Opioids in Primary Care: The Good, the Bad, and the Ugly

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Nebraska-South Dakota ACP Combined Meeting
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Learning Objectives*

• Become aware of the recent epidemic of opioid overuse and its consequences.
• Describe the factors that have led to over prescribing of opioids for chronic non-cancer pain.
• Be able to describe the differences between nociceptive and neuropathic pain.
• Describe alternative approaches to chronic pain management other than opioids.
• Be aware of the CDC Opioid Prescribing Guidelines for Chronic pain and how to apply them in practice.
The Opioid Epidemic – Statistics

- 259 million opioid prescriptions written in 2012.
- ~ 20% of patients with non-cancer pain are prescribed opioids.
- Between 3% and 4% of adults are prescribed long term opioids.
- ~ 2 million people are dependent on or abuse opioids.
- ~ half of opioid overdose deaths involve a prescription opioid.
- Since 1999 > 180,000 have died from Rx opioid overdoses.
- Prescription opioid death rate has quadrupled since 1999.
- 4 out of 5 heroin users started on prescription opioids.
- Heroin deaths have tripled between 2010 and 2015.

- Source: https://www.cdc.gov/drugoverdose/prescribing/guideline.html
Trends in Opioid Prescribing

Synthetic opiate deaths continue to surge

Annual overdose deaths involving selected drugs

- Synthetic opiates (including fentanyl): 29,418
- Heroin: 15,950
- Natural opiates: 14,951
- Cocaine: 14,614
- Other stimulants (including meth): 10,708
- Methadone: 3,287

Note: 2017 figures are provisional. Many overdose deaths involve multiple drugs.

Source: Centers for Disease Control and Prevention

WAPO.ST/WONKBLOG

Overdose estimates for selected drug types in 2017.
Factors promoting increased opioid prescribing

• Pain as the 5th vital sign
  • Introduced in 1996 by the American Pain Society.
  • Rapid uptake by health care organizations using 1-10 rating scale.
  • Rating scales oversimplify the problem of chronic pain.

• Patient satisfaction as a component of reimbursement
  • Until recently, Medicare reimbursement was partly based on patient satisfaction surveys including questions about pain control.

• Aggressive opioid promotion by the pharmaceutical industry as safe and effective
  • There is little high quality evidence to suggest that long term opioid use is an effective means of chronic pain control.
  • There is ample high quality evidence showing the risks of long term opioid use. E.g. 68.5 excess deaths per 10,000 person years opioid prescribing (for non-cancer pain).

Marketing of Oxycontin

• From 1996 to 2002, Purdue Pharmaceuticals funded > 20,000 pain related educational programs.

• From 1996 to 2001, Purdue conducted > 40 national pain management and speaker training conferences at resorts (all expenses paid) where >5,000 physicians, nurses and pharmacists attended.

• Purdue more than doubled its internal sales force, provided starter coupons for free trials of oxycontin and distributed extensive promotional items.

• Oxycontin heavily promoted for non-cancer pain. Sales reps claimed that risk of addiction was less than 1%.

Marketing of Oxycontin (continued)

• In 2001, *The Medical Letter on Drugs and Therapeutics* found oxycodone offered no advantage over appropriate doses of other potent opioids.

• By 2004, Oxycontin was the leading drug of abuse in the US.

• In 2007, Purdue Frederick Co. Inc. and 3 executives plead guilty to criminal misbranding by claiming it was less addictive and less subject to abuse and paid $634 million in fines.

• 2019 Purdue declares bankruptcy in the setting of massive nationwide legal action.
Misperception of opioid analgesic potency

Opioids are not the most effective at providing pain relief.

Percent with 50% pain relief

<table>
<thead>
<tr>
<th>Opioid Medications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen 500 mg + ibuprofen 200 mg</td>
</tr>
<tr>
<td>Ibuprofen 400 mg</td>
</tr>
<tr>
<td>Ibuprofen 200 mg</td>
</tr>
<tr>
<td>Acetaminophen 500 mg + oxycodone 10 mg</td>
</tr>
<tr>
<td>Morphine IM 10 mg</td>
</tr>
<tr>
<td>Acetaminophen 500 mg</td>
</tr>
<tr>
<td>Oxycodone 15 mg</td>
</tr>
<tr>
<td>Acetaminophen 300 mg + codeine 30 mg (Tylenol #3)</td>
</tr>
<tr>
<td>Tramadol 50 mg</td>
</tr>
</tbody>
</table>

Source: Cochran research cited in the NSC white paper, Evidence for the efficacy of pain medications
Under-appreciation of opioid side effects

- Respiratory depression
- Sedation

Overdose risk

- Constipation & Nausea
- Opioid-induced hyperalgesia
- Addictive potential (Rx opioids similar to heroin)
  - ~25% of chronic pain patients in primary care are opioid dependent
- Immunologic effects
- Hormonal effects
The Challenge of Assessing Pain

• Pain is common
  • 25 million American report daily chronic pain

• Pain is subjective

• Sometimes pain is feigned

• Pain is modulated by psychosocial factors (especially depression)

