Spinal surgery is not the definitive answer

David Hanscom is an orthopaedic surgeon based in Seattle who has been performing complex spinal surgery since 1986. In this time, he has amassed significant expertise in treating adult and paediatric patients with a wide range of spinal conditions, including deformities, fractures, tumours and infections. He spends a large part of his practice devoted to helping patients who have suffered multiple failed spinal surgeries. Through his observations, David learned that the central nervous system is the key player in the development of chronic pain and that most spinal surgeries should never be performed.

I am witnessing a disturbing trend of major spinal surgeries being performed on spines that are normal. I want to be clear that a "normal" 60-year-old spine does not look the same as a "normal" 20-year-old spine. As you age, the discs between the vertebrae lose water content, narrow down and form bone spurs around the edges. It has been well documented that all of these changes are consistent with the aging process.

By the time you are over 60 these degenerative findings are present in 100% of people – most of whom do not suffer from chronic back pain. Research has documented that there is essentially no connection between disc degeneration and back pain. The term "degenerative disc disease" is not accurate. Disc degeneration is not a disease and does not cause pain; it's just part of normal aging, like grey hair.

What is puzzling is that, despite there being no evidence to support the connection between disc degeneration and pain, there are hundreds of thousands of spinal fusions being performed for back pain in America every year based on the MRI scan showing disc degeneration.

Increased pain

Research shows that over half of patients have significant improvement six months after a fusion for lower back pain, but by two years this number drops to less than a third. Additionally, the re-operation rate is 15-20% within the first year, there is over a 30% chance of having increased pain after surgery, and even a higher chance that you may enter the terrible reality of becoming a "failed back surgery syndrome" patient – condemned to suffer crippling pain for the rest of your life. Your capacity to thrive and enjoy your life shrinks to less than zero and your life becomes one of just surviving the adversity caused by pain.

Unfortunately, there is a feeling among patients and professionals that surgery is the "definitive" answer or the "last resort". It is definitive only if an anatomical abnormality causing the corresponding matching symptoms can be identified. I can only fix what I can see. Otherwise surgery is not a choice at all.

How has the medical profession reached the point of thinking that operating on normally aging spines with a 75% failure rate can be considered a definitive solution for lower back pain?

That is not all. There are over 1,000 peer-reviewed research studies showing that the presence of anxiety and depression are strong predictors of poor outcomes of surgery. Several other research papers show that a patient's level of anxiety and depression is a better predictor of surgical outcomes than the anatomical lesion. Yet a recent paper out of Baltimore showed that surgeons assess the mental state of their patients less than 10% of the time.

Surgeons somehow feel that they can figure this out on their own in the middle of a busy clinic. Two studies have shown that a surgeon can accurately assess the level of a patient's stress only about 25-40% of the time regardless of the number of years the surgeon has been in practice. In fact, the senior surgeon's ability to determine the patient's level of mental distress was no better than that of medical students. With modern medicine's emphasis on production and seeing patients quickly, I cannot imagine that this situation is improving.

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Case study 1

I evaluated a young dental hygienist who presented to my office complaining of right-sided neck pain. It is well known that muscular neck pain is an occupational hazard of anyone working in the dental profession. The prolonged bent-over and leaning postures are a real problem. Her neck MRI showed mild degeneration of her lower discs that were a little less severe than I am used to seeing for someone her age. She was still working but was experiencing increasing anxiety consistent with working full-time and being the mother of young children.

I was puzzled why she was seeing me for what was obviously a non-surgical problem. She was seeking a second surgical opinion, as she had seen another spinal surgeon who had recommended a two-level fusion of her neck. If you think the data is poor regarding fusions for lower back pain, there is no data supporting the idea that it would work for muscular neck pain. There is also a significant risk that her spine would break down over time above and below the fusion. A fusion creates a stiff segment that causes the forces associated with normal movement to be concentrated at the ends of the fusion. As she was only 38 years old, the possibility of this problem eventually occurring is significant. Again, the odds of creating problems are higher than the chances of solving them. I am always happy when I have the opportunity to intercept someone headed down a likely negative surgical path.

More commonly, I see patients who have undergone major surgeries that have failed. Frequently, they have undergone multiple procedures before they come to my office. That is one reason I am considered a "salvage surgeon". It is upsetting to me that this term even exists. As I look back through their prior imaging studies, I often see that the first operation was performed on a normally aging spine and should never have happened. There were either complications from the first operation or a cascade of negative events was precipitated that became impossible to stop.

