Opioids in Workers Comp

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DON TEATER MD
Don Teater MD
Teater Health Solutions

Meridian Behavioral Health Services
Waynesville, NC

Masters student
UNC Gillings School of Global Public Heath

teaterhs.com
don@teaterhs.com
My goals today

I want you to understand:

◦ Opioids are not very effective pain medications.
◦ Workers Comp studies show that the use of opioids results in worse outcomes and higher costs.
◦ It is appropriate to restrict the type of opioids used in the formulary.
◦ It is appropriate to restrict the dose and duration of opioids used after a workplace injury.
Opioid facts

The United States has 4.6% of the world’s population.

- We use 80% of the worlds opioids!\(^1\)
- 83% of the world’s population has no access to any opioids.\(^2\)
Opioid increase

Drug distribution through the pharmaceutical supply chain was the equivalent of **96 mg** of morphine per person in 1997

and approximately **700 mg** per person in 2007, an increase of >600%.\(^2\)
The State of US Health

Years lived with disability (in thousands)

- Low back pain
- Other MS disease
- Neck pain
- Osteoarthritis

1990 vs. 2010
Rates of opioid overdose deaths, sales and treatment admissions, US, 1999-2010.\textsuperscript{7}

National Vital Statistics System, DEA’s Automation of Reports and Consolidated Orders System, SAMHSA’s TEDS
Poppy plant
Pain

An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.

International Association for the Treatment of Pain
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Pain

Acute pain: Pain < 3 months
Chronic pain: Pain > 3 months
Acute vs. Chronic Pain

Sensory – tissue input
Affective – emotions
Cognitive - thoughts
A new paradigm for pain?

• Nociceptive pain
• Neuropathic pain
• “Pain for psychological reasons” (Central sensitization)

The Pain Pathway

1. Site of injury
   - Slow, unmyelinated C-fibers
   - Fast, myelinated A-fibers

2. Spinal cord
   - Afferent nerve fiber

3. Brainstem
   - Spinothalamic tract
   - Synapse
   - Dorsal ganglion

4. Cerebrum
   - Somatosensory cortex
   - Limbic system
   - Thalamus

Cerbellum
- Reticular formation
- Mid-pons
Opioids are different...

Dopamine

+ 

Opioid receptors
Dopamine
Opioid receptors

Enable us to achieve a goal (short term).\textsuperscript{23,24}

- Decrease pain (minimal effect).
- Increase motivation.
- Increase confidence.
- Increase reward.
- Reduce depression and anxiety.
- Increase pleasure in current activity.
- Increase “warmth-liking”.\textsuperscript{25}
  - Liking warm things.
  - Love.
  - Interpersonal bonding.
Primary purpose:

**Dopamine** – Our primary reward system. This is what we live for.

**Endorphins and opioid receptors** – These maximize our ability to achieve the reward.
Opioids

Side Effects:
- Mentally impairing.\textsuperscript{8,9}
- Delay recovery.\textsuperscript{10,11}
- Increase medical costs.\textsuperscript{12}
- Opioid hyperalgesia.\textsuperscript{13,14}
- Double the chance of disability (if prescribed for 7 days or more).\textsuperscript{15}
- Increase falls.\textsuperscript{16}
- Cardiac, GI?\textsuperscript{17,18}
- Treat depression.\textsuperscript{19}
- Brain changes.\textsuperscript{20}
- Addiction.\textsuperscript{21,22}
Efficacy of pain medications

Acute pain\textsuperscript{26,27}

Percent with 50% pain relief

<table>
<thead>
<tr>
<th>Medication Combination</th>
<th>Percent with 50% Pain Relief</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ibuprofen 200 mg</td>
<td>37</td>
</tr>
<tr>
<td>Acetaminophen 500 mg</td>
<td>28</td>
</tr>
<tr>
<td>Ibuprofen 400 mg</td>
<td>40</td>
</tr>
<tr>
<td>Oxycodone 15 mg</td>
<td>21</td>
</tr>
<tr>
<td>Oxy 10 + acet 1000</td>
<td>37</td>
</tr>
<tr>
<td>Ibu 200 + acet 500</td>
<td>62</td>
</tr>
</tbody>
</table>
Chronic pain

No evidence that opioids are effective for long-term treatment of chronic pain.\textsuperscript{30}

“Safe and effective” use of opioids for chronic pain is an invalid concept.

\begin{itemize}
\item No evidence that these can be used safely
\item No evidence that they can be used effectively
\end{itemize}

Epidemiologic studies have shown that those on chronic opioid therapy have worse quality of life than those with chronic pain who are not.\textsuperscript{31}

The AAN recommends against using opioids for back pain, headaches, or fibromyalgia.\textsuperscript{36}

