The Role of Acute Care Prescribing in the Opioid Epidemic

Chad M. Brummett, M.D.
Associate Professor
Department of Anesthesiology
Division of Pain Medicine
University of Michigan Medical School
Email: cbrummet@med.umich.edu
www.michigan-OPEN.org
http://medicine.umich.edu/dept/pain-research
Twitter: @drchadb
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die every day from an opioid overdose (that includes prescription opioids and heroin).
Major Public Health Crisis

- US share of world population: 4%
- US share of opioid consumption: 80%
Prescription Opioids In America

2012: 259 million opioid prescriptions
More Drug Overdose Deaths Now Involve Heroin than Prescription Painkillers

Source: CDC
Faces of the opioid epidemic
How did we get here?
ADDICTION RARE IN PATIENTS TREATED WITH NARCOTICS

To the Editor: Recently, we examined our current files to determine the incidence of narcotic addiction in 39,946 hospitalized medical patients who were monitored consecutively. Although there were 11,882 patients who received at least one narcotic preparation, there were only four cases of reasonably well documented addiction in patients who had no history of addiction. The addiction was considered major in only one instance. The drugs implicated were meperidine in two patients, Percodan in one, and hydromorphone in one. We conclude that despite widespread use of narcotic drugs in hospitals, the development of addiction is rare in medical patients with no history of addiction.

Jane Porter
Hershel Jick, M.D.
Boston Collaborative Drug Surveillance Program

Waltham, MA 02154
Boston University Medical Center
OxyContin® II
(OXYCODONE HCl CONTROLLED-RELEASE TABLETS)
A step in the right direction...
NEJM letter regarding opioid addiction misrepresented and heavily cited

Leung A, et al. (N Engl J Med 376;22)
For Whom Do We Prescribe?
Opioid naive

Chronic 8%

Intermittent 30%
Pre-Operative Opioid Use and Associated Outcomes after Major Abdominal Surgery

Preventing Chronic Opioid Use and Abuse Before it Starts

Current Strategic Efforts
Our Role
Why do surgeons prescribe too much?
HCAHPS ≠ Prescribing

HCAHPS Pain Control Score

Hospital Quintiles of Postoperative Opioid Prescribing (OMEs)

Lee JS, Hu HM, Brummett CM, Syrjamaki JD, Dupree JM, Englesbe MJ, Waljee JF. JAMA  May 16, 2017
Refills?
Quantity Does Not Predict Refill

Opioid naive

Intermittent 30%

Chronic 8%

New Persistent Use
New Persistent Opioid Use

6%  Brummett CM et al. *JAMA Surg.* 2017; 152(6).
Opioid prescription fill after extraction of wisdom teeth is independently associated with new chronic opioid use.

Harbaugh C et al, unpublished data
6 tabs/day of Norco 5/325
6 tabs/day of Norco 5/325
Who Prescribes for New Persistent Users?
Can we improve prescribing?

Yes
77% of prescriptions

77% of prescriptions
Guidelines

15 Oxycodone 5 mg 1q4-6 PRN
15 Norco 5/325 mg 1q4-6 PRN

+ Tylenol AND Motrin
+ Patient Education
370 Patients \times \downarrow 35 \text{ pills per patient} = 13,000 \text{ pills kept out of the community}
No change in calls for refills (3-4%)

No change in patient-reported pain scores

Patients consumed fewer pills
Supersize it!

Michigan Surgical Quality Collaborative (MSQC)

Anesthesiology Performance Improvement and Reporting Exchange (ASPIRE)

Counties
Deaths per 100,000
- Data unavailable
- 5 to 10
- 10 to 15
- 15 to 20
- 20 to 25
- 25 or more

Michigan Surgical Quality Collaborative (MSQC) participating sites
<table>
<thead>
<tr>
<th>Procedure</th>
<th>Hydrocodone (Norco)</th>
<th>Codeine (Tylenol #3)</th>
<th>Oxycodone</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>5 mg tablets</td>
<td>30 mg tablets</td>
<td>5 mg tablets</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laparoscopic Cholecystectomy</td>
<td>15</td>
<td>10</td>
<td></td>
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<tr>
<td>Laparoscopic Appendectomy</td>
<td>15</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Inguinal/Femoral Hernia Repair (open/laparoscopic)</td>
<td>15</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Open Incisional Hernia Repair</td>
<td>40</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Laparoscopic Colectomy</td>
<td>35</td>
<td>25</td>
<td></td>
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<tr>
<td>Open Colectomy</td>
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<td>25</td>
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<tr>
<td>Hysterectomy</td>
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<td>Vaginal</td>
<td>20</td>
<td>15</td>
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<tr>
<td>Laparoscopic &amp; Robotic</td>
<td>30</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Abdominal</td>
<td>40</td>
<td>25</td>
<td></td>
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<tr>
<td>Wide Local Excision ± Sentinel Lymph Node Biopsy</td>
<td>30</td>
<td>20</td>
<td></td>
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<tr>
<td>Simple Mastectomy ± Sentinel Lymph Node Biopsy</td>
<td>30</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Lumpectomy ± Sentinel Lymph Node Biopsy</td>
<td>15</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Breast Biopsy or Sentinel Lymph Node Biopsy</td>
<td>15</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>
Most Opioids Prescribed for Outpatient General Surgery Procedures Go Unused

