The Opioid Epidemic and the OSA Patient

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Disclosures

- None.

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Overview

- *The opioid epidemic*
- *Implications for the OSA patient*
- *Recommendations for clinical practice*

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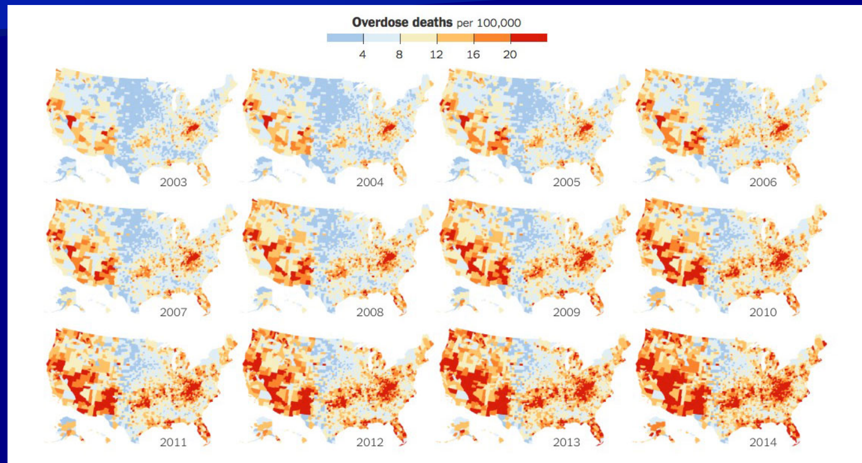
The Opioid Epidemic



https://www.nytimes.com/interactive/2016/01/07/us/drug-overdose-deaths-in-the-us.html?_r=0

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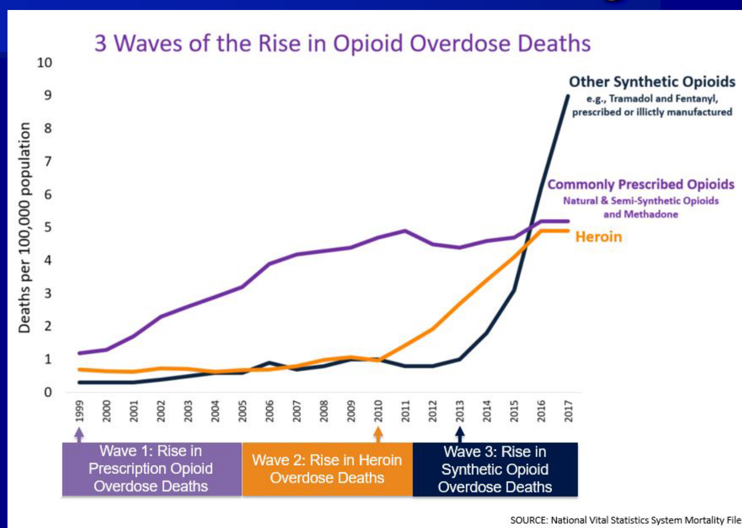
Not Just One Thing



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The Opioid Epidemic is Complex

APR 25, 2016 @ 10:34 AM 4,236 VIEWS

How Long Does It Take Patients To Stop Taking Opioids After Surgery?

CJ Arlotta, CONTRIBUTOR

I cover end-of-life care and dabble in the culture of medicine. FULL BIO

Opinions expressed by Forbes Contributors are their own.

