

Chronic Pain Management for the Chiropractic Physician

Background

Chronic pain statistics

Chronic pain is a major health problem in the United States. A 2016 study states that 1 in 5 American adults had chronic pain in 2016 and 8% had high-impact chronic pain defined as limiting life or work activities on most days or every day during the past 6 months (Dahlhamer et al. 2018).

In some cases, the treatment for pain can be as problematic as the pain itself. According to the Centers for Disease Control and Prevention (CDC) approximately 1 out of 5 patients with non-cancer pain or pain-related diagnoses are prescribed opioids in medical office-settings. Perceived safety and efficacy of opioid painkillers by doctors in conjunction with aggressive marketing by some drug companies has led to the liberal disbursement of drugs such as OxyContin, which had previously been reserved for patients with cancer-related pain. The CDC estimated that nearly 2 million Americans were abusing or addicted to prescription opioid drugs in 2014 alone. Drug overdoses are now the leading cause of injury death in the United States (Mack et al. 2017). An epidemic of opioid abuse is taking place in the United States, resulting in a growing public health crisis.

Now, with the growing awareness of the opioid problem, many patients are seeking alternative treatment options. Pain is a leading reason that many seek complementary and alternative treatments like manual therapies such as: chiropractic, acupuncture, massage, yoga, and meditation (Clarke et al. 2016). In 2017, the usage of chiropractic by US adults aged 18 and over was 10.3% (increased from 9.1% in 2012), usage of yoga was 14.3% (increased from 9.5% in 2012), and usage of meditation was 14.2% (increased from 4.1% in 2012) (Clarke et al. 2018).

Chronic pain definition

Although often used interchangeably, pain and nociception are not the same entity. As defined by the International Association for the Study of Pain (IASP 2011), nociception is simply “the neural process of encoding noxious stimuli,” whereas pain is “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.” This definition of pain appropriately avoids the association of perceived pain

with a stimulus. This is necessary as pain perception may occur when there is no detectable underlying pathophysiological cause. Furthermore, it must be stated that chronic pain and acute pain are distinct phenomena and should be treated as such (Auvenshine 2000; IASP 2011). In the past, chronic pain has been defined simply as pain persisting past the length of time expected for proper healing (IASP 2011). However, this definition is problematic as this length of time may not be universally agreed upon by practitioners, may vary based on pathology, and/or proper healing may not have taken place. It has been therefore proposed by the IASP (2011) to utilize a flexible classification system that can include various lengths of time in which pain persists, including: less than one month, one month to six months, and more than six months, with each being appropriate for various diagnoses. For example, low back pain is generally classified as chronic when it has been continuously present for 3 months or longer.

Neurophysiology of pain and chronic pain

The most widely accepted approach to understanding and treating chronic pain is found in the biopsychosocial approach which views physical illnesses such as pain as the result of the dynamic interaction among physiological, psychological and social interactions, all of which can affect pain experiences and clinical outcomes (Beyers et al. 2016).

This approach begins with an understanding of how pain is processed. The processing of nociceptive information is accomplished via electrochemical reactions that occur along specific nociceptive pathways. These neurobiological events can, but do not always, lead to the conscious experience of pain.

The Four Distinct Neurophysiological Events of Nociception, include:

1. **Transduction-** the process in which information from various forms of noxious stimuli (chemical, thermal and/or mechanical) is transformed into electrochemical energy by sensory nerve endings (nociceptors).

Example: the tissue irritation associated with a deranged intervertebral disc can activate nearby local nociceptors

2. **Transmission-** the process of transmitting electrochemical impulses along afferent axons (myelinated A δ and unmyelinated C fibers) to various nervous system regions.

Example: impulses from these activated nociceptors will be transmitted along axons from their origin to sensory neurons in the spinal cord and then to higher subcortical and cortical regions

3. **Modulation-** the process in which the perception of noxious stimuli can be altered by peripheral or central mechanisms.

