



Review Article

Copyright © David Johnson

# Failed Back Pain Rehabilitation Syndrome and A Necessary Paradigm Shift in Back Pain Rehabilitation Guidelines and Industry wide Accountability for Outcomes

David Johnson<sup>1\*</sup> and Andrew Lock<sup>2</sup>

<sup>1</sup>Spinal Neurosurgeon, the Back Pain and Functional Movement Training Centre. Brisbane Private Hospital, Australia

<sup>2</sup>Physiotherapist, Untied health Education. Melbourne Australia

\*Corresponding author: David Johnson, Spinal Neurosurgeon, Brisbane Private Hospital, Australia. [Info@fmtc.com.au](mailto:Info@fmtc.com.au).

**To Cite This Article:** David Johnson\* and Andrew Lock. Failed Back Pain Rehabilitation Syndrome and A Necessary Paradigm Shift in Back Pain Rehabilitation Guidelines and Industry wide Accountability for Outcomes. *Am J Biomed Sci & Res.* 2023 20(5) *AJBSR.MS.ID.002750*, DOI: [10.34297/AJBSR.2023.20.002750](https://doi.org/10.34297/AJBSR.2023.20.002750)

**Received:** 📅 November 20, 2023; **Published:** 📅 December 01, 2023

**Keywords:** Failed Back Pain Rehabilitation Syndrome (FBRS), Movement Dysfunction, Functional Movement Therapy, Paradigm Shift, Causation, Symptoms

## Review

The globally devastating clinical and economic effects of chronic low back pain are undeniable and non-conjecturally asserted in every review of the topic [1].

The term NSLBP has gained traction as the default diagnosis for 85% of patients presenting with persisting back pain and disability [2]. Waddell clearly highlighted the limitations of the term NSLBP stating “non-specific low back pain is not a good clinical diagnosis. It is intellectually and scientifically inadequate and fails to provide any biological basis for real understanding” [21]. The other 15% of rarer presentations of chronic back pain are secondary to recognised causes such as immune, infective, neoplastic or traumatic spondyloarthropathy and subsequent structural instability.

The vast majority of patients numbering in the billions, are afflicted with a condition that appears benign but in fact is sinister by virtue of its disabling ubiquity and current ability to evade definitive diagnosis. Pain is a symptom, not a diagnosis and should not be used interchangeably as a disease entity as the term NSLBP implies. This term compromises the global therapeutic community’s understanding of back pain causation.

In the absence of a disease, a diagnosis or a cause, the likelihood of implementing an effective therapy or cure is low and well supported by recent WHO and the 2018 Lancet Low Back Pain Review data [1,3].

A review of conventional and common treatment options for low back pain reveals three broad groups of therapy –

**Pain management** – reduction of functional demands, pharmaceutical medications, pharmaceutical interventions, education and cognitive therapy, prolotherapy, dry and wet needling, acupuncture, neuromodulation of medial branch nerve, peripheral nerve and spinal cord targets, cognitive therapy

**Exercise and physical therapy** – optimising the Musculo-skeletal health often with a focus on the lumbar region through strength and conditioning exercise, motor control training, manual therapy-massage, deep tissue release/stretching, adjustments/traction/chiropractic/osteopathy.

**Structural interventions** – taping/strapping and other orthotics, structural stability surgery utilising fusion or disc arthroplasty.



Existing treatment options clearly have a symptom-based focus [4]. None of the broadly available conventional management strategies offer any resolution to root causation for back pain. The disease-causing back pain symptoms remains poorly described in peer reviewed literature with many authors asserting that there is no Patho-anatomical cause for low back pain [2].

Regardless of whether treatment for back pain is successful, if only symptom-based interventions are provided back pain will predictably recur [5]. Why would it not if the inciting cause of the episode is not eliminated? Furthermore, how does a clinician or therapist eliminate the true cause if the global literature and research accepts the misnomer that there is no patho-anatomical cause for the vast majority of low back pain? Failure becomes a self-fulfilling prophecy.

