Treating **Acute Pain** in Patients with **Opioid Use Disorder** in the Emergency Department

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No Disclosure
What I Hope You Learn:

• **Approach** to acute pain in patients receiving opioid agonist therapy. (Methadone/Suboxone)

• **Risk management** strategies to minimize harm.

• **Common barriers** to effective pain management in the emergency department.
Rick

• 47 yo male
• Dx: FOOSH: Colle’s fracture
• Hx: IVDU, HCV +, OUD (Began with non-medical use)
• Rx: Methadone 125mg (Daily witnessed)
• UDT: +EDDP, +BZD
Shelly

• 32 yo mother of 3
• **Dx: Appendicitis**
• **Hx: Opioid use disorder (Began with medical use), CNCP (Fibromyalgia)**
• **Rx: Suboxone 24mg SL**
• **UDT: + Bup**
How we **MANAGE PAIN MATTERS!!!**

- **Undertreatment** can contribute to significant morbidity
- **Overuse** of high risk medications can also **contribute to morbidity and death** (opioids, BZD, sedative-hypnotics)
- It’s also about the “tools” or “habits and behaviours” we give patient’s to manage their suffering

Barriers to effective Pain Management in the Emergency Department

- **Tools** (Pain scales)
- **Stigma** (Chronic pain, addiction)
- **Language, vocabulary** ("addict", "drug seeking")

STEP 1: View pain scales as SUFFERING scales.

STEP 2: What TYPE of pain?
- ACUTE PAIN
- CHRONIC PAIN
- CANCER PAIN OR PAIN AT EOL
- CHRONIC PAIN FLARE-UP

STEP 3: Any interventions indicated?
- PALLIATIVE CARE SERVICES

STEP 4: Any alternative therapies indicated?

STEP 5: What medication is available?

STEP 6: Are there concerns of problematic use, addiction or diversion?

What is the **RISK** of Opioid use disorder when opioids are used to manage **Acute Pain**?

**ADDICTION** needs:
1. Time
2. Repetition
3. Vulnerable brain

**DIVERSION** more of a concern

NNH 1:7864

Risk Factors Contributing To SUD

- Genetics
- Gender

- Route of administration
- Effect of drug
- “Clinical inertia”

- Early use
- Availability
- Cost

- Mental health disorders
- Brain memory

- Chaotic home
- Parent’s use and attitudes
- Academic
- Role models

90% will start before 35 years
85% before 18 years
Individuals with a Lived Experience of ADDICTION FEAR

- WORSENING PAIN
- WITHDRAWAL
The Pain-Addiction-Anxiety Pathway: 
Alarm state

The Brain Decides
“Amygdala” (Neighbourhood watch)
The Amygdala is driven by....

FEAR (ANGER)  UNCERTAINTY  UNPREDICTABILITY
As a Health care provider you can...

• Make them feel **safe and cared** for
• **Prepare** them for what to expect
• **Reassure** them (manage pain and prevent withdrawal)
• But also..manage **expectations**
Acute Pain

• More about tissue damage or potential damage
• Has the acute warning function of physiological nociception
• 0-3 months

Chronic “persistent” pain

- More about CNS
- Pain that persists beyond the expected time of healing that lacks the acute warning function of physiological nociception
- > 3 months

Chronic Pain “Flare-up”

- **NOT** caused by a new condition or progression of a pre-existing condition
- Investigations unchanged
- Often **confused with ACUTE** pain

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Treatment goals

PHARMACOLOGY TREATMENT GOALS

**ACUTE PAIN**
- 80-90% Pain reduction
- Minimize Sedation
- Improve Function

**CHRONIC PAIN AND CHRONIC PAIN FLARE-UP**
- 30-40% Pain reduction
- Avoid Sedation
- Improve Function

**CANCER PAIN OR PAIN AT THE END OF LIFE**
- 80-100% Pain reduction
- May Cause Sedation
- May Compromise Function
Managing Pain in Patients Receiving Medical Assisted Therapies for OUD

- Opioid agonist (Methadone, Suboxone)
METHADONE

• Synthetic mu agonist
• Developed by the German’s in WW 2
• Potency misunderstood
• 1960’s resurfaced (opioid/heroin addiction)
• Inexpensive
Properties

- Mu and delta receptor agonist
- **NMDA receptor Antagonist**
- Inhibits re-uptake of norepinephrine and serotonin (SNRI)

