Understanding Pain, Methadone & Suboxone & Working With Pain Prescribing Physicians

Lori Naylor
Breakaway Satellite Clinic

With thanks to:
Dr. Andrew J. Smith, MDCM Pain and Addiction Medicine, CAMH, Wasser Pain Management Centre, Mount Sinai Hospital
Dr. Joel Bordman & Dr. Roman Jovey
for the generous use of their slides
Chronic Pain: What do we need to know?

1) Definitions: Chronic pain - assessment and management

2) Pain and Addiction - it’s complicated!

3) Approaches to pain management - what works?

4) Non-pharmaceutical approaches to pain management
Chronic Pain Defined

- **International Association for the Study of 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.
- **Chronic pain**, in contrast, 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

Andrew J. Smith, MDCM Staff Physician, Pain and Addiction Medicine, CAMH, Wasser Pain Management Centre, Mount Sinai Hospital
The Burden of Chronic Pain

- 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)
- Some 15% of population in the US suffer pain that is undertreated or not treated at all (Krames and Olson 1997)
- Chronic pain is associated with an increase in the use of health services (Tarride, Gordon et al. 2005)
- Massive economic burden: Cost of pain in US workplace is $95B annually (US CDC, 2007)

  - Twice that of depression
  - Economic loss is mostly due to decreased productivity, not absenteeism

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Prevalence of Pain in MMT Patients

- 390 patients from 2 MMTPs
- 80% - any pain
- 37% - chronic severe pain
  - 65% high interference in physical / psychosocial functioning
  - 34% used alcohol or illicit drugs to treat pain

Some Causes of Chronic Non-Cancer Pain (CNCP)

- Low Back Pain
- Headache
- Whiplash
- Post traumatic or post-surgical pain
- Trigeminal neuralgia
- Post-herpetic neuralgia
- Fibromyalgia
- Diabetic Neuropathy

- Arthritis
- Carpal tunnel syndrome
- Endometriosis
- Irritable bowel
- Inflammatory bowel
- Alcohol neuropathy

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**“Typical MMT patient”**

1996

- 45 year old male
- 25 years of Heroin injection
- Incarcerated 10 of last 25 years
- Little social structure or family support

2009

- 45 year old male
- OxyContin 60mg po tid x 5 years (swallowing)
- Chronic back injury – failed surgery x 2
- MD referred him to clinic after colleague investigated by CPSO & he is now worried about addiction in all his patients on long term opioids

from Bordman and Jovey, 2006
I can give you a pill for that!

A visit to the Doc's
Where to start-

- **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**

Andrew J. Smith, MDCM Staff Physician, Pain and Addiction Medicine, CAMH, Wasser Pain Management Centre, Mount Sinai Hospital
Pillar 1: Assessment

- General history
- Neurological history
- Pain history
- Risk
Stigma and its Impact on Chronic Pain

“Discrimination stops people from seeking help due to fear of how they will be treated.”

Stigma, Discrimination & Substance Use: Experiences of people who use alcohol and other drugs in Toronto. Toronto Drug Strategy Implementation Panel September 2010, Toronto
Pillar 1-Risk Assessment:

- Current and previous pain treatment
- How is their use of medication?
- Previous drug and alcohol use
- Family history of drug or alcohol use
- History of other addictions
- History of physical, sexual or emotional trauma
- Depression, anxiety, and other mental health issues
- Urinary drug screen and identification

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Pillar 2: Define the Underlying Diagnosis

- General and neurologic exam
- Investigation
  - Testing
  - Neuroimaging
  - Pain scales including Brief Pain Inventory
- Where is the lesion and what is the lesion?
- Treating underlying disease sometimes helps treat pain

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Where does it hurt?
Acute Pain

AT FIRST, BLAINE THOUGHT HE HAD GONE BLIND AND WAS SUFFERING A HEART ATTACK.
Pillar 3: Diagnose Pain and Treat Accordingly - Types of Pain

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

- **Nociceptive Pain**: caused by exceeding harmful intensity, "thermal" (heat or cold), "mechanical", (crushing, tearing, etc.) and "chemical" (iodine in a cut, chili powder in the eyes).

Can be categorized as follows:

- **Visceral pain** is diffuse, difficult to locate and often feels distant. It may be accompanied by nausea and vomiting and may be described as sickening, deep, squeezing, and dull.

- **Deep somatic pain** is initiated by stimulation of nociceptors in ligaments, tendons, bones, blood vessels, fascia and muscles, and is dull, aching, poorly-localized pain. Examples include sprains and broken bones.

- **Superficial pain** is initiated by activation of nociceptors in the skin or other superficial tissue, and is sharp, well-defined and clearly located. Examples include minor wounds and minor (first degree) burns.
Neuropathic Pain

- **Neuropathic pain**: caused by damage or disease affecting any part of the nervous system involved in bodily feelings (the somatosensory system).

- Peripheral neuropathic pain is often described as “burning,” “tingling,” “electrical,” “stabbing,” or “pins and needles.”

- Bumping the “funny bone” elicits acute peripheral neuropathic pain.
You say it’s a sharp, stabbing pain...

hmmm, sharp, stabbing pain...

- NSAIDs (non-steroidal anti-inflammatories)
  - eg: acetaminophen, ibuprofen, ASA
- Opioids
- Adjuvants
  - (concurrent therapies)
- Cannabinoids
- Topicals

Andrew J. Smith, MDCM, Pain and Addiction Medicine, CAMH, Wasser Pain Management Centre, Mount Sinai Hospital
"It may surprise you to hear that, actually, morphine is the best medicine."


