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## Preoperative neuroscience education for lumbar radiculopathy

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Spinal surgery in the US is ever-increasing. Outcome data indicates nearly 40% of patients have persistent pain and disability following lumbar surgery. Postoperative rehabilitation following lumbar surgery has shown little efficacy in decreasing postoperative pain and disability and it has been shown that patients are not readily sent to physical therapy after lumbar surgery. Preoperative education has shown some effect in altering anxiety, stress and fear associated with surgery. Recent research in non-surgical musculoskeletal pain has shown evidence for neuroscience education. Neuroscience education aims to help patients develop a greater understanding of their pain, the biology behind their pain and how pain is processed. A newly designed preoperative neuroscience education program by physical therapists has recently been developed and have not only shown immediate post-education improvements in psychometric measures, beliefs and expectations for surgery and physical movements, but also significant reduction of brain activity associated with painful tasks in patients scheduled for lumbar surgery. Additionally, the preoperative neuroscience education resulted in superior outcomes following surgery compared to patients receiving traditional surgeon-led education in regards to back pain, leg pain, fear, catastrophization, function and postoperative healthcare utilization. This session aims to introduce attendees to the development of the preoperative neuroscience education session, the content, delivery methods and clinical application of such a program for lumbar surgery.

### Biography

Adriaan Louw is a physical therapist and PhD in clinical neuroscience from the University of Stellenbosch in Cape Town, South Africa. He is a guest lecturer/adjunct faculty at Rockhurst University, St. Ambrose University, Stellenbosch University and the University of Las Vegas, Nevada. Adriaan has been teaching spinal manual therapy and pain science classes throughout the US and internationally for 15 years. He has presented at numerous national and international conferences and has authored and co-authored articles, books and book chapters related to spinal disorders and pain science.

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