

57-Year-Old Male with Hx of Increasing Chronic Neck Pain



By K. Brandon Streng, MD

Practice

Streng Spine Center

Location

Paducah, KY

Area of Interest

K. Brandon Streng, MD is a fellowship-trained orthopedic spine surgeon specializing in minimally invasive spinal surgery and motion-preserving procedures to treat cervical and lumbar spine disorders.

K. Brandon Streng, MD is an active member of the American Academy of Orthopaedic Surgeons, the North American Spine Society, the Society for Minimally Invasive Spine Surgery, the International Society for the Advancement of Spine Surgery, and the Southern Orthopaedic Association. He is a principal investigator for several clinical research trials of artificial disc replacements, minimally-invasive fusion surgery implants, and synthetic bone graft substitutes.

Education

Medical School

Southern Illinois University School of Medicine, Springfield, IL

Orthopedic Residency

Southern Illinois University School of Medicine Orthopedic Surgery Residency Program, Springfield, IL

Fellowship

The Spine Institute at Santa Monica, Santa Monica, CA



■ PATIENT HISTORY

The patient presented with right shoulder and arm radiculopathy.

He had weakness on exam in the right deltoid and biceps. The patient had no left arm symptoms at all.

The patient served in the Army and is a retired veteran.



FIGURE 1: Pre-operative lateral x-ray



FIGURE 2: Pre-operative A/P x-ray



FIGURE 3: Pre-operative extension x-ray



FIGURE 4: Pre-operative flexion x-ray

■ OPERATIVE PLAN

MRIs illustrated mild degenerative disc disease from C4-6 with disc herniations at both C4-5 and C5-6. The axial slice through C4-5 showed a right central disc herniation causing central and mainly right-sided foraminal stenosis. The axial slice through C5-6 showed a central disc herniation also causing central and mainly right-sided foraminal stenosis. The axial slice through C6-7 showed a left-sided disc herniation causing some left-sided foraminal stenosis, however, the patient did not demonstrate any left-sided symptoms.

Upon examination, the patient had good motion on flexion-extension, so fusion was not considered at all. My operative plan was to use prodisc cervical devices and replace both discs at C4-5 and C5-6, giving me the flexibility to use either a domed or flat implant.

On his last office visit, 3 months post-operatively, his arm pain was gone and his strength was improving, with only slight residual weakness. He was working with physical therapy for it. All medications used pre-operatively were already discontinued at that point.

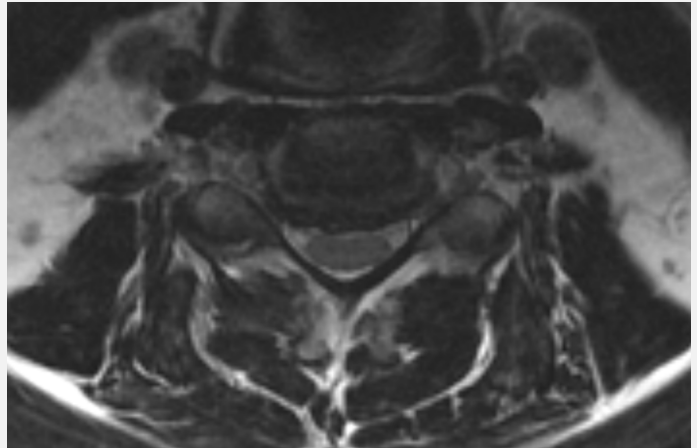


FIGURE 6: Pre-operative MRI | C4-5 showing right central disc herniation causing central and mainly right-sided foraminal stenosis