**Opioid Efficacy**

“Before initiating opioid therapy, consider the evidence related to effectiveness in patients with chronic non-cancer pain.”

Andrew J. Smith, MDCM, Pain and Addiction Medicine, CAMH, Wasser Pain Management Centre, Mount Sinai Hospital

<table>
<thead>
<tr>
<th>Examples of CNCP conditions for which opioids <strong>were shown to be effective</strong> in placebo-controlled trials*</th>
<th>Examples of CNCP conditions that <strong>have NOT been studied</strong> in placebo-controlled trials</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tramadol only</strong></td>
<td><strong>Weak or strong opioid</strong></td>
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</table>
| Fibromyalgia | • Diabetic neuropathy  
• Peripheral neuropathy  
• Postherpetic neuralgia  
• Phantom limb pain  
• Spinal cord injury with pain below the level of injury  
• Lumbar radiculopathy  
• Osteoarthritis  
• Rheumatoid arthritis  
• Low-back pain  
• Neck pain |
| | • Headache  
• Irritable bowel syndrome  
• Pelvic pain  
• Temporomandibular joint dysfunction  
• Atypical facial pain  
• Non-cardiac chest pain  
• Lyme disease  
• Whiplash  
• Repetitive strain Injury |

* A limitation of these trials was that the duration of opioid therapy was a maximum of three months.
The most up to date systematic review of opioids for CNCP included 62 randomized trials.

Opioids were compared to placebos in 47 randomized trials.

The effect size for improvement in pain was medium (0.58 95% confidence interval [CI]: 0.48 to 0.67, extracted from 47 RCTs).

For functional outcomes, the effect size was small (0.34 95% CI: 0.25 to 0.43, extracted from 31 RCTs).

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Beyond the Opioids
If not Opioids...then what?

- Tricyclic Antidepressants (esp nortriptyline and desipramine) have analgesic properties independent of antidepressant effect
- Newer SNRI’s Cymbalta (Duloxetine) and Effexor (Venlafaxine) have independent analgesic effect
- Gabapentin and Pregabalin (anti seizure meds with analgesic properties, esp. for neuropathic pain)
- Tramadol- synthetic mu opioid agonist with (allegedly) lower habituating potential
- “Fourth Line Agents”- carbamezapine, lamotrigine, topiramate (anti seizure meds), cannabinoids (esp. for inflammatory and neuropathic pain)
"Whatever conditions may lead to opiate exposure, opiate dependence is a brain-related disorder with the requisite characteristics of a medical illness."

What is Methadone?

-A legal, medical treatment which effectively manages opioid dependence
  (Opioids include: codeine, morphine, heroin, Percodan, Percocet, Dilaudid, Fentanyl, Tylenol 3, MS Contin, Oxycontin)

-a long-acting (24-36 hours) synthetic opioid which, when taken daily, allows people to stop the drug-seeking cycle and (frequently) the chaotic lifestyle that accompanies it

-It allows users to stabilize their lives, increase access to health care, addiction treatment and other social services

-a treatment which, at optimal therapeutic doses, stops withdrawal symptoms, reduces cravings, and can block the effects of other opiate drugs, and does not cause euphoria or intoxication

-a cost effective treatment which has demonstrated effects of reducing criminal activity, reduces rates of HIV and Hep C
Methadone and Harm Reduction

Methadone is a harm reduction treatment which reduces harm:
- harm associated with intravenous drug use (eg: HIV, Hepatitis C, abscesses, overdose)
- harm associated with a criminal lifestyle required to maintain an opiate dependency
- harm associated with drug using lifestyle (eg: poor health care, nutrition, unstable relationships, unemployment, criminal involvement)
- harm associated with opioid use in pregnant women (eg: withdrawal can cause miscarriage)
Methadone is cost-effective

Methadone costs about $4,000 per year, while incarceration costs about $20,200 to $23,500 per year. (1997)

Source: Institute of Medicine, Treating Drug Problems (Washington DC: National Academy Press, 1990), Vol. 1, pp. 151-52; Rosenbaum, M., Washburn, A., Knight, K., Kelley, M., & Irwin, J., "Treatment as Harm Reduction, Defunding as Harm Maximization: The Case of Methadone Maintenance," Journal of Psychoactive Drugs, 28: 241-249 (1996); Criminal Justice Institute, Inc., The Corrections Yearbook 1997 (South Salem, NY: Criminal Justice Institute, Inc., 1997) [estimating cost of a day in jail on average to be $55.41 a day, or $20,237 a year, and the cost of prison to be on average to be about $64.49 a day, or $23,554 a year].
"Of the various treatments available, Methadone Maintenance Treatment, combined with attention to medical, psychiatric and socioeconomic issues, as well as drug counselling, has the highest probability of being effective."

Recipe for Success on Methadone

The best success rates have been shown for people who:
- titrate to an optimal therapeutic dose over time
- stabilize at that dose
- access other psychosocial counselling to address underlying issues related to their drug use
- take a year or two before making any attempts to taper down
- some individuals utilize methadone for the duration of their lives
Counselling Works!

“The strongest predictor of successful treatment outcomes is the establishment of a positive therapeutic alliance between client and counsellor”.

(McMain, CAMH, 1998)
Methadone Myths and Facts:

Does Methadone make you high?

-At the correct dose, in an opiate dependent person, methadone does not cause a high.

-In an uninitiated person, methadone will be a strong opiate, will cause euphoria, sedation, and possible central nervous system depression (stopping breathing), and can lead to death.

