

Disclosure

- Conflict of Interest Declaration: Nothing to Disclose
- **Speaker: Dr. Hadi Shojaei**
- **Relationships with commercial interests:**
 - I have no financial or personal relationship related to this presentation to disclose



Presenter: Dr. Hadi Shojaei, PMR

Title of Presentation:

Pearls in Management of Chronic Pain Syndrome

**I have no financial or personal
relationship related to this presentation
to disclose.**

Learning objectives:

- 1- Medications - such as opioids in chronic pain patients and people with addiction issues;
- 2- Management of patient expectations;
- 3- Identify non-pharmacological and interdisciplinary comprehensive pain management.

Welcome to Pain Cruise

We are going to
change our
amazing cruise,
LOOK AT THIS!



Generally, chronic pain is
a multiplicity of heterogeneous and overlapping pain
conditions together with influences from psychosocial
and environmental factors.

Chronic Pain

Multiplicity of heterogeneous and overlapping pain conditions together with influences from psychosocial and environmental factors.



What treatment for our Case ?

Depression/Anxiety

Myofacial pain treatment

Physical therapy/ Aquatherapy

Surgery

Interventional pain management

Opioid

Psychotherapy

Medication?

1-She immediately felt headaches- Concussion clinic? Headaches treatments?

2-Approach to neck, lower back pain and left leg numbness?

3-She had nightmares and flash backs from the accident and did not drive for 9 months after the accident.

She has not seen a psychiatrist.

Pain Stages of Change Questionnaire, very high at the pre-contemplative stage.

GAD-7 score was 10 (indicating mild-moderate anxiety)

PHQ-9 was 19 (indicating moderately severe depression),

IEQ was 36 (high levels of perceived injustice).

4- On sensory examination, she reported decreased perception to light touch, pinprick, cold, and vibration across the right side of her body including her face (She stated that she had numbness across the left side of her body until 4 months ago).

Approach to NDSD?

DDX,
Impression,
Plan:

Large areas of non-dermatomal sensory deficit in her right side including her face are indicative that her pain syndrome is 'centralized'. The term has been coined to indicate that these patients develop maladaptive neuroplasticity and changes in brain pattern activations based on several previous studies with functional imaging.

While there is no specific treatment for these conditions, based on experience with other patients, we decided to prescribe Lyrica 25 mg qhs with instruction to increase by 25 mg every 3 days up to 75 mg qhs and 25 mg qam.

Follow ups:

1- Little improvement, recommendations: she tries to find warm therapeutic pool close to her and increases Lyrica gradually to 200 mg in 3 divided doses. If ineffective, it should be tapered and discontinued.

2-Since her last visit, she increased Lyrica to 150mg tid, however her pain has remained unchanged. She also complained of very interrupted sleep. she saw Dr. X, last week who prescribed CipraleX 20mg od, Lithium 30 mg od, and Seroquel 150 mg od. I recommended that she decrease Lyrica by 25 mg every 3 days and stop it. In addition, I recommended mindfulness pain management program in our clinic.

3- She has discontinued Lyrica which did not work anyway. She came with a long list of complaints: Immense forgetfulness (including burning the food repeatedly); Insomnia; severe fatigue; dropping things with the right hand; tripping due to weakness of the right leg; and significant right sided headaches. She stated she can "pinch or prick" the right side of her scalp and she does not feel it. She recalls clearly that this serious numbness was in the left side of the body up to few months ago, when it switched to the right. Her family and friends complain she socializes a lot less and looks very unhappy. I received a list of medications as of the MVA time. She has been and continues to be on lithium, cipraleX, quietapine and wellbutrin. She was on medications before the MVA, but she said much less.

Follow ups:

4- She is a textbook case of NDS (Non Dermatomal Somatosensory Deficit) well described in multiple publications. As a matter of fact, such patients a) do not activate normal pain brain areas; b) deactivate unusually other brain areas and c) have novel activations (for example anterior cingulate gyrus), which normal people don't do. In summary, they "block" certain parts of their brain (thalamus, S1 etc). These NDSs are always associated with emotional vulnerability, depression, PTSD, and certain personality profiles.

In my large experience, treatment and results vary.

