Opioids for Subacute and Chronic Pain

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Content Attestation

I, Kurt Hegmann, MD, MPH hereby declare that the content for this activity, including any presentation of therapeutic options, is well balanced, unbiased, and to the extent possible, evidence-based.

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- Chair, ACOEM Evidence-Based Practice Committee and Editor-in-Chief
- Teaching and Research Grants (CDC/NIOSH), Utah Labor Commission
- Take care of patients (primary to tertiary)
- Consultations >100 businesses and unions
**Strength of Evidence**

A: **Strong evidence:**

2+ high-quality studies.

B: **Moderate evidence:**

1+ high or multiple moderate quality studies.

C: **Limited evidence**

1+moderate quality study.

I: **Insufficient evidence:**

Evidence insufficient or irreconcilable.

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**Evidence-based Recommendations**

<table>
<thead>
<tr>
<th>Strongly Recommended</th>
<th>“A” Level Evidence</th>
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<td>Moderately Recommended</td>
<td>“B” Level Evidence</td>
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<td>Insufficient For (Consensus-based)</td>
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<td>Insufficient-No Recommendation (Consensus-based)</td>
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<td>Recommended Against</td>
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<td>Moderately Recommended Against</td>
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</tbody>
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**Historical Turning Points**

- **1990s:** Portenoy and Foley opined long acting opioids for chronic pain was safe, effective, <1% addiction risk, no upper dose limit. Portenoy 86; Bannwarth 99; Bovill 87
- **1999:** Oregon Board of Med. Examiners disciplined MD for not prescribing enough pain med.; other lawsuits for pain undertreatment. (Bilder v Oregon Board of Medical Examiners 99; Hoffman 03; Jefferson L. Rev 04-05)
- **2000:** VA launched pain as “5th Vital Sign” (Dept Veterans Affairs 00; Merboth 00)
- **2000:** JCAHO issued pain management standard requiring rights of patients to pain management. (Berry 00)
- **2001:** California jury convicted MD of elder abuse for undertreating pain. (Garcia 13)
Upshot

“The combination of physician promotion, industry marketing and regulatory activities appears to have inadvertently launched the greatest reported iatrogenic and advocagenic epidemic of fatalities in U.S. history.”

—ACOEM Practice Guidelines 2013
MMWR. 1/13/12; 61(01):10-13.

Opioids Context: **Higher** fatalities than MVC fatalities. Ergo ➔ Much, much higher risk

-Publilius
Syrus
50 BC

“There are some remedies worse than the disease”

2000 2004

Photo: C. Porucznik

CASE example

- Sent home with 90 day supply of Vicodin 10mg, 1-2 Q4-6h PRN
- Found dead
- On post-mortem, found to also have a Rx for Xanax and had taken Benadryl
Opioids for Acute Pain

Routine opioid use Strongly Not Recommended (A)
- NSAIDs medications at least equivalent if not superior
  (Ekman 08; Clark 07; Lovell 04; Veenema 00; Innes 08; Li 08; Brown 00)
- Safety profiles worse
- No quality trials suggest superiority of opioids.

Opioids for Acute Pain

Recommended (C) for: 1) acute, severe pain (e.g., crush injuries, large burns, severe fractures, injury with significant tissue damage) uncontrolled by other agents and/or with functional deficits; or 2) brief course for anticipated pain (1st visit) accompanying severe injuries.

Indications – All of:
- Prescription databases should be checked (if applicable).
- Non-opioids (e.g., NSAIDs) nearly always as primary medication.
- Caution if: i) use illicit substances, ii) benzodiazepines, iii) sedating medications including anti-histamines (H1-blockers), or iv) are unemployed. (Cheng 13; Eriksen 06; Atluri 04; Green 11)
- LONG list of other cautions. (see later chronic pain slide).