Example: if the patient has comorbid central sensitivity it is possible that the transmission of nociceptive impulses can be further facilitated (essentially *amplified*) leading to hyperalgesia and/or allodynia

4. **Perception-** the process in which nociceptive information is interpreted by higher centers of the CNS leading to the conscious experience of pain.

Example: the perception of pain from the deranged disc is the final output of the processing executed by higher cortical regions, which can be modulated by psychological and social factors such as: the patient's emotional state and beliefs held by the patient/patient's family about pain amongst others

Although chronic pain may initially result due to the previously mentioned neurophysiology events, it persists long after the primary nociceptive event has resolved. An exact central mechanism underlying this persistence has yet to be elucidated. Neuroplastic changes resulting in altered functioning of the nervous system have been implicated in some instances of various chronic pain conditions, including chronic low back pain (Moseley & Flor 2012; Wojcikowski et al. 2020). How these neuroplastic changes occur and why they seem to occur in only a subset of the population still remains unclear. For clinical purposes, a distinction should be made between nociceptive pain, neuropathic pain, and central sensitivity. Nijs, et al (2014) created a low back pain guideline for the classification of predominant neuropathic, nociceptive and central sensitization pain with the following definitions:

- **Nociceptive pain** is pain that is purely nociceptive and results cognitively from damaged tissues (ligament, bone, fascia, muscle, tendons and discs) and usually only lasts as long as the injured tissues continue to stimulate nociceptors (mechanically, chemically or thermally).
- **Neuropathic pain** is pain arising from damage *directly* to the nervous tissues (spinal cord, nerve root or peripheral nerves) resulting in myelopathy, radiculopathy/itis or peripheral neuropathies.
- **Central sensitivity** is pain arising from a long-standing amplification of neural signaling within the CNS that elicits pain hypersensitivity (Nijs et al. 2014; Nijs et al. 2015).

Chronic Pain Management for the Chiropractor

Approaching treatment for chronic pain from a biopsychosocial perspective is imperative for positive patient outcomes and should include a multidisciplinary approach for patients that exhibit true central sensitization. Patients that do not exhibit true CS and who have not received treatment for their ongoing pain may respond well to usual care. This management should also include appropriate goals and outcomes for the chronic pain patient such as measuring functional capacity (versus pain levels at routine visits) and promoting more self-directed pain management strategies versus passive care. On the other hand, multidisciplinary pain

management programs (including cognitive behavioral therapy (CBT) and mindfulness practices) are often necessary for complicated cases.

Summary of Intervention Steps

1. Conduct a Thorough Patient Assessment
2. Emphasize Self-Care/Self-Efficacy
3. Provide pain neurophysiology education
4. Provide manual therapy for pain control
5. Recommend nutritional support and botanical for pain control
6. Monitor Progress

1. Conduct a Thorough Patient Assessment

a. Identify any neurological deficits and systemic pathologies first and manage appropriately

Examine the patient for any evidence of neuropathic pain (radicular) or systemic pathologies first and differentiate between predominant nociception and central sensitization (Nijs et al. 2015; O'Sullivan et al. 2018).

b. Once a nonspecific pain condition is identified, conduct a proper biopsychosocial assessment

When evaluating any new patient, it is important to look for any yellow flag behaviors or beliefs (e.g., fear-avoidance, catastrophizing) that might change the clinical approach (re-educate erroneous pain beliefs, incorporate more self-efficacy into home care advice, limit passive modalities, etc.).

Reliable and valid tools to consider: the STarT Back Tool, Orebro Screening Tool, Tampa Scale for Kinesiophobia (TSK), and Fear Avoidance Beliefs Questionnaire (FABQ) Consider using a functional and/or disability outcome measurement tool like Oswestry Disability Index (ODI), Neck Disability Index (NDI), SF-12 General Health Status Questionnaire, (See Appendix).

