PAIN AND EDS

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bethesda physiocare | physiofitness | myopain seminars

Subjective health complaints

The complaints reported were

- **Musculoskeletal** (98%)
- Pseudoneurological (96%)
- Gastrointestinal (94%)
- Allergic (73%) and
- Influenza-like (58%)

Maenad S, Assmus J & Berglund B. International Journal of Nursing Studies 48 (2011) 720–724

EDS-HT: A characterization of the Patient's Lived Experience

- **Joints (99%)**
- Cardiovascular system (96%)
- Gastrointestinal system (96%)
- Skin (95%)
- Neurological/psychological manifestations (88%)
- Genitourinary system (67%)

Murray B et al. EDS-HT: A characterization of the patients' lived experience. AJOMG. 2013

Chronic Pain

Dutch study:

- 92% reported chronic pain
- 87% of those with pain were disabled

Voermans et al: Pain in Ehlers-Danlos Syndrome is common, severe, and associated with functional impairment. J Pain Symptom Manage. 2010 40(3):370-8

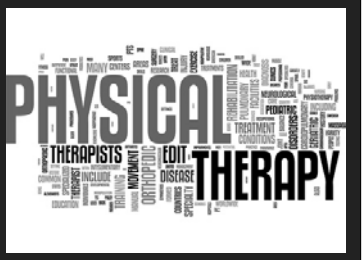
SOME FACTS ABOUT PERSISTENT PAIN

- Estimated annual costs to the US government: $250 billion
- Annual healthcare costs and lost productivity: $560 - $635 billion
- Chronic pain is inadequately managed with treatment success rates of only about 30%

HOEGER ET AL - THE CURRENT STATE OF PT PAIN CURRICULUM IN THE USA: A FACULTY SURVEY. JOURNAL OF PAIN (2014)

PT SCHOOL & PAIN EDUCATION

- Less than 50% of respondents were aware of the Institute of Medicine report on pain or the International Association for the Study of Pain guidelines for physical therapy pain education
- Only 61% of respondents believed their students received adequate education in pain management

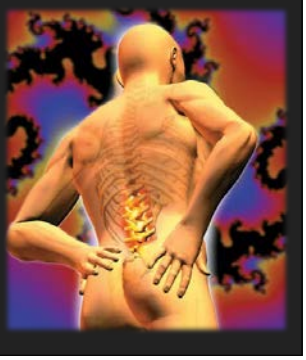


WOLFF ET AL - 1991 PHYSICAL THERAPY 71:207-214

CHRONIC PAIN AND PHYSICAL THERAPY

Only about 4% of physical therapists admit liking the management of patients with chronic pain

(96% prefer not to see patients with chronic pain)



VOMIT

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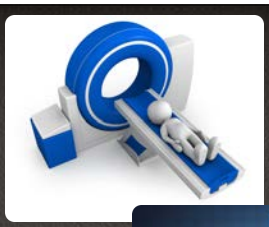
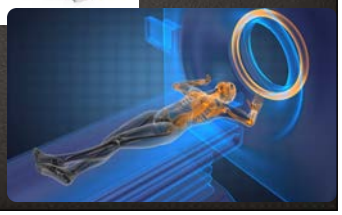
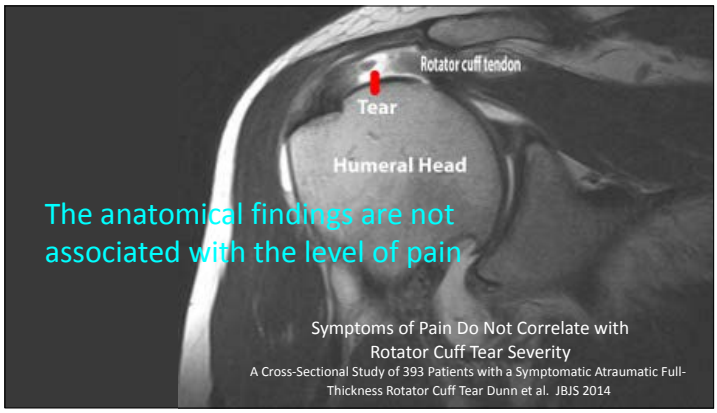






The anatomical findings are not associated with the level of pain

Symptoms of Pain Do Not Correlate with Rotator Cuff Tear Severity
A Cross-Sectional Study of 393 Patients with a Symptomatic Atraumatic Full-Thickness Rotator Cuff Tear Dunn et al. JBJS 2014

Dead men and radiologists don't lie: a review of cadaveric and radiological studies of rotator cuff tear prevalence

