The Five Pillars of Chronic Pain: A Rational Approach to Pain Recovery

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Faculty/Presenter Disclosure

- Faculty: Andrew J Smith, MDCM
- Relationships with commercial interests: None to report

The Five Pillars of Chronic Pain: Learning Objectives

By the end of this session, participants will be able to:

1. To learn a comprehensive approach to managing chronic pain and risk
2. To understand the burden of chronic pain in our society
3. To differentiate between neuropathic and nociceptive pain

What Is Pain?

- IASP (1986): an unpleasant sensory and emotional experience associated with actual or potential tissue damage
- Acute pain is a vital, protective mechanism that permits us to live in an environment fraught with potential dangers
- In contrast, chronic pain serves no such physiologic role and is itself not a symptom, but a disease state
- Chronic = pain which lasts beyond the ordinary duration of time that an insult or injury to the body needs to heal
  - Beyond 3-6 months in duration

Question

What percentage of North Americans are currently experiencing pain which has gone on for more than 6 months?

1. 2%
2. 5%
3. 10%
4. 25%

Chronic Pain is Common

- Prevalence of chronic pain in the adult population may be 30% (Moulin et al 2001)
- 18% of Canadian adults suffer from moderate to severe chronic pain daily or most days of the week (Nanos Survey 2007-2008)
- Most common reason for visit to family physician (~ 20-25%)
- Chronic pain is unlikely to completely resolve (30% reduction is a GOOD outcome)
- Opioids have long been used to manage pain, especially in acute and palliative contexts

NOTE: Unless otherwise indicated, all sources are cited in the Prescription Opioid Policy Framework
& Costly

- Chronic pain is associated with an increase in the use of health services (Tarride, Gordon et al 2005)
- $7.5 billion direct health system cost in Canada → $13 B in 2025
- $635 billion per annum in US (US Institute of Medicine, 2011)
  - 6x that of depression
  - Mostly due to decreased productivity, not absenteeism
- Total burden to world economy: ~ $1 Trillion/year (IASP)
- Pain meds: 10% of drug sales in the developed world

& Complicated

- Associated with the worst quality of life when compared with other chronic diseases such as chronic cardiovascular or respiratory diseases (Jovey et al. 2010)
- Mood and anxiety disorders are 2 – 7x more prevalent in populations of chronic pain and migraine patients in primary, specialty and tertiary care samples (Tunks et al 2008)
- Co-morbidities multiply functional compromise and QOL restrictions with pain (NB: OUTCOMES)
- Suicide risk 2x higher in CP population vs the non-pain population (Tang, 2006)
- Substance use disorder among patients with chronic pain: 2-14%

Research Gaps

- Pain research is grossly underfunded:
  - Canada: 0.25% of health research funding annually is spent on pain research (North Canada, Lynch 2011)
  - US: 0.6% of NIH funding goes to pain research
  - Cancer: 41x as much research funding
- 1999 → 2009: 6 RCTs examining treatments for pain; only 2 involved chronic pain
- Eg. CDC Guidelines (2016)– systematic literature review 2008 – 2014
  - Key Question 1: Effectiveness of long-term opioid therapy vs placebos, no opioid therapy or non-opioid medication therapy for > 1yr outcomes related to pain, Fxn and QoL?
  - No Studies!!! Most placebo-controlled RCTs were < 6 weeks in duration

The Opioid Crisis in Canada: A Perfect Storm

- Highly prevalent condition with co-morbidities
- SUFFERING
- A Problem/Disease-based health system → not structured for complexity and follow-up
- Thin evidence base
- Major clinical skill deficit
- Shortage of accessible, evidence-based treatment options
- Marketing
92% of the world’s opioid supply is consumed by 17% of the world’s population.

Public health opioid crisis is isolated to Canada and USA.

**Question**

What percentage of Ontario middle and high school students (Gr 7-12) used opiates for non-medical purposes in the past year?