A thorough biopsychosocial history intake should also occur that includes questions pertaining to expectations, catastrophizing, self-efficacy, emotions, pain management strategies, limitations on activities and social support (Oostendorp et al. 2015).

While interviewing the patient be mindful that words matter. It has been shown that patient perception of the doctor-patient interaction can have positive effects comparable to spinal manipulation on low back pain (Haas 2014). It is also important to consider that attitudes and beliefs about pain held by the practitioner are strongly associated with the

attitudes and beliefs about pain held by the patient (Darlow et al. 2012). These attitudes and beliefs can influence negative patient outcomes by helping instill detrimental pain behaviors such as: pain hypervigilance, pain avoidance, activity restriction and reliance on passive treatments for pain relief. All such behaviors may contribute to the ongoing chronic pain cycle (Bishop et al. 2007; Houben et al. 2005; Linton et al. 2002; Al Zoubi et al. 2019).

There is moderate evidence that practitioners with a biomedical orientation (tissue damage causes pain) or elevated fear avoidance beliefs are more likely to advise patients to limit work and physical activities and are less likely to adhere to treatment guidelines (Darlow et al. 2012). For example, simply seeking care from a physical therapist with such beliefs can contribute to prolonged sick leave and delayed return to work (Reme et al. 2009). Therefore, it is important for the chiropractor to understand and practice from a biopsychosocial perspective with both acute and chronic pain patients.

Clinical Tip: Avoid using phrases like

- “That’s the worst I have ever seen”
- “It looks like bone-on-bone”
- “Your disc is collapsed/busted/blown out/ruined”
- “You will end up having this pain forever”
- “Just learn to live with it”
- “It’s just old age”
- “Your back has gone out”
- “Your x-ray shows a lot of degeneration.”

If a chronic pain patient begins to lament that “it is ridiculous that I can’t do this, I have always been able to do it” try helping them re-phrase the thought into something like “It’s annoying I can’t do things like I used to. I’m working on getting better at it, but I’m not there yet.”

c. Assess for the presence of central sensitivity

Although some degree of central sensitization likely occurs with all chronic pain, not all chronic pain carries the same degree of sensitization. Nijs et al. (2014) for example, proposes one approach to assessing the presence of sensitization is to take into consideration three parameters: 1) whether the symptoms exceed the duration and intensity expected for the precipitating injury; 2) whether there is widespread pain or inappropriate physical exam responses and; 3) the results from a questionnaire screening for hypersensitivity and inappropriate pain behaviors and attitudes.

For example, a patient may have had low back for 6 months or longer due to continuous postural loads or repetitive micro-trauma. If the offending loads are ongoing, then continuous or intermittent pain may be reasonably expected and may not necessarily reflect a significant degree of central sensitization. This is even more likely if the pain

remains local and the patient does not display yellow flags for psychosocial issues or neurological hypersensitivity. This distinction can have important effects on management. For example, a patient with chronic pain and clear clinical evidence of central sensitization and yellow flags may do better with a gradual introduction to physical rehabilitation, with strategies to help them “pace” activities so a flare up is less likely. It is important to encourage these patients to exercise even if they experience more pain, helping them understand that in their case hurt does not equal harm.

Nij's Criteria Identifying Central Sensitivity (2014)

Criterion 1. *This is obligatory to fulfill the classification of CS.* Pain experience is disproportionate to the nature and extent of injury or pathology and is not aggravated or improved by mechanical or movement variables.

Criterion 2. *At least one of the following, partly overlapping, patterns of pain distributions should be present to fulfill the classification of CS.* Neuroanatomical illogical pain patterns including:

- o bilateral mirror pain
- o large areas or widespread pain
- o allodynia and hyperalgesia outside the main nociceptive region
- o non-segmental diffuse areas of palpatory tenderness
- o inconsistent pain response to movement/mechanical challenges.