• Tissue injury pain (nociceptive) vs. neuropathic pain

• Over-reliance on overly simplistic measures (e.g: 0-10 pain scale)

• Multidimensional assessment tool are somewhat time consuming
  • McGill Pain Questionnaire (5-15 minutes)
  • Brief Pain Inventory (5-15 minutes)

• Establishing realistic goals: improving function vs. elimination of pain
  • “Zero pain is not the goal”
Types of Pain

• Nociceptive pain: Ongoing inflammation or tissue injury
  • E.g.: Rheumatoid arthritis, Toothache, Fracture pain, Post operative pain

• Neuropathic pain: Dysfunction of the nervous system
  • Peripheral neuropathic pain
    • E.g.: Diabetic neuropathy, Trigeminal neuralgia, Post-herpetic neuralgia
  • Sympathetically mediated pain
    • Complex regional pain syndrome
  • Central pain syndromes
    • E.g.: Fibromyalgia, Phantom limb pain

• Note: Opioids are relatively contraindicated in neuropathic pain syndromes
General approach to chronic pain

• Assess both physical and psychosocial dimensions of pain.
• Set realistic goals that emphasize function rather than pain relief.
• Recognize that there is unlikely to be a “quick fix” for chronic pain.
• Use a multi-modal approach that combines behavioral, manipulative, and pharmacologic modalities as appropriate.
• Continue to care for the patient, providing encouragement, empathy, and support.
Non-Opioid approaches to treat chronic pain:

- Non-pharmacologic:
  - Cognitive behavioral therapy
  - Biofeedback
  - Relaxation therapy.
  - Exercise
  - Acupuncture
  - Physical therapy
  - Manipulation
  - Neuromodulation

- Pharmacologic:
  - Acetaminophen
  - NSAIDs
  - Tricyclic antidepressants
    - Nortriptyline
  - SNRIs
    - Venlafaxine
    - Duloxetine
  - Antiepileptics
    - Gabapentin
    - Pregabalin
  - Topical agents
    - Lidocaine patch
    - Capsaicin cream
  - Nerve Blocks/ablations
Effect of Opioid vs Nonopioid Medications on Pain-Related Function in Patients With Chronic Back Pain or Hip or Knee Osteoarthritis Pain
The SPACE Randomized Clinical Trial

Erin E. Krebs, MD, MPH; Amy Gravely, MA; Sean Nugent, BA; Agnes C. Jensen, MPH; Beth DeRonne, PharmD; Elizabeth S. Goldsmith, MD, MS; Kurt Kroenke, MD; Matthew J. Bair; Siamak Noorbaloocchi, PhD

• 240 patients randomized to opioid vs non-opioid pain strategy in steps and followed for 12 months:
  • Step 1: Short acting opioids ± acetaminophen vs. acetaminophen ± NSAIDs
  • Step 2: Extended release opioids vs. tricyclics, gabapentin, topicals
  • Step 3: Fentanyl patch vs. pregabalin, duloxetine, tramadol
• Limit of 100 MME in the opioid group
• Patients were not blinded but outcome assessments were blinded
• No significant difference in pain related function
• Pain intensity significantly better in the non-opioid group
• Increased medication adverse effects in opioid group
2016 CDC Opioid Guidelines for Chronic Pain

• Chronic pain defined as > 3 months duration
• Guidelines do NOT apply to:
  • Patients in active cancer treatment
  • Patients in palliative care
  • Patients in end-of-life care
• Guidelines were developed based on:
  • Evidence-based literature review
  • Advice from Core Expert Group
  • External comments made to draft guideline

• [https://www.cdc.gov/mmwr/volumes/65/rr/rr6501e1.htm](https://www.cdc.gov/mmwr/volumes/65/rr/rr6501e1.htm)
CDC Guidelines: 1-3 (of 12)

• Non-pharmacologic and non-opioid pharmacologic therapy are preferred for chronic pain.
  • If opioids are used, they should be combined with the above approaches.

• Before starting opioid therapy, clinicians should establish treatment goals including realistic goals for pain and function.
  • An exit strategy should be pre-specified (should benefits not outweigh risks).
  • Continued therapy should be based on meaningful improvement in pain and function.

• Before starting and periodically during opioid therapy, clinicians should discuss with patients known risks and realistic benefits.

PEG Score – Average 3 Scores

1: What number from 0-10 best describes your pain in the past week?

2: What number from 0-10 describes how, during the past week pain has interfered with your enjoyment of life?

3: What number from 0-10 describes how, during the past week, pain has interfered with your general activity?

30% improvement from baseline is clinically meaningful

• When starting therapy, prescribe immediate release opioids instead of extended-release/long-acting (ER/LA) opioids

• When opioids are started, prescribe the lowest effective dosage.
  • Exceed 50 morphine milligram equivalents (MME)/day with caution.
  • Avoid exceeding 90 MME/day.

