CURBING KENTUCKY’S SUBSTANCE USE EPIDEMIC – THE FIRST STEP

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UK HealthCare

http://sus.org/10-percent-of-us-adults-have-drug-use-disorder-at-some-point/
UNDERSTANDING THE EPIDEMIC

3 Waves of the Rise in Opioid Overdose Deaths

- Wave 1: Rise in Prescription Opioid Overdose Deaths
- Wave 2: Rise in Heroin Overdose Deaths
- Wave 3: Rise in Synthetic Opioid Overdose Deaths

Image credit: https://www.cdc.gov/drugoverdose/epidemic/index.html
11.5 million Rx Pain Reliever Misusers (87.4% of total)

6.9 million Rx Hydrocodone

3.9 million Rx Oxycodone

225,000 Rx Fentanyl

948,000 Heroin Users (8% of total)

641,000 Rx Opioid + Heroin Users (5.4% of total)

Agency update, CDC. 2018 Rx Summit, Atlanta, GA.
RISK OF OPIOID USE

**Figure 1.** One- and 3-year probabilities of continued opioid use among opioid-naïve patients, by number of days’ supply of the first opioid prescription — United States, 2006–2015

<table>
<thead>
<tr>
<th>Duration of Opioid Prescription</th>
<th>Risk of Long-Term Dependency/Addiction</th>
</tr>
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<tbody>
<tr>
<td>1 day</td>
<td>6%</td>
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<tr>
<td>1 week</td>
<td>15%</td>
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<tr>
<td>2 weeks</td>
<td>26%</td>
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<tr>
<td>1 month</td>
<td>35%</td>
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</table>
SHORT-TERM EFFICACY

Number of people needed to treat for one person to get 50% pain relief

- Oxycodone 15 mg: 4.6
- Oxycodone 10 mg + acetaminophen 650 mg: 2.7
- Naproxen 500 mg: 2.7
- Ibuprofen 200 mg + acetaminophen 500 mg: 1.6
**Opioid Strategy:**
IR opioids → ER opioids → fentanyl patch

**Non-Opioid Strategy:**
APAP/NSAID → TCA/GBP → SNRI/PGB/tramadol (PA)
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 Noorbalaoochi, PhD

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Opioid Group, Mean (SD)</th>
<th>Nonopioid Group, Mean (SD)</th>
<th>Between-Group Difference (95% CI)</th>
<th>Overall P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain-Related Function (Primary Outcome)</td>
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<tr>
<td>BPI interference scale (range, 0-10; higher score = worse)</td>
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<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>5.4 (1.8)</td>
<td>5.5 (2.0)</td>
<td>-0.1 (-0.6 to 0.4)</td>
<td></td>
</tr>
<tr>
<td>3 mo</td>
<td>3.7 (2.1)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>6 mo</td>
<td>3.4 (2.1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 mo</td>
<td>3.6 (2.2)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 mo</td>
<td>3.4 (2.5)</td>
<td></td>
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<tr>
<td>Primary Adverse Outcome</td>
<td></td>
<td></td>
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<tr>
<td>Medication-related symptom checklist (0-19; higher score = worse), mean (SD)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Baseline</td>
<td>1.2 (1.9)</td>
<td>1.2 (1.9)</td>
<td>0.0 (-0.5 to 0.5)</td>
<td>.03</td>
</tr>
<tr>
<td>3 mo</td>
<td>2.3 (2.5)</td>
<td>1.3 (1.8)</td>
<td>1.0 (0.5 to 1.6)</td>
<td></td>
</tr>
<tr>
<td>6 mo</td>
<td>2.1 (2.7)</td>
<td>1.3 (2.3)</td>
<td>0.8 (0.1 to 1.4)</td>
<td></td>
</tr>
<tr>
<td>9 mo</td>
<td>1.9 (2.8)</td>
<td>0.9 (1.5)</td>
<td>1.0 (0.4 to 1.6)</td>
<td></td>
</tr>
<tr>
<td>12 mo</td>
<td>1.8 (2.6)</td>
<td>0.9 (1.8)</td>
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</table>
Opioids are associated with more adverse events than non-opioid analgesics.