Criterion 3: *A cutoff score of 40 on the Central Sensitization Inventory (CSI) fulfills this criterion.*

Hypersensitivity of senses unrelated to the musculoskeletal system like hypersensitivity to hot/cold, weather changes, bright lights, sounds, stress, foods chemicals (odors, pesticides, medications). This also includes maladaptive psychological features like pain hypervigilance, pain catastrophizing, fear avoidance, illness beliefs, depression, anxiety and somatization.

d. Assess the degree of CS

Once central sensitization has been identified as a component of the patient's pain experience, the degree of sensitization can be quantified.

The Central Sensitization Inventory (CSI) developed by Mayer et al. in 2012 has been shown to be a statistically valid and clinically useful instrument for quantifying symptom severity of CS, *but it should not be used for diagnostic purposes alone* (Mayer et al. 2012; Nesblett et al. 2017). This tool was published with the purpose of providing a single self-report instrument that identified symptoms associated with central sensitization and the quantified degree of those symptoms.

There are two parts to be measured. Part A consists of 25 statements relating to current health symptoms. Each item is measured using a 5-point Likert scale with Never (0), Rarely (1), Sometimes (2), Often (3), and Always (4). This results in a cumulative score of 100. The higher the score, the higher the likelihood of central sensitization. In a study by Nesblett et al (2017), a clinically significant level of 40 was identified as providing both

good sensitivity and specificity for the presence of central sensitization syndrome. (See appendix for CSI Tool.)

2. Emphasize Self-Care/Self-Efficacy

It is critically important that the “locus of control” move from the provider to the patient by emphasizing self-care and exercise.

Exercise and exercise therapy, regardless of their form (aerobic, movement and stabilization, walking, T'ai Chi, Pilates, yoga and aquatic) (Nijs et al. 2015), are recommended in the management of patients with chronic pain as are mind body medicine skills like meditation and visualization (Cosio & Swaroop 2016; Garland et al. 2019).

To improve adherence, the practitioner should supervise exercise sessions, individualize exercises when in a group setting, add supplementary material (audiovisual recordings) and provision both group and home exercise programs (Scottish Intercollegiate Guideline Network 2013). In patients exhibiting nervous system hypersensitivity (central sensitization) it is important to take a graded activity approach so exercise will not be a factor in increasing pain.

Additionally, it has been demonstrated that some patients with various forms of chronic pain including chronic low back pain and complex regional pain syndrome display a rearrangement of the primary somatosensory cortex resulting in an atypical cortical representation of the area(s) of pain (Flor, 2003; Gustin et al. 2012; Maihöfner et al. 2013) that is often associated with increased pain perception of those areas (Moseley & Flor 2012). Referral to a practitioner (usually a physical therapist or chiropractor) who can provide graded motor imagery (GMI) may be appropriate. GMI is a technique that involves gradual activation of the motor system and associated cortical regions without causing perceived pain, has been shown to be effective in pain reduction and reversal of adverse cortical reorganization in chronic pain patients (Bowering et al. 2013).

3. Pain neurophysiology education

Pain neurophysiology education (PNE) varies greatly from biomedical education. PNE helps patients understand the complex process involved in the experience of pain by explaining the role of the nervous system. Biomedical explanations of pain focus strongly on pain resulting from tissue injury and damage. In one small study by Van Oosterwijck et al. (2013) PNE was shown to improve health status and endogenous pain inhibition long term (+3 months). The efficacy of PNE in adults with chronic low back pain to improve understanding of their condition as well as coping and functional abilities was supported by a study conducted by King and colleagues (2018).

Resources such as the “Explain Pain” book (Butler and Moseley 2003) or “Why I hurt” flashcards/workbook (Louw et al. 2016) that contain both in office and home activities for therapist and patient to complete over a series of visits has shown promising results for improving primary outcome measures of pain, physical, psychological and social functioning (Clarke et al. 2011; Louw et al. 2011).