Opioids for Acute Pain

Frequency/Duration –
- Prescribed at night or when not at work, generally
- Generally PRN use, not scheduled
- Lower opioid doses as: 1) better safety profiles, 2) less risk of escalation, (Chesnoff 10) 3) less risk of lost time (Volinn 09) and 4) faster return to work. (Dersh 08)
- Taper off in 1 to 2 weeks.
- If parenteral administration, ketorolac superior vs. opioids, (Veenema 00; Innes 08) although ketorolac’s risk profile may limit use for some.
- Parenteral opioids outside of obvious acute trauma or surgical emergency conditions almost never required, and requests for such are clinically viewed as red flags for potential substance abuse.
- Evidence of delayed fracture healing with NSAIDs which may mitigate use for fractures and spinal fusion surgery. (O’Connor 09; Vuolteenaho 08; Reuben 05)
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Opioids for Post-op Pain
(much abbreviated)

Recommended (C): limited post-op as adjunct. therapy
Indications – Post-op. pain mg. Brief opioids as adjuncts to more efficacious treatments (e.g., Cox-2 NSAIDs, non-selective NSAIDs after risk of bleeding issues is not concerning, therapeutic exercises including progressive ambulation) is often required, especially for moderate to extensive procedures (e.g., arthroplasty, fusion).

Indications – All of:
- Prescription databases should be checked (if applicable).
- Non-opioids (e.g., NSAIDs) nearly always as primary medication.
- Caution if: i) use illicit substances, ii) benzodiazepines, iii) sedating medications including anti-histamines (H1-blockers), or iv) are unemployed. (Cheng 13; Eriksen 06; Atluri 04; Green 11)
- LONG list of other cautions. (see later chronic pain slide).
- If pre-op. opioids, consultations may be needed as post-operative dosing may be very high and management quite challenging.

Opioid Dose Limits in Acute AND Post-operative Pain

Maximum daily dose for opioid-naive, acute pain = 50mg morphine equivalent dose (MED). (Bohnert 11).

Rare cases with documented functional improvement, higher doses may be considered, however, risks substantially higher and greater monitoring also recommended.

Post-operative may require higher doses > 50mg MED, particularly first 2 post-operative weeks.

Use lower doses if higher risk of dependency, addiction and other adverse effects. Monitoring recommended and consultation may be considered if on higher doses.

Recommended, Evidence (C)

CASE example

55yo with aggravation of LBP from lifting at work seen in OM clinic. Has a history of chronic LBP, HTN, OSA.
- Takes Lortab 10mg TID, lisinopril, HCTZ. No exercise program.
- BMI=37.4kg/m². Able to walk, somewhat stiff-backed gait. Tender paraspinals, not focal. (-)SLR. 2+DTRs.

What are the best treatment approaches?
Routine Use of Opioids for Chronic Pain

Quality evidence other medications and treatments are at least equivalent if not superior (e.g., NSAIDs, nortriptyline (Khoromi 07; O’Donnell 09; Parr 89; Jamison 98). None to contrary.
* Safety profiles considerably worse for opioids.

NO quality trials to suggest superiority of opioids to other active treatments.

Moderately NOT Recommended, Evidence (B)

Dose Escalation (Naliboff 2011)

- RCT
- Tight “Hold the line” vs. loose dose escalation policies
- N=135
- No differences in function
- 27% misuse, no differences between groups

Opioids for Highly Select Treatment of Subacute or Chronic Severe Pain

- Recommended for treatment of FUNCTION impaired by subacute or chronic severe pain
- e.g., inability to work due to any of: chronic severe radiculopathy, chronic severe peripheral neuropathies, complex regional pain syndrome, severe arthropes, and severe LBP.

