**Pain Science and Therapeutic Alliance**

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The International association for the study of pain defines pain as, “an unpleasant sensory and emotional experience that is associated with actual or potential tissue damage or described in such terms.”1 The key words in this definition are *actual* and *potential*. Not all of our patients are experiencing actual tissue damage when they are reporting pain. It is very important for us, as physical therapists, to recognize those patients and determine when it is appropriate to use specific strategies to teach patients about their pain. It will be helpful to build a trust with our patients and offer them the best recommendations for their future care; whether that be imaging, referral, or appropriate care through interventions and education.

Do we rely too heavily on pathoanatomical diagnoses and imaging?

We all come across patients that express the need to know exactly what is going on at a pathoanatomical level. These patients most likely will bring up the need for imaging multiple times throughout their care, discuss that they have always had a “bad back”, and frequently bring up structural faults that may presume they have or have been told in the past. It is important that we properly educate our patients on what the literature says about imaging, when appropriate. For example, Brinjinkji et al(2015) examined MRI imaging of lumbar spine in asymptomatic people2:

Findings:

* People over the age of 30: 50% presented with disc degeneration
* After age 80: over 80%
* Disc bulge was present in 50% of people over 40

A 2017 clinical study by Herzog et al researched a patient that received 10 different lumbar spine MRIs from 10 different MRI centers. The results of his MRIs showed 49 distinct findings, 0 findings were consistent in all 10 reports, and 37% appeared only once on the reports.3 Even though this is a singular case, it makes me contemplate how accurate some MRI findings can be. For some patients, depending on the presentation, imaging may not be the best next step. Think about the patients that are presenting with symptoms consistent with centrally mediated pain.

How do we know when a patient’s symptoms may be centrally mediated? Well, discussing the science behind central sensitization and the pathways in the CNS is for another time. However, we can think about a typical presentation for a patient that may benefit from pain science strategies.

* Focus on history, presentation and findings
  + History will most likely be chronic with pain felt “all the time”
  + Patient will have pain without consistent mechanical pattern of provocation
  + Patient’s pain will most likely be diffuse
  + All motions and movements may be painful
  + Use pain catastrophizing scale on follow up for objective measure

Clinical Implications

One simple method to put a patient’s mind at ease during initial evaluation is to screen for red flags and express to the patient that their symptoms are treatable and not abnormal, in order to ensure confidence. Another very important strategy for day one is building a therapeutic alliance; which is described as a working rapport or positive social connection between the patient and the therapist. The time you spend educating your patient and building a good relationship and trust can be just as important as picking the proper intervention, treatment, or HEP. Fuentes et al (2013) studied the effects of using an active vs sham IFC treatment combined with minimal therapeutic alliance or enhanced therapeutic alliance. Their findings showed that the group that received sham IFC with enhanced therapeutic alliance had greater reduction in pain that the group with active IFC and limited therapeutic alliance.4

Other strategies to consider:

* Create goals with patient with a focus on function and patient’s desires
* Promote self efficacy
* Educate patient on pain science
* Mental imagery
* Breathing strategies
* Graded exposure

Although this is a very brief discussion of a very complex subject, there is a lot of literature to support that effects of building a therapeutic alliance and education patients on their pain, and I encourage everyone to consider this when encountering situations that warrant a more in-depth conversation of pain science. Please reach out with any questions or for further discussion on this topic.

References:

1. International Association for the Study of Pain (IASP), Pain terms, A Current List with Definitions and Notes on Usage. Classification of Chronic Pain, Second Edition. IASP Task Force on Taxonomy. IASP Press. Seattle. 1994
2. Brinjikji, W., et al. "Systematic literature review of imaging features of spinal degeneration in asymptomatic populations." *American Journal of Neuroradiology* 36.4 (2015): 811-816
3. Herzog R, Elgort DR, Flanders AE, Moley PJ (2017) Variability in diagnostic error rates of 10 MRI centers performing lumbar spine MRI examinations on the same patient within a 3-week period. Spine J 17:554–561
4. Jorge Fuentes, Susan Armijo-Olivo, Martha Funabashi, Maxi Miciak, Bruce Dick, Sharon Warren, Saifee Rashiq, David J. Magee, Douglas P. Gross; Enhanced Therapeutic Alliance Modulates Pain Intensity and Muscle Pain Sensitivity in Patients With Chronic Low Back Pain: An Experimental Controlled Study, *Physical Therapy*, Volume 94, Issue 4, 1 April 2014, Pages 477–489, <https://doi.org/10.2522/ptj.20130118>