“Methadone does not make patients "high" or interfere with normal functioning.”

Side Effects of Methadone:

-are most pronounced at the beginning of treatment, until dose becomes stabilized

-Can include: -drowsiness
  -light headedness
  -nausea
  -vomiting
  -sweating
  -constipation
  -change in libido
  -insomnia
  -joint pain
  -skin rash
  -dry mouth
  -weakness
Carry Doses

The College of Physicians and Surgeons of Ontario regulates the prescribing and dispensing of methadone, following a strict set of guidelines.

The guidelines require a period of stabilization before a physician can prescribe carry home doses.
Urine Screening

The CPSO guidelines require physicians to monitor the urine of their patients to determine

a) whether they are in fact taking their methadone (not diverting it)

b) if the patient is using other drugs which may be dangerous in combination with methadone
Other
Opiate Dependency
Treatment
Options
Suboxone

- A similar substitution therapy to methadone, Suboxone recently became available in Ontario.

- Physicians do NOT need a CPSO exemption to prescribe Suboxone, but are recommended to complete a 1 day CAMH course.

- Less regulated than methadone, carries easier to acquire.

- Combination of buprenorphine and naloxone- trace amount of naloxone is added only to prevent injection (naloxone blocks opiates, leads to withdrawal if injected).

- Patient must be initiated while in opiate withdrawal.

- “Ceiling”- effective only for those in whom a 40–60 mg dose of methadone would be effective.
Suboxone - continued

- Safer due to “shouldering effect” (lower overdose risk)
- Some patients can take it alternate days
- Buprenorphine without naloxone is used in pregnant women
- Sub-lingual tablet (2 – 10 minute observed dissolving period)
- NOT covered by ODB, daily cost = $25 / day
  (some private insurers have covered it, Exceptional Access Program covers it for ODB recipients)
Ultra Rapid Opiate Detox (UROD):

The Satellite does not participate in or recommend this treatment modality

- a controversial, experimental treatment
- expensive ($5000 – 12,000 +), not covered by OHIP
- a general anaesthetic is given for 5-6 hours, naltrexone (an opioid blocker) is administered, patient goes into acute withdrawal but is asleep through it
- withdrawal symptoms do continue when patient wakes up (in fact, emotional anxiety related to opiate withdrawal can continue for up to 6 months)
- long term followup care and addiction counselling are not typically provided

This procedure is related to numerous overdose deaths from patients relapsing within a short period
“Methadone Detox”

-where methadone patients take methadone for a short time, and taper off over the course of a few weeks or months

-this method does not have a good success rate, and in fact places a user at high risk of overdose if they return to using at a level which their body is no longer tolerant to.
The “Quit Kit”

For people who want to try quitting opiates “cold turkey”: Quit Kit includes:

- Clonidine (reduces blood pressure, goosebumps, crawly feeling)
- Gravol (nausea)
- Immodium (diarrhea)
- Tylenol (headache)
- Naprosyn (anti-inflammatory for bone pain)
- (Occasionally) Benzodiazepines (anxiety, sleeplessness)

Clients are also counselled on what to prepare for and expect during withdrawal

This approach is not typically effective on its own, but allows a person to begin to engage with a treatment provider and develop a trusting relationship
Methadone is the Gold Standard

A study in the March 8, 2000 edition of the Journal of the American Medical Association shows that traditional methadone maintenance therapy is superior to both short-term and long-term detoxification treatment as a method to treat heroin dependence.

Working with Pain
Prescribing Physicians
What about Methadone for Pain?

- “Level B evidence” (at least “fair” scientific evidence suggests that the benefits of the clinical service outweighs the potential risks) exists for use in (moderate-severe) cancer pain
- Evolving use in chronic non-cancer pain
- Useful for patients with history of allergy to morphine
- May be suitable first-line choice in the following selected patient groups:
  - Patients with renal failure and/or on dialysis
  - Patients with liver dysfunction
  - Pregnant patients requiring chronic opioid therapy
  - Patients with history of drug abuse (with appropriate monitoring)
  - Patients with evolving opioid hyperalgesia
- Elderly, frail patients should use opioids without active metabolites (hydromorphone, fentanyl, methadone)

Gallagher R. Can Fam Physician 2007; 53:426-7, from Bordman, Jovey 2006
G11.8 The MMT physician may prescribe methadone in split doses for patients with severe chronic pain who require opioids. Usually this should only be done after the patient is on a stable once daily dose and is receiving 5-6 take-home doses per week.

G11.9 The MMT physician should only attempt long-term opioid therapy for methadone patients with chronic non-cancer pain if:

1) the patient has severe pain from a well-documented diagnosis of a serious nociceptive or neuropathic condition that would usually require opioid analgesics.

   Note: Common conditions such as fibromyalgia or low back pain do not warrant combination methadone and opioid therapy.

2) the patient has had insufficient analgesic benefit from an adequate trial of non-opioid treatments and from a trial of split methadone dosing.

G11.10 If opioids are prescribed in addition to methadone, the recommended opioids for most patients are codeine and tramadol, followed by morphine. The MMT physician should use strategies to minimize diversion and misuse. The MMT physician should periodically attempt a trial of opioid tapering, particularly in patients on higher opioid doses who continue to report severe pain.
11.2.5.1 Methadone for Analgesia

MMT physicians cannot prescribe methadone as an analgesic for non-addicted patients with chronic pain, unless they have a special exemption from Health Canada. This exemption is independent of the exemption for methadone as a treatment of addiction.

