Navigating Chronic Pain: Overcoming Barriers and Avoiding Pitfalls

Chris Herndon, PharmD, BCPS, CPE
Associate Professor
Southern Illinois University Edwardsville

Disclosures

• Consultant
  – Premier Research Collaborative
• Advisory Board
  – Endo
  – Incline
Objectives

- Describe challenges to the successful management of chronic pain.
- Apply existing diagnostic recommendations and criteria to practice in the management of chronic pain.
- Develop strategies to minimize adverse effects associated with chronic pain treatment in different patient populations.
- Develop a monitoring plan aimed at streamlining therapeutic titration of chronic pain treatment in different patient populations.

Pain

- “An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.” – IASP
- Sometimes referred to as the fifth vital sign
Pain is Prevalent

CDC and NCHS. 2010. Health, United States, 2010. Chartbook, Special features on death and dying, Hyattsville, MD: CDC and NCHS.

Pain is Disabling

CDC and NCHS. 2010. Health, United States, 2010. Chartbook, Special features on death and dying, Hyattsville, MD: CDC and NCHS.
Pain is Increasing


Pain is a Chronic Problem

Pain is Expensive

- Incremental health costs $261-300 billion annually
- Cost of lost productivity $297-336 billion annually
- Estimated total cost $560-635 billion annually


The Challenge in Treatment

Untreated or undertreated pain

Overdose, abuse, diversion
Balancing Analgesic Risk and Access

Unintentional Overdose Deaths Involving Opioid Analgesics, Cocaine and Heroin United States, 1999–2007

Source: Centers for Disease Control and Prevention. Unintentional Drug Poisoning in the United States (July 2010).

A Public Health Crisis

In 2008, there were **14,800** prescription painkiller deaths.⁴

For every 1 death there are...

- **10** treatment admissions for abuse
- **32** emergency dept visits for misuse or abuse
- **130** people who abuse or are dispensed
- **825** nonmedical users

2. Substance Abuse and Mental Health Services Administration. Results from the 2010 National Survey on Drug Use and Health: volume 1: summary of national findings. Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies; 2011.
Challenging Definitions

- **Addiction**
  - Misuse, abuse, diversion
- **Dependence**
- **Tolerance**
- **Pseudoaddiction**

Any recurrent activity which results in negative outcomes to health, social, or professional relationships. The addicted individual is aware of these outcomes yet continues the activity.
Dependence

- Addiction
- Dependence
- Tolerance
- Pseudoaddiction

A physiologic, receptor response to an exogenous substance and the result from removing that substance.

Tolerance

- Addiction
- Dependence
- Tolerance
- Pseudoaddiction

Needing higher doses to elicit the same response (analgesia vs. euphoria).
**Pseudoaddiction**

- Addiction
- Dependence
- Tolerance
- Pseudoaddiction — exhibiting aberrant or addicted behaviors due to undertreatment of a legitimate pain syndrome

**Types of Pain**

**Acute**
- < 30 Days

**Chronic**
- > 90 Days

- **Neuropathic** - Diabetic neuropathy, post-herpatic neuralgia
- **Musculoskeletal** - Chronic lower back pain, myofascial
- **Inflammatory** - infection, Rheumatoid arthritis, SLE, mixed connective tissue disease
- **Mechanical Pain** - renal calculi, tumor mass

Can have > 1 type of pain at the same time!!
Subjective Pain Assessment - OLDCARTS

<table>
<thead>
<tr>
<th>Onset</th>
<th>Location</th>
<th>Duration</th>
<th>Characteristic of symptoms</th>
<th>Aggravating factors</th>
<th>Relieving factors</th>
<th>Timing</th>
<th>Severity</th>
</tr>
</thead>
</table>

Pain Characteristics

- Dull
- Achy
- Tight
- Pressure
- Tingling
- Radiating
- Throbbing
- Shooting
- Stabbing
- Cramping
- Gnawing
- Hot or burning
- Heavy

What would you use to make me feel the same pain?
Palliative and Temporal Relationships

Aggravating Factors
- Movement
- Rest
- Hot/Cold

Relieving Factors
- Movement
- Rest
- Hot/Cold
- OTC Medications

HPI - OLD CARTS

- Severity
  - Pain Scales
    - Use same scale at each patient encounter and DOCUMENT at each visit
Wong-Baker Faces Rating Scale

- Preferred in children > 3 years of age

CRIES Scale (0 - 6 months of age)