FEATURED

Local doctor disciplined for over prescribing

By Brooke Curley Arizona Range News 9 hrs ago 0

Feds issue new warning to doctors: Don't skimp too much on opioid pain pills

Jayne O'Donnell and Ken Alltucker, USA TODAY Published 5:08 p.m. ET April 24, 2019 | Updated 10:01 a.m. ET April 25, 2019

Mudumbai & Mariano, et al. Pain Med 2016;17:1732

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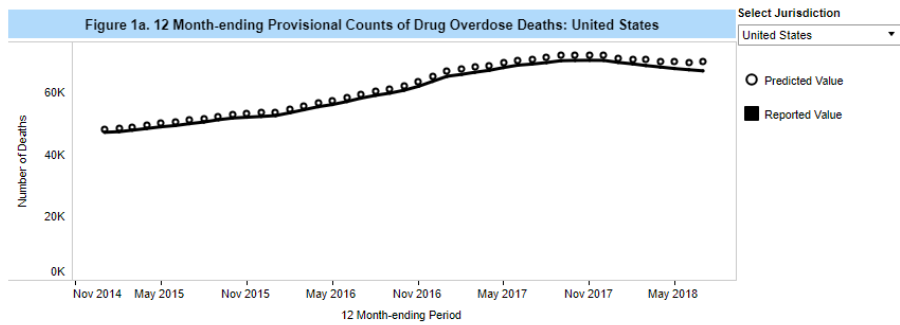
Recent Trends

12 Month-ending Provisional Number of Drug Overdose Deaths

Based on data available for analysis on: 2/3/2019



https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm

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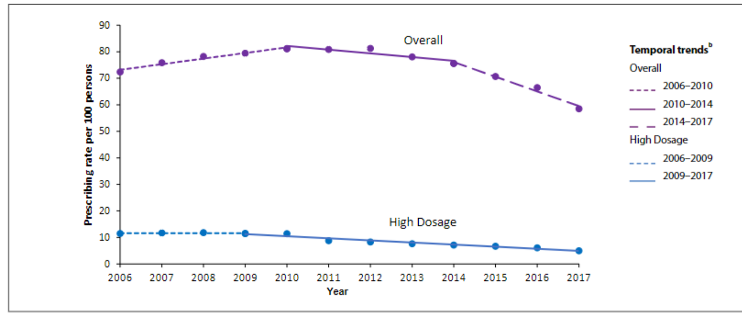
Trends in Opioid Prescribing

FIGURE 1A **Annual opioid prescribing rates overall and for high-dosage prescriptions[a] (≥ 90 MME/day)[b] — United States, 2006–2017**



2018 CDC Annual Surveillance Report of Drug-Related Risks and Outcomes

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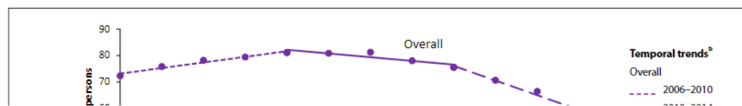
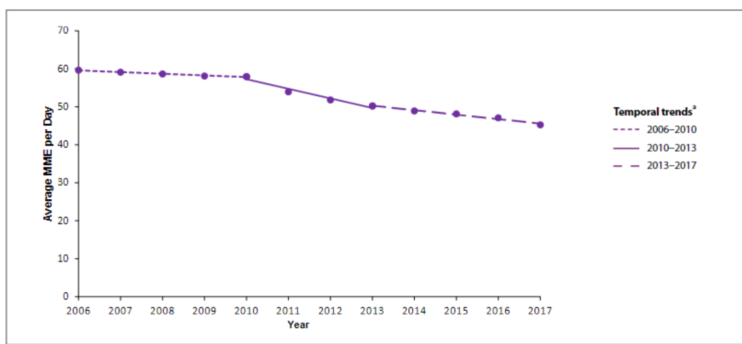


FIGURE 1C **Average daily morphine milligram equivalents (MME) per opioid prescription[a] — United States, 2006–2017**



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NEW RESEARCH

COMMENTARY

JCSM
Journal of Clinical Sleep Medicine

http://dx.doi.org/10.5664/jcsm.3790

The Epidemic of Opioid Use: Implications for the Sleep Physician

Commentary on Javaheri et al. Adaptive servoventilation for treatment of opioid-associated central sleep apnea. J Clin Sleep Med 2014;10:637-643.