P REILLY, I MACLEOD, R MACFARLANE, J WINDLEY, RJH EMERY

Table 4 Composite table of results

Group	Total number	Mean age (years)	FTTs prevalence (%)	PTTs prevalence (%)	Total prevalence (%)
Total cadaveric	4629	69.3	12.7	10.4	23.1
Full data cadaveric	2553	70.1	11.8	18.5	30.3
Ultrasound asymptomatic	591		21.7	17.2	38.9
Ultrasound symptomatic	1038	50.4	34.7	6.7	41.4
MRI asymptomatic	271	44.3	10.3	15.9	26.2
MRI symptomatic	490	43.6	40.8	8.6	49.4

Ann R Coll Surg Engl 2006; **88**: 116–121

Abnormal Findings in Asymptomatic Subjects

Of 1211 **asymptomatic** subjects in their 20s:

- 73.3% of males
- 78.0% of females

had bulging discs

Nakashima, H, Yukawa, Y, Suda, K, Yamagata, M, Ueta, T & Kato, F, 2015. Abnormal findings on magnetic resonance images of the cervical spines in 1211 asymptomatic subjects. Spine (Phila Pa 1976). 40, 392-398

Over-reliance of imaging studies

Prevalence of disk degeneration in asymptomatic individuals increased from 37% of 20-year-old individuals to 96% of 80-year-old individuals

Over-reliance of imaging studies

Disk bulge prevalence increased from 30% of those 20 years of age to 84% of those 80 years of age.

Over-reliance of imaging studies

Disk protrusion prevalence increased from 29% of those 20 years of age to 43% of those 80 years of age

ROSE ET AL: PSYCHOLOGICAL AND PHYSICAL MODELS OF PAIN PHYSIOTHERAPY. 1995;81(12):710-716

WHAT IS PAIN?

"Simple single construct models of pain have limited usefulness as theoretical foundations for clinical intervention"

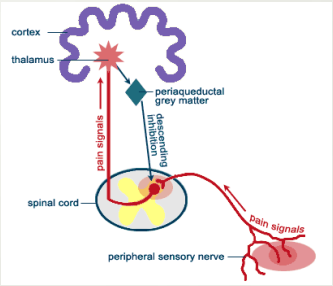
LORIMER MOSELEY - MANUAL THERAPY - 2003;8(3):130-140

"Pain is produced by the brain when it perceives that danger to body tissue exists and that action is required"

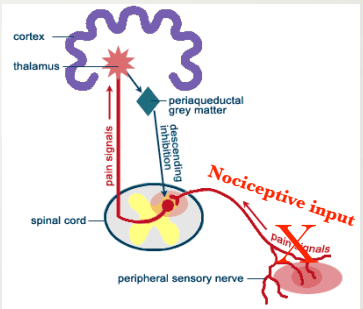
PAIN IS IN THE BRAIN

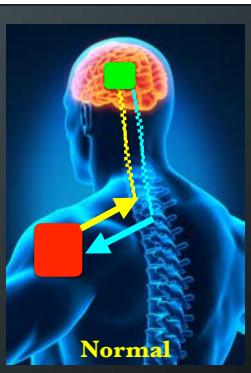
Top-Down Regulatory Mechanism

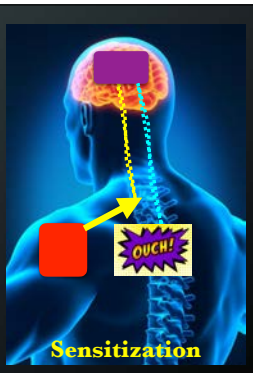
Happens under normal circumstances



- There are no pain nerve fibers
- Therefore, the term "pain signals" is incorrect.
- Better is to call it "nociceptive input."





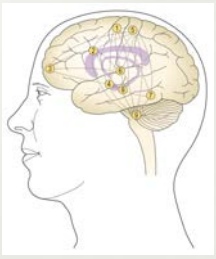


SOME FACTS ABOUT PERSISTENT PAIN

- Persistent hypersensitivity at all levels of the nervous system, with inappropriate neuronal responses having been reported in
  - peripheral sensory neurons
  - spinal neurons
  - top-down modulatory centers in the brain
  - abnormal immune cell function

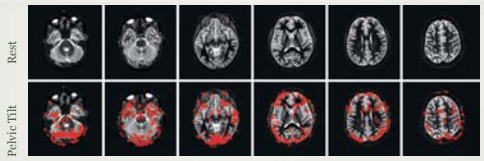
Physical Therapy for Pain Management

- In chronic pain many areas of the brain are likely to be 'enslaved' by pain
- Exercise or specific movements can be difficult, since the brain (motor cortex) is being utilized as part of the pain neuromatrix



Louw A: Treating the Brain in Chronic Pain. In: Fernández de las Peñas, C, J. Cleland and J Dommerholt: Manual Therapy for Musculoskeletal Pain Syndromes – An Evidenced and Clinical-Informed Approach. Churchill Livingstone (Elsevier), 2016

Physical Therapy for Pain Management



- During a pain experience, **multiple areas of the brain are activated at exactly the same time**
- The most common areas are the anterior cingulate, primary sensory cortex, thalamus, anterior insula, and the prefrontal and posterior parietal cortices