Crying - Characteristic cry of pain is high pitched.
0 – No cry or cry that is not high-pitched
1 - Cry high pitched but baby is easily consolable
2 - Cry high pitched but baby is inconsolable

Requires O2 for SaO2< 95% - Babies experiencing pain manifest decreased oxygenation.
0 – No oxygen required
1 – < 30% oxygen required
2 – > 30% oxygen required

Increased vital signs (BP* and HR*) - Take BP last as this may awaken child making other assessments difficult
0 – Both HR and BP unchanged or less than baseline
1 – HR or BP increased but increase in < 20% of baseline
2 – HR or BP is increased > 20% over baseline.
CRIES Scale (0 -6 months of age) CONTINUED

Expression - The facial expression most often associated with pain is a grimace. A grimace may be characterized by brow lowering, eyes squeezed shut, deepening naso-labial furrow, or open lips and mouth.
0 – No grimace present
1 – Grimace alone is present
2 – Grimace and non-cry vocalization grunt is present

Sleepless - Scored based upon the infant’s state during the hour preceding this recorded score.
0 – Child has been continuously asleep
1 – Child has awakened at frequent intervals
2 – Child has been awake constantly

FLACC Scale (2 months – 7 years of age)

Face
0 - No particular expression or smile
1 - Occasional grimace or frown, withdrawn, disinterested
2 - Frequent to constant quivering chin, clenched jaw

Legs
0 – Normal position or relaxed
1 – Uneasy, restless, tense
2 – Kicking, or legs drawn up

Activity
0 – Lying quietly, normal position, moves easily
1 – Squirming, shifting back and forth, tense
2 – Arched, rigid or jerking

Cry
0 – No cry (awake or asleep)
1 – Moans or whimpers; occasional complaint
2 - Crying steadily, screams or sobs, frequent complaints

Consolability
0 – Content, relaxed
1 – Reassured by occasional touching, hugging or being talked to, distractible
2 – Difficult to console or comfort
Comfort Scale

• Used in adults and children in critical care setting or operative setting who cannot use other pain scale
• Assesses
  – Alertness
  – Calmness
  – Respiratory Distress
  – Crying
  – Physical Movement
  – Muscle Tone
  – Facial Tension
  – Blood Pressure/Hear Rate

Other Pain Assessment Scales

• McGill Pain Questionnaire
  – Very Long
  – Used in specialty pain clinics

• Brief Pain Inventory
Common Co-morbidities

• Depression
• Anxiety
• Post-traumatic stress disorder
• Obesity

Considerations during workup

• Imaging
  – Is it warranted?
  – Do symptoms correlate with imaging findings?
• Testing
  – Consider TSH, 25-OHD, RPR (regional), Magnesium, B12, A1c
  – CRP, anti-CCP, ANA, EBV, Lyme’s titer
• Physical assessment
  – Reliability of findings
  – Waddell’s signs
Challenging chronic pain syndromes

- Chronic low back pain
- Neuropathic spectrum
  - Radiculopathy
  - Diabetic neuropathy
  - Post herpetic neuralgia
- Fibromyalgia
- Spinal cord injury pain
- Central post-stroke pain
- Complex regional pain syndrome
- Acute on chronic post-surgical pain

National Center for Health Statistics;
With Chartbook on Trends in the Health of Americans; Hyattsville, MD: 2007

Non-pharmacologic treatment approaches

- Education
  - Expectations and lifestyle modifications
- Therapy
  - Physical therapy
  - Occupational therapy
  - Osteopathic / chiropractic manipulation
- Counseling
  - Cognitive behavioral therapy
  - Coping strategies and catastrophizing
  - Biofeedback, guided imagery
Pharmacologic treatment approaches

• Non-opioid and adjuvant analgesics
  – Acetaminophen
  – NSAIDs
  – Anticonvulsants
  – Antidepressants
  – Anesthetics (lidocaine, mexiletine)
  – Skeletal muscle relaxants
  – Other neuromodulators

• Opioids

How safe is acetaminophen?