- Recommended, Evidence (C)
Indications, Meet ALL of:

- ☐ Reduced function attributable to pain. Pain alone is insufficient reason.
- ☐ Severe disorder [e.g., complex regional pain syndrome (CRPS), severe low back pain with objective functional limitations, advanced degenerative joint disease].
- ☐ Other more efficacious treatments should have been instituted and failed.
  - E.g., Physical restorative approaches, behavioral interventions, self-applied modalities, non-opioid medications (including NSAIDs, acetaminophen, and topical agents) and functional restoration.
    - ☐ For LBP, includes trial of muscle relaxant (not co-treatment), fear avoidance brief training and ongoing progressive aerobic exercise, and strengthening exercises.
    - ☐ For radiculopathy, includes epidural glucocorticoid injections and discectomy.
    - ☐ For CRPS, includes progressive strengthening exercise.
    - ☐ DJD, includes NSAIDs, weight, aerobic, strengthening ex.

Concomitant Treatments

- ☐ Active exercise program ongoing.
- ☐ Most effective treatments ongoing.
- ☐ Generally, part of a multi-modal treatment plan.
- ☐ Non-opioid prescriptions (e.g., NSAIDs, acetaminophen) nearly always primary pain medication and accompany opioid Rx.
- ☐ Lowest effective dose should be used. (Cifuentes 10)
- ☐ Use weaker opioids whenever possible. (Volinn 09; Dersh 08)
- ☐ Where available, prescription databases should be checked for other opioid prescriptions.

Should not receive opioids if:

- ☐ Use illicit substances,
- ☐ Use benzodiazepines,
- ☐ Use sedating medications including anti-histamines (H1 blockers), muscle relaxants, or
- ☐ Chronic unemployment. (Cheng 13; Green 11; Eriksen 06)

Elevated risk of death and adverse effects:

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Anxiety</th>
<th>Personality Disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>COPD</td>
<td>PTSD</td>
<td>Unrelated Sleep Disorder</td>
</tr>
<tr>
<td>Current Alcohol use</td>
<td>Current Tobacco Use</td>
<td>Substance Abuse History</td>
</tr>
<tr>
<td>Other Psychotropic Meds. use</td>
<td>Cognitive Impairment</td>
<td>Balance Problems/Fall Risk</td>
</tr>
<tr>
<td>Renal Failure</td>
<td>Severe Obesity</td>
<td>Osteoporosis</td>
</tr>
</tbody>
</table>

References:

- Bush 08, Hall 08, Nuech 09, Humes 11, Chang 13, Devere 09, Park 12, Christman 13, Nyhlén 11, Wunsch 09, Webster 06, 11, Cheng 13, Dunn 10, Hall 08, Paulozzi 09, 12, Grattan 12, Hadidi 09, MMWR 05, 10, Fareed 09, Deyo 11, Goodridge 10, Seal 12, Mills 05, Atluri 04, MMWR 05, 10.
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Additional Cautions:
Other Co-Morbidities

<table>
<thead>
<tr>
<th>Chronic Hepatitis and/or Cirrhosis</th>
<th>Coronary Artery Disease</th>
<th>Dysrhythmias</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cerebrovascular Disease</td>
<td>Orthostatic Hypotension</td>
<td>Thermoregulatory Problems</td>
</tr>
<tr>
<td>Osteopenia</td>
<td>Water Retention</td>
<td>Gastroesophageal Reflux</td>
</tr>
<tr>
<td>Opioid Use</td>
<td>Erectile Dysfunction</td>
<td>Abdominal Pain</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>Oligospermia</td>
<td>Constipation</td>
</tr>
<tr>
<td>Infectious Birth Control</td>
<td>Herpes</td>
<td>HIV</td>
</tr>
<tr>
<td>Hair Problems</td>
<td>Concentration Problems</td>
<td>Thermoregulatory Problems</td>
</tr>
<tr>
<td>Insomnia</td>
<td>Coordination Problems</td>
<td>Slow Reaction Time</td>
</tr>
<tr>
<td>Tremor</td>
<td>Suicidal Risk</td>
<td>Impulse Control</td>
</tr>
<tr>
<td>ADHD</td>
<td>Asthma</td>
<td>Recurrent Pneumonia</td>
</tr>
<tr>
<td>Thought Disorders</td>
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</tbody>
</table>

