



Consultation Summary



Hasan A. Zaidi, MD

- Director of Spine Research, Computational Neuroscience; Brigham and Women's Hospital
- Assistant Professor of Neurosurgery, Harvard Medical School

Dr. Zaidi is an Assistant Professor of Neurosurgery and Director of Spine Research at the Computational Neurosurgical Outcomes Center at Brigham and Women's Hospital. Given the complex nature of spine diseases, Dr. Zaidi believes in tailoring surgical techniques and individualizing care to treat each patient's unique set of circumstances. Fascinated by the complexity of spinal disorders and the ability of spine surgery to restore function and improve the quality of a patient's life, he pursued a specialized fellowship in complex spine surgery, adult spinal deformity surgery, as well as endoscopic surgery. He integrates novel, minimally invasive techniques and modern technological innovations to treat a variety of spinal pathologies. Dr. Zaidi's clinical practice is focused on the treatment of global spinal imbalance among patients with degenerative spine disease, tumors and scoliosis. His research focuses on developing novel surgical tools to improve the safety and efficacy of surgery, as well as analyzing surgical outcomes in order to improve surgical outcomes.

Dr. Zaidi was awarded the Harold Lamport Biomedical Research Prize, Howard Hughes Medical Institute Medical Research Fellowship, Harvey Cushing Neurosurgical Research Award, Synthes Skull Base Surgery Award, Council of State Neurosurgical Societies Socioeconomic Research Fellowship, as well as several others.

Specialties

Primary Spinal Cord Tumors
Herniated Disc
Spinal Disc Herniation
Chordoma
Degenerative Back Conditions
Pituitary Tumors
Spinal Tumors
Metastatic Spine Tumors
Scoliosis
Tethered Cord Syndrome

Fellowship

Complex Spine/Adult Spinal Deformity, Barrow Neurological Institute
Pituitary/Neuroendoscopic Surgery, Harvard Medical School/Brigham and Women's Hospital

Residency

Neurological Surgery, Barrow Neurological Institute

Education

Johns Hopkins University School of Medicine

DATE OF CONSULTATION: February 1, 2019

Name: John Doe

DOB: 4/18/72 – 47 years old

Diagnosis: Degenerative Disc Disease

Specialist Consultation

Case Summary

John Doe is a 47 year old man who has previously been diagnosed with chronic low back pain due to degenerative disc disease. Currently, he is experiencing weakness and numbness and pain radiating down both legs. His most recent diagnostic testing, including CT, MRI, and x-ray imaging confirm that he does have moderate degenerative disc disease at the area of his lower spine, L3-4 and L4-5. The images also show a more severe disc disease at the area of L5-S1. There is no evidence to show that he has any misalignment of his spine that might be causing his pain.

To manage the pain, Mr. Doe has tried a conservative treatment approach that included a regimen of anti-inflammatory medications and steroid injections into his spine. He has not reported any relief of his pain from this treatment. He has recently been advised on further options, and is planning to undergo surgical options such as a spinal fusion procedure or implanting a spinal cord stimulator. There is no reported documentation that Mr. Doe has tried alternative treatments such as Physical Therapy.

Mr. Doe is seeking an opinion on whether the surgical options he is currently planning are the best choice for him. He is also curious what the risks and benefits of the spinal fusion or spinal cord stimulator are in his case, and if there might be alternative non-surgical options still available.

Top Questions

1) I have experienced persistent lower back pain despite steroid injection therapies and a recent facet rhizotomy procedure. Based on your review of my imaging, what do you think may be contributing to my lower back pain? Do you feel that any other diagnostic procedures to identify the source of my pain are indicated? If so, what procedures would you recommend and why?

Surgical treatment for back pain in a young patient like you with degenerative disc disease, aka

"black disc disease", is extremely controversial. The most likely source of your back pain is multifactorial; contributing from not only the disc degeneration, but also facet arthropathy, ligamentous disease, excessive weight, deconditioned core muscles. Surgery to address this type of pain in someone with normal spinal alignment and moderate DDD is unlikely to provide durable pain relief.

In my opinion, if you were a patient that came in to see me with the imaging findings and diagnostic studies provided, I would absolutely NOT offer you surgery as there is not much data to support that surgical intervention would improve your symptoms. No other diagnostic procedure would provide additional information that would make me sway in any other direction.

2) The key question, based on what I've heard, is whether a 2 or 3 level fusion is the best course. I notice many surgeons are reluctant to do a 3 level. What treatment approach do you recommend to manage the underlying cause of my lower back pain? Several different treatment approaches have been recommended. What is the likelihood that I will be pain-free after this procedure in one year? How does this compare with a disc replacement procedure?

In my opinion, I would not recommend surgical intervention. Please see above question. Patients with the type of complaints you have do much better from core muscle exercises (i.e. via physical therapy, yoga, etc.), and weight loss rather than surgical intervention.

The chances of you having durable pain relief are less than 50% at one year, should you pursue surgical intervention. Disc replacement procedures have steadily decreased in popularity among the majority of spine surgeons across the nation largely due to the fact that studies have demonstrated no significant benefit versus spinal fusion procedures, but again, I would not recommend either a fusion or a disc replacement in your case.

I have included a link that discusses spine surgery for back pain, and will give you a sense of how controversial this is within the spine surgery community. It appears under the "Relevant Links" section of this summary.

3) Can you review the more common complications associated with the recommended management approach? How frequently do these occur? Am I at increased risk for developing any of these complications? What can I do to minimize my risk of such complications? Is a replacement disc an option for me since my L5-S1 is so far gone or is a triple level fusion the best approach?

The most common complications of surgery in the short term are: wound infection, hardware malpositioning, spinal fluid leak and these hover around 3-5%. The major long-term complications are: adjacent segment disease requiring additional fusion procedures down the

road, and these are often in the range of 5-8%.

Given your age, the chances of you requiring additional spine fusion procedures after this one (should you consider surgery) are higher than average. Once again, for your specific imaging findings and complaints, I would absolutely not recommend a spine fusion or a disc replacement procedure. In my opinion, the best options for you are core muscle exercises and weight loss, as these are more durable.

4) I have some crucial international business travel planed over the next couple months. Are there any medications or other ways to make the pain minimal during that time? Is there still any role for physical therapy in the management of my pain?

I would avoid prolonged sitting, major lifting in order to minimize your back pain. The best medications to potentially consider are muscle relaxants. I would avoid narcotics, as there is a high degree of dependency that can develop especially in younger patients who start narcotics.

Physical therapy is an excellent option, and I would highly recommend this instead of a spine operation.

5) What is the indication for spinal cord stimulation? How does this manage lower back pain and how effective is it? What are the potential complications associated with the placement of such as device?

There are no reliable studies that demonstrate spinal cord stimulation provides improvement in back pain, and I would not recommend this.

Spinal cord stimulators can be effective for people with radiculopathy (leg pain or sciatica) but is in the experimental stage for people with back pain. I would consider this only as a last resort.

The major risk for complication in the placement of these stimulators are infection and new weakness, as this is a foreign object placed underneath your skin, and right up against the spinal cord. For your specific complaints (back pain, not much leg pain) this is not a good option.

Relevant Links from Dr. Hasan Zaidi

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2948294/>