N=145; OR 2.78 (1.47-4.09); p< 0.001

### NSAIDs

<table>
<thead>
<tr>
<th>Non-acetylated salicylates</th>
<th>Propionic acids</th>
<th>Acetic acids</th>
<th>Enolic acids</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diflunisal</td>
<td>Ibuprofen</td>
<td>Diclofenac</td>
<td>Meloxicam</td>
<td>Meflofenamate</td>
</tr>
<tr>
<td>Choline Mg</td>
<td>Naproxen</td>
<td>Etodolac</td>
<td>Piroxicam</td>
<td>Mefenamic acid</td>
</tr>
<tr>
<td>Trisalicylate</td>
<td>Ketoprofen</td>
<td>Tolmetin</td>
<td>Sulindac</td>
<td>Nabumetone</td>
</tr>
<tr>
<td>Salsalate</td>
<td>Flurbiprofen</td>
<td>Indomethacin</td>
<td>Celecoxib</td>
<td>Celecoxib</td>
</tr>
<tr>
<td></td>
<td>Oxaprozin</td>
<td></td>
<td>Ketorolac</td>
<td></td>
</tr>
</tbody>
</table>

- GI Bleed Risk Factors
  - Prior peptic ulcer disease
  - Prior NSAID GI complication
  - Advanced age
  - Concurrent corticosteroid or anticoagulant use
  - High doses of NSAIDs
  - Combinations of NSAIDs
  - Combination with SSRI antidepressants

- Prevention
  - Eradication of H. Pylori
  - Proton Pump Inhibitors or Misoprostol


### Antidepressants and Anticonvulsants

#### Antidepressants
- Tricyclic antidepressants
  - Amitriptyline
  - Nortriptyline
  - Desipramine
- 5HT / NE Reuptake Inhibitors
  - Venlafaxine
  - Duloxetine
  - Milnacipran
- 5HT Reuptake Inhibitors
  - Paroxetine
  - Escitalopram
- Atypical
  - Bupropion

#### Anticonvulsants
- 1st generation
  - Valproic acid
  - Carbamazepine
- 2nd generation
  - Topiramate / zonisamide
  - Gabapentinoids
  - Oxcarbazepine
  - Lacosamide?
  - Lamotrigine?
Skeletal Muscle Relaxants

- Cyclobenzaprine
  - sedation, structurally a TCA
- Tizanidine
  - sedating, hypotension, best data
- Methocarbamol
  - less sedating, limiting evidence
- Orphenadrine
  - sedating, sodium channel blockade
- Carisoprodol
  - sedating, high abuse potential
- Diazepam
  - sedating, high abuse potential
- Metaxalone
  - less sedating, expensive
- Baclofen
  - data primarily intrathecal
- Dantrolene
  - hepatotoxicity


Opioids

- Mu-agonists
- Agonist-antagonists
- Centrally acting opioids
- Antagonists
### Opioid Receptors and Actions

<table>
<thead>
<tr>
<th>Effect</th>
<th>Receptor</th>
<th>Agonist</th>
<th>Antagonist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analgesia</td>
<td>Mu, kappa, delta</td>
<td>Analgesia</td>
<td>No effect</td>
</tr>
<tr>
<td>Respiratory</td>
<td>Mu</td>
<td>Decrease</td>
<td>No effect</td>
</tr>
<tr>
<td>GI</td>
<td>Mu, kappa</td>
<td>↓ transit</td>
<td>No effect</td>
</tr>
<tr>
<td>Psychotomimesis</td>
<td>Kappa</td>
<td>Increase</td>
<td>No effect</td>
</tr>
<tr>
<td>Feeding</td>
<td>Mu, kappa, delta</td>
<td>↑ Feeding</td>
<td>↓ Feeding</td>
</tr>
<tr>
<td>Sedation</td>
<td>mu, kappa</td>
<td>Increase</td>
<td>No effect</td>
</tr>
<tr>
<td>Diuresis</td>
<td>Kappa</td>
<td>Increase</td>
<td>??</td>
</tr>
<tr>
<td>Prolactin</td>
<td>Mu</td>
<td>↑ release</td>
<td>↓ release</td>
</tr>
<tr>
<td>Growth hormone</td>
<td>Mu and/or delta</td>
<td>↑ release</td>
<td>↓ release</td>
</tr>
<tr>
<td>Acetylcholine</td>
<td>Mu</td>
<td>Inhibit</td>
<td>??</td>
</tr>
<tr>
<td>Dopamine</td>
<td>Mu, delta</td>
<td>Inhibit</td>
<td>??</td>
</tr>
</tbody>
</table>