A Cochrane review recommends against using opioids for OA of the hip or knee.\textsuperscript{37}
Tapentadol study$^{32}$
1. Nonopioid tx is preferred for chronic pain. (Opioids are the exception)
2. Establish realistic treatment goals.
3. Discuss risk, realistic benefits, patient and provider responsibilities.
4. Start with immediate-release.
5. Caution with 50 MME and avoid going to 90 MME or above.
6. Treat acute pain for ≤ 3 days. Should almost never treat for > 7 days.
7. Re-evaluate in 1-4 weeks and at least q 3 months.
   a) Taper if benefit does not exceed the risk.
8. Evaluate and mitigate risk. Consider naloxone co-prescription.
9. Check the CSRS at least every 3 months.
10. Do UDS at initiation and periodically.
11. Do not use with benzodiazepines.
12. Offer or arrange treatment of OUD for those who need it.
99% of doctors prescribe opioids for longer than the CDC guideline for acute pain relief (3 days).

# of Days Ordinarily Prescribe Opioids

Source: NSC Rx Study – Q10. For what period of time do you ordinarily prescribe opioid pain medication? (Total - n=201)
Additional tx in chronic pain

• Counseling$^{33}$
• PT
• Treatment of mood disorders
• Exercise
• Acupuncture
• Amitriptyline
• Duloxetine (and other antidepressants)
• Gabapentin (and other anticonvulsants)
Don’t use opioids for back pain!

When used for **acute episodes of back pain** they result in higher medical costs, increased risk of surgery and delayed recovery.\(^{41}\) They also double the risk of future disability.\(^{42}\)

When used for **acute exacerbations of chronic low back pain** they dramatically increase the risk of future abuse and addiction.\(^{43}\)

When used **prior to back surgery**, they result in worse outcomes from surgery.\(^{44}\)

When used for **chronic low back pain** the effect on pain is felt to be clinically insignificant\(^{45}\) and they result in worse outcomes and worse quality of life.\(^{46}\) In fact, the American Academy of Neurology recommends against using opioids for chronic back pain.\(^{37}\)
Opioid effects on costs (Michigan study)

- No prescription - $13,295
- Non-opioid rx - $16,918
- SA opioid rx - $47,742
- LA opioid rx - $156,748

The presence of LA opioids on a claim is almost 4 times more likely than a claim without any prescription to have a final cost of $100,000 or more.

Claims with only an SA opioid had an odds ratio of 1.76 to ultimately have a final claim cost of $100,000 or more compared with claims without any medication prescribed.

Closed formulary

- Texas – Since Sept, 2011
- Washington
- Ohio
- North Dakota
- Oklahoma
- Delaware
- Tennessee
- Arizona
- California – passed law. Formulary by 7/1/17
Texas results

• Began FY 2011 (Sept 2010)

• Opioid costs decreased from 27 percent of the total pharmacy costs in 2009 to 18 percent in 2015.

• The number of claims receiving N-drug opioids with 90+ MMEs/day decreased from almost 15,000 in 2009 to less than 500 in 2015.

• The number of claims receiving “other-drug” opioids with 90+ MMEs/day decreased from approximately 8,400 in 2009 to less than 5,000 in 2015.
The share of Opioids decreased from 27% of total pharmacy cost in 2009 to 18% in 2015. Since 2009, total pharmacy cost decreased by 35%, while Opioid cost decreased by 57%.

Note: Service year 2015 data may be incomplete and subject to change.
Source: Texas Department of Insurance, Workers’ Compensation Research and Evaluation Group, 2016.
TOTAL COST AND COST SHARES BY CLAIM TYPE, BY SERVICE YEAR

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Source: Texas Department of Insurance, Workers’ Compensation Research and Evaluation Group, 2016.
Opioid benefit?

I know of no study that shows improved outcomes with the use of opioids.
Key Thoughts

• We prescribe way too many opioids for acute and chronic pain

• No evidence that opioids improve outcome (except when used short-term for severe, acute trauma to prevent PTSD)

• Opioids:
  • Increase costs
  • Delay recovery
  • Increase disability
Recommendations

• Develop (or adopt) a formulary like Texas.

• Use ibuprofen (or other NSAID medication) and acetaminophen whenever possible for oral treatment of acute pain. Opioids are seldom needed for outpatient treatment of pain.

• Long-acting opioids must have prior-authorization and only in exceptional circumstances.

• Generic drugs.

• No abuse-deterrent formulations.

• Restrictions on opioid duration and dose.

• Restrictions for:
  • Back pain
  • Headaches
  • Pre-op
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“To write prescriptions is easy, but to come to an understanding with people is hard.”

-- Franz Kafka, “A Country Doctor”
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