Chronic pain.... another disability

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Disclosures

- None to declare

What we will cover today

- Definition
- Prevalence
- Aetiology
- Pathophysiology
- Evaluation
- Treatment
- Disability and Chronic pain

Chronic pain

- Pain:-
  - Ongoing
  - Recurrent pain
  - Lasting beyond the predicted course of acute illness/ injury healing
  - > 3 to 6 months
  - Affects well-being

- Pain that continues when it should not.

Pain Terms used..

- **Continuous pain: -**
  - pain that is typically present for approximately half the day or more.
- **Flare-up/”break-through” pain** :-
  - Transient increase in pain in someone who has a controlled level of baseline pain.

Prevalence

- ~50 million American
- ~20% of the population (Europe)
- Adults older than 18 years of age, 18.9% (Canada)
- ~20% of adults suffer from pain globally (worldwide)
- 10% are newly diagnosed with chronic pain each year.
- Median time of exposure is 7 years

Prevalence

- ~50% of chronic pain patients reported suffering >10y.
- ~33% of chronic pain patients rated the intensity (very severe).
- The lower back = the most common site of chronic pain
- Arthritis = most frequently named cause.

Prevalence in Paediatric population

- ~20 to 40 percent of children and adolescents (worldwide)
- Common chronic pain conditions :-
  - Musculoskeletal pain
  - Headaches
  - Abdominal pain.
- Children can experience psychological pain

Causes and classification of pain

- According to pathophysiology
  - Neuropathic pain (central or peripheral);
  - Nociceptive pain (somatic or visceral)
  - Mixed pain (nociceptive and neuropathic components);
- Other
  - Medical conditions that cause pain
- There may be more than one cause of pain

Pathophysiology (brief)

- Progression from acute to chronic pain is common
- > 40 percent of people present to primary care for pain continue to experience pain a year later
- Chronic pain results from damage:-
  - Nociceptive (due to ongoing tissue injury)
  - Neuropathic (pathology in the brain, spinal cord, or peripheral nerves)
  - Mixture of these.

Pathophysiology (brief)

- Hereditary and environmental(smoking,alcohol) factors contribute to sensitization.
- Nociceptors become chronically sensitized, from previous injury or ongoing disease.
- Abnormal state & function of the spinal cord neurons
  - hyperactivity.

Pathophysiology (brief)

- Hyperactivity :-
  - Increased transmitter release by spontaneously active primary afferent neurons **(input)**
  - Increased responsiveness of postsynaptic receptors **(output)**
  - Increased dorsal horn synaptic transmission caused by release of biologically active factors from activated glia
  - loss of inhibitory interneurons involved in the modulation of pain.

Central Pain Syndrome

- Neurological condition affects the central nervous system (CNS)
- Associated with strokes, multiple sclerosis, Parkinson's disease, CNS tumors, brain injuries, or spinal cord injuries.
- Develops months or years after injury or damage to the CNS.
- This also includes conditions such as chronic headaches, fibromyalgia, and Complex Regional Pain Syndrome (CRPS).

Evaluation of pain

- Diagnosis of underlying conditions
- Patients often do not report pain – religion, finance, fear and culture
- Routine need to enquire if patients are suffering pain (5^{th} vital sign)
- Patients' pain often **underestimated** and **under treated** a patients' pain
- The need for frequent re-assessment

Treatment

- The goal of treatment is to improve function whilst reducing pain
- Goal of chronic pain treatment evolves from eliminating pain to managing pain
  - Restoration of physical and emotional functioning
  - Quality of life improved.

Treatment

- Multifaceted
  - Pharmacologic
  - Non-pharmacologic
- Goals of treatment: cure, life adjustment?

Pharmacological treatment strategy

- Non-pharmacologic & non-opioid pharmacologic therapy are preferred for chronic pain
- Establish realistic treatment goals for pain and function
- Patients should know risks and benefits of opioid therapy

Pharmacological treatment strategy

- To start opioid therapy one should prescribe immediate-release opioids instead of extended-release/long-acting (ER/LA) opioids (titration)
- When opioids are started, one should prescribe the lowest effective dosage.
- For acute pain, one should prescribe
  - The lowest effective dose of immediate-release opioids
  - Should prescribe no greater quantity than needed for the expected duration of pain severe enough to require opioids.
  - Three days or less will often be sufficient; more than 7 days will rarely be needed.