There is a well-recognised clinical pattern of acute short-lived pain progressing to relapsing and remitting episodic pain and then chronic persisting pain with associated susceptibility to centralised chronicity. This pattern creates a false appearance of acute 'exacerbations' rather than a continuing singular disease-pathology requiring an inclusive focus on long term treatment outcomes and accountability [6].

Adjunctive surgical structural interventions are unsurprisingly called upon as a desperate "last hope" with an equally predictable poor outcome, even when deemed necessary in order to address neural compression and macro-instability. Lumbar fusion or disc replacement surgery is merely a more potent and invasive (structural) symptom focused intervention with zero ability to address primary causation. Even with invasive structural surgery, "Causation", again evades eradication. The primary FBRS delivered before surgery is now also responsible for the downstream "Failed Back Pain Surgery Syndrome" that develops after back pain surgery at an unsurprising and unacceptable rate of fifty percent [7].

There are approximately 275 Neurosurgeons and 1300 Orthopaedic surgeons in Australia Today [8-13]. Of these, a conservative estimate of the total number of surgeons performing regular lumbar spinal fusion in Australia is 350. Most Neurosurgeons perform spinal surgery. A fewer number perform instrumented lumbar fusion for back pain and a significant minority of orthopaedic surgeons perform surgery for back pain. In contrast to these relatively small numbers of surgeons who manage low back pain symptoms daily and perform lumbar spinal fusion surgery, there are approximately 35000 physiotherapists registered in Australia and another 10,000 AHPRA registered, allied health physical therapists comprised of Exercise Physiologists, Chiropractors and Osteopaths that all have significant input into Chronic Low Back Pain management [14,15].

Conservative epidemiological data reveals that, per year, over 1.5 million Australians suffered from Chronic Low Back Pain symptoms (a significantly greater number in the millions have relapsing and remitting back pain in their journey to chronicity). Recent Australian Hospital Health Registry figures reveal less than 1000 patients receive Lumbar Stabilisation surgery without decompression

or purely "Back Pain Surgery" annually [16-18]. This raises serious questions about a growing anti-spinal surgery message being delivered on a number of fronts and unilaterally by organisations and individuals unqualified to comment on the role of spinal surgery in the management of structural deficits relating to the lumbar spine. The massive majority of care for Chronic Low Back Pain symptoms is clearly provided by the physical rehabilitation industry not from surgeons performing lumbar spine surgery. Despite the failing treatment outcomes and FBRS the rehabilitation industry that delivers most care for back pain escapes accountability and scrutiny. Guidelines are clearly failing. The national Australian Commission on Safety and Quality in Health Care – Low Back Pain Clinical Care Standard offers no meaningful description of causation for back pain and as such no effective solution. In effect delivering a list of "do not's" but providing no effective guidance on "do's" [19,20].

The epidemiology of Chronic Low Back Pain and its conventional management shines light on the glaringly obvious poorly recognised and therefore under reported condition of FBRS [4,6,7].

The definition of FBRS is simply ongoing pain and disability despite compliance with one or more physical rehabilitative methodologies for chronic symptoms of low back pain. This effectively represents every patient that attends a spinal surgery consultation for chronic low back pain symptoms, who invariably will have already failed non-surgical management strategies. FBRS is the significant driver of the economic health burden of back pain, with several million patients per year seeking non-surgical remedies for their pain and disability. Despite the extensive failing and little accountability for outcomes of the non-surgical back pain therapeutic industry to control the increasing prevalence of back pain, surgeons have responsibly restrained back pain surgery intervention to less than 1000 pure back pain surgeries per year. This warrants commendation rather than the current vilifying media sentiment. Spinal Surgeons continue to remain cautiously conservative in offering spinal fusion to the hundreds of patients per week presenting with similar and familiar histories of persisting pain despite, physiotherapy, exercise therapy, core strengthening / stretching, maladaptive lifestyle re-restrictions, pain medications and interventional pain procedures all of which is integrated into FBRS.

