

Questions to ask about spinal surgery



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A recent current affairs program made worrying claims about the safety and efficacy of spinal surgery.

The 'Pain Factory' episode on ABC's Four Corners highlighted many adverse events people living with chronic musculoskeletal pain experienced when undergoing spinal fusion and spinal cord stimulator surgery to manage their pain.

However, while the episode raised some valid concerns, it failed to highlight the benefits of spinal surgery when it is practiced appropriately and in the right patients. For doctors wondering what's right for their patients, here are some questions worth asking.



CT image of lumbar spine after a spinal fusion at L5/S1.

Is it radicular or axial spinal pain?

Spinal surgery is highly effective for relieving patients suffering from radicular pain, ie. pain due to nerve compression. The hallmark of radicular pain is radiating pain into a limb, following the distribution of the nerve that is compressed. Typically, severe radicular pain affects a limb and not purely the axial spine. In severe cases of radicular pain, there are frequently other associated neurological symptoms such as altered sensation and weakness in the distribution of the affected spinal nerve.

Surgery performed for axial spinal pain, ie. back pain or neck pain in the absence of radicular pain, rarely provides satisfactory pain relief. The exception would be the rare patients who have a well-localised

abnormality, eg. pars defects or spondylolisthesis, confined to one or two spinal segments, consistent with this being the source of their pain and with the rest of the spine being completely normal. Surgery for axial spinal pain, without radicular pain, in patients with multi-level spinal degeneration is consistently ineffective.

Is the imaging being viewed in context?

Modern spinal imaging techniques are very sensitive but not very specific. Population studies have demonstrated the high incidence of degenerative changes in the spine seen on MRI, even in completely asymptomatic individuals. A lack of appreciation of this fact often leads to unhelpful and ineffective spinal operations in a bid to treat a 'disc bulge' or a 'degenerative disc'

seen on MRI. The basis of good medical practice remains taking a thorough history, performing a physical examination and only then interpreting the results of any investigations in light of the clinical presentation.

Will the patient improve with time?

Some painful degenerative disorders have a very favourable natural history. Patients with severe radiating leg pain from lumbar disc herniation or severe radiating arm pain from cervical disc herniation frequently experience resolution of the severe pain within the first 6-8 weeks of symptom onset. Surgery should be reserved for patients who do not demonstrate this natural spontaneous recovery over the expected period.

Is this a job for spinal fusion, decompression or for both?

Spinal decompression is designed to alleviate radiating limb pain by decompressing the affected nerve root. These procedures are highly effective for relieving radicular pain. Adequate decompression sometimes requires removal of normal structures, eg. facet joints,

that contribute to spinal stability. In these cases, fusion may become necessary to achieve satisfactory nerve decompression and to reduce the risk of progressive postoperative spinal deformity which could lead to painful symptoms. Besides degenerative conditions, spinal fusion may also be required for stabilisation of the spine due to certain types of spinal fractures, major vertebral tumour resection or certain types of congenital spinal disorders.

What is the patient's expectation?

A spinal fusion, even technically satisfactory, never returns the spine to a perfectly normal state. Therefore, the expected outcome following a spinal fusion is some degree of ongoing pain and discomfort. If patients expect 100% pain-free full range of spinal movement following a spinal fusion, then they will certainly be disappointed even if they experience significant improvement in their preoperative symptoms. That is not to say however, that a spinal decompression is inherently better than spinal fusion. They are different tools for different jobs.■