spine surgery continues because we have the best right now, but if money and energy are not continued in the field, the quality will not continue to advance and improve.

As long as the hospital is able to provide you with the best equipment possible, then the

only other factor I see limiting surgeons is the amount of time you can spend evaluating the patient in the clinic, following up on studies and in the operating room. I hope in the future we can still provide a high level of service and spend time with each individual patient. The biggest fear about the future of medicine is that doctors have to see a high volume of patients so service won't be as good, and the quality could decline.

Q: Can minimally invasive techniques help surgeries become more successful?

RW: Minimally invasive techniques definitely help outcomes. The less invasive you can be, then the less trauma you inflict on the surrounding muscles, allowing for a faster recovery. We can apply these principles to every patient we treat. Minimally invasive surgery is a spectrum. The most important factor is that the surgery is done safely and effectively. If we can do it minimally invasively, we try to do that, but our ultimately goal is addressing the pathology safely.

Q: How do you select patients for spine surgery?

RW: Several keys are important to patient selection: listening to the patients, really understanding how their conditions affect their lives, always taking a history and physical before evaluating studies, forming a good picture of patients' pathologies based on a clinical diagnosis and then seeing if the radiographic studies match with their clinical picture and can explain their pain. Matching those two together is the number one key to successful outcomes.

Screening patients for any type of depression or psychological disturbance is important, but I see many patients that have chronic pain due to a spinal pathology, and they are depressed as a result of the pain and disability. If we can help them non-operatively or with surgery to decrease their pain, then it can help their depression and psychological issues.

One of the hardest things with a spinal pathology is that other people can't see what's wrong with the patient. People can't see a broken back. There are thousands of people suffering with back and leg pain due to spinal pathology that other people can't see. It's hard for other people, including the general public, politicians, insurers and payers, to empathize with how much pain people are in.

I see it all day long, where the patient has already been to physical therapy and taken medication and had injections. They have changed their lifestyle and might not be working because of the pain, yet they are still suffering and other people don't see the problem. A lot of times, surgery can help these people recover the quality of their lives.