If the focus of attention is redirected toward delivering effective and unbiased evidence-based rehabilitation that addresses the bio-mechanical cause for back pain symptoms we will begin to see improvement in the currently increasing economic and clinical epidemic of low back pain in Australia [19]. The current research recycles comparisons between "failing usual care" and other invalid symptom-based methodologies such as "cognitive therapy". The misguided interpretation will be that one is superior to the other, however both remain ineffective in clinical practice if they both continue to ignore causation. This meaningless research contributes to meaningless current guidelines exemplified by The Lancet Back Pain series data in March 2018, revealing more than doubling of DALYs (Disability-Adjusted Life Years) from Low Back Pain between 1990 and 2015, which followed on from the World Health

Organisation's Musculoskeletal Fact Sheet (February 2018), announcing that Low Back Pain is the single leading cause of disability globally and is not a condition restricted to old age [1,3,4].

Addressing the disease and the cause of the low back pain epidemic requires acceptance that epidemics must have a simple and ubiquitous root cause. Without which, the condition would never assume epidemic status.

Secondly, identifying the simple cause for a condition that appears to be complex requires a fundamental approach.

Fulfilling the above requirements of ubiquity, simplicity, and fundamentals, is the disease of Movement Dysfunction.

In the industrialised world it remains highly plausible that the human musculoskeletal system performs simple modern tasks of daily living with ubiquitous poor movement proficiency.

Fundamentally the human musculoskeletal system, comprised of muscles, joints, ligaments, tendons, and bones, serves the primary function of movement. A failure of the musculoskeletal system inclusive of the lumbar spine, therefore, represents a primary failure of movement and hence the disease of Movement Dysfunction.

Reinforcing this concept is that the observed rates of low back pain (as well as hip and knee arthritis) and disability is less in non-industrialised cultures where toiling is higher. At first this may appear paradoxical but when one recognises that the disease of Movement Dysfunction is likely to be lower in these cultures the irony is cleared, exposing that Movement Proficiency is protective against musculoskeletal disease [8].

Lumbo-pelvic Movement Dysfunction or more simply stated

– “poor bending” for both trivial and physically demanding tasks ignore biomechanical proficiency defined by:

1. Posterior Kinetic Chain Powered Movement with
2. Hip Centric Rotation maintaining a
3. Neutral Lumbar Spine Position (torso inclination) and
4. Unloaded Knee Joints, performed with
5. Proficiency limited intensity (range of motion, loads, repetitions, duration, speed)

Movement Dysfunction of the lumbo-pelvic spine kinematically potentiates pathological biomechanical stress into a spinal motion segment which drives biological inflammation, activating the cascade of nociception and accumulative structural changes to the Musculo-skeletal system or spine, referred to as spondylitis. This is distinct from a spine free of Movement Dysfunction that may have structural changes which are correctly referred to as spondylosis or normal degeneration and remains pain free. There is an absence of activated adaptive structural nociception, inflammation, and secondarily maladaptive central functional pain pathways.

From a fundamentally practical viewpoint, any effective rehabilitation program must have as its central, purposeful and mean-

ingful objective, a mechanism to upskill the patients proficient and specifically defined biomechanics of bending which equates to reversing the disease of lumbo-pelvic Movement Dysfunction. The back pain rehabilitation industry needs to coach patients how to hip hinge, squat, deadlift, and lunge with default virtuosity. Patients also need to keep the functional intensity demands of their movement tasks within the boundaries of their functional capacity. Adhering to this biomechanical tenet for Musculo-skeletal health will form the foundations for future capacity building and clinically observable favourable outcomes such as restoration of quality of life, return to work and functional independence in the absence of ongoing symptom-based interventions, in particular analgesics. Achieving this reflects a valid cause and effect relationship between the Functional Movement Therapy intervention and curing the disease process that caused the symptoms.

