

Pain Neuroscience Education for Self-Efficacy Among Patients with Failed Back Surgery Syndrome.

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1. **Background:** The purpose of this research is to assess the immediate and sustained effects of the use of Pain Neuroscience Education (PNE) on self-efficacy among patients with Failed Back Surgery Syndrome (FBSS), which is defined as symptoms lasting more than 6 months following one or more elective lumbar spinal surgeries. FBSS is fairly common, affecting 10-40% of patients who receive some type of lumbar spinal surgery, and of those patients who undergo a repeat surgery, 70% will continue to experience symptoms. PNE can decrease pain perception by addressing “patients’ understanding of their pain by explaining in detail the underlying neurophysiology of chronic pain.”¹ There is a lack of evidence evaluating the outcomes of using PNE for patients with FBSS. One method of assessing relevant changes in pain perception is measuring self-efficacy. Self-efficacy is defined as “an individual’s belief in his or her capacity to execute behaviors necessary to produce specific performance.”² We anticipate that PNE will benefit patients with FBSS by increasing self-efficacy, improving their quality of life, improving their outlook toward functional recovery and decreasing their dependence on medical care to manage pain.

2. **Methods:** This study will include 15-20 patients with a diagnosis of FBSS at an outpatient hospital-based physical therapy clinic in Sayre, Pennsylvania. Patients will be excluded if they are unable to read English at an 8th grade level, are not between 18 and 65 years old, or are poor candidates for physical therapy as decided by the Primary Investigator (AH). All patients in our study will undergo a physical therapy evaluation, followed by PNE and appropriate physical therapy treatment. The Primary Investigator will perform all evaluations, PNE sessions, and treatments. The therapist will administer PNE based on the patient handbook, *Your Nerves Are Having Back Surgery: Neuroscience Education for Patients Having Back Surgery* by Adriaan Louw.³ The Self Efficacy Scale (SES), a 22-item patient-reported outcome measure, will be administered pre-evaluation, post-PNE, and at 1 month and 3 months follow-up.

3. **Results:** This project is scheduled to run from November 15, 2016 through September 1, 2017. We hypothesize that the use of PNE combined with appropriate physical therapy interventions will result in greater self-efficacy in regards to pain management and functional ability as measured by the Self Efficacy Scale. An increase in self-efficacy will be determined by a decrease in Self Efficacy Scale scores.

4. **Discussion and Conclusions:** We anticipate that providing patients with PNE will give them the tools to manage their pain and improve their quality of life. This self empowerment will also decrease recurrent dependence on the medical system.

5. Bibliography/Works Cited:

1. Clarke CL, Ryan CG, Martin DJ. Pain neurophysiology education for the management of individuals with chronic low back pain: systematic review and meta-analysis. *Man Ther.* 2011; 16(6): 544-549. doi: 10.1016/j.math.2011.05.003
2. Carey MP, Forsyth AD. (2016, October). Teaching Tip Sheet: Self-Efficacy. Retrieved from <http://www.apa.org/pi/aids/resources/education/self-efficacy.aspx>.
3. Louw A. *Your Nerves Are Having Back Surgery: Neuroscience Education for Patients Having Back Surgery*. International Spine and Pain Institute, 2011.