In her case, the first thing I question regarding her forgetfulness is the amount of psychotropics she is on. Patients like her don't get better with conventional drug approaches.

Secondly, I need to know what she was on before the MVA. I would appreciate if X sends me a detailed list of drugs and doses.

Thirdly, some of these patients respond much better to Mindfulness based chronic pain management and CBT. We offer these treatments here, but a) need to be funded externally by the car insurance, and b) we must be collaborating with her psychiatrist to reduce her medication load.

Follow ups:

5- She continues with the same complaints. In particular the numbness, pins and needles sensation coupled with pain bothers her profoundly, particularly in the right side of the head and her hand.

I have received only her shoulder MRI (some question of labral tear was raised but clearly this is no way explains her symptoms).

I received the list of all her medications before and after the car accident.

Her NDSD is dense associated with significant psychological comorbidity and pain. It carries very poor prognosis for returning to previous state of health based on the published research.

???There is nothing I can offer her. Some of these NDSDs respond to combination of manual therapy/ exercise rehabilitation/ Mindfulness and CBT, but not all. Even under the best treatments many of these remain unchanged.

Any other thoughts???

- **Previous treatments**
(A Pearl)

Which one made
her pain worse?

- Medications
- Physiotherapy
- Chiropractic
- Osteopathy
- Acupuncture
- Massage Therapy
- Occupational therapy
- Interventions
- etc

- PSCQ

Pain stages of Change
Questionnaire

A: Pre-Contemplative

B: Contemplative

C: Action

D: Maintenance



IEQ

Name: _____ Age: _____ Gender: _____ Date: _____

When injuries happen, they can have profound effects on our lives. This scale was designed to assess how your injury has affected your life.

Listed below are twelve statements describing different thoughts and feelings that you may experience when you think about your injury. Using the following scale, please indicate how frequently you experience these thoughts and feelings when you think about your injury.