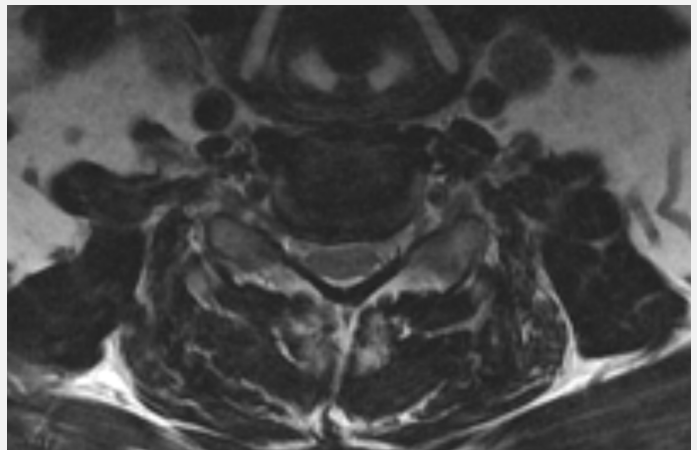


FIGURE 7: Pre-operative MRI | C5-6 showing central disc herniation causing central and some right-sided foraminal stenosis

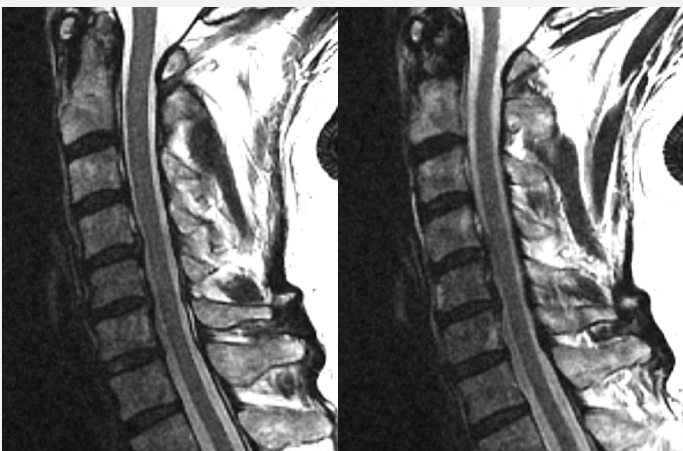


FIGURE 5: Pre-operative MRI | Mild degenerative disc disease from C4-6, and disc herniations at C4-5 and C5-6

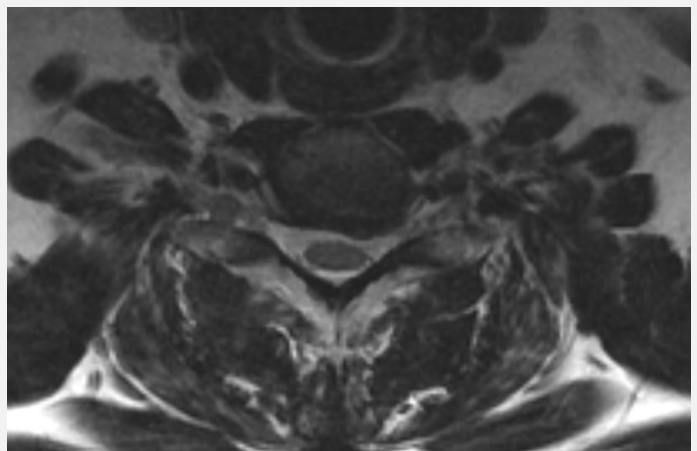


FIGURE 8: Pre-operative MRI | Axial through C6-7 showing left-sided disc herniation causing some asymptomatic left-sided foraminal stenosis

■ DISCUSSION

During the procedure, **prodisc C Vivo** fit well within the C4-5 concave endplate. I expected to use a flat endplate **prodisc C SK** at C5-6, however I trialed the domed **prodisc C Vivo** and it actually looked good, so I unexpectedly used matching implants.

In future cases, I expect to use **prodisc C Vivo** to match the concavity with non-degenerated levels, and **prodisc C SK** for more degenerated levels, where flatter endplates may be needed. It is very useful to have a system that can adapt to the degenerated anatomy as needed.



