Failed Back Surgeries: Claims Management Challenges

Matthew Espenshade, D.O.
Orthopedic Surgeon
Defined: Failed Back Syndrome

• Also called Failed Back Surgery Syndrome (FBSS)
• Refers to chronic back and/or leg pain that occurs after back (spinal) surgery.
Why does Failed Back Syndrome Occur?

• Wrong level
• Wrong diagnosis
• Wrong surgical procedure
• Technically incorrect surgery
• Poor patient selection
Patient Selection

• If a specific disc herniation causing pressure on a nerve root cannot be identified, the results of surgery are likely to be disappointing.

• Patients involved in worker’s compensation, tort litigation or other compensation systems tend to fare more poorly after surgery.

Patient Characteristics

1. The patient makes increasing demands on the surgeon for pain relief. The surgeon may feel a strong responsibility to provide a remedy when the surgery has not achieved the desired goals.

2. The patient grows increasingly angry at the failure and may become litigious.

3. There is an escalation of narcotic pain medication which is habituating or addictive.
Patient Characteristics

4. In the face of expensive conservative treatments which are likely to fail, the surgeon is persuaded to attempt further surgery, even though this is likely to fail as well.

5. The probability of returning to gainful employment decreases with increasing length of disability.

6. The financial incentives to remain disabled far outweigh the incentive to recover.

Contributing Factors

• Residual or recurrent disc herniation,
• Persistent post-operative pressure on a spinal nerve
• Altered joint mobility
• Joint hypermobility with instability
• Scar tissue (fibrosis)
• Depression, Anxiety, Sleeplessness
• Spinal muscular deconditioning
Additional Factors

• Systemic Disorders including:
• Diabetes
• Autoimmune disease
• Peripheral blood vessels (vascular) disease.
Considerations:
Lumbar Fusion Surgery

• In the past two decades there has been a dramatic increase in spinal fusion surgery in the U.S.

• 2001 over 122,000 lumbar fusions were performed (22% increase from 1990 in fusions per 100,000 population)

• 2003 an estimate of 250,000 lumbar fusions

• 2006 up to 500,000 lumbar fusions

Herniated Disc

• In some studies, recurrent pain in the same radicular pattern or a different pattern can be as high as 50% after disc surgery.
  
  
Herniated Disc

• A recent series of studies involving thousands of patients published under auspices of Dartmouth Medical School concluded at four year follow-up that those who underwent surgery for a lumbar disc herniation achieved greater improvement than nonoperatively treated patients in all primary and secondary outcomes except work status.

Spinal Stenosis

- Spinal stenosis can be a late complication after laminectomy for disc herniation or when surgery was performed for the primary pathologic condition of spinal stenosis.

- Crock, H. V. Practice of Spinal Surgery, Vienna/New York; Springer Verlag, 1983.
Spinal Stenosis

- A large study of spinal stenosis from Finland found the prognostic factors for ability to work after surgery were ability to work before surgery, age under 50 years, and no prior back surgery.
- Previous back surgery had a strong worsening effect on surgical results.
- Spondylolisthetic stenosis tended to recur within a few years following decompression. Because of age and associated illnesses, fusion may be difficult to achieve in this group.
Post Operative Infection

- Reports from the surgical literature indicate an infection rate anywhere from 0% to almost 12%.
- The incidence of infection tends to increase as the complexity of the procedure and operating time increase.
- Usage of metal implants (instrumentation) tends to increase the risk of infection.
Associated Factors of Infection

- Diabetes mellitus, obesity, malnutrition, smoking, previous infection, rheumatoid arthritis, and immunodeficiency.
Epidural Scarring

- When the scarring is associated with a disc herniation and/or recurrent spinal stenosis, it is relatively common, occurring in more than 60% of cases.
- In an extensive laminectomy involving 2 or more vertebra, post operative scarring is the norm. It is most often seen around the L5 and S1 nerve roots.