MMT physicians with the Health Canada addiction exemption can prescribe methadone both as an analgesic and as an opioid substitution therapy for patients who have concurrent addiction and acute pain.

However for chronic pain management, where, over time, the treatment of pain, rather than that of opioid dependence, becomes the primary focus of the patient’s care, the MMT physician requires an exemption to prescribe methadone for pain and the patient should be taken off from the CPSO MMT Patient Registry for opioid dependence.

Controlled trials have found that methadone is of comparable effectiveness to morphine as an analgesic (Bruera et al. 2004; Mercadante et al. 2008). While the duration of analgesic action of methadone is no more than eight hours (Grochow et al., 1989), an initial trial of once daily dosing is suggested. Patients with concurrent pain and opioid addiction often experience substantial pain relief once methadone treatment is initiated. When an optimal dose is reached, the dose may be split if the patient continues to experience severe pain unrelated to withdrawal several hours after the morning dose. Patients should be eligible for 5-6 take-home doses before receiving a split dose. Consultation with a physician experienced in methadone and pain should be considered.
11.2.5.2 Opioids in Combination with Methadone

Research to date has not examined the safety or effectiveness of methadone in combination with other opioids for opioid-dependent patients with chronic non-cancer pain. Furthermore, long-term opioid prescribing in MMT patients makes it difficult to prevent and detect opioid misuse and diversion. Therefore opioids should only be used if there is strong likelihood of benefit, (i.e. patients with serious, well-defined nociceptive or neuropathic conditions who have not responded to first-line non-opioid treatments or to split methadone dosing).

Use of opioids is not justified in MMT patients with common pain conditions such as fibromyalgia or low back pain.

If split methadone doses are ineffective, then codeine or tramadol can be tried. If more potent opioids are required, in many cases the MMT physician should consider using morphine rather than oxycodone or hydromorphone (Rauck et al. 2007).

Evidence suggests that oxycodone and hydromorphone have a higher risk of addiction and overdose than morphine, and therefore the latter is preferred in high risk patients. Oxycodone is a common drug of abuse in Ontario, and it is the most common opioid involved in fatal opioid overdoses (Dhalla et al, 2009). See Canadian Guideline for the Safe and Effective Opioid Use in Chronic Non-Cancer Pain. http://nationalpaincentre.mcmaster.ca/opioid/).
11.2.5.3 Preventing Misuse and Diversion in Patients on both Methadone and Opioids

MMT patients do not always inform their MMT physician if they are receiving opioids from another physician. Collaboration and communication between the MMT physician and pharmacist can enhance knowledge of other medications the MMT patient may be taking. For some MMT patients, ongoing UDS provides appropriate structure while on regularly prescribed opioids. Until the prescription opioid monitoring system is in place, MMT physicians have few options other than to:

- insist on communicating with the patient’s non-MMT physicians
- obtain records from emergency department visits and hospitalization
- advise non-MMT physicians to order UDS for methadone when prescribing opioids, particularly if they do not know the patient well or if the patient is at high risk for opioid misuse.

If the MMT physician knows that another physician is prescribing opioids for the patient, several strategies can be implemented to minimize opioid diversion and misuse.

- The opioid can be dispensed along with the methadone take-home doses.
- Pill counts and regular urine drug screening can also be helpful.
- Close communication with the patient’s opioid prescriber is advised to prevent dangerous drug combinations.
Suboxone for Pain

- It is as effective as methadone
- Its slow onset (4 hours) and long ½ life (24-60 hours) make it suitable for opioid substitution therapy and pain management
- Some patients can use alternate-day dosing
- It is currently not covered by Ontario Drug Formulary (except by exceptional access program)
- Carry doses are available with less stringent regulation, and faster
- There is a ceiling effect (max dose 32 mg/day)
- This makes it a safer drug to use - less overdose potential
- Max equivalency to only 60 mg of methadone/day

from CAMH OPTS 2014
When your Chronic Pain MMT client needs surgery...

- Patient may be at risk of relapse but...poorly treated pain is a bigger risk for relapse than giving adequate supervised analgesia
- Often “opioid tolerant” but “pain intolerant”
  - Continuous opioid receptor occupation may produce hyperalgesia (OIH) during less painful states and patients are unable to cope with sudden acute pain
  - “An acutely painful emergency is not the time to punish a patient for having the disease of addiction”
  - Use “multi-modal” analgesic techniques, avoid former drugs of abuse
  - Avoid prn dosing, time limited, tight boundaries

Bordman, Jovey, 2006
Non-Pharmacologic Therapies

- Physical therapy
- Nerve stimulation or block
- Acupuncture
- Botox
- Exercise
- Cognitive Behavioural Therapy (CBT)
- Meditation
- Mindfulness techniques
- TENS
- Biofeedback
Pain and your brain

In different parts of the brain, pain is impacted by different approaches.

In the cortex-
- Mindfulness
- Placebo
- Systemic Opioids
- Alpha-2 agonists (eg: clonidine)
- Imagery
- CBT

Andrew J. Smith, MDCM, Pain and Addiction Medicine, CAMH, Wasser Pain Management Centre, Mount Sinai Hospital
Pain is Physical and Emotional -

“SPOT” Theory – Social Pain/Physical Pain Overlap Theory states that:

“part of the reason that opiate-based drugs such as morphine or heroin, are so addictive is because they alleviate not only physical pain, but the pain associated with poor or damaged social relationships as well.”