Confusion regarding clinical use

- Methadone
  - Addiction
    - Cravings and withdrawal
      - 90-120mg
  - Chronic pain
    - Function
      - 45mg
  - EOL
    - Pain
      - 30-35mg
Pharmacokinetics

- Oral bioavailability 80%
- Lipophilic (PO; SL; PR; Buccal)
- Rapid absorption (Analgesic effect 30-60 minutes)
- **60-90% protein bound**
- Steady state ~10 days
- Metabolized in liver to **INACTIVE** metabolites
- Excreted thru gut and kidneys unchanged
Challenges and controversy’s

- Prolonged QTc (marker for TdP)
- Central sleep apnea
- Low testosterone
- Stigma
QTc in MMT: Cochrane Review: 2013

- To evaluate the efficacy and acceptability of QTc screening to prevent cardiac-related morbidity and mortality in Methadone Maintenance Therapy (MMT).
- 872 pertinent records.
- Their finding:
- “No evidence has been found to support the use of the electrocardiogram (ECG) for preventing cardiac arrhythmias in methadone-treated opioid dependents.”

• **QTc prolongation** is “not a safety concern per se,” but a “sharply imperfect” *surrogate marker for the risk of TdP.*

• A QTc longer than 500 milliseconds—considered the threshold of increased danger—is found in about 2 percent to 16 percent of MMT patients.

• But the *prolongation isn’t necessarily due to methadone;* liver disease, low potassium levels, and therapy with a variety of drugs also prolong QTc.

Methadone4Pain.ca

Canadian Virtual Hospice, in collaboration with leading pain management specialists, has created a free online training course for physicians wishing to improve their knowledge in methadone prescribing for pain management in palliative care.

Mainpro-M1 credit and Royal College CME credit (Section 1)

This course will also be of interest to nurses and pharmacists who wish to improve their knowledge of methadone.
Buprenorphine-Naloxone (Suboxone)

- **Partial** mu-opioid agonist
- **High affinity** (prevent binding of other mu agonist making them less effective)
- To **over ride** this you need strong conventional opioid at higher than normal dosing
- Naloxone (tamper resistant)
Buprenorphine-Naloxone

• **Ceiling effect** to both it’s euphoriant potential and it’s toxicity
• **Safe-er** in overdose
Managing Pain: Important principles for Patient’s on OAT

• **CONTINUE** opioid agonist therapy
• Establish **realistic** Goals of care
• Consider “**split-dosing**” OAT (stable, close oversight)
• What if they can’t swallow?
• Retrospective case series
• 2013-2015
• 30 patients
• Palliative care program
• Rural community, hospital and nursing home
• Oral to atomized dosing the same
• 10mg/ml; 50mg/ml
Interventions

• Clinical actions that have the ability to modify the pain experience
Alternative therapies

• Therapeutic practices that have the healing effects of medicine but are not based on a scientific model.
Medications

How Complicated can it be?

Pharmacological choices

- Acetaminophen (Tylenol)
- NSAID’s (Advil, Aleve etc)
- TCA (Elavil)
- Anticonvulsants (Lyrica, Gabepentin)
- Broad spectrum antidepressants (Duloxetine, Effexor)
- Calcitonin
- Topicals
- Opioids
- Cannabinoids
- Lidocaine, Ketamine etc...
- Low dose naltrexone
- Gamma hydroxybutyrate (GHB)

* *CHOICES BEFORE OPIOIDS for CNCP: DALHOUSIE CPD Academic detailing service, April 2018. http://www.medicine.dal.ca/departments/core-units/cpd/programs/academic-detailing-service.html*
Multi-modal Analgesia: Acetaminophen and NSAID’s

- Cochrane data base
- Moore, (2015)
- Pain reduction at 6 hours
- Several analgesia (OTC)
- Most effective was a **combination (SA)** (Acetaminophen 500mg/Ibuprofen 200mg) NNT: 1:6 (Success rate 67%)
- If you double the dose NNT 1:5 (Success rate 70%)
- **Single dose medication** (Ibuprofen better than Acetaminophen)

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Multi-modal Analgesia: Low dose Ketamine (LDK)

• Gottlieb, (2018)
• Meta-analysis
• 8 articles. Total 609 patients. (6 RTCTs and 2 observational)
• Dose range LDK was 0.1-0.5mg/kg IV. Comparative group was IV Morphine 0.05-0.1 mg/kg)
• Results: No significant difference in pain scores at 30min
• Increase adverse events LDK group (15.4% vs 4.4%) agitation, hallucination that were self-limited

• Gottlieb M, et al. Is Low-Dose Ketamine An Effective Alternative To Opioids For The Treatment Of Acute Pain In The Emergency Department? Ann Emerg Med 72(2):133, August 2018
Multi-modal analgesia: Calcitonin for compression fractures

- Knopp, (2012)
- Systematic review and meta-analysis
- Acute and Chronic pain
- 5 RTCs
- 246 patients
- IM/IN/PR (Salmon calcitonin)
- Effective analgesia acute pain not chronic
- Few side-effects
- Cost and optimized dosing not evaluated
- IN spray: 50-100mcg daily

If Discharged: How much opioid and for how long?

