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# Failed back surgery syndrome: whose failure? Time to discard a redundant term

**Andrew J Lucas**

**Abstract**

Failed back surgery syndrome or "failed back syndrome" refers to persistent pain after spinal surgery. This opinion piece will discuss the back ground and scale of failed back surgery syndrome. There will be a description of the medical and psychological factors that have been reported as predictors of poor outcome from spinal surgery. The management of failed back surgery syndrome will be discussed with a personal viewpoint based on working with this patient group for fifteen years. It will be argued that failed back surgery syndrome and failed back syndrome are now redundant terms and are not useful for either patient or healthcare provider, and so should be discarded.

**Key words**

Failed back surgery syndrome, failed back syndrome

## Introduction

I would argue that failed back surgery syndrome (FBSS) is a misnomer and it is not a syndrome but a generalised term or condition. There is no equivalent term in any other type of surgery. For example, there is no failed cardiac surgery syndrome or failed knee surgery syndrome. This opinion piece will discuss the causes of FBSS, some approaches to managing FBSS and, in conclusion, a call to discard this unhelpful phrase.

## Background and scale of the problem

Failed back surgery can have a number of serious consequences including iatrogenic effects such as the development of scar tissue, nerve damage or weakening of physical structures. Disability may increase and the demand for medication may also increase. Dzioba and Doxey examined the outcome of 116 occupationally injured lumbar surgery patients and found that 43% had a poor outcome.[1] Weber reported in a randomised study of 126 back pain patients no major difference between conservatively treated and surgically treated patients.[2]

In 2001 the American Academy of Pain Medicine's 17th Annual Meeting discussed failed back surgery syndrome. Hubert Rosomoff (1927–2008), at the time the Medical Director of the Pain and Rehabiltation Center at the University of Miami School of Medicine, called for a moratorium on back surgeries when he reported that after two weeks of intense rehabilitation his patients with back pain no longer required surgery. He suggested that by following this approach 'you can eliminate 99% of surgical cases'. He argued that 'backs don't fail, doctors do' and highlighted the need for more precise preoperative evaluation.[3] Johnson at the same conference, suggested that FBSS can occur in as many as 10–40% of patients undergoing lumbar spine surgery. Johnson stated, 'just about any approach is better than having surgery because all the studies have shown that if you take a surgical population and non surgical population they all seem to do the same in 5 years'.[4] Also presenting at the conference was James Campbell, Professor of Neurosurgery at Johns Hopkins Hospital, who argued that surgery that addressed nerve root compression achieves good results and

Department of Psychology, Royal National Orthopaedic Hospital NHS Trust, Stanmore, UK

**Corresponding author:**
Andrew J Lucas, Consultant Lead Health Psychologist, Department of Psychology, Royal National Orthopaedic Hospital NHS Trust, Stanmore, Middlesex HA7 4LP, UK
Email: Andrew.lucas@rnoh.nhs.uk

quoted around 90% of patients achieving significant relief from sciatic or leg pain problems. He went on to question the more common problem when patients are not presenting with clear-cut radiculopathy sciatica and in these cases he suggests that satisfactory outcomes drop to between 60% and 70% of patients[5].

## Medical factors as predictors of poor outcome

A number of studies have demonstrated the medical factors associated with poor outcomes from spine surgery. The first is chronicity. Many authors have attributed this to the 'deconditioning syndrome' proposed by Mayer et al. which is typified by a downward spiral of decreasing strength and physical ability.[6]

Block has proposed a number of factors to explain the inconsistent outcome of spine surgery, suggesting inadequate diagnostic testing and improper surgical techniques. He also suggested that some surgeons may be technically more capable than others, although he points out that there is a large body of research suggesting that the variability in spine surgery is at least partially explained by the patient's biopsychological factors.[7]

The number of previous surgeries is also a risk factor for poor outcome. Franklin et al. reported that 23% of patients who underwent lumbar fusion had subsequent reoperations within two years.[8] Waddell reported that the probability of good outcome decreases with each successive surgical intervention.[9]

What has been described as *destructiveness*[7] has also been reported as a risk factor for poor outcome and refers to the amount of tissue destruction as a result of spine surgery. Franklin et al. reported that greater work disability outcome was associated with a greater number of levels fused.[8] Block has categorised the relative destructiveness of invasive spine procedures into minimal, moderate and highly destructive.[7] Microdiscectomy, for example, is classified as minimal, open laminectomy as moderate and anterior posterior or circumferential fusion as highly destructive.