Bio-Psycho-Social:
Other Symptoms and Conditions

- Depression
- Sleep
- Anxiety
- Fatigue
- Sexual function
- Addiction
Personal Responsibility and Self-Management

- As case managers, we can help clients to proactively manage realistic expectations—pain can improve, but it is not likely to disappear.
- Need to educate patients and family about pain management techniques.
- Strong therapeutic alliance is key.
- Clinicians need to practice working an inter-professional model.
  - Lack of prompt recovery → we tend to repeatedly apply medical model – more consults, tests, drugs.
  - Other modalities – psychological and otherwise – are left out.

“Lack of buy-in from the client and poor self management are common components of the ‘refractory’ patient.”
- Case managers can help through psychoeducation and motivational interviewing.

Andrew J. Smith, MDCM, Pain and Addiction Medicine, CAMH, Wasser Pain Management Centre, Mount Sinai Hospital
Pain Recovery
Where case managers can make a difference!

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

Andrew J. Smith, MDCM, Pain and Addiction Medicine, CAMH, Wasser Pain Management Centre, Mount Sinai Hospital
“Pearls” of Chronic Pain Management

- Many causes – thorough workup essential
- Total relief of pain seldom possible
- No magic bullet exists
- Improved function, quality of life, should be main goal
- Function includes work, ADLs at home, recreation, sleep, sex
- The presence of addiction or risk of substance abuse in a patient does not preclude aggressive treatment of chronic pain
What about Chronic Pain and Addiction?

- Pain and Addiction do co-exist

- General Population: addiction prevalence = 3 – 16%
  - varies with drug, gender, SES, race

- Chronic Pain Population: addiction prevalence= ???
  - we use the same terms with different meanings

LACK OF PRECISION IN DEFINITIONS AROUND ABUSE/DEPENDENCY/ADDICTION

Dr. D. Gourlay, MD, FRCP, FASAM, 2006
Addiction defined-

American Society for Addiction Medicine (ASAM)

Addiction is a primary, chronic, neurobiologic disease, with genetic, psychosocial, and environmental factors influencing its development and manifestations.

It is characterized by behaviors that include one or more of the following:

1. impaired control over drug use,
2. compulsive use,
3. continued use despite harm,
4. craving.
Physical Dependence defined-
American Society for Addiction Medicine (ASAM)

A state of adaptation that is manifested by a drug class specific withdrawal syndrome that can be produced by

1. abrupt cessation
2. rapid dose reduction
3. decreasing blood level of the drug
4. administration of an antagonist.
Population of Rx Opioid Users Is Heterogeneous

- “Addicted” (SUD)
- “Substance abusers”
- “Recreational users”
- “Self-treaters”
- “Adherent”
- “Chemical copers”
- “Substance abusers”
- “Addicted” (SUD)

Nonmedical users

Pain patients

SUD = substance use disorder

Passik 2008, from Bordman, Jovey 2006
Opioid Pseudoaddiction

“...occurs when a patient with undertreated pain becomes more demanding and hostile, exhibiting behaviors that look similar to the drug-seeking addict.”

Weissmann and Haddox, Pain 1989
Kirsh KL, Clin J Pain, 2002
from Bordman, Jovey 2006
The so called “Chemical Coper”

- Bears resemblance to addiction with regard to the “centrality” of the drug and drug procurement to the patient
  - Overly drug focused
  - Always on the fringes of appropriate drug taking
  - Not progressing towards goals

- Chemical Copers need structure, psychological input, and drug treatments that *decentralize* the pain medicine to their coping

- Decentralize pain medication: reduce its meaning, undo conditioning, undo socialization – accomplished through pain-related psychotherapy and prudent drug selection

Kirsh KL, Palliat Support Care, 2007; 5(3):219-26 from Bordman, Jovey 2006
“Differential Diagnosis of Aberrant Drug-Taking Attitudes and Behavior”

- Addiction (out of control, compulsive drug use)
- Pseudo-addiction (inadequate analgesia)
- Other psychiatric diagnosis
  - Organic Mental Syndrome (confused, stereotyped drug-taking)
  - Personality Disorder (impulsive, entitled, chemical-coping behavior)
  - Chemical Coping (drug overly central)
  - Depression/Anxiety/Situational stressors (self-medication)
- Criminal Intent (diversion)

(Passik & Portenoy 1996) from Bordman, Jovey 2006
Ok, so now what?
Approaches to Pain Management

- Physical approaches
  - Exercise, movement
  - Interventional treatments

- Non-pharmaceutical approaches
  - Psychological approaches
  - Skills training
  - Mindfulness
  - Motivational Interviewing
Physical Approaches

Exercise can decrease pain and improve function

- More than 30% reduction in pain
- More than 20% improvement in function
- Hastens return to work
- Patient adherence problematic **
  - Use of motivational tools, rewards, tokens, healthy food can inspire participation
- It is important to reverse/discourage secondary deconditioning, abnormal postures and dysfunctional movement patterns

vanTulder M et al. Spine 2007
Movement equals progress: getting people moving

- Case managers using motivational interviewing, psychoeducation and the power of your therapeutic relationship can get people moving.

- Research shows even small bits of exercise contribute to better well being.