FIGURE 9: Intraoperative lateral fluoroscopy

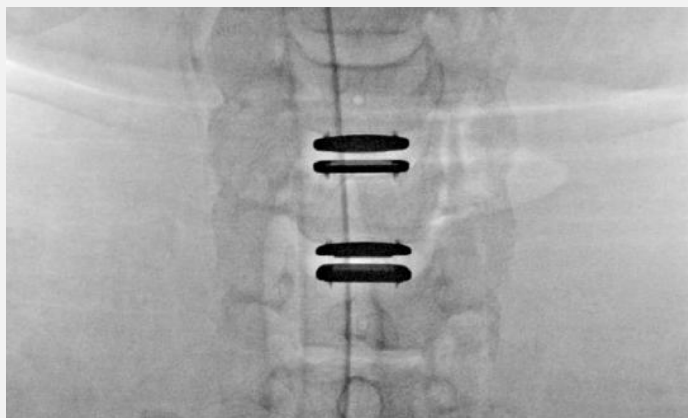


FIGURE 10: Intraoperative A/P fluoroscopy

It was very helpful to have the flexibility to use either a flat or a domed implant at either level. Having the different size options available to truly match patient anatomy that the Match-the-Disc™ System provides enabled me to avoid having to alter the patient's anatomy to fit the device.

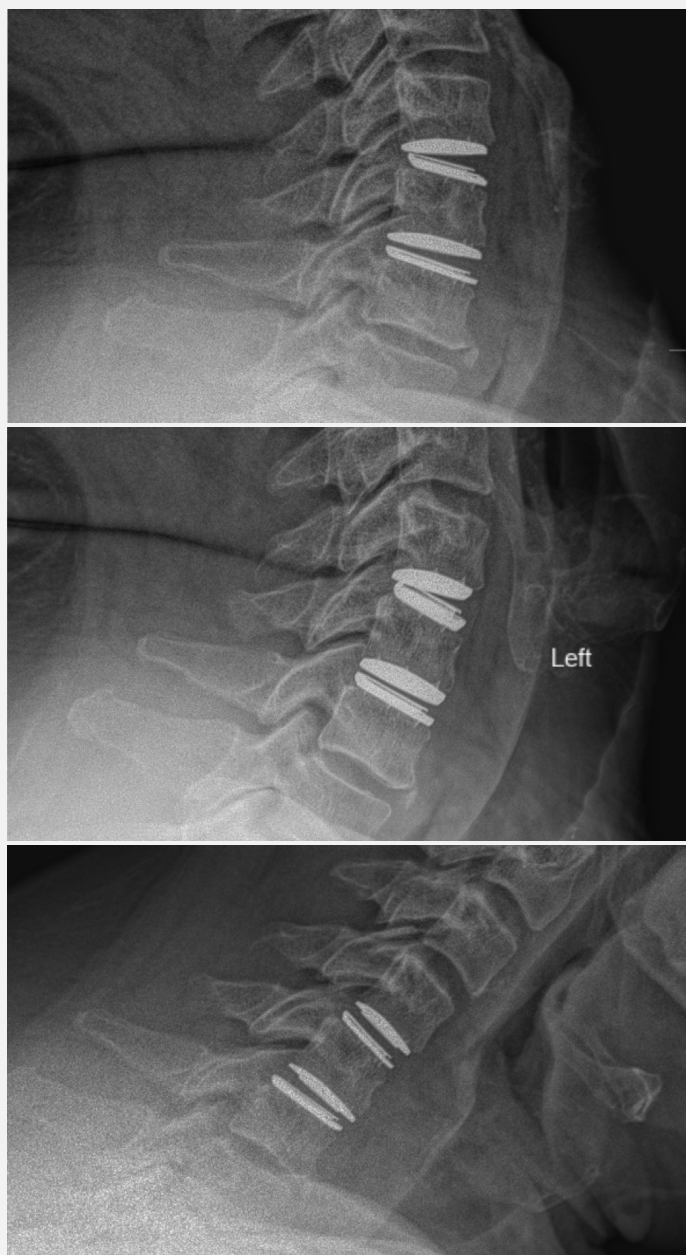


FIGURE 11: 3 months post-operative x-rays