Opioids appear to be no more (or even less) efficacious than non-opioids.

Opioids may not be cheaper than many non-opioid analgesics.
### WHY DO OPIOIDS REMAIN POPULAR?

<table>
<thead>
<tr>
<th>Variable</th>
<th>No. (%)</th>
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</thead>
<tbody>
<tr>
<td>Opioids used too commonly at our institution</td>
<td>224 (61.7)</td>
</tr>
<tr>
<td>Opioids are similarly effective to other analgesics</td>
<td>160 (44.1)</td>
</tr>
<tr>
<td>Opioids are more dangerous than other analgesics</td>
<td>321 (88.4)</td>
</tr>
<tr>
<td>Most of my patients would be receptive to using non-opioid analgesics</td>
<td>147 (40.5)</td>
</tr>
</tbody>
</table>

N=363 inpatient physicians, pharmacists, APPs
“Action without vision is only passing time, vision without action is merely day dreaming, but vision with action can change the world.”

- Nelson Mandela
A OLD WAY OF THINKING; THE OLD WAY OF PRESCRIBING

TREATMENT

- NSAIDs & APAP
- Long-acting opioids
- Short acting/IV opioids

WEAN
A NEW WAY OF THINKING; A NEW WAY OF PRESCRIBING

Treating with:
- Short-acting/IV opioids
- Symptom-driven nonopioid Tx
- NSAIDs & APAP + nonpharm
MEDIAN DISCHARGE MME PRE- AND POST-INTERVENTION

Overall*  
Opioid Naïve Patients*  
Opioid Tolerant Patients**

Milligram Morphine Equivalent

2013 (N=489)  
2015 (N=424)

*p<0.001  
**p=0.020

OPIOID PRESCRIPTIONS


*p<0.001
PRACTICE GUIDELINES

**Take Home Naloxone & Opioid Guideline**

Drug overdose is now the leading cause of injury-related death, surpassing both motor vehicle accidents and gun homicides/novicides. As many as 1 in 10 patients prescribed opioid will struggle with dependence/addiction, and 1 in 5 will die from an opioid overdose at a median of 2.6 years. Furthermore, up to 1 in 4 patients does not use their opioid prescription, and many patients leave excess medications in their home, this increases the risk of other individuals in the home (e.g., young children) finding the drug and accidentally overdosing.

In 2016, the CDC put forth guidelines for best practices regarding opioid prescribing for chronic pain. Among these was a number of recommendations regarding short- and long-term opioid use, such as:

- Minimizing opioid use by maximizing the use of nonpharmacologic and non-opioid pharmacologic pain treatments.
- Establish goals for analgesia and discuss risks and realistic benefits of opioid therapy.
- Avoid extended-release or long-acting opioids.
- Prescribe the lowest effective dose, preferably less than 50 morphine milligram equivalents (MME) per day; doses over 90 MME per day should be fully justified.
- Prescribe no greater quantity than needed for the expected duration of pain.
- Avoid factors that increase risk of overdose are present.

**Specific risk factors for overdose include:**

<table>
<thead>
<tr>
<th>Indications for Discharge Naloxone (Any of These)</th>
<th>Opioid Prescription for &gt; 50 MME</th>
<th>Total Daily Dose Required Naloxone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gdalone</td>
<td>12.5mg</td>
<td>Any dose</td>
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<tr>
<td>Fentanyl patch</td>
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<td></td>
</tr>
<tr>
<td>Hydromorphone/Norco/Lortab</td>
<td>30mg</td>
<td></td>
</tr>
<tr>
<td>Methadone</td>
<td>12.5mg</td>
<td>Any dose</td>
</tr>
<tr>
<td>Morphine/NS/Contin</td>
<td>50mg</td>
<td></td>
</tr>
<tr>
<td>Oxycodeine/Percocet/Orgegas</td>
<td>30mg</td>
<td></td>
</tr>
<tr>
<td>Tramadol</td>
<td>500mg</td>
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<tr>
<td>History of substance abuse or overdose</td>
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<tr>
<td>Concomitant benzodiazepine prescription</td>
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**Executive Summary**

Opioid overdose has become the leading cause of injury-related death in the US, and many opioids enter communities via legitimate prescriptions. In Kentucky, 123 prescriptions for opioids are written per adult per year, often before non-opioid therapy is even attempted. As such, the University of Kentucky is aiming to reduce inappropriate opioid prescribing.