• It can also be caused by the long term pressure brought about with either a disc herniation or spinal stenosis.
  

• The presence of both epidural scarring and arachnoiditis in the same patient are probably quite common.

• Arachnoiditis is a broad term denoting inflammation of the meninges and subarachnoid space. A variety of etiologies exist, including infectious, inflammatory, and neoplastic processes.
Arachnoiditis

• Strictly speaking, the most common cause of arachnoiditis in failed back syndrome is not infectious or from cancer. It is due to non-specific scarring secondary to the surgery or the underlying pathology.

Nerve Injury

• Laceration of a nerve root, or damage from cautery or traction can lead to chronic pain, however this can be difficult to determine.

• Chronic compression of the nerve root by a persistent agent such as disc, bone (osteophyte) or scarring can also permanently damage the nerve root.

• In theory, all failed back patients have some sort of nerve injury or damage which leads to a persistence of symptoms after a reasonable healing time.

Additional Consideration: Chemical Radiculitis or Inflammation

• In the past five years increasing evidence has pointed to a specific inflammatory mediator of this pain.
  

• If the cause of the pain is not compression, but rather is inflammation mediated by tumor necrosis factor-alpha (TNF), then this may well explain why surgery might not relieve the pain, and might even exacerbate it, resulting in FBSS.
Risk Factors - Smoking

• There is an association between cigarette smoking, back pain and chronic pain syndromes of all types.

• Smoking has been shown to increase the incidence of post operative infection as well as decrease fusion rates.
Cervical/Lumbar Spine Symptoms

Wrong Level
Instrumentation Failure
Instability

Recurrent Symptoms
History/Physical X rays

Arm/Leg Pain

Neck/Back Pain

MRI/CT Myelogram

HNP
Insufficient Decompression
Recurrent Herniation – Stenosis

Psudoarthrosis

Foraminal Stenosis

Peripheral Nerve Compression

Conservative Therapy
Basics of Initial Post OP Treatment

• Physical Therapy
• Pain Management
• Injections
• Medication
• Bracing
Narcotic Management

• A recent study examined the use of fentanyl patches, sustained release morphine and methadone in chronic pain patients with cancer.
• All the three opioids used as first-line therapy were effective, well tolerated, and required similar amounts of symptomatic drugs or co-analgesics.
• Methadone was significantly less expensive, but required more changes, up and down, of the doses, suggesting that dose titration of this drug requires major clinical expertise.

Electrical Stimulation

• Neurostimulation is palliative. TENS units work by blocking neurotransmission as described by the pain theory of Melzack and Wall.

• Success rates for implanted neurostimulation has been reported to be 25% to 55%. Success is defined as a relative decrease in pain.
Prognosis

- Workers who undergo spinal surgery take longer to return to their jobs.
- Once two spinal surgeries are performed, few if any ever return to gainful employment of any kind.
- After two spinal surgeries, most people in the worker’s comp system will not be made better by more surgery.
- Most will be worse after a third surgery.
Prognosis

- Individual psychological and social work factors, as well as worker-employer relations are also likely to be associated with time and rates of recovery.

Prognosis

• In a comprehensive set of studies carried out by the University of Washington School of Medicine, it was determined that the outcome of lumbar fusion performed on injured workers was worse than reported in most published case series.

• They found 68% of lumbar fusion patients still unable to return to work two years after surgery. This was in stark contrast to reports of 68% post-op satisfaction in many series.


Prognosis

• In a follow up study it was found that the use of intervertebral fusion devices rose rapidly after their introduction in 1996. This increase in metal usage was associated with a greater risk of complication without improving disability or re-operation rates.

Final Thoughts

• Why will this become more common in the future?
Questions

Thank You
Matthew Espenshade, D.O.
Orthopedic Surgeon
Arlington Orthopedics
805 Sir Thomas Court
Harrisburg, PA  17109
717-652-9555