### The Opioids

<table>
<thead>
<tr>
<th>Phenanthrenes</th>
<th>Benzomorphans</th>
<th>Phenylpiperidines</th>
<th>Diphenylheptanes</th>
<th>Central</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine</td>
<td>Pentazocine</td>
<td>Meperidine</td>
<td>Methadone</td>
<td>Tramadol</td>
</tr>
<tr>
<td>Codeine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrocodone*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydromorphone*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Levorphanol*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxycodone*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxymorphone*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buprenorphine*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nalbuphine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Butorphanol*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Naloxone</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heroin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diphenoxylate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loperamide</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fentanyl</td>
<td></td>
<td>Fentanyl</td>
<td>Propoxyphene</td>
<td></td>
</tr>
<tr>
<td>Sufentanil</td>
<td></td>
<td>Sufentanil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alfentanil</td>
<td></td>
<td>Alfentanil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remifentanil</td>
<td></td>
<td>Remifentanil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Propoxyphene</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tapentadol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Indicates lack of 6-OH group, possibly decreasing risk of cross-tolerance of hypersensitivity

Table adapted with permission from J. Fudin, PharmD [www.paindr.com](http://www.paindr.com)
### Commercially Available Oral Opioids in US

<table>
<thead>
<tr>
<th>Combination</th>
<th>Immed. Release</th>
<th>“Long acting”</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hydrocodone / APAP:</strong></td>
<td><strong>Morphine</strong></td>
<td><strong>Morphine-LA</strong></td>
</tr>
<tr>
<td>Hydrocodone 2.5, 5, 7.5, 10</td>
<td>10; 15; 30</td>
<td>15; 30; 60; 100; 200; Kadian specific: 10; 20; 50; 80;</td>
</tr>
<tr>
<td></td>
<td><strong>Tramadol:</strong> 50mg</td>
<td>Kadian specific: 10; 20; 50; 80; Avinza specific: 90; 120</td>
</tr>
<tr>
<td></td>
<td><strong>Tapentadol:</strong> 50, 75, 100mg</td>
<td></td>
</tr>
<tr>
<td><strong>Hydrocodone / Ibuprofen:</strong></td>
<td><strong>Oxycodone</strong> 5, 7.5; IBU 200</td>
<td><strong>Oxycodone-LA</strong> 10; 20; 40; 80</td>
</tr>
<tr>
<td>Hydrocodone 5, 7.5; IBU 200</td>
<td>5; 15; 30</td>
<td></td>
</tr>
<tr>
<td><strong>Oxycodone / APAP:</strong></td>
<td><strong>Hydromorphone</strong> 2; 4; 8</td>
<td><strong>Oxymorphone-LA</strong> 5; 7.5; 10; 15; 20; 30; 40</td>
</tr>
<tr>
<td>Oxycodone 2.5, 5, 7.5, 10</td>
<td><strong>Oxymorphone</strong> 5; 10</td>
<td></td>
</tr>
<tr>
<td>5/400</td>
<td><strong>Fentanyl-TTS</strong> 12.5; 25; 50; 75; 100 (mcg/hour)</td>
<td></td>
</tr>
<tr>
<td><strong>Codeine / APAP:</strong></td>
<td><strong>Codeine</strong> 15; 30; 60</td>
<td><strong>Methadone</strong> 5, 10</td>
</tr>
<tr>
<td>Codeine 15/300; 30/300; 60/300</td>
<td><strong>Fentanyl (buccal / OTFC)</strong> 0.1; 0.2; 0.4; 0.6; 0.8; 1.2; 1.6</td>
<td><strong>Levorphanol</strong> 2</td>
</tr>
<tr>
<td></td>
<td><strong>Tapentadol</strong> 50, 100, 150, 200, 250</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Hydromorphone</strong> 6, 8, 12</td>
<td></td>
</tr>
</tbody>
</table>

### Equianalgesic dosing

<table>
<thead>
<tr>
<th>Drug</th>
<th>IV (mg)</th>
<th>Oral (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>Buprenorphine</td>
<td>0.3</td>
<td>0.4 (SL)</td>
</tr>
<tr>
<td>Codeine</td>
<td>100</td>
<td>200</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>0.1</td>
<td>-</td>
</tr>
<tr>
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<td>--</td>
<td>30</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>1.5</td>
<td>7.5</td>
</tr>
<tr>
<td>Meperidine</td>
<td>100</td>
<td>300</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>--</td>
<td>20</td>
</tr>
<tr>
<td>Oxymorphone</td>
<td>1</td>
<td>10</td>
</tr>
</tbody>
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Adjusting doses

- **Incomplete cross-tolerance**
  - Reduce target dose 25-50% if pain mild to moderate
  - Moderate pain, consider no reduction
  - Moderate to severe pain, consider increase of 50% to 100%

- **Exceptions to above rule include fentanyl, methadone, levorphanol**
  - Transdermal fentanyl reduction considered in conversions
  - Methadone and levorphanol exhibit dose-dependent potency changes

- **Breakthrough immediate release opioid dosing**
  - 10% to 20% of total daily dose
  - Exceptions include all transmucosal, sublingual and intranasal fentanyl products

---

Let’s practice!