## Psychosocial predictors of poor outcome

Almost 30 years ago Cauthen summarised five basic reasons for the large number of patients suffering from FBSS. These included a lack of public education regarding the back, a lack of risk identification and preventative programmes at home and in industry, insufficient effective conservative care for basic back problems, inadequate diagnostic information regarding the pathology to explain pain, and iatrogenically induced desease.[10]

Klinger et al. conducted a systematic literature review on risk factors that predicted pain after intervertebral disc surgery. Aside from the surgical technique used, these authors wanted to consider psychological risk factors for postoperative complications.[11] Their conclusions were the identification of three groups of risk factors:

- negative psychological factors;
- pre-existing pain chronic occasion; and
- psychological disorders.

The authors suggest that these factors should be identified pre-operatively and taken into account when decisions are made about possible surgical intervention. The authors argue for psychological pain management therapy prior to surgery in order to reduce the risk of postoperative complications. They further suggest that if surgery is medically unavoidable despite existing risk factors then postoperative treatment should include psychological pain management at an early stage within a multi-disciplinary approach.

Oaklander and North highlight the interplay between patient and surgeon to help explain FBSS in cases when the patient makes increasing demands on the surgeon for pain relief and the surgeon feels a need to improve a patient's quality of life.[12]

Spengler et al. assessed medical and psychological factors in patients undergoing lumbar discectomy. They reported that clinical outcome was much more strongly predicted by psychological than medical factors, although the most powerful predicted model combined both factors.[13] Psychological factors were assessed using the Minnesota Multifaceted Personality Inventory (MMPI) and these authors reported that within the MMPI the subscales of *hypochondriasis* and *hysteria* were most strongly associated with poor outcome.

Non-organic signs have also been proposed as predictors for poor outcome. These are based on Waddell's signs of tenderness, stimulation, distraction, regional disturbances and overreaction.[9] Previous healthcare use has also been proposed as a predictor for poorer outcome. Deyo and Deihl, for example, found that a positive response to the question 'Do you feel sick all the time?' correlated significantly with poor outcome.[14] Frymoyer et al. reported that disability related to back pain was associated with excessive health complaints and illness behaviours.[15]

Smoking has also been described as a risk factor for poor outcome. An et al. found that smokers were much more likely than non-smokers to have disc herniations,[16] and smoking has also been found to decrease the

probability of successful surgical outcome.[17] Obesity, defined as being more than 50% above ideal body weight, can be considered a moderate predictor of poor outcome.[7]

Long highlighted the problem of a disability litigation system when 'patients are rewarded for non function' and, apart from a thorough medical evaluation, argues for a 'mandatory evaluation of psycho social issues'.[18] He further suggests that the strongest data indicate that patients suffering from FBSS are incapacitated by psychiatric, psychological and social/vocational factors which relate to their back complaint only indirectly, and argues for a multidisciplinary rehabilitation programme.