Joyce Lee-Iannotti, M.D.; James M. Parish, M.D.
Center for Sleep Medicine, Division of Pulmonary Medicine, Mayo Clinic, Phoenix AZ

The dramatic increase in use of opioids is of concern to sleep specialists. Recent studies have shown that 75 to 85 percent of patients on opioids have at least mild sleep apnea, and 36 to 41 percent have severe sleep apnea, of which the severity is dose dependent.[3,4] The mechanisms by which opioids cause sleep disordered breathing are poorly understood.

Opioid induced sleep apnea falls within the spectrum of complex sleep apnea, characterized by a combination of obstructive apneas and central sleep disordered breathing. The respiratory pattern may be periodic or non-periodic.

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The American Journal on Addictions, 25: 452–465, 2016
Copyright © 2016 American Academy of Addiction Psychiatry
ISSN: 1055-0496 print / 1521-0391 online
DOI: 10.1111/ajad.12424

A Narrative Review: The Effects of Opioids on Sleep Disordered Breathing in Chronic Pain Patients and Methadone Maintained Patients

Sameer Hassamal, MD,[1] Karen Miotto, MD,[2] Tisha Wang, MD,[3] Andrew J. Saxon, MD[4]

- In chronic pain patients on opioids:
  - 75-85% experienced sleep disordered breathing (SDB)
  - OSA accounted for 20-39% of SDB
  - Central apnea was more frequent in opioid patients compared to non-opioid controls
  - Discontinuing opioids decreased apneic events
  - Concurrent benzo use 6-65%

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Pain Medicine 2015; 16: S22–S26
Wiley Periodicals, Inc.

Opioid Therapy and Sleep Disorders: Risks and Mitigation Strategies

- Of chronic opioid therapy patients referred for polysomnogram:
  - 36% (95% CI, 26-46%) OSA)
  - 24% (95% CI, 16-33%) central sleep apnea
  - 21% (95% CI, 14-31%) combo sleep apnea
  - 4% (95% CI, 0-10%) indeterminate
  - 15% (95% CI, 9–24%) no sleep apnea

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July 27, 2018

Opioids for Obstructive Sleep Apnea Should Be Used With Caution

Hannah Dellabella

Although higher-quality evidence is needed, current literature suggests that opioids should be used with caution in individuals with obstructive sleep apnea (OSA) in order to prevent opioid-induced respiratory depression (OIRD), according to study results published in *Anesthesia and Analgesia*.

Opioids may have a detrimental effect in individuals with obstructive sleep apnea.

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SYSTEMATIC REVIEW ARTICLE

Opioids for Acute Pain Management in Patients With Obstructive Sleep Apnea: A Systematic Review

Crispiana Cozowicz, MD,*† Frances Chung, MBBS, FRCPC,‡ Anthony G. Doufas, MD, PhD,§ Mahesh Nagappa, MD,|| and Stavros G. Memtsoudis, MD, PhD*†

The initial 24 hours after opioid administration appear to be the most critical,[18,19,21] rendering patients most receptive to respiratory insufficiency during this period.[21,115] The postoperative period is marked by changes in sleep architecture, increased pain severity, and high analgesic requirement, resulting in worsening of sleep-disordered breathing. Opioids may play a significant role in the postoperative worsening of OSA.[27,28,109]

Cozowicz et al. Anesth Analg 2018;127:988

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Canadian Guideline for Safe and Effective Use of Opioids for Chronic Non-Cancer Pain

1.3.2 Sleep Apnea

Opioids can aggravate not just **central sleep apnea**, but frequently also significantly aggravate **obstructive sleep apnea**. High opioid doses may contribute to sleep movement disorders including myoclonus and sometimes choreiform movement, and in combination with benzodiazepines and other drugs may significantly contribute to oxygen desaturation (Zgierska 2007, Mogri 2008, Farney 2003). Consider a sleep study for patients using high-dose opioids, opioid in combination with other sedating drugs, elderly patients, obese patients, and patients with somnolence.

