

UNDERSTANDING PAIN Clinician Handout



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“When we wish to perfect our senses, neuroplasticity is a blessing; when it works in the service of pain, plasticity can be a curse.” – Norman Doidge, MD



www.oregonpainguidance.org/paineducationtoolkit



Key Messages

- All pain is real
- Pain is complex and has many contributors besides tissue damage or bodily injury
- Pain is changing continuously and can change for the better
- You have more ability to change pain yourself, than others are able to change pain for you

CHALLENGES OF PREVIOUS MODELS OF PAIN

Until recently, it was commonly believed that pain occurred in the body, with “pain receptors” sending “pain signals” from nociceptive fibers in the body to the brain. Thus, pain that lasted beyond the normal healing time was a puzzling, chronic condition that could not be cured, but managed with medication and other medical procedures. This inability to effectively treat persistent, chronic pain is frustrating for clinicians and leaves patients feeling hopeless.

Neuroplasticity research helps explain the complexity of the interaction between mind and body when we experience pain. When our patients understand that they can change their own pain experience, it opens up new ways to treat pain. These patient education tools help our patients understand how they can make changes to improve their lives and ease their pain. This gives us hope that we can partner with our patients to help them with their long term persistent pain.

PAIN AS A BIOPSYCHOSOCIAL EXPERIENCE

We now understand that pain is not based on nociceptive input alone, but is a complex biopsychosocial experience based on an assessment of actual or perceived danger or threat. This is the case with both acute and chronic pain. Yet many patients with chronic pain believe that their pain is only a bodily sensation that is best treated with medications and procedures. Thus they miss the opportunity to focus on the things that they can do themselves to change their pain experience.

NEUROPLASTICITY

“The age-old distinction between the brain and the mind is crumbling fast as the power of positive thinking finally gains scientific credibility.

*The credo of this revolution is neuroplasticity – the discovery that the human brain is as malleable as a lump of wet clay not only in infancy, as scientists have long known, but well into hoary old age.” – NY Times review of *The Brain that Changes Itself* May 29th, 2007*

Definition

Neuroplasticity is the ability of the brain to adapt to changes in an individual’s environment by forming new neural connections over time. Neuroplasticity explains how the human brain is able to adapt, master new skills, store memories and information and even recover after a traumatic brain injury.

We know that pain increases in response to actual or perceived threat. Threat can come from a variety of sources such as injury, memory of previous pain, fears and worries. The longer a person lives with persistent pain, the more brain functions become recruited in the pain experience. This neurological reprocessing, called neuroplasticity, is the way that the brain changes its neural connectivity to learn a new skill, in this case creating a pain sensation. The brain becomes more efficient at producing pain.

COMPLEXITY OF PAIN AND COMORBIDITIES

The role of threat in the pain experience helps us appreciate the close link between pain and other chronic conditions. The many psychosocial contributors include emotional experiences and history, social contributors, and environment.

A person who has suffered emotionally is often wired to detect threat. Pain and suffering can be hard to separate, and the midbrain functions involved in processing suffering, stress, and anxiety, such as the amygdala, thalamus, and hypothalamus, are key parts of most pain processing. Thus, mental health comorbidities are a common aspect of chronic or persistent pain, including depression, anxiety, PTSD and trauma history, and substance use disorder.



It is common for people with chronic pain to have comorbidities that affect pain, such as diabetes, sleep apnea, IBS, poor nutrition, osteoarthritis, or heart disease. Economic and social circumstances may be contributing to their stress and amplifying their pain.

ACTIVE VERSUS PASSIVE INTERVENTIONS

While there can be a role for medication, surgery, injections and other passive interventions, these treatments may be limited in their ability to change complex pain. We can treat complex chronic pain more effectively by taking advantage of the brain's neuroplasticity. When we prioritize active interventions such as a gentle increase in activity, improvements in sleep hygiene, and counseling, we can help our patients to rewire their brain's pain maps.

TEAM BASED CARE

An important aspect of helping your patient to understand pain is the acknowledgment of suffering. For complex chronic pain patients, a team-based approach to pain care, including mental health, physical rehabilitation, peer support, and treatments focused on restoring wellness are key to achieving lasting changes. While many clinics may not have a team readily available, common understanding of pain and communication through electronic charting can help bring together a team of available clinicians to create multidisciplinary care.

SHARED DECISION MAKING

The Understanding Pain video and handout can be used as a shared decision making tool to help your patient identify areas where they are most motivated to make changes. When the patient sets some personal goals, for example for improving their sleep, the clinic team are important allies to help your patient achieve their goals at a pace that is right for them. Starting with sleep helps the patient develop mastery and success and they begin to feel a little better. This strengthens their self-efficacy that they can affect change. When our patients understand the relationship between pain and mood, they are more likely to respond positively when we recommend that they talk with a therapist.

PAIN EDUCATION AS A TREATMENT INTERVENTION

An accurate understanding of pain is critical to pain care, and evidence shows that pain education is an important treatment intervention.

When a person rethinks pain, they change their understanding of their own actions and thoughts. They may learn simple meditation and begin to take short walks while looking at the world around them, allowing their brain to be engaged in something that is meaningful to them and away from the pain.

When practitioners are trained to deliver structured patient education interventions, the reassurance this provides to patients is superior to usual care and can have a positive effect on decreasing pain, disability, catastrophizing, and improving function and quality of life.

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