0 – never **1** – rarely **2** – sometimes **3** – often **4** – all the time

1 Most people don't understand how severe my condition is.

2 My life will never be the same.

3 I am suffering because of someone else's negligence.

4 No one should have to live this way.

5 I just want to have my life back.

6 I feel that this has affected me in a permanent way.

7 It all seems so unfair.

8 I worry that my condition is not being taken seriously.

9 Nothing will ever make up for all that I have gone through.

10 I feel as if I have been robbed of something very precious.

11 I am troubled by fears that I may never achieve my dreams.

12 I can't believe this has happened to me.

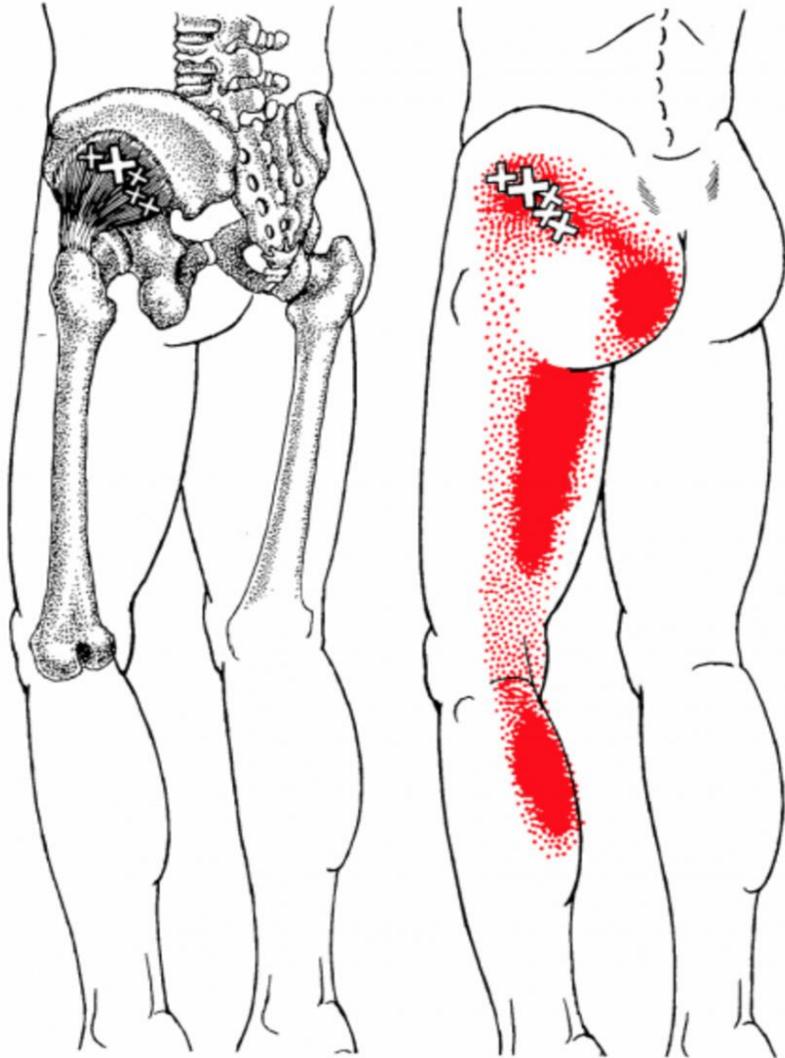
...Total

• IEQ

PTSD

Non-pharmacological strategy to
get people off of pain meds

Gluteus Minimius Trigger Point Diagram



Symptom Area:
Hip, Thigh & Knee

Primary Symptoms

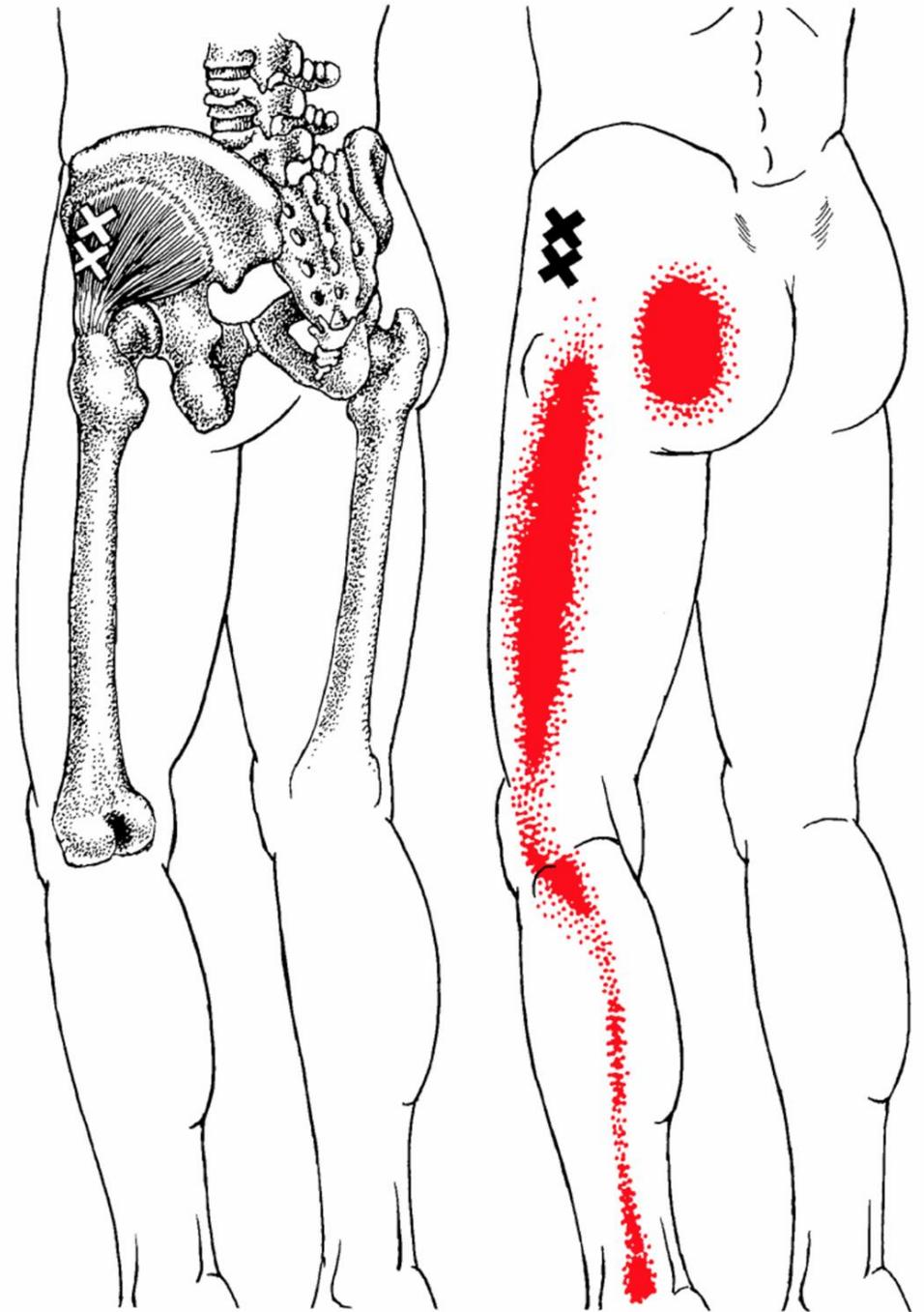
Buttock Pain
Lateral Thigh & Hip Pain
Posterior Leg (Calf) Pain
Posterior Thigh Pain
Sciatica