## Management of FBSS

Spinal cord stimulation is regularly used for FBSS but with mixed results. Turner et al. used a prospective population-based controlled cohort study to compare patients who received a trial of spinal cord stimulation versus (1) those who were evaluated and did not receive spinal cord stimulation or, (2) usual care in a Pain Clinic.[19] At six months the spinal cord stimulation group showed moderate improvement in leg pain but with a higher rate of daily opioid use. These differences disappeared by 12 months. It was concluded by the authors that patients who received a permanent spinal cord stimulator did not differ from patients who received some pain clinic treatment. However, they did observe that outcomes may vary according to patient selection criteria, physician technical expertise, implant technique and hardware. A systematic review of spinal cord stimulation for patients with FBSS was undertaken by Frey et al. and concluded that spinal cord stimulation showed limited to moderate evidence for long-term pain relief.[20]

Esmer et al. examined the effectiveness of a mindfulness-based stress reduction therapy with traditional therapy ($n$=15) and compared it with traditional therapy alone ($n$=10) in a single-centre prospective randomised single-blind parallel group study.[21] The mindfulness-based stress reduction group completed weekly group sessions whereas the control group continued with its traditional care as prescribed by the medical care providers for an eight-week period. The Chronic Pain Assessment Questionnaire was completed at enrolment and at 12 weeks. At 12-week follow-up, patients who attended the mindfulness-based stress reduction intervention reported improved pain acceptance, quality of life and sleep quality and reductions in functional limitation, pain, frequency of use and potency of analgesics. These results were statistically and clinically significant compared with outcomes for the control group, although the low number of participants undermines the validity of the conclusions. The authors suggest that mindfulness-based stress reduction can be a useful clinical intervention for patients with FBSS.

## Personal viewpoint

It could be argued that applying the term 'failed back surgery syndrome' might have negative connotations for a patient. Being told that one has a 'failed back' could lead the patient to accept pain-related disability and probable physical deterioration. 'Failed back' is a condition that is likely to remain the same or have an increasingly negative impact on the patient's biopsychosocial status. A patient may not be receptive to self-management strategies if he or she is labelled with 'failed back surgery syndrome'. If a surgeon 'diagnoses' FBSS is the patient being labelled as having a 'failed back' or is the patient being told 'you have failed to improve after spine surgery'

Anecdotal evidence suggests to me that the frequency of repeated spine surgeries is decreasing. When I first commenced work at the Royal National Orthopaedic Hospital patients would regularly be referred to us after having had multiple spine surgeries, and this is now unusual. It may be that these patients are being referred elsewhere, although I suspect the number of repeat spine surgical interventions is decreasing.

Sometimes the aims of surgery are not shared by a patient and surgeon. For example, the surgeon may be operating to correct a structural abnormality such as a prolapsed disc, whereas the patient's expectation is relief from pain. Technically the surgeon may achieve the desired surgical outcome, although the patient may be left with residual or worsening pain. Frustration may be experienced by both parties at the postoperative review clinic. The surgeon explains to the patient that the proposed decompression has released the sciatic nerve (thus the surgery was successful) whilst at the same time the patient continues to complain of residual pain.

I work in a residential pain management unit that has treated many patients who have been given the label of FBSS. Anecdotal evidence suggests that these patients are typically more distressed and particularly disappointed with their healthcare provision. These patients are generally more 'stuck' and take longer to engage with self-management strategies. There is a clear need to move away from the medical model, but I am intrigued that, although many patients are critical of their surgeon, they would still be willing to pursue further surgery in order to be 'fixed'.

## Summary

I would propose that the terms 'failed back surgery' and 'failed back surgery syndrome' are redundant and not helpful to either the surgeon or patient. Assigning the diagnosis FBSS when no actual diagnosis exists is not beneficial. It does not describe the pathology or aetiology of the pain complaint. I would argue that the patient does not complain of pain on account of his or her 'failed back'. Awareness of the need for pre-surgical psychological screening is increasing and, if used effectively, should reduce the number of patients disappointed at their spine surgery. I would recommend Block's guide to pre-surgical psychological assessment as it provides a useful starting point for all those interested in optimising the outcomes for patients undergoing surgery for chronic painful conditions (Block 1996).