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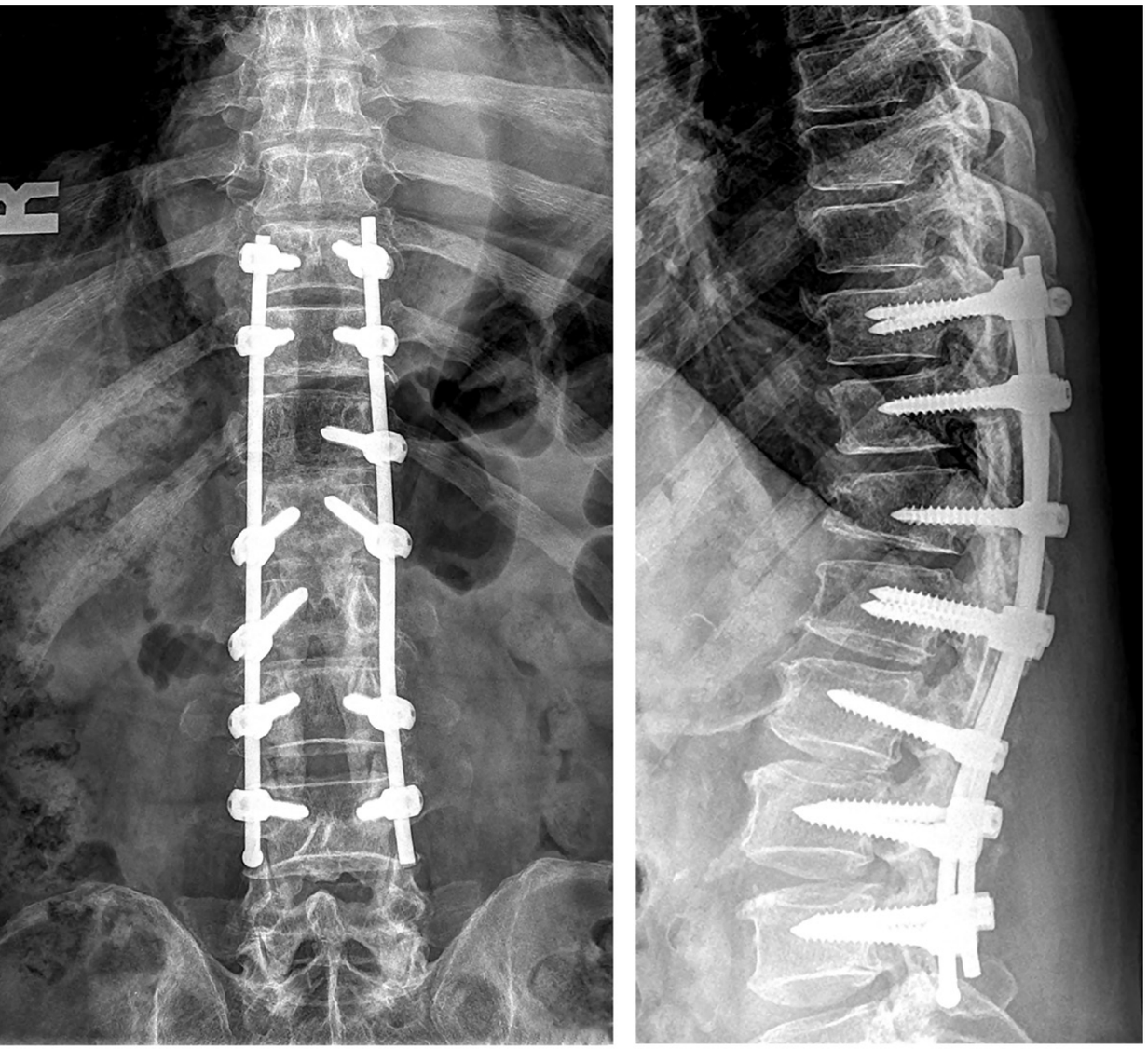
Case study 2

Jay was a 60-year old lawyer who had been disabled by chronic pain for more than 10 years. Part of his problem was a badly damaged hip that had caused him to be wheelchair-bound for the last six years. His lower back had some minimal stenosis (narrowing of the space within the spine which can put pressure on the nerves) between his third and fourth vertebra but it was not causing any leg pain. His main complaint was lower back pain, which would have been treatable using an organised, structured approach. Surgery should not even have been an option since there was no identifiable anatomical problem that could have been considered a source of the pain. His spine was also completely straight and needed no correction in that regard. Largely due to experiencing chronic pain for so many years, he was understandably extremely anxious, frustrated, and depressed.