Pharmacological treatment strategy

- One should evaluate benefits and harms with patients within 1–4 weeks of starting opioid therapy or of dose escalation
- One should avoid prescribing opioid pain medication and benzodiazepines concurrently, if possible.
- Consider the emergent use of naloxone especially with higher doses of opioids.

Medications

- Four major types of medications used in the treatment of chronic pain:
  1. **Non-opioids**: Acetaminophen, NSAID's.
  2. **Opioids/ narcotics**: Morphine, Codeine, Hydrocodone, Oxycodone, Methadone. (Tramadol & Tapentadol are not true opioids biochemically but work primarily on the same receptors).
  3. **Adjuvant analgesics**: Medications originally used to treat conditions other than pain but may also be used to help relieve specific pain problems; antidepressants (Amitriptylline) and anticonvulsants (gabapentin, pre-gabalin).
  4. **Other**: Medications with no direct pain-relieving properties may also be prescribed as part of a pain management plan. These include medications to treat insomnia, anxiety, depression, and muscle spasms (diazepam, baclofen, Tizanidine).

Opioid issues

- No consensus among providers on the appropriate role of long-term opioid therapy for people with chronic pain.
- Well-managed opioid therapy can improve quality of life
- Most studies suggest fewer than 1 in 5 patients taking opioids for chronic non-cancer pain become addicted.

Opioid issues

- Side effects i.e. Dry mouth, constipation, and nausea
- Tolerance, dose escalation & induced hyperalgesia (patients on long-term opioid therapy receive increasing doses of their medication over time):-
  - Increase in pain due to progression of the underlying disease
  - Development of a tolerance to opioids
  - Development of opioid-induced hyperalgesia (increased pain sensitivity)
  - Dose escalation may be an indication of addiction or “diversion” of the drug (e.g., selling or giving drugs to others).

Opioid issues….. reduce the need for opioids

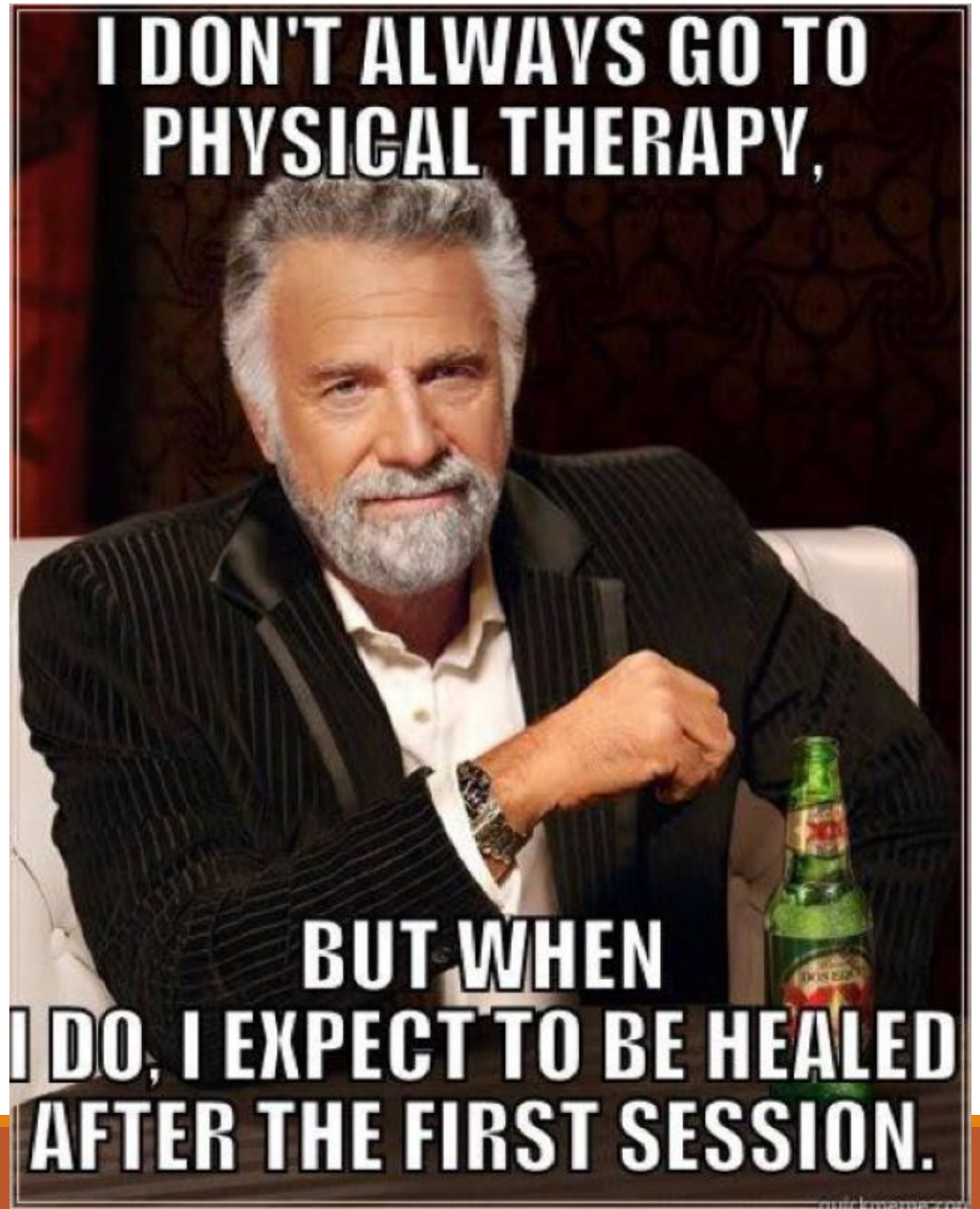
- Balance = Potential harm from misuse of opioids must be weighed against a humane concern for the suffering of people with persistent pain.

