

Therapeutic Pain Neuroscience Education in the treatment of Chronic Pelvic Pain
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 Physiotherapy Round Table at the ICS Annual Meeting - Florence Italy
 Thursday September 14, 2017

Therapeutic Neuroscience education teaching patients about pain - Louw and Puentedura. 2013
 Explain Pain Supercharged - Moseley and Butler 2017

Therapeutic Neuroscience Education (TNE)

- Education to help patients reconceptualize their pain
- Leading to decreased experience of pain, decreased catastrophization and ultimately improved function.
- Simply said - the more you learn about your pain the less pain you have.
- We do not teach biomechanics of the body - we teach about pain
- Using metaphors and stories

12 RCT and 2 systematic reviews on pain education (Louw 2011)

- Ave pain reduction of 3.1 points on VAS after a single one on one session
- After 4 week combined PT and TNE - significant treatment effect in 86% of patients with chronic LBP
- Decreased fear of movement
- Less catastrophizing
- Better pain coping, pain attitudes, pain self efficacy
- Better movement
 - Neurodynamic test
 - Spinal movement
 - Motor control, physical performance

Treatments to decrease the sensitivity and/or activity of the nervous system

<u>Hands off</u>	<u>Hands on / modalities</u>
<ul style="list-style-type: none"> • Cognitive Behavioral Therapy (CBT) • Neurophysiologically-based pain education • Affirmations and positive thinking, joy and laughter • Diaphragm Breathing • Relaxation training <ul style="list-style-type: none"> ○ Suggestions for autosuggestion ○ Visualization, Imagery ○ Breath work - Diaphragmatic breathing ○ Body scanning ○ Contract relax ○ Motor imagery ○ Perineal bulging ○ Sexual desensitization • Yoga • Aerobic exercise • Graded Motor exposure / imagery 	<ul style="list-style-type: none"> • Generalized connective tissue mobilization • Massage for relaxation • Heat / cold • Transcutaneous electrical nerve stimulation (TENS)

Which patients can benefit - Central sensitization

- Strongest predictor = disproportionate, non-mechanical pain, and unpredictable pattern of pain provocation
- Logistical regression - cluster of 3 symptoms and 1 sign predictive of CS (Smart 2012)
 - Disproportionate, non-mechanical pain, and unpredictable pattern of pain provocation
 - Pain disproportionate to type of injury or pathology - less pain tolerance
 - Strong association with maladaptive psychosocial factors (negative emotions, poor self efficacy, pain behaviors) - Pain responds to stress and anxiety
 - Defuse / non-anatomic areas of pain and tenderness on palpation
- Pain longer than 12 weeks
- Pain increased by small movement or no movement
- Diffuse and bilateral pain / tenderness, wide spread, non anatomical, spread of pain
- Burning shooting, crushing, non-dermatomal, allodynia or hyperalgesia
- Multiple systems involved – sleep, bladder, bowel, muscles, joints, immune system
- Depression, fear avoidance, catastrophization - patient consider their pain as more threatening and demonstrate less adaptive coping strategies
- Previous treatment failure - treatment adherence for active treatments is low

Time

- Ideally started on the first visit
- Class session - class(es) 1 to 4 hrs, 4 to 10 participants
- One session with one patient - Evidence suggests one on one is best
- Throughout PT - 10 to 20 min each PT session - total 2.5 to 4 hrs
- TNE can be billed under Ther act, Ther ex or NM

Method

- Also best if used with manual therapy and exercise
- Free form - address incorrect assumptions as they arise (might miss some concepts)
- Structured - follow a workbook, education system cards, or review questions on the Pain test
- Give homework between sessions
- Teach about pain using metaphors and stories

Three type of patients

- No way
 - Not ready to hear
 - Become upset and challenge you, might not come back
 - 5 to 10% of patients
- I get it
 - Say they understand but do not integrate information
 - Superficial learning
 - Majority of patients
- YES! I get it
 - Deep learning
 - Internalizes messages
 - Applies principles

Teaching topics

1. Pain is normal, personal and always real
2. There are danger sensors, not pain sensors
3. Pain and tissue damage rarely relate
4. Pain depends on the balance of danger and safety
5. Pain involves distributed brain activity
6. Pain relies on context
7. Pain is one of many protective outputs
8. We are bioplastic
9. Learning about pain can help the individual and society
10. Active treatment strategies promote recovery

Louw A, Puentedura EJ. Therapeutic neuroscience education - Teaching patients about pain. International Spine and Pain Institute USA 2013.

Louw A, Diener I, Butler DS, Puentedura EJ. Systematic review: The effect of neuroscience education on pain, disability, anxiety, and stress in chronic musculoskeletal pain. Arch Phys Med Rehabil (2011) 92:2041-2056).

Moseley GL, Butler DS. Explain pain supercharged. Noigroup South Australia 2017.

Smart KM, et al. The discriminative validity of "nociceptive," "peripheral neuropathic," and "central sensitization" as mechanism-based classifications of musculoskeletal pain. Clin J Pain 2011;27(8):655-663.