72% OF PRESCRIBED PILLS WENT UNUSED

Vision for the Future

Prescribed

sumed

Readmissions

ER Visits
Source of Abused Prescription Painkillers

- Obtained free from friend or relative: 55.0%
- Bought from friend or relative: 17.3%
- Took from friend or relative without asking: 11.4%
- Got from drug dealer or stranger: 7.1%
- Prescribed a MD: 4.8%
- Other: 4.4%

Source: CDC 2011/Drugfree.org
900 lbs of pills

17,500 opioid pills collected

1976 oldest opioid collection

Surgery most common reason

Michigan OPEN Sept 2017

Medication Take-Back Event
A preventative approach to the opioid epidemic.

Areas of Impact

- Engaging providers
- Education
- Informing policy
- Payment reform
- Local quality improvement
- Innovative interventions
- Community outreach
- At-risk populations
- Arts and humanities
COMING SOON: Ability to customize all brochures with your organization's logo!

Opioid Facts Brochure
Learn the facts about opioid pain medications including:
- What is an opioid
- Using opioids safely
- Opioid addiction
- Safe disposal of opioids

DOWNLOAD BROCHURE
Do you know the facts about opioid pain medications?
Talking to Your Doctor about Pain Control Brochure

Ask questions and know the facts before using opioids for your pain.

- What is an opioid
- Questions to ask your provider
- Things to remember after your surgery
- Safe disposal of opioids

DOWNLOAD BROCHURE

Pain Management Techniques Brochure

Learn about strategies for managing pain and anxiety after surgery including:

- Mindful breathing
- Positive daily reflection

DOWNLOAD PRINTER-FRIENDLY BROCHURE

Recent Videos

- Changing Opioid Prescribing in Surgery
  - September 28, 2017
- The Michigan Opioid Prescribing Engagement Network
  - May 28, 2018
- Surgery and Opioids
  - May 25, 2018
- The Opioid Epidemic
  - May 23, 2018
- Targeting Opioid Abuse via Surgery-Related Prescribing
  - July 19, 2017
Opioid Use Before Surgery: 34,186 participants from a single tertiary care center

Preoperative opioid use common

Likelihood higher for some surgeries

Spine/spinal cord aOR = 2.68
Pelvic (non-hip) aOR = 3.09
Lower extremity aOR = 3.61

Opioid users report different characteristics

Higher rates of substance use, comorbidities, sleep apnea, psychological distress, widespread body pain

Hilliard PE, et al. Under review
Opioid Use Before Surgery:
34,186 participants from a single tertiary care center

- Preoperative opioid use common
- Prevalence higher for some surgeries
- Opioid users report different characteristics

Prevalence:
- Orthopedic Surgery (65%)
- Neurosurgery Spine (55%)

- Higher rates of substance use, comorbidities, sleep apnea, psychological distress, widespread body pain

Hilliard PE, et al. *Under review*
Precision Opioid Prescribing

Informed prescribing & personalized pain management

Factors
- Type of surgery
- Genetics
- Prior Medication Use
- Social Support
- Mood
- Pain

Goal
Reduce downstream chronic opioid use, abuse, and overdose through a precision preventative strategy

Opioid Naïve

Chronic Opioid Use

Opioid Abuse

Opioid Overdose

Proposed precision preventative strategy

Focus of existing public health measures
Michigan Genomics Initiative

over 50,000 participants

80% opioid naïve

The purpose of a biorepository is to store bodily materials (biospecimens) and personal health information for research projects that have not yet been planned. The biorepository combines the biospecimens and health information into “books” that can later be shared with researchers to help advance medicine.

This pamphlet provides information about participating in a biorepository at the University of Michigan by donating your biospecimens and health information.
New prescribing recommendations based on patient consumption

Monitor Satisfaction, PROs

Reductions in patient opioid consumption

Reductions in opioid prescribing
Michigan OPEN Co-Directors

Jennifer Waljee, MD, MPH, MS
Plastic and Hand Surgery

Michael Englesbe, MD
Transplant Surgery

Chad Brummett, MD
Pain Medicine/Anesthesiology
Learn more about our work and support our efforts

http://michigan-open.org

http://precisionhealth.umich.edu

https://www.michigangenomics.org