- JL is a 46 year old female with a history of disabling chronic low back pain with radiculopathy. She is post-operative day 5 following L4-L5 fusion and pain is well controlled on current therapy (patient was on chronic opioid therapy prior to surgery). The surgeon would like your assistance in creating an oral therapeutic regimen to discharge her home on.

  - **Inpatient medications**
    - Morphine IV PCA 4mg basal rate, 4mg bolus with a 10 min lockout
    - PCA pump reveals 16 attempts, 16 deliveries over past 24 hrs

  - JL’s insurance will cover all short acting opioids and CR oxycodone or fentanyl transdermal patches
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First calculate 24 hour morphine intake: (4mg)X(24hrs) = 96mg basal and (4mg) X (16 deliveries from bolus) = 64mg bolus dosing

**TOTAL 160MG OF IV MORPHINE EQUIVALENTS / 24 HRS**


---

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<td>7.5</td>
</tr>
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<td>Meperidine</td>
<td>100</td>
<td>300</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>--</td>
<td>20</td>
</tr>
<tr>
<td>Oxymorphone</td>
<td>1</td>
<td>10</td>
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**TOTAL 160MG OF IV MORPHINE EQUIVALENTS / 24 HRS**

Next convert IV morphine (160mg) to PO morphine using the equianalgesic chart: (160mg IV) X (3) =

**TOTAL 480MG ORAL MORPHINE EQUIVALENTS / 24 HRS**

Using the equianalgesic chart convert oral morphine to oral oxycodone:

480mg ME/ x oxycodone = 30mg ME / 20mg oxycodone

Solve for “x”

320mg of oral oxycodone per 24 hours
Let’s practice!

First calculate 24 hour morphine intake: (4mg)X(24hrs) = 96mg basal and (4mg) X (16 deliveries from bolus) = 64mg bolus dosing

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Solve for “x”

320mg of oral oxycodone per 24 hours

Since pain is controlled reduce target dose by 25-50% (lets do 50%)

160mg of oral oxycodone / 24 hrs

CR oxycodone 80mg tablets 1 tablet every 12 hours (not BID)

Oxycodone IR tablets (10% to 20% of total daily dose) =

Oxycodone 15mg IR 1 tab every 4 hours as needed

Adverse effects of opioids

• Respiratory depression
• Constipation
• Nausea and vomiting
• Hypogonadism
• Hyperalgesia
• Sleep disordered breathing
• Immune deficiency
Opioid-induced Hyperalgesia

- Paradoxical worsening of pain with opioids
- May represent central sensitization
- Mediated via NMDA-mGLUr or MAP kinase
- Unknown clinical relevance
- Lack of clear recommendations on management
- Educating patient is paramount

Martin CM. Consult Pharm. 2011;26(8):530-42.

Opioid Effects on Sleep

- Ataxic (Briot) Breathing
  - Inhibition of central chemoreceptors
  - Typically associated with neurologic disease
  - Irregular and variable respiratory rate and effort

- Obstructive Sleep Apnea
  - Increased accessory muscle rigidity
  - Decreased airway patency via neuronal inhibition

- Central Sleep Apnea
  - Blunted response to hypoxemic respiratory drive via peripheral chemoreceptors
  - Blunted compensatory response to airway resistance or loading

Higher doses result in apneic episodes


Opioids for chronic pain?