Key messages/metaphors to use with chronic pain patients in neurophysiology education and management:

“your hurts won’t harm you”

“hurt doesn’t equal harm”

“pain doesn’t equal tissue damage”

“motion is lotion”

“I am sore but I am safe”

“pain is a defender, not an offender”

“ships are safest in the harbor, but that’s not what they are designed for”

“no freaking out over flare-ups”

This messaging is patient centered and will help patients reconceptualize their pain experiences.

4. Provide manual therapy and exercise for pain control

Manual therapy can be effective for short term pain relief for chronic low back pain and when combined with exercise for chronic neck pain (Scottish Intercollegiate Guideline Network 2013). Furthermore, according to the Global Spine Care Initiative (GSCI) Care Pathway for people with spine-related concerns (Haldeman et al. 2018), non-invasive interventions such as manual therapy (e.g. manipulation, mobilization, and massage) and therapeutic exercise should be utilized first for the treatment of back pain. This is in line with the clinical guideline developed by the American College of Physicians (Qaseem et al. 2017) that strongly recommends that clinicians should initially select nonpharmacologic treatments for patients with chronic low back pain, including: exercise, motor control exercise, and spinal manipulation.

In 2014 Vavrek et al provided evidence that a dose of 12 spinal manipulative therapy sessions yielded a modest benefit in pain-free and disability-free days. Furthermore, care of chronic low back pain with spinal manipulative therapy did not increase the costs of treatment plus lost productivity.

It is important to evaluate for any pain-related functional behaviors that are maladaptive, unhelpful, and/or provocative. Such behaviors are motor responses to pain, the threat of pain and/or pain-related distress. These behaviors are characterized by stiffer, slower, less variable, and guarded movements, higher levels of trunk muscle activity, and the inability to relax the back muscles during movements such as forward bending. Once these patterns

are identified the practitioner should work to gradually help the patient become self-aware about their internal state and slowly help them relax guarded muscles, engage in relaxed diaphragmatic breathing, and motor control during fearful movements (O’Sullivan et al. 2018).

Additionally, following pain neuroscience education, patients with chronic musculoskeletal pain and central sensitization may begin cognition-targeted exercise training. Cognition-targeted exercise training involves first training the patient to reconceptualize pain during movement and exercise as non-threatening and then allowing them to perform actions and movements previously-associated with the fear of pain (Nijs et al. 2015). Various soft therapies may also be appropriate to target muscle spasm and myofascial trigger points as well and are recommended by the American College of Physicians (Qaseem et al. 2017) and the Scottish Intercollegiate Guideline Network (2013).

Note: Practitioners must be particularly cautious that these patients do not become overly dependent on passive care.

5. Recommend nutritional support and botanicals for pain control

When approaching the patient experiencing pain, botanical (herbal) medicine and nutraceutical supplementation offer a variety of treatment options. Despite the large number of available drugs, there are no curative conventional treatments for neuropathic pain and more attention has been focused on the herbal formulation in the field of drug discovery (Forouzanfar & Hosseinzadeh 2018). Identifying the pain type(s)—chiefly neuropathic or nociceptive type pain—that the patient may be experiencing is the first step in selecting an ideal therapy or combination of therapies, as the therapeutic approach will differ depending on the physiological pain generating mechanisms.

Herbal and nutraceutical strategies are similar to pharmacotherapy strategies, and mirror common pharmaceutical targets for pain mitigation and control. Identification of the pain type will help to understand and approach the various “in roads” or biochemical and immune-based mechanisms that are associated with neuropathic and nociceptive pain patterns. It is through these mechanisms that most botanical and nutraceutical approaches attempt to manipulate, block, or otherwise alter the associated inflammation and nervous system-based triggers that may be causative in pain generation and experience.