In conclusion, holistic patient care requires us to provide distinctive Functional Movement Therapy for the disease of Movement Dysfunction which causes Low Back Pain symptoms to evolve and progress predictably into chronicity following an accumulative dose-response relationship. This process can only ever be tempered by existing mainstream conventional symptom-based interventions but never eradicated.

Default Movement Proficiency points of performance for activities of daily living need to be clearly defined and then transferred into the back pain patient by skilled Movement Therapists through Functional Movement Therapy [9].

1. Hip joint centric rotation
2. Neutral spine maintenance during inclination
3. Posterior kinetic chain engagement
4. Stress shielded knee joint position
5. Proficiency limited intensity (range of motion, loads, repetitions, duration, speed)

Patients must acquire these new fundamental functional movement skills and apply them into their infinite daily life activities. Once proficient hinging, squatting and lunging is acquired, it should be encouraged and seized upon opportunistically throughout the patients usual and continuous activities of daily living to powerfully utilise movement as a natural and essential therapeutic tool. This is in stark contrast to the fear avoidant dysfunctional behaviours that entrench when Functional Movement Therapy is not the central focus of rehabilitation. Every back pain patient can acquire the skills and ability to rehabilitate their own back pain symptoms through their daily movement activities, enabling them to progressively build functional capacity, prevent relapsing pain and improve quality of life by eliminating the disease of Movement Dysfunction. Our obligation as clinicians working in the back pain therapeutic industry which must accept a greater level of accountability for outcomes, is to guide our patients toward acquiring this functional skill to cure the functional disease causing their primarily biomechanically driven pain symptoms.

## References

1. (2018) Lancet series on low back pain [Internet].
2. Maher C, Underwood M, Buchbinder R (2017) Non-specific low back pain. *Lancet* 389(10070): 736-747.
3. (2018) World Health Organisation Musculoskeletal conditions fact sheet.
4. Cochrane Reviews Back Pain Management.
5. Dillingham T (1995) Evaluation and management of low back pain: an overview. *State Art Rev* 9: 559-574
6. van Middelkoop M, Rubinstein SM, Kuijpers T, Verhagen AP, Ostelo R, et al. (2011) A systematic review on the effectiveness of physical and rehabilitation interventions for chronic non-specific low back pain. *European Spine Journal* 20(1): 19-39.
7. Johnson D, Hanna J (2017) Why we fail, the long-term outcome of lumbar fusion in the Swedish Lumbar Spine Study. *Spine Journal: Official Journal of the North American Spine Society* 17(5): 754.
8. Volinn E (1997) The epidemiology of low back pain in the rest of the world: a review of surveys in low- and middle-income countries. *Spine* 22(15): 1747-1754.
9. McGill SM (2002) *Low back disorders: Evidence-based prevention and rehabilitation*. Champaign, IL: Human Kinetics.
10. Sophie McNamara (2012) *Brains and Beyond*.
11. (2016) Orthopaedic surgery 2016 Factsheet National Health Workforce Dataset, Medical Specialties.
12. Osteopathy Board of Australia.
13. (2015) Deloitte and ESSA Value of Accredited Exercise Physiologists in Australia.
14. <https://www.chirolife.com.au/many-chiropractors-australia/>
15. <https://www.physiotherapyboard.gov.au/News/Newsletters/April-2017.aspx>.
16. Rodrigo Dalke M, Anaclaudia Gastal F, Neice Muller Xavier Faria (2015) Prevalence of chronic low back pain: systematic review. *Rev Saude Publica* 49: 73.
17. Australian Bureau of Statistics. Population.
18. Walker B, Muller R, Grant W (2003) Low back pain in Australian adults: the economic burden. *Asia Pac J Public Health* 15(2): 79-87.
19. WHO Bulletin 2019 MSK Institute.
20. Australian Commission on Safety and Quality in Health Care – Low Back Pain Clinical Care Standard.
21. Waddell G (2005) Subgroups within “nonspecific” low back pain. *J Rheumatol* 32(3): 395-396.