<table>
<thead>
<tr>
<th>Guideline</th>
<th>Yes or No?</th>
<th>Caveats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chou (APS &amp; AAPM)</td>
<td><strong>Yes</strong>, moderate to severe pain; benefits outweigh risks</td>
<td>Risk assessment, strict monitoring, and exit strategies</td>
</tr>
<tr>
<td>Am Geriatrics Society</td>
<td><strong>Yes</strong>, moderate to severe pain; benefits outweigh risks</td>
<td>What is conventional practice for pain syndrome? Is prescriber qualified or should specialist be consulted</td>
</tr>
<tr>
<td>Trescot (ASIPP)</td>
<td><strong>Maybe</strong>, severe pain; benefits must strongly outweigh risks</td>
<td>Provides decision algorithm and extensive review, no clear recs</td>
</tr>
</tbody>
</table>

Cochrane Systematic Review: Long-term opioid management for chronic noncancer pain


<table>
<thead>
<tr>
<th>Route</th>
<th>Discontinued AE</th>
<th>Discontinued Lack of Efficacy</th>
<th>Aberrant Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral (n=3040)</td>
<td>22.9%</td>
<td>10.3%</td>
<td></td>
</tr>
<tr>
<td>Transdermal</td>
<td>12.1%</td>
<td>5.8%</td>
<td>0.27%</td>
</tr>
<tr>
<td>(n = 1628)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intrathecal</td>
<td>7.6%</td>
<td>7.6%</td>
<td></td>
</tr>
<tr>
<td>(n = 231)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Outcomes for CR vs. IR opioids

- Pain scores / severity
  - No difference when IR dosed around the clock
  - No difference in breakthrough dosing
- Patient preference
  - CR opioids scored statistically significantly better
- Sleep
  - CR opioids scored statistically significantly better
- Nausea
  - CR opioids scored statistically significantly better
- Somnolence
  - CR opioids scored statistically significantly better

Is tolerance more likely with IR?

- Dose escalation appears similar b/w IR and CR
  - 89% of IR and 79% of CR stable at one year
  - Median time to escalation 3.1 years between groups
- Disappointing retention rates for CR exist
  - 10 yr retention rate 60% in Denmark
  - No difference in Health Related Quality of Life CR vs. IR


Screening for risk

<table>
<thead>
<tr>
<th>Acronym of tool</th>
<th>Number of questions</th>
<th>Completion</th>
<th>Time to complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOAPP®-R</td>
<td>24 items</td>
<td>Self-report</td>
<td>&lt; 10 minutes</td>
</tr>
<tr>
<td>DIRE</td>
<td>7 items</td>
<td>Clinician administered</td>
<td>&lt; 5 minutes</td>
</tr>
<tr>
<td>ORT</td>
<td>5 items</td>
<td>Clinician administered</td>
<td>&lt; 5 minutes</td>
</tr>
<tr>
<td>COMM (current use)</td>
<td>40 items</td>
<td>Self-report</td>
<td>&lt; 10 minutes</td>
</tr>
<tr>
<td>CAGE (current use)</td>
<td>4 items</td>
<td>Self-report or clinician administered</td>
<td>&lt; 5 minutes</td>
</tr>
</tbody>
</table>

SOAPP®-R (Screen and Opioid Assessment for Patient’s in Pain-revised); DIRE (Diagnosis, Intractability, Risk, and Efficacy); ORT (Webster’s Opioid Risk Tool); COMM (Current Opioid Misuse Measure); CAGE (Cut-down, Annoyed, Guilt, Eye-opener);

Ensuring safe use

- Screen for risk before the first prescription written
- Baseline and random drug screening
- Informed consent / pain treatment agreements
- All initial prescriptions need an “exit strategy”
- Monitor
  - Refill history
  - Prescription monitoring program
  - Office visit pill counts
  - Concurrent prescriptions and co-morbidities


Monitoring outcomes

- The 4 “A”s of pain management monitoring
  - Analgesia
  - Adverse effects (of opioids)
  - Aberrant drug taking behavior
  - Activity
- Help patient set REALISTIC treatment goals
- Trust, but verify
- Treat to activity, not the pain score
Elements to assure safe use (ETASU)

- Certification and specialized training of prescribers, pharmacies / pharmacists, and other dispensers
- Restricted distribution of a drug to limited settings
- Dispensing to a patient based on evidence or other documentation of safe use conditions, such as labs
- Patient monitoring and/or patient registry
- Prescriber and/or pharmacist registry
Patient Counseling Document
Required for CR / LA REMS

• **DO**
  – Read the med guide
  – Take exactly as prescribed
  – Flush unused meds down toilet
  – Call healthcare provider for med advise or SE

• **DON’T**
  – Give your medicine to others
  – Take medicine unless prescribed for you
  – Stop taking your medicine without direction
  – Break, chew, crush, dissolve, or inject your medicine
  – Drink alcohol while taking this medicine


**Conclusions**

• Chronic pain is prevalent
• Chronic pain is difficult to treat
• Multi-modal treatment plans should be employed
• Opioids are effective analgesics requiring judicious use