The chart below details out the majority of the known mechanisms (biochemical, inflammatory, immune mediated, neuromodulatory, etc.) that are thought to be causative in nociceptive and neuropathic pain. The mechanisms that lead to central sensitivity are much more elusive, and as such, nutritional supplemental and herbal therapies that directly impact the sensitization of pain are few and far between. Nutraceutical and botanical based pain therapies are often organized either by mechanism of action (anti-inflammatory, neuromodulatory, etc.) or by pain condition that they have been shown effective for (rheumatoid arthritis, fibromyalgia, peripheral neuropathy, etc.). Identifying specific clinical

outcomes is paramount when initiating any new botanical or nutraceutical-based therapy, to assess efficacy of selected therapy. Outcomes that are defined by the patient (pain level, sleep quality, etc.) as well as commonly accepted and standardized pain scales are of benefit.

Recommended Nutritional Supplements/Botanical Medicines Based on Pain Category

Pain type and Therapeutic Goal	Biochemical/Physiological Targets/Mechanisms to Modulate	Examples of Nutritional Supplements or Botanical Medicines	Search terms to utilize when identifying key treatment strategy for patient.
<u>Nociceptive</u> Goal: Modulation of Inflammation and Immune Response Condition Examples: • Muscle Sprain • Rheumatoid Arthritis	• Prostaglandin pathway • COX 1 and 2 enzyme regulation • Cytokine and Chemokine release and receptor interaction • Microglia • Opioid Receptor Agonism • Mast Cell Degranulation (histamine release) • Oxidative processes and generation of ROS	• Curcumin • DHA/EPA Oils • Bromelain	Anti-nociceptive Anti-inflammatory Anti-hyperalgesic Macrophage stimulation Microglial interaction/stimulation/activation Opiate agonist Anti-Histamine Antioxidant Pro-inflammatory enzyme inhibitors
<u>Neuropathic</u> Goal: Modulation of Neurotransmission and Action Potential Generation Condition Examples: • Peripheral Neuropathy • Entrapment Neuropathy	• GABA • Glycine • Serotonin • Dopamine • Action Potential Generation • Ca²⁺ Channel • NMDA channel (stimulation) • Glutamate • Myelin support • Oxidative processes and generation of ROS • Mitochondria Dysfunction	• Ginkgo • St Johns wort • Quercetin • Alpha Lipoic Acid • Acetyl-L-Carnitine • B Vitamin Spectrum • Capsaicin	Neuromodulation Analgesic Antinociceptive Antioxidant Anti-spasmodic or spasmolytic Neuroprotective (NGF) Peripheral sensitization Hyper-excitability (central sensitization) Hyperalgesia Allodynia
(COX: cyclooxygenase enzyme; ROS: reactive oxygen species; NGF: nerve growth factor)			

Table References: Boyd et al. 2019; Chrubasik et al. 2010; Fillingim et al. 2016; Forouzanfar & Hosseinzadeh 2018; Rowin 2019; Sing et al. 2018; Wu et al. 2019

- Botanical/Herbal and Nutritional Supplements may have the biggest direct and biochemical impact on **TRANSDUCTION and/or TRANSMISSION** parts of the pain cascade.

- Lifestyle choices (exercise, dietary choices, mindfulness-based stress reduction type activities, meditation, yoga) may have the biggest impact on **MODULATION** (as well as TRANSDUCTION and TRANSMISSION).

Recommended Dosage of Nutritional Supplements/Botanical Medicines

The following chart is an example of some of the most commonly prescribed supplements for pain management. This chart is not all inclusive, and the dosage windows are broad, as there are literally hundreds of studies that investigate the use of supplemental or botanical interventions for a huge variety of pain conditions. The purpose of this chart is to display common interventions, while the chart above is intended to help the clinician understand a more mechanism-of-action base approach to treating nociceptive and neuropathic pain conditions with natural therapeutics.

