

Pain Neuroscience Education (PNE) is Relatively Ineffective: Research Confirmed

Review and Commentary on the Comparative Studies Investigating Pain Neuroscience Education

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The following is quoted from the new article (and research review) by the [Brookbush Institute: Pain Neuroscience Education \(PNE\) is Relatively Ineffective](#)

PAIN SCIENCE HAS A PROBLEM: Pain science research currently has an interesting problem. It is amazing work, by incredible professionals, that has helped to inform theoretical frameworks on physical rehabilitation. However, the relatively strong correlations made between pain and psychosocial factors (demonstrated in some research studies), have resulted in a focus on

addressing these psychosocial factors with cognitive interventions. The problem is these cognitive approaches do not have a large effect on the factors they are attempting to address, and worse, changes in cognitive factors seem to have little if any effect on objective outcome measures (e.g. pain-free range of motion, neck disability index scores, etc.). At the very least, these cognitive approaches are far less effective than [manual therapy](#), specific exercise, and other effective modalities. Author's note, it seems that a surge in the amount of research published on pain science was highjacked by a relatively ineffective application of that research (e.g. pain science education (PNE)). Worse still, some individuals have asserted that this surge in research and popularity of PNE programs is evidence of PNE being "new and better" while discrediting other more effective modalities. This type of strategy has won political campaigns, but it is not evidence-based practice...

RESEARCH SUMMARY STATEMENT: The randomized controlled trials (RCTs) available that compare pain neuroscience education (PNE) to other interventions imply that PNE is unlikely to be more effective than biomedical education, and is unlikely to result in additional benefit when





Based on current research, pain neuroscience education (PNE) may be the "ice and TENS" of the next generation of therapists."

Dr. Brent Brookbush, CEO of Brookbush Institute

added to supervised manual therapy, exercise, and/or the combination of other effective interventions. Further, the addition of manual therapy and exercise to PNE reliably results in significant improvement in patient outcomes, implying that PNE alone cannot be considered an optimal treatment approach. The addition of PNE to a home exercise program may enhance patient outcomes (perhaps due to enhanced effort and compliance during exercise). Last, PNE does reliably improve Tampa Scale of Kinesiophobia (TSK) scores; however, the validity of this

finding and/or correlation with other recovery outcome measures is questionable.

- Of the 10 studies (cited below) in this review comparing similar intervention plans with and without PNE, 4 studies demonstrate no difference, 3 studies only demonstrate a significant difference in TSK scores, and 3 studies exhibit significant improvements in 1 additional outcome measure. Unfortunately, the additional outcome measures are likely statistical variance, as these measures may also be influenced by subjective or cognitive factors (FABQ and Pain), each study only exhibited 1 additional difference (of many outcome measures), and each difference was only noted during reassessment during 1 time-point (of many). In short, the gross majority of comparative research demonstrates that PNE is not reliably effective for improving objective patient outcome measures.

For the rest of this article, complete systematic review, and full bibliography check out: Pain Neuroscience Education (PNE) is Relatively Ineffective: Research Confirmed

10 Studies Comparing Interventions With and Without Pain Neuroscience Education (PNE)

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3. Matias BA, Vieira I, Pereira A, et al. Pain neuroscience education plus exercise compared with exercise in university students with chronic idiopathic neck pain. *Int J Ther Rehabil*. 2019;26:1-14.
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9. Téllez-García M, de-la-Llave-Rincón AI, Salom-Moreno J, Palacios-Ceña M, Ortega-Santiago R, Fernández-de-las-Peñas C 2014 Neuroscience education in addition to trigger point dry needling for the management of patients with mechanical chronic low back pain: A preliminary clinical trial. *Journal of Bodywork and Movement Therapy* 19: 464–472.

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