Secondary Symptoms

Lateral Leg Pain

[Gluteus Minimius \(Wikipedia\)](#)

The X's represent the Trigger Points.
X's. The red shaded area is the referral
red means more people experienced



Multidisciplinary Approach

- Psychology (Mindfulness Pain Mgn, CBT, ACT, DBT,...)
- Physical therapy (physiotherapist, Kinesiologist, occupational therapist, massage therapist, chiropractor, ...)
- Nutritionist
- 3M or 3P: Medication, Mind, Movement
- Crown Module: knowledge, technique, subconscious, sleep, exercise)

Crown Model

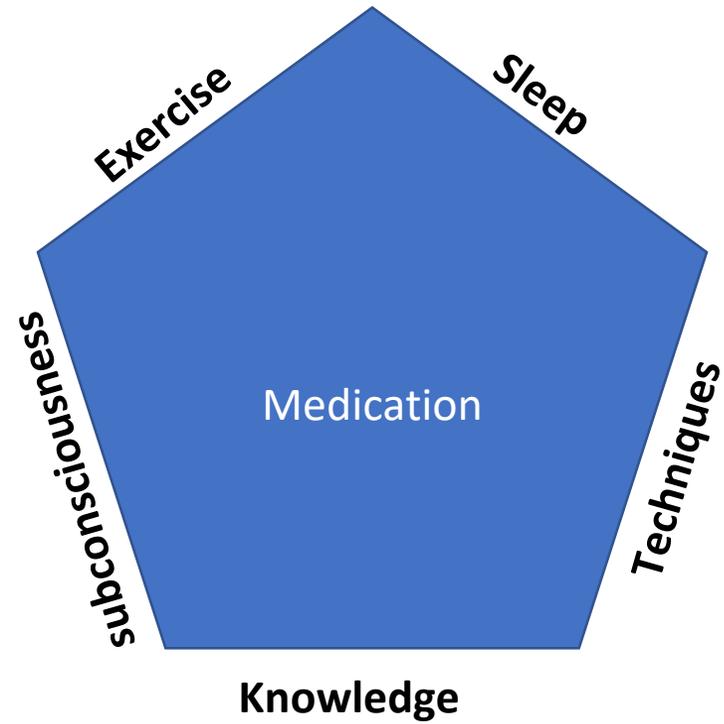


Table 42-6 Classification of Pain Treatment Centers

	Multidisciplinary Pain Center	Multidisciplinary Pain Clinic	Pain Clinic	Modality-Oriented Clinic
Comprehensive assessment and management	Yes	Yes	Yes	No
Physicians	Multispecialty	Multispecialty	Single specialty	Single specialty
Psychologists	Yes	Yes	Variable	No
Other health care professionals	Physical, occupational, recreation therapists; nurses; biofeedback, relaxation specialists; movement-based therapy practitioners; vocational counselors; other specialists	Physical, occupational, recreation therapists; nurses; biofeedback, relaxation specialists; movement-based therapy practitioners; vocational counselors; other specialists	Variable	No
Therapeutic modalities	Multiple	Multiple	Variable	Focused
Affiliation	Major health science institutions	Variable	Variable	Variable
Research and educational activity	Yes	Variable, not typical	Variable, not typical	Variable, not typical
General or specific focus of care	Comprehensive, acute and chronic pain	Comprehensive, chronic pain	Specific, chronic pain (i.e., regional focus such as headaches)	Specific, acute and chronic pain (i.e., nerve block clinics)