1. 5%
2. 7%
3. 10%
4. 15%

**OSDUHS 2017**

**Past Year Use – Top 10**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Percentage</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>44.9% (66.0%)</td>
<td><a href="http://www.camh.net">www.camh.net</a></td>
</tr>
<tr>
<td>Cannabis</td>
<td>19.0% (23.6%)</td>
<td><a href="http://www.camh.net">www.camh.net</a></td>
</tr>
<tr>
<td>Binge Drinking (5+ drinks in past month)</td>
<td>16.9% (27.6%)</td>
<td><a href="http://www.camh.net">www.camh.net</a></td>
</tr>
<tr>
<td>Vape pens (e-cigarettes)</td>
<td>10.2% (n/a)</td>
<td><a href="http://www.camh.net">www.camh.net</a></td>
</tr>
<tr>
<td>Opioid Pain Relievers (NM)</td>
<td>10.6% (20.6%)</td>
<td><a href="http://www.camh.net">www.camh.net</a></td>
</tr>
<tr>
<td>OTC Cough/Cold Medication</td>
<td>9.8% (15.6%)</td>
<td><a href="http://www.camh.net">www.camh.net</a></td>
</tr>
<tr>
<td>Tobacco</td>
<td>7.0% (12.6%)</td>
<td><a href="http://www.camh.net">www.camh.net</a></td>
</tr>
<tr>
<td>Inhalants (glue or solvents)</td>
<td>3.4% (6.8%)</td>
<td><a href="http://www.camh.net">www.camh.net</a></td>
</tr>
<tr>
<td>Hallucinogens other than LSD, PCP</td>
<td>1.4% (2.9%)</td>
<td><a href="http://www.camh.net">www.camh.net</a></td>
</tr>
<tr>
<td>Stimulants (MD)</td>
<td>1.0% (6.8%)</td>
<td><a href="http://www.camh.net">www.camh.net</a></td>
</tr>
<tr>
<td>Synthetic cannabinoids (&quot;Spice,&quot; &quot;K2&quot;)</td>
<td>0.5% (n/a)</td>
<td><a href="http://www.camh.net">www.camh.net</a></td>
</tr>
</tbody>
</table>

**Causes of Chronic Non Cancer Pain**

- Low Back Pain
- Headache
- Trigeminal neuralgia
- Post-herpetic neuralgia
- Fibromyalgia
- Post traumatic or post-surgical pain
- Post-herpetic neuralgia
- Whiplash
- Diabetic Neuropathy
- Arthritis
- Vulvodynia
- Pudendal neuralgia
- Carpal tunnel syndrome
- Endometriosis
- Irritable bowel
- Inflammatory bowel
- Interstitial cystitis
- Alcohol neuropathy

**MJ Consumption Patterns in Ontario**

- ~50% of past-year cannabis users consume it at least once a month
- ~25% of past-year users consume it daily
- ~ 3% of adults and 1% of HS students consume daily
- Mode of consumption: Pipe/bong (21%), Joint (20%), Edibles (11%), Drink (2%) of THC students report using cannabis for medical purposes - eg pain/nausea in the past year = 35,000 students Gr 9-12
- Vast majority of harms are concentrated among the daily / near-daily users (20 – 30% of users)
- About 3% of cannabis users develop dependence
- Nicotine: 68% probability of developing dependence
- Alcohol: 23%
- Cocaine: 21%
- Long-term frequent users have a higher risk of dependence than occasional users

**Question**

What percentage of Ontario high school students currently using marijuana occasionally will develop an addiction to it?

1. 5%
2. 10%
3. 15%
4. 20%
Some Pearls….

1. Chronic pain is treatable
2. Many causes → assess thoroughly
3. Attend to risk
4. Attend to co-morbidities
5. 3 Ps of Pain Treatment: Pharm, Psychological, Physical
6. Tapering improves outcomes
7. Outcomes: Function, QoL, Pain
8. The right to effective pain management is not equal to a right to be prescribed opioids
9. Treat pain in patients with substance use disorders

ADDOP: The Five Pillars of Pain Management

- Assess: Symptoms and Risk
- Define the problem: where and what is it?
- Diagnose the kind of pain and treat it
- Other issues: mood, anxiety, sleep, addiction, sex
- Personal management, self management

Pillar 1: Assessment

- General history
- Neurological history
- Pain history
- Risk History = “Universal Precautions History”

Homo sum, humani nihil a me alienum puto - Terrance
I am human, and I consider nothing that is human alien to me

Gray Zone

Addicted
- Meets DSM criteria for addiction

Not Addicted
- No past press fortune
- No ER visits
- No early prescriptions
- No requests for dose escalation
- No SSDT aberrations
- No doctor shopping

Opioid Seeking Behaviours

Dependence/addiction develops through path treatment
- Preoccupation/fixation
- Using opioid to treat pain
- Physical/psychological withdrawal

Dependence/addiction develops through recreational drug use
- Abuse to manage pain
- Preoccupation/fixation
- Physical/psychological withdrawal

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Dependence on Opioid Pain Medications

- Nobody wants to call it addiction
- It often doesn’t look like “addiction”
- It is pathological
- It does destroy lives
- It is avoidable, and it is treatable
Pillar 2: Define the Underlying Problem

- General, MSK and neurological exam
- Investigation
  - Neurophysiological testing (EMG/NCT) and possibly evoked response
  - Pain scales including RP and SMG, S-LANNS, Neuromaging
- Where is the lesion and what is the lesion?
- Applies to neurological conditions and non-neurological conditions
- Treating underlying disease sometimes helps reduce pain

Pillar 3: Diagnose Pain and Treat Accordingly

- Nociceptive vs. Neuropathic
- Cancer vs. Non-Cancer
- Acute vs. Chronic
- Mild, Moderate and Severe