Increased

- Education of both physicians and patients on appropriate use of opioids
- Research to identify the patients most likely to benefit from opioid therapy
- Improved access to Multidisciplinary pain clinics/teams

Pain associated with:-

- Fatigue
- Insomnia
- Fear
- Irritability
- Impatience
- Loss of motivation
- Depression
- Anxiety
- Inability to go to work or school or perform other daily activities


I DON'T ALWAYS GO TO PHYSICAL THERAPY,
BUT WHEN I DO, I EXPECT TO BE HEALED AFTER THE FIRST SESSION.

Treatment

- Physical therapy and other therapies
  - reduce pain
  - maximize physical function
  - decrease the need for medications.
- Other strategies used in older adults
  - Physical exercise
  - Relaxation techniques
  - Behavioural therapy and positive self-talk

Multidisciplinary Pain Program

- Pharmacotherapy
- Physical therapy
- Occupational therapy.
- Psychological/psychiatric therapy
- Behavioural therapy
- Biofeedback.
- implantable intrathecal drug delivery systems, spinal cord and peripheral nerve stimulators
- image-guided spinal procedures (epidural steroid)
- surgery.
- Vocational rehabilitation
- Adjunctive treatment modalities(TENS unit)
- Injections(Trigger point, botulinum toxin)
- Prolotherapy
- Nerve blocks
- Complementary and alternative medical therapies (Acupuncture, hypnotherapy)

Disability

- **Impairment** refers to the abnormality (anatomical, physiological & psychological)- e.g. amputation
- **Disability** refers to the restriction caused by the abnormality. Therefore, unable to do what a normal person can do- e.g. gait dysfunction
- **Handicap** is the manner in which the person's life is affected by the impairment, at home and in the community- e.g. cannot return to work as post-man or jog

Chronic pain leads to disability

- Impairment – longstanding pain from back injury
- Disability – unable to stand or sit for prolonged periods
- Handicap- unable to sweep house or continue work as a janitor/ construction worker/ engineer

Disability adjusted life years (DALYs) for selected conditions

Condition	2002 (x 1000 DALYs)
Low back pain	2320
Osteoarthritis	14,861
Rheumatoid arthritis	4866
Diabetes	16,165
Alzheimer and other dementias	10,392

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Summary

- Treat acute pain aggressively
- Note that chronic pain is common
- Consider non-opiate strategies first
- Multidisciplinary approaches are useful
- Use opioids judiciously
- Chronic pain leads to disability

Referral to a multidisciplinary pain center is usually most appropriate when patients demonstrate evidence of

(A) purely psychiatric mechanisms.

(B) purely neuropathic mechanisms.

(C) both psychological tension and physical muscle tension.

(D) both somatic and psychological factors.

(E) Because the insurance company wants you to.

The essential feature of pain that can be used to differentiate it from other somatic sensations is its

(A) intensity.

(B) threshold.

(C) chronicity.

(D) unpleasantness.

(E) acuity