Supplement or Botanical	Recommended Treatment/Dosage Range-As Supported by Research
Magnesium	300-900 mg/mg/day Forms: Mag Aspartate, Mag Citrate
Curcumin	100-500 mg daily TID Take in combination with piperine for best absorption
Fish Oil (EPA/DHA)	1,000-3,000 mg from EPA and DHA
Capsaicin Topical	0.025%-0.075% cream or ointment
Boswellia	300-500 mg BID or TID

References to verify dosage recommendations and MOA:

- Memorial Sloan Kettering Cancer Center: Integrative Medicine (www.mskcc.org)
- RxList (www.rxlist.com/)
- NIH Office of Dietary Supplements (<https://ods.od.nih.gov/>)
- OSU Linus Pauling Institute (<https://lpi.oregonstate.edu/>)

6. Monitor Progress

a. Monitor & Measure Function

On routine visits the provider should emphasize functional improvement as opposed to pain improvement. It may be appropriate on many visits to only measure effects on ADLs and not perform a pain measure at all. Re-administer any previous screening tool to monitor patient progress in function, attitudes and beliefs surrounding pain.

Clinical Tip: Use the Patient Specific Functional Scale (PSFS) to focus the importance of treatment on function rather than pain. (See CSPE protocol) During the first visit have the patient identify up to 3 activities they are having difficulty performing or are unable to do since their problem began. Use this same scale at subsequent visits to monitor progress and as a consequence teach patients that function is more important than pain. This helps the chronic pain patient start to focus on functional improvement in the face of having pain experiences.

b. Monitor & Measure Unpleasantness

The unpleasantness of pain represents a different dimension of the pain experience. This is captured by the “unpleasantness” question. Like the traditional oral pain scale, the patient is asked to rate the degree of unpleasantness they are feeling from 0-10, with 0 being “no unpleasantness” and 10 being the “worst unpleasantness imaginable.” Note that the unpleasantness rating may improve before the pain intensity rating does.

c. Use a Triple Pain Scale, Emphasizing Least Pain

In the case of chronic pain, one option is to record the “least pain” along with current and average pain. For least pain, an MCID of 2 is suggested.

Appendix A

Chronic Pain Protocol Summary

Central Sensitization

Nij's Criteria Identifying Central Sensitivity

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Criterion 3: *A cutoff score of 40 on the Central Sensitization Inventory (CSI) fulfills this criterion. Hypersensitivity of senses unrelated to the musculoskeletal system like hypersensitivity to hot/cold, weather changes, bright lights, sounds, stress, foods chemicals (odors, pesticides, medications). This also includes maladaptive psychological features like pain hypervigilance, pain catastrophizing, fear avoidance, illness beliefs, depression, anxiety and somatization.*

Chronic Pain Protocol Summary

Chronic primary pain represents chronic pain as a disease in itself.

