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# Traction for low back pain, the evidence is flawed

A thesis presented in partial fulfilment of the requirements for the Masters of Health Science

(MHIthSci)

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New Zealand

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Date 12 March, 2018

## Preface and/or acknowledgements

Thanks to all that has gone before

I must give enormous thanks and gratitude to all the published authors of the primary scientific literature, the researchers of the systematic reviews, and the clinical practice guideline committee members. Their contributions to our past and current understanding of the epidemiology, clinical assessment, diagnosis, and efficacy of the many treatments applicable to the conundrum of low back pain has been immense. It has and will continue to be, a long, difficult, and controversial journey. I now have great appreciation of the many hours and dedication that such research requires, and applaud all those diligently striving to achieve the best for patients presenting with low back pain. This paper contains a professional critique of the past research, and armed with advancements in time and hindsight, highlights historical deficiencies with the sole purpose to illuminate future research into low back pain, and improve management of this costly condition.

Thanks to all that surround me

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## Abstract

Research suggests the burden of low back pain is growing despite recent advances in investigative technology and the explosion in research. Evidence based practice is necessary within physiotherapy. However, the best evidence component must be clinically appropriate, accurate, and grounded within pertinent research. The selection of participants and the methodological designs of the studies must be appropriate to provide results valid to everyday clinical practice. Systematic reviews and meta-analyses consider primary research to critically analyse research questions, and formulate scientific conclusions on the efficacy of interventions. These research derived conclusions then inform clinical practice guidelines which are envisioned to improve clinical practice. These guidelines are also utilised by educational facilities to flavour their curriculum, and by insurance and governmental policy writers in accrediting specific interventions. Information from today will dictate the beliefs, attitudes, and practices of future graduates, and determine approved treatment options. The reported negative conclusions on the efficacy of traction as an intervention for low back pain have resulted in traction no longer being recommended within clinical practice guidelines, any remaining sporadic use questioned by professional colleagues and policy writers, and it no longer taught at undergraduate level. This is despite its long history, popularity amongst some practitioners, anecdotal evidence supporting its use in the clinical setting, and its demonstrable effects in scientific studies. This masters project argues that the cause of the disparity lies within incongruous study designs, which are not valid to clinical practice. Specifically, caused by the misappropriation of historical definitions and classifications vis-à-vis low back pain cohorts. This has resulted in substantial heterogeneity within study populations themselves, both between groups and between studies, which along with other methodological flaws and inappropriate reporting, has given rise to unwarranted conclusions. These fundamental errors have made the conclusions of scientific trials, systematic reviews, and clinical practice guidelines erroneous, and inapplicable to everyday clinical practice. The 'evidence based' recommendations of the

inefficacy of traction has largely caused the demise of this intervention within most clinical practices. It is essential that research derived evidence based guidelines are better informed to improve the management of chronic low back pain.