- Social power- eg walking groups, stretching groups, yoga, tai chi helps bio-psycho-social dimensions.
Exercise and Fibromyalgia

**Aerobic exercise** (20 mins per day, 2-3 days per week, x 2-24 weeks)
- moderate quality evidence
  - Improve overall well-being by 7/100
  - Increase the amount of pressure that can be applied to a tender point by 0.23 kgs/cm² before the onset of pain
  - Reduced pain by 1.3/10
  - Unknown effects on fatigue, depression or stiffness

**Strength training** (2-3 x per week, 8-12 reps per exercise)
- poor quality evidence
  - Reduced pain by 49 fewer points on scale of 0 to 100
  - Improve overall well-being by 41 points on a scale of 0 to 100
  - Led to 2 fewer active tender points on a scale of 0-18

Cochrane Review 2009, DOI: 10.1002/14651858.CD003786.pub2
Tai Chi and Fibromyalgia

- RCT: Tai chi vs control (wellness education + stretching) x 12 weeks
- Difference in change in baseline in Tai chi vs control -18.4 (p<0.001)
- Impact of fibromyalgia on quality of life dropped significantly
- Persistent at 24 weeks
Interventional Treatments

Injection Therapy (aka Nerve Blocks)

- Epidural steroid injections are the most commonly performed pain management procedure
- There is no consensus re: technical aspects, no guidelines for optimum diagnostic criteria for patient selection, frequency, number or timing of injections
- Therefore, DIFFICULT MEASURING OUTCOMES
- Evidence for efficacy – reduced pain and improved function
  - Radiculopathy with prolapsed lumbar disc (fair)
- No evidence for efficacy
  - Non-specific low back pain
  - Failed back surgery syndrome

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Interventional Treatments

**Trigger Point Injections**

- Used when specific “trigger points” or tender areas are present in muscles in widespread or regional myofascial pain syndromes
- Local anesthetics +/- steroids
- Same efficacy as therapeutic ultrasound
- Short term relief: Conflicting evidence for efficacy in back pain
- Long term relief: No evidence for benefit in chronic back pain → can’t be recommended

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Interventional Treatments

Surgery

- Persistent pain increases risk of surgery
- Lumbar fusion for non-radicular back pain – one of most rapidly increasing procedures: ↑220% since 1991
  - Evidence: fair for significant pain reduction
  - Benefits diminished over time: 41% of patients report no change or worsened quality of life 4 years post surgery
- Discectomy for lumbar disc prolapse and radiculopathy – evidence good
- Failed back surgery syndrome in 30% of cases
- Caution: risks associated with surgery

Chou R et al. Spine 2009
Spinal Manipulation

- Is the most commonly used Complementary and Alternative Medicine therapy for low back pain
- Is more effective than sham manipulations, bed rest or traction
- Not more effective than other recommended treatments for low-back pain
- Evidence for efficacy in other CNCP disorders is lacking

Massage

- Wide variations in technique make generalization from studies difficult
- Effective in low back and shoulder pain
- Possible benefit in fibromyalgia and neck pain

“Ah! The pain is gone. I had no idea you knew acupuncture.”
**Eastern Explanation:**

The Eastern Explanation for how Acupuncture works is **that the life energy** flowing through the body which is termed Qi (pronounced chee) can be influenced and **balanced** by stimulating specific points on the body.

These points are located along channels of energy known as **meridians** that connect all of our major organs.

According to Chinese medical theory, **illness arises when the cyclical flow of Qi in the meridians becomes unbalanced or is blocked.**
Acupuncture is the stimulation of specific points located near or on the surface of the skin which have the ability to alter various biochemical and physiological conditions in order to achieve the desired effect.

Acupuncture points are areas of designated electrical sensitivity. Inserting needles at these points stimulates various sensory receptors that, in turn, stimulate nerves that transmit impulses to the hypothalamic-pituitary system at the base of the brain.

The hypothalamus-pituitary glands are responsible for releasing neurotransmitters and endorphins, the body's natural pain-killing hormones (OPIOID Receptors!). It is estimated that endorphins are 200 times more potent than morphine. Endorphins also play a big role in the functioning of the hormonal system. This is why acupuncture works well for back pain and arthritis and also for P.M.S. and infertility.

The substances released as a result of acupuncture not only relax the whole body, they regulate serotonin in the brain which plays a role in human and animal disposition. This is why depression is often treated with acupuncture.

Some of the physiological effects observed throughout the body include increased circulation, decreased inflammation, relief from pain, relief of muscle spasms and increased T-cell count which stimulates the immune system.
Acupuncture

- First described in 2300-year-old *Huang Di Nei Jing*, or the Yellow Emperor's Classic of Internal Medicine
- Energy, or Qi (chi), flows up and down the meridians
- Qi can be blocked, deficient, excessive, or unbalanced
- Throws Yin (feminine) and Yang (masculine counterpart) out of balance \(\rightarrow\) illness
- Acupuncture restores the balance, thereby encouraging healing
Acupuncture

- Several theories
  - Endorphin, serotonin and noradrenaline release in CNS
  - May reduce vasodilation caused by histamine release
  - May close “pain gate” in spinal cord
- Effective in dental, chemo-related and chronic low back pain
- Probably effective in PMS-related pain, fibromyalgia and neck pain
- Otherwise data sparse to evaluate efficacy in other chronic pain conditions
- Little study of functional outcomes

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“TENS” - Transcutaneous Electric Nerve Stimulation

- Applied to diverse pain states since introduction in early 1970s
- Few large RCTs to evaluate efficacy in pain management, meta-analyses and recent systematic reviews draw mixed conclusions
- Works by activating opioid receptors, activating serotonin, scrambling pain signals and blocking “pain gates”
Psychological Approaches

When so called “objective” evidence for an underlying disease process is minimal or non-existent, BUT pain is real and unremitting

Help the client come to terms with:

1. All pain is real
2. Hurt and harm are different
3. Normalize patient’s beliefs

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Talking to Patients about Pain

Paradigm Shifts:

- Educate re: acute vs. chronic
- Help them shift away from reliance on the medical model
- Acknowledgement by clinician that purely medical approaches are not enough
- Be prepared for patient misunderstanding and resistance
- Need for information and realistic expectations

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Talking to Patients about Pain

Pain is real

- The sensation we call pain can be affected by beliefs, emotional state, sleep deprivation, environment and other factors
- Pain has a neurological substrate regardless of whether it comes from osteoarthritis, anger or stress

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Talking to People about Pain

Hurt NOT harm

- Most people believe that pain indicated actual or potential damage to body- Not true in chronic pain!
- If client is engaging in activity levels based only on their pain → creates a dysfunctional activity rest cycle, and pain is in control, not them (impact on mood)
- Pain is a CNS phenomenon, so, teach clients that it can be created, increased or decreased by higher level brain function (CBT)
- Teach pain-independent behaviors...
  - Distress Tolerance training
  - Walk for tolerable amount of time
  - Gradually increase time regardless of pain
- Allows patients to gradually increase their control of behaviors

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DISTRESS TOLERANCE HANDOUT 1:  
Crises Survival Strategies (cont.)

DISTRACTING

A useful way to remember these skills is the phrase  
“Wise Mind ACCEPTS.”

With **Activities:**
Engage in exercise or hobbies; do cleaning; go to events; call or visit a friend; play computer games; go walking; work; play sports; go out to a meal, have decaf coffee or tea; go fishing; chop wood, do gardening; play pinball.

With **Contributing:**
Contribute to someone; do volunteer work; give something to someone else; make something nice for someone else; do a surprising, thoughtful thing.

With **Comparisons:**
Compare yourself to people coping the same as you or less well than you. Compare yourself to those less fortunate than you. Watch soap operas; read about disasters, others’ suffering.

With opposite **Emotions:**
Read emotional books or stories, old letters; go to emotional movies; listen to emotional music. *Be sure the event creates different emotions.* Ideas: scary movies, joke books, comedies, funny records, religious music, marching songs, “I Am Woman” (Helen Reddy); going to a store and reading funny greeting cards.

With **Pushing away:**
Push the situation away by leaving it for a while. Leave the situation mentally. Build an imaginary wall between yourself and the situation.
Or push the situation away by blocking it in your mind. Censor ruminating. Refuse to think about the painful aspects of the situation. Put the pain on a shelf. Box it up and put it away for a while.

With other **Thoughts:**
Count to 10; count colors in a painting or tree, windows, anything; work puzzles; watch TV; read.

With intense other **Sensations:**
Hold ice in hand; squeeze a rubber ball very hard; stand under a very hard and hot shower; listen to very loud music; sex; put rubber band on wrist, pull out, and let go.

Talking to Clients about Pain

Normalize Client’s Beliefs

- Many patients see inexorable deterioration leading to wheelchair, unremitting pain = catastrophizing
- Some clients internalize images of the cause of pain
- Lack of explanatory findings, and poor experiences with the health care system, can lead some patients to feel they are not believed
- Pain is real
- Pain is not dangerous and progressive
- There are strategies that can be learned to help cope now and improve in the future

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Talking to Clients about Pain

Preparing Client for Shift

- Pain is persistent, unlikely to completely go away
- Dealing with feelings of grief and loss
- All pain problems have various influences that can make the pain better or worse
- Coping better is the goal
- Despite pain problem, patient needs to continue to live life, whether or not the problem itself will be cured

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Mindfulness

To pay deliberate attention to our experience from moment to moment, to what is going on in our mind, body and day to day life and doing this without judgment.

Mindfulness → ability to recognize and disengage from patterns of self-perpetuating, ruminative, negative thought.

1. Realization that most sensations, thoughts, and emotions fluctuate or are transient
2. Recognition of deteriorating mood
3. Preventing the ruminative thought-affect cycle
4. Providing tools to stay connected with body and reality

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Mind States

1. Doing
   • Discrepancy between how things are vs. how they should be
   • Ruminative, round-and-round analyzing, re-analyzing information, seeking reassurance and control, dwelling on the discrepancy and rehearsing ways to reduce it
   • The root of suffering- anxiety

2. Being
   • No goal to achieve
   • No discrepancy processing
   • Focus on accepting and allowing
   • Awareness in the present

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Breathwork

Stephen Porges- Polyvagal theory

“Porges says his theory supports the notion that we can potentially have a lot more control over our own emotions and our responses to others by breathing.

“Why? Because controlling breath exerts a powerful influence over the “vagal” nerve that connects our faces, lungs, heart and muscles. “Breathing exercises the vagal [nerve],” Porges said at a recent conference, “Breath is extraordinarily powerful in shifting the neural platform upon which we interact with the world.”

“The idea is that by paying attention to your own body, your breath, your face, you can help regulate yourself to become less of a hostage to the powerful grip that fear and trauma can hold on your body.

“Porges (has) the last word: “The point of these strategies is to create an environment in which we no longer need to be hypervigilant, and to allow us to participate in the life processes that require “safe” environments. Social engagement behaviors—making eye contact, listening to people—require that we give up our hypervigilance.”

In recent lectures, Shirley Telles, Ph.D., Richard Brown & Patricia Gerbarg, both M.D.s, and Dan Siegel, M.D., all major figures in neuropsychology research, spoke on the effectiveness in yogic breathing techniques in psychotherapy. Here are some major findings:

- Dr. Siegel provided an overview of the way that breathing influences the nervous system. He explained that breath awareness stabilizes the mind and trains it to be embodied and relational, allowing more insight into one’s own and others internal states.