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### References

1. Dzioba RB and Doxey NC. (1984). A prospective investigation in the orthopaedic and psychologic predictors of outcome of first lumbar surgery following industrial injury. *Spine*, 9, 614–623.
2. Weber H. (1983). Lumbar disc herniation: a controlled perspective study with ten years of observation. *Spine*, 8, 131–140.
3. Rosomoff HL. (2001). *Presentation at the American Academy of Pain Medicine 17th Annual Meeting*, Miami, Florida. Available at: http://www.docguide.com/failed-back-syndrome-disturbing-statistics-presented-dg-dispatch-aapm?tsid=5 (accessed 1 November 2012).
4. Johnson L. (2001) *Presentation at the American Academy of Pain Medicine 17th Annual Meeting*, Miami, Florida. Available at: http://www.docguide.com/failed-back-syndrome-disturbing-statistics-presented-dg-dispatch-aapm?tsid=5 (accessed 1 November 2012).
5. Cambell JN. (2001). Presentation at the American Academy of Pain Medicine 17th Annual Meeting, Miami, Florida. Available at: http://www.docguide.com/failed-back-syndrome-disturbing-statistics-presented-dg-dispatch-aapm?tsid=5 (accessed 1 November 2012).
6. Mayer TG, Gatchel RJ, Mayer H, et al. (1987). A prospective two year study of functional restoration in industrial low back injury. *Journal of the American Medical Association*, 258, 1763–1768.
7. Block AR. (1996) *Presurgical Psychological Screening in Chronic pain Syndromes*. Mahwah, New Jersey: Lawrence Erlbaum Associates.
8. Franklin GM, Haug J, Heyer NJ, et al. (1994) Outcome of lumbar fusion in Washington State workers' compensation. *Spine*, 19, 1897–1904.
9. Waddell G. (1987) A new clinical model for the treatment of low back pain. *Spine*, 12, 632 – 644.
10. Cauthen JC. (1983). *Lumbar Spine Surgery*. Baltimore: Williams & Wilkins.
11. Klinger R, Geiger F and Schiltenwolf M. (2008). Can failed back surgery be prevented? Psychological risk factors for postoperative pain after back surgery. *Orthopade*, 37(10)1000, 1002–6.
12. Oaklander AL and North RB. (2001). Failed back surgery syndrome. In Loeser, JD et al. eds. *Bonica's Management of Pain*. Philadelphia: Lippincott Williams & Williams.
13. Spengler DM, Ouelette EA, Battie M, et al. (1990). Elective discectomy for herniation of a lumbar spine. *Journal of Bone and Joint Surgery (America)*, 12, 230–237.
14. Deyo RA and Diehl AK. (1988) Cancer as a cause of back pain: frequency, clinical presentation, and diagnostic strategies. *Journal of General Intern Medicine*; 3: 230–38
15. Frymoyer JW, Pope HJ, Clements JH, et al. (1983). Risk factors in low backpain – an epidemiological survey. *Journal of Bone and Joint Surgery* (America) 65, 213–215.
16. An HS, Silveri CP, Simpson M, et al. (1994) Comparisons of smoking habits between patients with surgically confirmed herniated lumbar and cervical disc disease and controls. *Journal of Spinal Disorders*, 7, 369–373.
17. Manniche C, Asmussen KH, Vinterberg H, et al. (1994). Analysis of preoperative prognostic factorsin first-time surgery for lumbar disc herniation, including Finneson's and modified Spengler's score systems. *Danish Medical Bulletin*, 41, 110–115.
18. Long DM. (1991). Failed back surgery syndrome. *Neurosurg Clin N Am*, 2(4), 899–919.
19. Turner JA, Hollingworth W, Comstock BA, et al. (2010) Spinal cord stimulation for failed back surgery syndrome: Outcomes in a workers' compensation setting. *Pain*, 148, 14–25.
20. Frey ME, Manchikanti L, Benymain RM, et al. (2009). Spinal cord stimulation for patients with failed back surgery syndrome: a systematic review. *Pain Physician*, 12, 379–97.
21. Esmer G, Blum J, Rulf J, et al. (2010). Mindfulness-based stress reduction for failed back surgery syndrome: a randomised controlled trial. *Journal of American Osteopath Association*, 110, 646–52.