Pillar 3: Diagnosis: Nociceptive vs. Neuropathic

<table>
<thead>
<tr>
<th>Nociceptive</th>
<th>Neuropathic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal stimulation of nociceptors</td>
<td>Abnormal nervous system activation</td>
</tr>
<tr>
<td>Thermal, chemical, mechanical</td>
<td></td>
</tr>
<tr>
<td>Somatic</td>
<td>Visceral</td>
</tr>
<tr>
<td>Central</td>
<td>Peripheral</td>
</tr>
<tr>
<td>Existential</td>
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Treating Chronic Pain: The 3 Ps

- Physical
- Psychological
- Pharmaceutical

Appropriate pharmacotherapy for pain

- NSAIDs
- Opioids
- Adjuvant
- Cannabinoids
- Topicals

WHO Analgesia Ladder

<table>
<thead>
<tr>
<th>Non-opioid or adjuvant</th>
<th>Opioid for severe to moderate pain: Morphine, Dilaudid, Fentanyl, Methadone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opioid for mild to moderate pain: Codeine, Mornphine</td>
<td></td>
</tr>
</tbody>
</table>

Pharmacologic Steps in Neuropathic Pain

- TCA
- Gabapentin / Pregabalin
- SNRI
- Tramadol
- Opioid Analgesics
- Cannabinoids
- Fourth Line Agents **

Add additional agents sequentially if partial but inadequate pain relief***

** eg SSRIs, methadone, lamotrigine, topiramate, valproic acid
*** Do not add SNRI to TCA

*Modified from 10 of Pain for Nurses, 2012*
Non-pharmacologic therapy
- Self-Management
- Cognitive and Behavioural Therapy (CBT)
- Meditation
- Mindfulness techniques
- Exercise
- Physical therapy
- Interventional approaches: nerve stimulation or block
- Acupuncture
- Botox
- ETC...

Pillar 4: Other Symptoms and Conditions
- Sleep
- Mood and Anxiety Disorders
- Substance Use Disorders
- Trauma
- Fatigue
- Sexual Function

Pillar 5: Personal Responsibility and Self-Management
- Who’s working harder?
- Lack of buy-in and self management → 'refractory' patient
- Proactive management of realistic expectations
- Need to educate patient and family about pain management techniques
- Therapeutic alliance is key
- Clinicians need to practice (not just talk about) interprofessional model
  - Lack of prompt recovery → we tend to repeatedly apply medical model – more consults, tests, drugs
  - Other modalities – psychological and otherwise – are left out

Pain as a Motivational Disorder
- A daily reminder of derailment
- Traumatic
- Robs assertiveness
- A neurological signal to STOP
- Multifactorial – multiple concurrent disorders
- Overwhelming
- Isolating

Stages of Change — Where’s the Patient?
Meet them where they are
Continuum of ambivalence
Explore readiness to change, importance and confidence
Pillar 5: Pain Recovery

- Reimagining pain from uncontrollable to manageable
- Fostering optimism and combating despair
- Promotion of patient feelings of success, self-control and efficacy
- Patients attribute success to their own role
- Education in specific skills: pacing, relaxation, problem-solving
- Emphasis on active patient participation and responsibility

CAMH Prescription Opioid Policy Framework

Released October 28, 2016

Recommendations can be grouped under 3 categories:

- **PREVENTION**
  - Implement best practices for pain management and opioid prescribing

- **TREATMENT**
  - Continue modernizing Ontario’s addiction treatment system

- **HARM REDUCTION**
  - Scale up harm reduction services

PREVENTION: Pain management

- Enhance access to non-opioid and non-pharmacological treatment options for pain
- Implement best practices for pain management and opioid prescribing
- Address pain management in people with mental illness, substance use issues, trauma
- ECHO
- MMAP (supports primary care physicians by providing case-by-case support and ongoing mentorship in pain, addictions, and mental health)
- Academic Detailing (targeted one-on-one and group educational interventions for high opioid prescribers)
- Entry to Practice - Medical School and Residency Curriculum (ECHO)
- And much more...
- Establish a research focus aimed at improving the state of evidence for chronic pain management
- Develop a National Pain Strategy

CAMH Chronic Pain / Opioid Stewardship

- Launched June 2014
- Affiliations: University Health Network (Toronto) and Queen’s University (Kingston)
- 12-member interprofessional hub
- ECHO Weekly Sessions: Thursdays 12:30 to 2:30 pm
- Special Evening Sessions: Opioid Tapering and Safe Prescribing
- ECHO ON Opioids ➔ 1 hr Suboxone Modules

ECHO Chronic Pain / Opioid Stewardship

ECHOs in Ontario

1. Chronic pain / opioid stewardship
2. Mental health and addictions
3. Rheumatology
4. Liver Disease
5. Child and youth mental health
6. First Nations, Inuit, and Métis wellness
7. Pediatric pain, bananas, complex care, palliative care, epilepsy
8. Care for the elderly
9. Northern Ontario chronic pain
10. Autism
11. Addiction Medicine and Psychosocial Interventions
12. Obsessive Compulsive Disorder
13. Trans and Gender Diverse Health Care
ECHO Ontario: VISION
That all primary care providers in Ontario have the knowledge and support to manage chronic pain safely and effectively.