- It helps the brain to regulate and reorganize itself, promoting neutral integration and increasing the myelin sheath. This is crucial to mental health because he sees all DSM diagnoses as evidence of un-integrated brain function, where the brain is able to access only chaos or rigidity. See www.drdansiegel.com for more information.

- Dr. Telles has proven the effectiveness of specific yogic breaths on schizophrenics, anxious children and survivors of repetitive trauma. See www.patanjaliresearchfoundation.com and www.divyayoga.com for more information.
Breathwork and Mental Health

Drs. Gerbarg and Brown have also studied the benefits of yogic breathing for disaster victims with PTSD and individuals with anxiety and depression.

They report that “stubborn areas of trauma opened and resolved.”

“Breath practices can activate the parasympathetic system so that it can play its part in calming the stress response system and reduce emotional overactivity. But the parasympathetic system is also importantly involved in the release of oxytocin, an essential hormone for bonding in humans and in many other species.”

They conclude that “each component of the traditional 8 limbs of yoga has great value” to psychotherapy.

Three Part Breathing Exercise

This yoga technique (Dirga Pranayama) is very useful during times of stress, or at any time you need to relax. It is extremely relaxing and can be done before bed to assist with sleep issues.

Sit comfortably and close your eyes.

With your mouth closed, exhale deeply through your nose. Imagine that you are pouring the breath out of a jug, starting at the top of your chest and moving down through your mid-torso and into your diaphragm.

Pause for two counts at the bottom of the breath. 1.... 2....

Then, inhale slowly through your nose. Refill the “jug” slowly, counting to five (or seven if you can make it). Start at the bottom, expanding your diaphragm and belly, then your mid-torso, and lastly the top of your chest and lungs.

Pause for two counts. 1.... 2.....

Exhale as before.

Repeat for 5–10 breaths.
Cognitive Behavioural Therapy

- Cognitions (attitudes, beliefs) can enhance or interfere with behavioral coping
- Pain is influenced by thoughts, behavioral responses and emotional distress which can be controlled by patient
- Individuals’ beliefs about pain are associated with indices of functioning
- **Change in beliefs are associated with change in function**
- Patients are taught new coping skills → over time can manage pain-related difficulties on their own
- Time-limited, Goal-oriented, Learning based

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Cognitive Behavioural Therapy

- Randomized Controlled Trials demonstrate CBT’s efficacy in reducing pain and improving function in fibromyalgia, chronic daily headaches, low back pain, RA....
- Not easy for all clients, requires literacy, insight, motivation and commitment to study
- May include a variety of interventions across diverse clinical environments
- Skills training can include: problem-solving, relaxation, assertiveness, exercise and activity pacing, communication
- It is an active treatment which requires learning new info and skills and rehearsing
Cognitive Behavioural Therapies Work!

Cochrane Review:

- CBT showed moderate effects in improving pain
- CBT is effective in altering mood outcomes
- CBT has minimal effects on disability associated with chronic pain
- These changes are maintained at six months
- There is insufficient evidence to recommend any one therapeutic approach over another
Pain can be a Motivational Disorder

- A daily reminder of derailment
- Traumatic
- Can rob clients of sense of competence, assertiveness
- A neurological signal to cease and desist
- Multifactorial – multiple concurrent disorders
- Overwhelming
- Isolating
Reminder of the Five General Principles of Motivational Interviewing - Miller and Rollnick

- Express accurate empathy
- Amplify ambivalence
- Avoid arguments
- Roll with resistance
- Support self-efficacy
What People Seek/Need—Maslow’s Hierarchy

- **Physiological**
  - Breathing, food, water, sex, sleep, homeostasis, excretion

- **Safety**
  - Security of: body, employment, resources, morality, the family, health, property

- **Love/belonging**
  - Friendship, family, sexual intimacy

- **Esteem**
  - Self-esteem, confidence, achievement, respect of others, respect by others

- **Self-actualization**
  - Morality, creativity, spontaneity, problem solving, lack of prejudice, acceptance of facts
Stages of Change – Where is the Client “at”?

- Meet them where they are
- Continuum of ambivalence
- Explore readiness to change, importance and confidence

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Stages of Change and Pain Management

<table>
<thead>
<tr>
<th>Pre-contemplation</th>
<th>Contemplation</th>
<th>Determination/Preparation</th>
<th>Action</th>
<th>Maintenance</th>
<th>Relapse/Recycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>No; Denial</td>
<td>Maybe; Ambivalence</td>
<td>Yes, Let's Go; Motivated</td>
<td>Doing It; Go</td>
<td>Living It</td>
<td>Start Over; Ugh!!</td>
</tr>
</tbody>
</table>
Stages of Change and Pain Management

- How important is it for you right now to ... be able to walk to the store? On a scale of 1 to 10?
- How confident are you in being able to participate in the exercise program? On a scale from 1 to 10?

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Stages of Change and Pain Management

- How come you’re a _____ and not a _____?
- What would it take to go from a _____ to a ____?

Facilitate Talk About Change:
- Reasons for engaging in a new adaptive response
- Reasons why client patient believes that is possible
- Tentative plan for making an important behavioral change

- Explore goals and values- what is consistent, what isn’t?
- Highlight personal strengths and supports
- Brainstorm solutions
- Offer choice

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If you don't like something, change it.
If you can't change it, change your attitude.

-Maya Angelou
Thank you again to Dr. Andrew Smith, Dr. Joel Bordman and Dr. Roman Jovey for generously sharing their slides for this presentation.