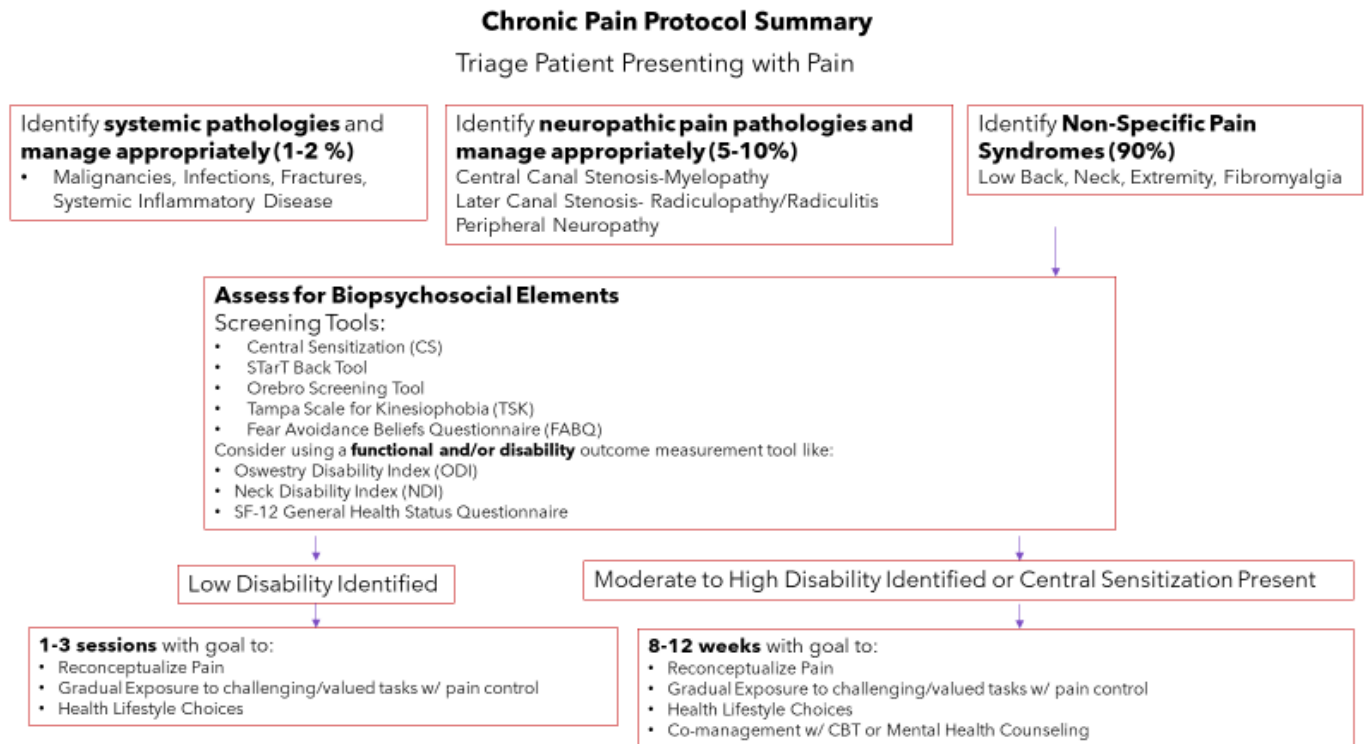
Chronic primary pain is characterized by disability or emotional distress and not better accounted for by another diagnosis of chronic pain. Here, you will find chronic widespread pain, chronic musculoskeletal pain previously termed "non-specific" as well as the primary headaches and conditions such as chronic pelvic pain and irritable bowel syndrome.

Chronic secondary pain is chronic pain where the pain is a symptom of an underlying condition.

From IASP: Chronic secondary pain is organized into the following six categories:

- 1) **Chronic cancer-related pain** is chronic pain that is due to cancer or its treatment, such as chemotherapy. It will be represented in the ICD for the first time.
- 2) **Chronic postsurgical or post-traumatic pain** is chronic pain that develops or increases in intensity after a tissue trauma (surgical or accidental) and persists beyond three months. It is also part of the ICD for the first time.
- 3) **Chronic neuropathic pain** is chronic pain caused by a lesion or disease of the somatosensory nervous system. Peripheral and central neuropathic pain are classified here. These diagnoses are also newly represented in the ICD.
- 4) **Chronic secondary headache or orofacial pain** contains the chronic forms of symptomatic headaches (those termed primary headaches in the ICHD-3 are part of chronic primary pain) and follows closely the ICHD-3 classification. Chronic secondary orofacial pain, such as chronic dental pain, supplements this section.
- 5) **Chronic secondary visceral pain** is chronic pain secondary to an underlying condition originating from internal organs of the head or neck region or of the thoracic, abdominal or pelvic regions. It can be caused by persistent inflammation, vascular mechanisms or mechanical factors.
- 6) **Chronic secondary musculoskeletal pain** is chronic pain in bones, joint and tendons arising from an underlying disease classified elsewhere. It can be due to persistent inflammation, associated with structural changes or caused by altered biomechanical function due to diseases of the nervous system.

Example



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