Frequency/Duration

- Initiate “TRIAL” to ascertain whether opioid produces functional improvement.
- Generally prescribed at night or when not at work. (Gomes 13)
- Only one opioid prescribed.
- Lower doses preferable as better safety profiles, less dose escalation risk, (Cifuentes 10) less work loss, (Volinn 09) and faster return to work. (Dersh 08)
- Should have ongoing monitoring of efficacy, adverse effects, compliance and, earnings; med. use: Shorter rather than longer duration opioid Rxs. (Cifuentes 12)

Functional Gains to Measure

- Work, specific occupational tasks, RTW; returns to modified duty.
- Walking (how far, how often)
- Physical therapy/exercise participation
- Sets of ___ Reps of X
- Aerobic capacity
- Strength
- Household chores...
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**Opioids Discontinuation**

- No functional benefit,
- Resolution of pain,
- Improve to not needed,
- Intolerance, Adverse Effects
- Non-compliance,
- Surreptitious use,
- Arent drug screening results,
- Using sedating medications, alcohol, benziadiazepines.

**Screening Prior to Initiation**

Screening should include history(ies) of:

<table>
<thead>
<tr>
<th>Depression</th>
<th>Substance(s) abuse history</th>
<th>Sleep Disorders, COPD</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD</td>
<td>Sedating medication use</td>
<td>Alcohol Abuse</td>
</tr>
<tr>
<td>Anxiety, Benzodiazepine use</td>
<td>Anti-histamines</td>
<td>Tobacco use</td>
</tr>
<tr>
<td>Personality Disorder</td>
<td>Opioid dependence</td>
<td>Substance problems/full risk</td>
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<tr>
<td>Other Psychiatric disorder</td>
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<tr>
<td>Cognitive Impairment</td>
<td>Osteoporosis</td>
<td>Renal/Liver diseases</td>
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</tbody>
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- Recommended, Insufficient Evidence (I)

Psychological evaluation would be recommended in many of these.

**Opioid Dose Limits in Subacute and Chronic Pain**

- Maximum daily dose for subacute or chronic pain patients, 50mg Morphine Equivalent Dose (MED) (Dunn 10; Bohnert 11)
- With functional improvements may consider >50mg MED up to 100mg
- BUT risks of death much higher and more intensive monitoring recommended
- Lower doses should be considered in high risk patients.
- Recommended, Evid (C)
Opioid Dose Limits in Subacute and Chronic Pain

- If >50mg MED
  - greater monitoring including:
    1. ≥monthly appointments
    2. ≥Q6mo. attempts to wean <50mg MED if not off opioid
    3. ≥Q6mo. document persistence of functional benefit
    4. ≥Q6mo. urine drug screening, and review of medications, particularly to assure no sedating med. use (e.g., benzodiazepine, H1 anti-hist.)

Recommended, Evidence (C)

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Drug Screening Recommended

- Indications – All on chronic opioids (usually urine)
- Frequency – Baseline, randomly 2-4x/yr.
- ≥8 tests/yr if opioid treatment programs
- More screening if >50mg MED
- Evaluate drug, metabolites and other substance(s) use. Standard urine drug/tox screening processes should be followed (consult qualified MRO). (Auerbach 07; Jortani 12; Heit 04)
- Discontinue if aberrant results
- Screening "for cause" (e.g., suspicion of misuse, motor vehicle crash, other accidents and injuries, driving while intoxicated, premature prescription renewals, self-directed dose changes, lost or stolen prescriptions, >1 provider for prescriptions, non-pain use of medication, using alcohol for pain treatment or excessive alcohol use, missed appointments, hoarding and selling medications).

Recommended, Evidence C

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Opioid Treatment Agreements

Informed Consent, and Contracts

- Treatment agreement:
  - understanding and expectations of opioid use,
  - If consent obtained, appropriate family members involved in agreement.
  - Annual updating

Recommended, Insufficient Evidence