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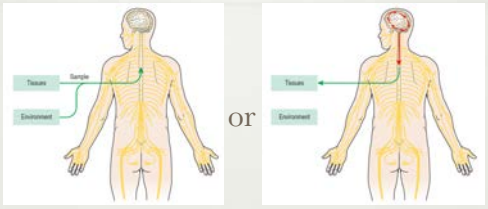
Physical Therapy for Pain Management



or

Traditionally, clinicians have either followed a bottom-up approach (such as manual therapy) or a top-down (cognitive) to treat pain

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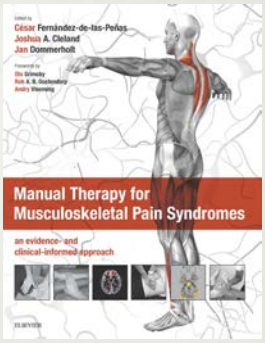
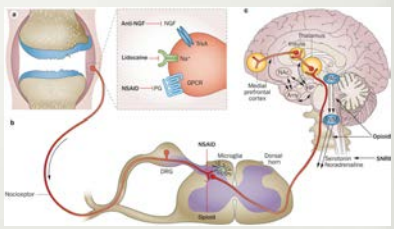
- TOP-DOWN: therapeutic neuroscience education (TNE) or pain neuroscience education (PNE)
- BOTTOM-UP: manual therapy and exercise



Pain = Psycho-social?

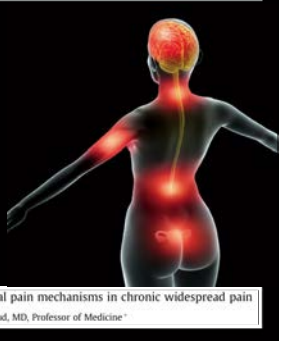
- Pain is sometimes (often?) seen as "psycho-social"which can steer clinicians away from hands-on therapies
- Yet, most chronic pain conditions, including EDS, knee osteo-arthritis, and low back pain, are likely to have ongoing peripheral nociceptive input



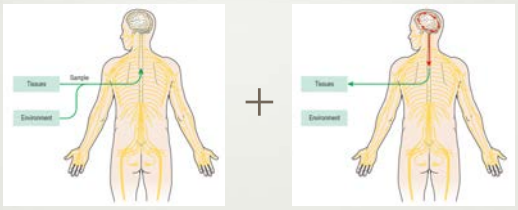
STAUD 2011 BEST PRACTICE & RESEARCH CLINICAL RHEUMATOLOGY 25:155-164

PERIPHERAL INPUT

- ➡ Overall fibromyalgia pain is dependent on peripheral input
- ➡ Allodynia and hyperalgesia can be improved or abolished by removal of peripheral impulse input



Physical therapy for pain management



The two approaches are not mutually exclusive and clinicians are therefore urged to consider a combination of the two

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Bottom - up

Reduce or eliminate the nociceptive input from the periphery (joint, muscle/tendon, skin, fascia, viscera):

- Trigger point inactivation/dry needling
- Joint mobilizations
- Massage
- Exercise

TOP DOWN

Manual techniques (hands-on) can also activate the descending modulatory system

Balancing "hands-on" with "hands-off" physical therapy interventions for the treatment of central sensitization pain in osteoarthritis
E. Lluch Girbés [a,b,c,d,e,f], M. Meeus [b,c,d,f], I. Baert [b,c,f], J. Nijs [b,c,d,f]

Manual Therapy 20 (2015) 349e352

TOP DOWN

- Pain Neuroscience Education
- How do manual therapy and exercise "change the brain?"
- Do not anticipate to be in more pain
- Do not worry about pain levels
- Do not rely on reports of pain

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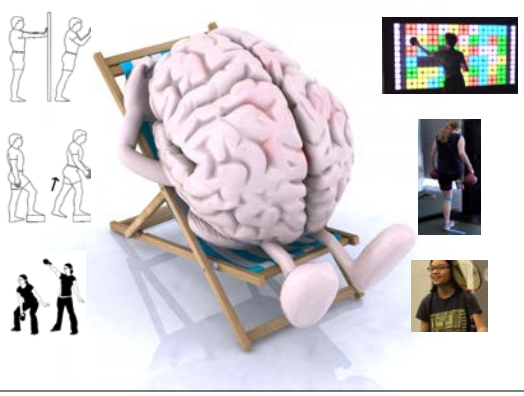
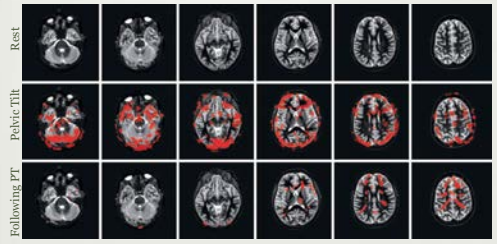


Physical therapy for pain management



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