• When opioids are used for acute pain, prescribe no more than needed for the expected duration of severe pain.
  • Usually 3 days or less
  • Rarely more than 7 days

Calculating morphine milligram equivalents (MME)

<table>
<thead>
<tr>
<th>OPIOID (doses in mg/day except where noted)</th>
<th>CONVERSION FACTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Codeine</td>
<td>0.15</td>
</tr>
<tr>
<td>Fentanyl transdermal (in mcg/hr)</td>
<td>2.4</td>
</tr>
<tr>
<td>Hydrocodone</td>
<td>1</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>4</td>
</tr>
<tr>
<td>Methadone</td>
<td></td>
</tr>
<tr>
<td>1-20 mg/day</td>
<td>4</td>
</tr>
<tr>
<td>21-40 mg/day</td>
<td>8</td>
</tr>
<tr>
<td>41-60 mg/day</td>
<td>10</td>
</tr>
<tr>
<td>≥ 61-80 mg/day</td>
<td>12</td>
</tr>
<tr>
<td>Morphine</td>
<td>1</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>1.5</td>
</tr>
<tr>
<td>Oxymorphone</td>
<td>3</td>
</tr>
</tbody>
</table>

These dose conversions are estimated and cannot account for all individual differences in genetics and pharmacokinetics.
• Evaluate the benefits and harms within 1-4 weeks of starting therapy or dose escalation and every 3 months thereafter.
  • If benefits do not outweigh harms, taper or discontinue opioids.

• Before starting and periodically during opioid therapy, evaluate risk factors for opioid-related harms: h/o overdose; h/o substance use disorder; dosages > 50 MME/day; concurrent benzodiazepine use.
  • Consider offering naloxone in such cases.

• Use the state Prescription Drug Monitoring Program (PDMP)
  • Before starting and at least every three months thereafter.
• Use urine drug testing before starting opioids and at least annually during therapy:
  • To assess for prescribed medications
  • To assess for other controlled substances or illicit drugs

• Avoid prescribing opioids and benzodiazepines concurrently.

• Offer or arrange evidence-based treatment for patients with opioid use disorder.
  • Typically medication-assisted treatment (buprenorphine or methadone) plus behavioral therapy.
Nebraska Pain Management Guidance


• Practical advice on pain management and safer use of opioids.
  • Includes special populations such as children, adolescents, pregnancy, elderly.
  • Tips on having the “difficult conversation” about chronic pain management.

• Contains multiple assessment tools for assessing the risk of opioid dependence as well as for evaluating chronic pain.

• Is concordant with the CDC guidelines.
There’s an App for That...

Download the free Opioid Guideline App today!
Example of application in Primary Care

• Nebraska Medicine Midtown Clinic

• Primary Teaching Site for UNMC Internal Medicine Teaching Program

• Patient-Centered Medical Home Certified
  ➢ Integrated behavioral health, social work, and pharmacist support
Chronic pain management approach

• **Patient-centered pain assessment and initial therapy**
  - Physician evaluation of pain and functional limitations
  - Non-opioid approaches preferred and tried first
  - Assessment of risks of opioid therapy and discussion with patients
  - Coordination of pain management plan with other team members

• **Approach to chronic opioid use guided by CDC recommendations**
  - Opioid agreement with explicit dosing limitations
  - Multi-disciplinary pain class required
  - Random urine drug screening
  - Periodic assessment with emphasis on function
  - Limits on dose escalation
Provider and Staff Roles

- **Physician**
  - Develop and monitor comprehensive pain management plan

- **Behavioral health**
  - Identify and treat patient psychosocial difficulties
  - Teach skills for coping with pain

- **Pharmacy**
  - Medication education
  - Design and monitor opioid tapers
  - Comprehensive medication review of pain regimen

- **Nurse coordinators**
  - Review procedures with patient upon initiation of opioid agreement
  - Goal setting
  - Monitor refill requests for appropriateness

- **Social work**
  - Access to medication/non-medication resources for pain management
Pain Management Class Goals

• Learn how thoughts, feelings, and behaviors impact pain
• Use pain logs to identify alleviating factors
• Learn coping skills that enhance pain management
• Learn relaxation techniques to help with pain management

• Identify pain medication adverse effects
• Manage expectations of medication effectiveness (focus on functionality)
• Increase awareness of laws concerning controlled substances.
• Understand tolerance, dependence, addiction, overdose.
• Awareness that the ultimate goal of opioid pain medications is to stop them through a controlled taper
Preliminary Outcomes

1. Decreased number of ED visits

2. Decreased positive depression screenings (PHQ-2)

3. Less frustration surrounding opioid refills reported by providers

4. Increased pain medication knowledge and awareness of risk for dependence/addiction
Summary

• Prescription opioids are overused and abused with consequent morbidity and mortality.

• Chronic pain is common and there are many misperceptions about the optimal way to manage it.

• In general opioids are not the best option for chronic pain.

• Adherence to guidelines for more judicious and safer opioid prescribing may help reduce the epidemic of opioid abuse.

• The optimal approach to chronic pain employs a health care team.
Postscript: What do all these people have in common? They all died of opioid overdoses

http://www.usatoday.com/story/life/people/2016/06/02/celebrities-who-have-died-addiction/85314450/