

# ACADEMY OF SPINAL CORD INJURY PROFESSIONALS

  
 TEXAS TECH UNIVERSITY  
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## Rehabilitation Stand on Failed Back Surgery Syndrome: Case Report

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### CASE DESCRIPTION

A 53 year old man referred from neurosurgery for further evaluation of post op neck pain. Patient had disc herniation that required C3-5 laminectomy. Post surgery, patient reported same neck discomfort with a new onset of involuntary movement of his head backwards. He had hard time to bring his head to the normal position and this occurred continuously 3 times daily lasting 3-4 minutes. Holding his head would make it better. No head tremors associated. This has affected his daily routine and resulted in limiting his function. He is no longer able to participate in marathon running events. He found Gabapentin helped with the pain but does not alleviate it. Occasionally has forearm pain in the medial parts. No reports of weakness but he complains of numbness in digits 4th and 5th.

Electromyography showed post operative muscle changes. Magnetic Resonance Imaging (MRI) showed no new changes.

Patient was provided with a comprehensive rehabilitation plan. His oral medications were optimized along with chemodenervation to manage his bilateral retrocollis cervical dystonia. He was also given myofascial pain trigger point injections to help with shoulder muscles. Physical therapy was prescribed to strengthen neck and rotator cuff muscles. Patient had gradual improvements in his neck pain and continues to follow up with PM&R.



Figure 1. cervical spinal stenosis requiring decompression

### DISCUSSION

Failed back surgery syndrome (FBSS) is defined by the International Association for the Study of Pain as "lumbar spinal pain of unknown origin either persisting despite surgical intervention or appearing after surgical intervention for spinal pain originally in the same topographical location." Pain might exacerbate post-surgery or occurs as a new onset post-surgical intervention. It has been proposed to use the term persistent spinal pain syndrome (PSPS) given the unclear pathophysiology of this syndrome and it could be potentially troublesome.

Failed back surgery syndrome is reported to affect between 10 to 40% of patients following back surgery, but estimating the incidence of FBSS is difficult due to the wide scope of its definition and its heterogeneous etiology. The etiology of failed back surgery syndrome is multifactorial that includes pre-morbid, intra-op and post op risk factors. Certain predictors can contribute to chronic pain in certain patients.

Rehabilitation approach in persistent spinal pain syndrome starts with detailed pain history and evaluation of risk factors along the continuum. Obtaining functional history along with social and vocational history are important considerations to establish a comprehensive management plan. Physical examination includes the neurological and musculoskeletal aspects as both can have contributions to persistent spinal pain syndrome. Investigations can be basic and depends on what additional information would be added to the management plan. Imaging, electromyography (EMG) and inflammatory markers can be considered.

Pre-op risk factors	Intra-op risk factors	Post-op risk factors
Psychological factors: history of anxiety, depression, or other psychiatric comorbidities	Operating at either the wrong vertebral level or operating at a single level while the origin of pain spans several levels	Post-surgery complications
Obesity	Improper technique during surgery	Exacerbation of existing symptoms
Smoking		
The presence of litigation or worker's compensation claims		
Choice of an inappropriate surgical candidate or surgical approach		
Multiple prior back surgeries		

### REHABILITATION STAND

Management of persistent spinal pain syndrome depends on the impact of pain on patient's function and quality of life. Level II (small randomized controlled trial [RCT]) evidence exists for the efficacy of active physical therapy in patients with Gabapentinoids. Opioids can be used but the evidence of their efficacy is weak. Interventional treatment for failed back surgery syndrome is highly dependent on the sub-etiology of the patient's pain and the detection of specific deformities on imaging.

Neuromodulatory therapies for failed back surgery syndrome, such as spinal cord stimulation (SCS), involve the implantation of a stimulatory device to mediate the patient's pain. Strong evidence from large randomized trials exists for the superiority of SCS over conservative management and repeated surgery for persistent spinal pain syndrome.

In conclusion, failed back surgery syndrome should be replaced with persistent spinal pain syndrome (PSPS) given the complex multifactorial etiologies that could contribute to pain. Multidisciplinary pain management clinics are the gold standard to optimize this population with integration of biopsychosocial model of care.

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