Nonpharmacologic

- Nonpharmacologic treatments of CNCP are even more important in the elderly than in the general adult population

Anger

Ongoing failure to achieve pain relief and repeated unsuccessful attempts to escape pain have been shown to be associated with increased levels of anger and physiologic responses to pain, independent of pain intensity. In a study of patients presenting for chronic pain management, Okifuji et al. reported 70% of participants with angry feelings, most commonly with themselves (74%) and health care professionals (62%). In this study, anger toward oneself was associated with pain and depression, whereas “only anger” was related to perceived disability.

Braddom, PhysMedRehab textbook, Edition, Chapter 42: Chronic Pain, Page 944

Anxiety

In chronic pain, it has been found to be a significant predictor of pain severity, disability, and pain behaviors

Anxiety related to pain is an important factor involved in maladaptive responses, behavioral interference, and affective distress.

Cognitive Factors

Many patients with chronic pain demonstrate a reduction in goal-directed activities and assume a more passive sedentary lifestyle. This further contributes to a downward spiral of inactivity, deconditioning, and increased somatic focus. Patients who frequently have excessively negative thoughts about themselves, others, and the future are more likely to experience high levels of depression, low levels of activity, and increased tension. Pain beliefs (pain-related fear and self-efficacy), anger, and passive coping are important affective factors, which can significantly affect pain response, behavior, and function.

The traditional biomedical model fails because it focuses on the identification and treatment of a specific anatomic pain generator without accounting for the psychologic determinants involved in the pain experience. The treatment goals of chronic pain management encompass the acceptance and reduction of pain, maximal restoration of functional mobility, restoration of sleep, improvement in mood, return to leisure activity, and return to work

Depression

A strong association between chronic pain and depression has been suggested

Somatic symptoms of major depressive disorder can also be common in patients with chronic pain (i.e., change in appetite, change in weight, loss of energy, and sleep disturbance).

The incidence of depression among chronic pain patients can be higher than with other chronic medical conditions.

In general, most systematic reviews on the relationship between pain and depression suggest that chronic pain precedes depression

Braddom, PhysMedRehab textbook, Edition, Chapter 42: Chronic Pain, Page 944

Cognitive-Behavior Therapy

In CBT, patients are taught to identify the impact of thoughts on emotions, and to modify thoughts to achieve relief from emotional distress.

Introduced by Ellis and developed by Beck and others. CBT is based on well-replicated research showing that the emotions of individuals are driven more by how they perceive the event than by the event itself. It is also based on the recognition that persons who are depressed, anxious, angry, or hopeless often distort their thinking in ways that create or intensify the emotional upset. With this intervention, patients learn to identify exaggerated or frankly erroneous notions and to replace them with thoughts that are both more realistic and less upsetting.

Rehabilitation psychologists play a critical role in the care of persons with chronic pain by identifying and treating the multiple psychological factors that determine the level of pain-related disability.

Rehabilitation psychologists, aware of social learning theory as it relates to chronic pain can help the patient, family, and treatment team recognize how unintended reinforcement of pain behaviors can thwart efforts to reduce patients' pain behaviors.

Braddom, PhysMedRehab textbook, 4th Edition, Chapter 1, Page 86

Myofascial release Technique (ART) is frequently used to treat chronic pain and restore normal range of motion. This technique is founded on the premise that the body is encased in connective tissue (i.e., fascia). Fascia is the ground substance that interconnects all bones, muscles, nerves, and other internal organs and tissue. Because of the interconnections, injury in one area of t

Braddom, PhysMedRehab textbook, 4th Edition, Chapter 19, Page 443

Massage Therapy

There are recommendations suggesting that massage therapy might be useful as an adjunct treatment or possible alternative treatment.

Aquatherapy

Exercise Therapy

Multiple high-quality studies have found, however, that exercise results in positive outcomes in the treatment of CP. It appears that the most effective exercise includes an individualized regimen learned and performed under supervision that includes stretching and strengthening.⁸⁷ This is not surprising because it is generally believed that the purpose of exercises is to strengthen and increase endurance of muscles and improve flexibility in areas where this is lacking. This is combined with motor retraining to establish normal patterns of muscle activity, and treatment of deficits of the kinetic chain that interfere with biomechanical efficiency.