• It depends
• Chai et al (2017)
• Acute fracture in 15 opioid-naïve patients (mean age 45 years; 60% male)
• As few as six pills (5mg oxycodone) may be sufficient for acutely painful conditions

If Opioids used: How much and for how long?

- Duration (3 days)
- Quantity (<10)
- Non-euphoriant
- Non-combination
- Oxycodone; Hydromorphone (More euphoriant)
- **Recommended**: IR Morphine
- Daily witnessed dispensing
How much SA opioid is enough for BTP?

• It depends....
• What else is in the mix?
• Hypnotic-sedatives?
• Liver or Renal Disease?
• Elderly?
• 1-1.5 times normal dosing

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• Rx: Methadone 135mg (UDT +EDDP +BZD)
• Pain intensity 6/10

Talking Points (Pain Specific)

Interventions: Splinting early

Alternative Therapies: Breath, acupuncture

Medications: Procedural sedation (Fentanyl, propofol)

Risk Management (Safety) Morphine IR, Tylenol, NSAID, Bowel regieme

Shelly

• 32 yo mother of 3
• Dx: Appendicitis
• Hx: Opioid use disorder (Began with medical use), CNCP (Fibromyalgia)
• Rx: Suboxone 24mg SL (UDT + cocaine)
• Pain intensity 12/10

Talking Points (Pain Specific)

Interventions: Anesthesia (blocks)

Alternative Therapies: Breath, distraction

Medications: (Fentanyl, IV Morphine)

Risk Management (Safety) Morphine IR, Tylenol, NSAID, Bowel regime
Summary

• How we talk with patient’s about pain matters
• Develop a systematic approach to pain
• Communicate, communicate, communicate!!
• Be open, curious and non-judgemental
• Manage risk with the patient to keep them and the community safe
“Our prime purpose in this life is to help others. And if you can’t help them, at least don’t hurt them.”

~ Dalai Lama

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The complexity of pain and suffering

PHYSICAL

SOCIAL

SPIRITUAL

EMOTIONAL

VIEW
PAIN SCALES as
SUFFERING SCALES

Talking Points

• Listening
• Acknowledging suffering
• Re-framing role of pain
• Reassuring (cared for)
• Recognizing that the pain experience is influenced by many factors
Pain scales..

• CTAS: “Sets the tone”
• Can lead to stigma and over medicating
• **Accurately** reflects the **intensity** of pain the patient is experiencing (subjective)
• **Don’t always tell** us what’s going on in the patient’s tissue
• Why is this?
Opioid Use Disorder: Extent of the problem

**TOTAL # OF CANADIAN DEATHS FROM SAR**: 44

**CANADIAN DEATHS PER WEEK FROM OPIOID OVERDOSE**: 49
Reality Check

• **Fatalities** are on the rise

• ¾ **Fentanyl** or Fentanyl analogues (2013: <300 deaths/year, 2018: ~1000)

• **Increase** in male 30-39 years

• 94% **accidental** (unintentional)
Mortality trends

• Increase shift toward 1\textsuperscript{st} time users
• Those with CNCP (Historically LT drug users
• Canadian seniors: 30\% of all deaths in 2017 >50 yo
• >65yo had highest rate of hospitalizations (stay longer >8d)
Talking to patients about Pain

- **Pain circuitry re-wired (neuroplasticity)**
  - “Disruptive pain experience”
  - Persistent (chronic) pain
    - 1:5 (1:4 elderly)
    - ~200,000 NS
    - ~30,000 PEI
    - ~190,000 NB

- **Some**
  (Pain experiences)

- **Majority**
  (Pain experiences)

- **Survival**

- **OK**

- **When did pain become persistent in their life?**

- **Was there anything worrisome happening?**
What **Tools** do we have to manage pain?

- “Talking Points”
- Interventions
- Alternative therapies
- Medication
- Breath
- Safety: Risk stratification