This guideline provides in-depth rationale for using non-opioid pharmacologic analgesics, including typical dosing regimens and pharmaco-kinetic properties. It is intended to familiarize prescribers with non-opioid pharmacologic analgesics in the management of acute pain.

**Summary of Analgesics**

In general, opioid use should not exceed 90 morphine equivalents (e.g., 90mg of morphine). Adverse effects of opioid use should be minimized/avoided in the following instances:

- Individuals with sleep apnea
- Individuals receiving concomitant benzodiazepines or other sedative/hypnotics
- Individuals with a substance abuse history
- Individuals under the age of 25

Acetaminophen and NSAIDs are some of the most effective analgesics available, and can often be combined, where they have been shown to be more efficacious than high-dose opioids. NSAIDs have significant potential risks; however these are relatively uncommon.

In hemodynamically stable patients, naloxone reduces opioid requirements and enhances efficiency of other analgesics through modulation of pain signaling.

Gabaergins and antidepressants are more effective than opioids for neuropathic pain. Gabapentin is now a controlled substance (like pregabalin). Antidepressants generally take > 1 week to see full effects.

Skeletal muscle relaxants can be helpful for spastic pain. Most of these medications are sedating, and these sedative effects can be additive with opioids.
ORDER SETS

Non-pharmacologic

<table>
<thead>
<tr>
<th>Order</th>
<th>Start Date</th>
<th>Priority</th>
<th>Low Dose</th>
<th>High Dose</th>
<th>Set Dose</th>
<th>Unit of Measure</th>
<th>Dosage Form</th>
<th>Route</th>
<th>Frequency</th>
<th>PRN Reason</th>
<th>Special Instructions</th>
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Acetaminophen and NSAIDS

<table>
<thead>
<tr>
<th>Order</th>
<th>Start Date</th>
<th>Priority</th>
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Adjuvants & anti-spasmodics

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<tr>
<th>Order</th>
<th>Start Date</th>
<th>Priority</th>
<th>Low Dose</th>
<th>High Dose</th>
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<th>Unit of Measure</th>
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Topicals

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<thead>
<tr>
<th>Order</th>
<th>Start Date</th>
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<th>Low Dose</th>
<th>High Dose</th>
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PAIN MANAGEMENT CARE PROCESSES

- New pain assessment scale
- Pasero Opioid Sedation Scale
- Empower staff to use non-opioid therapy
- Focus on function
PATIENT EDUCATION & ENGAGEMENT

• Education materials
• Function integrated into pain assessment
• Non-pharmacologic therapy
DAILY MILLIGRAM MORPHINE EQUIVALENT

MME Per Patient, Per Day

1-Jul-16 1-Oct-16 1-Jan-17 1-Apr-17 1-Jul-17 1-Oct-17 1-Jan-18 1-Apr-18 1-Jul-18
INPATIENTS RECEIVING >90 MME PER DAY
INPATIENTS REQUIRING NALOXONE REVERSAL

Percent of Patients

Jul-16 Oct-16 Jan-17 Apr-17 Jul-17 Oct-17 Jan-18 Apr-18

INPATIENTS REQUIRING NALOXONE REVERSAL
INPATIENT DAILY PAIN SCORE

Percent of Patients

- NO PAIN
- MINIMAL
- MODERATE
- SEVERE
Since July 2016,

- Reduced inpatient opioid use equivalent to 1 oxycodone per person per day (>250,000 less pills per year)
- 10% increase in opioid-free days
- 57% reduction in high (>90 MME) orders
- 20% decrease in opioid-benzodiazepine combinations
- 25 less discharge opioid prescriptions per week
- No increase in pain rating