For reasons that are unclear he underwent an eight-level fusion from his 10th thoracic vertebrae to his pelvis. It became infected. He required two more surgeries and a prolonged hospitalisation to clear out the infection. None of this helped his baseline mental state and he developed the hallmarks of post-traumatic stress disorder after about three months of intense suffering.

When I saw him about six months after the fusion, his spine had broken down right above the top of the rods at his ninth thoracic vertebra. He now had a deformed spine and was bent forward about twenty degrees. His spinal cord was also pinched and his legs were rapidly becoming weak. I had to perform emergency surgery, which successfully preserved the function of his legs. But his pain is worse and society has had to bear the costs of four major surgeries in 18 months. I am estimating that more than $750,000 has already been spent while creating more problems for him.



X-ray of a multi-level thoraco-lumbar spinal fusion

Huge decisions

I wish I could tell you that this is an uncommon occurrence. I am seeing variations of this story every day. The state of medicine at the moment is focused on procedures and volume. Major procedures are frequently being recommended and performed after just one clinic visit. These are huge decisions with life-altering implications. How can a decision like this be made during one visit?

My team has adopted the following protocol for non-emergency spinal surgery.

1) Rarely is a surgical decision made on the first visit.

2) Our patients have to assume responsibility for learning about the various aspects of pain and then essentially take charge of their own care.

3) Sleep, anxiety and depression are always picked up on our intake questionnaire. Surgery is not performed until a patient is actively involved with calming down his or her nervous system, and anxiety is less than 5 on a scale of 10.

4) The patient must be sleeping at least seven hours a night – this usually requires sleep medications for a few months.

5) Pain medications must be stabilised.

6) Neck or back pain must be significantly diminished, if not gone. Neck and back pain does not resolve with surgery. The patient's understanding of this must be clear. (Conversely, surgery works well for resolving arm and leg pain.)

7) It is important to understand that surgery is only part of the solution. Addressing physical conditioning and the central nervous system are equally important and must be carried on indefinitely.

Quality of life

My team view surgery as just one tool. What has been eye opening for us is that, not uncommonly, a patient's pain will disappear when they engage with our pre-surgical protocol, even with an identifiable structural source of pain that would have responded well to surgery.

If surgery is performed, the pre-surgical protocol makes the whole experience much easier. The post-operative pain is less. Patients mobilise and rehabilitate more quickly. There are fewer failures and the successes seem to be thriving more. Ordinarily, there are a lot of residual nerve pains that can occur after surgery and last indefinitely, but my impression is that this is also now less of a problem for our patients.

Most importantly, to me, is that anxiety will drop dramatically and continue to drop. Quality of life improves at every level, especially with close relationships. This phase of my career has been incredibly enjoyable and rewarding – and unexpected.

I am a busy spinal surgeon. Surgery is just one tool that I feel fortunate to be able to offer in the context of a full rehab process. The "definitive answer" for your spine problems is for you to understand all the variables that are affecting your pain and take charge of your own care. You are the only one who can do it. The stakes are high.

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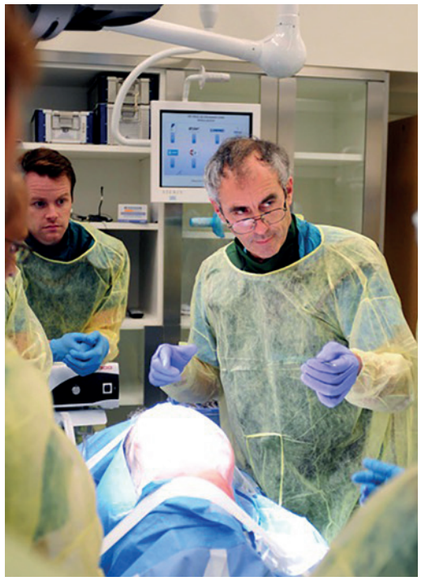

Left and below: David Hanscom in the operating theatre