Multidisciplinary Pain Treatment Program.

Strong evidence exists that a multidisciplinary program with a goal of functional restoration is helpful for severe chronic pain.

Pilates

- The Pilates method was developed by Joseph Pilates in the early 1920s as a training process that uses specially designed resistance training equipment to perform ordered exercise sequences that focus on core strengthening, power, concentration, breathing, and kinesthetic awareness. Although the method has traditionally been practiced by ballet dancers, it has now progressed to the mainstream world of fitness. A scant body of literature supports its role in the treatment of chronic pain syndromes, and its use is experiential. Improvements in strength and flexibility, as well as static and dynamic posture in selected populations, have been reported
- Ives JC, Sosnoff J: Beyond the mind–body exercise hype, *Phys Sports Med* 28:67-81, 2000.

Medications

- NSAIDS
- Acetaminophen
- **Gabapentinoids**
- SSRI
- SNRI
- TCA
- Opioids
- Suboxone
- Cannabinoid
- Topical / compounding

Neuro-transmitter:	ACh Acetylcholine	NE Norepinephrine	DA Dopamine	5-HT Serotonin	Glu Glutamate	GABA	Opioids	Cannabinoids	Histamine
Effects:	↓Heart rate ↑Secretions (sweat, saliva) ↑Memory ↑Muscle contractions	↑Heart rate ↑Alertness ↑Happiness ↓Blood circulation ↓Pain	↑Alertness ↑Happiness ↓Hunger	↑Happiness ↑Fullness ↓Pain	The most common excitatory neurotransmitter	↑Sleepiness ↓Anxiety ↓Alertness ↓Memory ↓Muscle tension	↑Sleepiness ↓Anxiety ↓Pain	↑Hunger	↑Wakefulness ↑Stomach acid ↑Itchiness ↓Hunger
Drugs that increase or mimic:	Nicotine, muscarine, Chantix, nerve gases (VX, Sarin), Alzheimer's drugs (Aricept, Exelon), physostigmine, Tensilon, pilocarpine	Amphetamine, cocaine, SNRIs (Effexor, Cymbalta), tricyclic antidepressants, MAOIs, Wellbutrin, LSD, pseudoephedrine (Sudafed), albuterol, pyridostigmine	Amphetamine, cocaine, Parkinson's drugs (levodopa, bromocriptine, bentropine), MAOIs, Wellbutrin, LSD	Amphetamine, cocaine, LSD, psychedelics (mushrooms, mescaline), SSRIs (Prozac, Zoloft), tricyclic antidepressants, MAOIs, BuSpar, triptans (sumatriptan, for migraines)	D-cycloserine, domoic acid (shellfish)	Alcohol, barbiturates (phenobarbital), benzodiazepines (Valium), GHB, baclofen, neurosteroids (alphaxolone), muscimol	Morphine, heroin, fentanyl, hydrocodone (Vicodin)	THC (marijuana, hashish), nabilone	Opiates, betahistine
Drugs that decrease or block:	BZ, atropine, scopolamine, bentropine, biperiden, curare, Botox, mecamylamine, α-bungarotoxin	Propranolol, clonidine, phenolamine, reserpine, AMPT	Antipsychotics (Haldol), reserpine, tetrabenazine, AMPT	Atypical antipsychotics (Risperdal, Seroquel), Zofran, reserpine, TPH inhibitors, tryptophan-depleted drink	PCP, ketamine, Namenda (for Alzheimer's), dextromethorphan (Robitussin), dizocilpine	Flumazenil, bicuculline, bemegrade, Ro 15- 4513, phaclofen	Naloxone, naltrexone	Rimonabant	Benadryl, antipsychotics, Tagamet, Zantac

Disclaimer: Do not use drugs for fun. Take drugs exactly as prescribed by a trustworthy doctor. This chart provides a rough overview, it is an oversimplification, it has omissions, and it may have blatant inaccuracies due to ongoing scientific debate or the writer's idiocy.

**Thank you
for
your
attention!**

