

**Title:** “WOULD YOU LIKE PAIN WITH THAT”

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**Abstract:**

A very large part of orthopaedic and musculoskeletal medicine practice can be related to the management of pain and pain-related disability. There is often a significant degree of clinical discordance and dis-proportionality in this patient group, or not uncommonly the pain merely persists despite conventional management.

It is a curious and concerning observation, based on available epidemiological data, that the period over past decades with recognised major advances in investigation and therapy options, technology, interventional and surgical expertise etc, coincides rather uncomfortably with a significant increase in chronic musculoskeletal pain outcomes in the same time period across all age groups (1).

Chronic pain is associated with tragic outcomes for patients and their families. It has major health expenditure ramifications (1) (2). It is a particularly major problem in compensation environments ie: workers compensation, transport accidents & litigious situations, with associated confounding outcomes from standard management (2) (3).

The *biopsychosocial* model (4) (5) is therefore growing in acknowledgement, including by funding bodies, as abundant research firmly supports general observations that it is the injury ‘context’ that is much more accurately predictive of outcomes overall than the injury itself.

The limitation of the prevailing linear *biomodel* injury management paradigm and the manner in which placebo, and its opposite - ‘*nocebo*’, responses may be involved in common management methods attracts consideration (6) (7). The manner in which these, and the injury context, influence pain related neuroplasticity processes likely requires more urgent attention (8).

Research also firmly suggests that “Therapeutic Neuroscience Education” (9) is capable of a profound effect on desensitisation, reduction of pain and reversal of pain neuroplasticity processes. It augments the benefit of other treatments and exercise rehabilitation. It is a further curious observation that patients can pass through a myriad of pain management techniques, including multidisciplinary programs, pain interventions and surgery, and still seem to have a very poor, and sometimes even completely absent understanding of basic pain related concepts.

I propose that it is an imperative to prioritise and optimise ‘pain literacy’. This involves appreciating the relevance, and having an adequate understanding of pain neuroscience, neuroplasticity, the mind/body effects of placebo & nocebo responses, and the biopsychosocial model (4) (5) (6) (7) (8) (9).

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- (2) The high price of pain: the economic impact of persistent pain in Australia. Report by Access Economics Pty Limited for MBF Foundation in collaboration with University of Sydney Pain Management Research Institute 2007.
- (3) Association Between Compensation Status and Outcome After Surgery. Harris et al. JAMA, April 6, 2005- Vol 293, No. 13
- (4) Explain Pain (2nd Edn). Butler and Moseley. Noigroup Publications (2013)
- (5) The Role of Emotional Health in Functional Outcomes after Orthopaedic Surgery: Extending the Biopsychosocial Model to Orthopaedics. AOA Critical Issues. Ayers et al. J Bone Joint Surg Am. Nov 6 2013
- (6) Medicine's inconvenient truth: the placebo and nocebo effect. Arnold, M., Finniss, D., Kerridge, I. (2014). *Internal Medicine Journal*, 44(4), 398-405
- (7) When Words Are Painful: Unravelling The Mechanisms Of The Nocebo Effect. Benedetti et al. *Neuroscience* 147 (2007) 260–271
- (8) Is neuroplasticity in the central nervous system the missing link to our understanding of chronic musculoskeletal disorders? Pelletier et al. *BMC Musculoskeletal Disorders* (2015) 16:25
- (9) The Effect of Neuroscience Education on Pain, Disability, Anxiety, and Stress in Chronic Musculoskeletal Pain. Systematic Review. Louw et al. *Arch Phys Med Rehabil* Vol 92, December 2011