*** Patients at higher risk of opioid overdose are those with:**

- **Renal or hepatic impairment:** Caution is advised, because opioids are metabolized in the liver and excreted through the renal system (Tegeder 1999, Foral 2007). Morphine is contraindicated in renal insufficiency.
- **Chronic obstructive pulmonary disease (COPD) and sleep apnea:** Opioid use may be a risk factor for central sleep apnea (Mogri 2008). Tolerance to the respiratory depressant effects of opioids develops slowly and incompletely, putting COPD patients at risk for respiratory depression with a higher dose increase.
- **Sleep disorders:** Sleep disorders, including insomnia and daytime sleepiness, are common among opioid users (Zgierska 2007). They may reflect the effects of pain, or the sedating effects of opioids, or concurrent depression.
- **Cognitive impairment:** Opioids should be avoided in cognitively impaired patients who live alone, unless ongoing medication supervision can be arranged.

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Pain Medicine

Pain Medicine 2015; 16: S22–S26
Wiley Periodicals, Inc.

Opioid Therapy and Sleep Disorders: Risks and Mitigation Strategies

- Suggested risk mitigation interventions:
  - Opioid dose reduction and trial of nonopioid therapies
  - Avoiding use of benzodiazepines, sedatives, and hypnotics
  - Caution against alcohol use
  - Sleep medicine consultation and treatment of SDB

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Role of Perioperative Physicians

Perioperative Surgical Home

Mariano, et al. A&A 2017;125:1443
Mariano, et al. A&A 2015;120:1163

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Patient Education is Lacking

Quality of Patient Education Materials on Safe Opioid Management in the Acute Perioperative Period: What Do Patients Find Online?

Search for patient education materials on safe opioid management after surgery

Average reading level of online education materials was above 8th grade

6th grade is recommended!

<50%

of online education materials specifically mention opioid tapering or cessation

Kumar, Jaremko, Kou, Howard, Harrison, Mariano. *Pain Med 2019.*

Pain Medicine

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Patient Education is Effective

Contents lists available at ScienceDirect

Patient Education and Counseling

journal homepage: www.elsevier.com/locate/pateducou

ELSEVIER

PEC

Short communication

Patient education and engagement in postoperative pain management decreases opioid use following knee replacement surgery

Meghana Yajnik[a], Jonay N. Hill[a,b], Oluwatobi O. Hunter[b], Steven K. Howard[a,b], T. Edward Kim[a,b], T. Kyle Harrison[a,b], Edward R. Mariano[a,b,*]

[a] Department of Anesthesiology, Perioperative and Pain Medicine, MC 5640, 300 Pasteur Drive, Room H3580, Stanford, CA, 94305, USA
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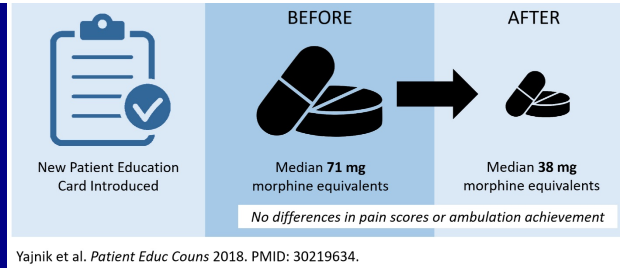


Yajnik et al. *Patient Educ Couns* 2018. PMID: 30219634.

Yajnik, et al. Patient Educ Couns. 2019;102:383

ation is Effective

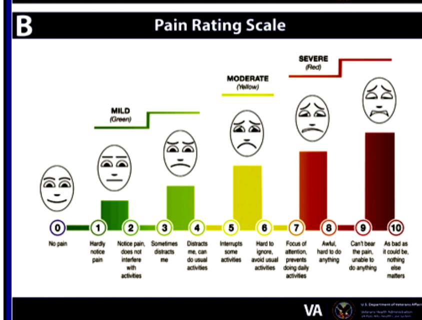
A — My Pain Medication Card

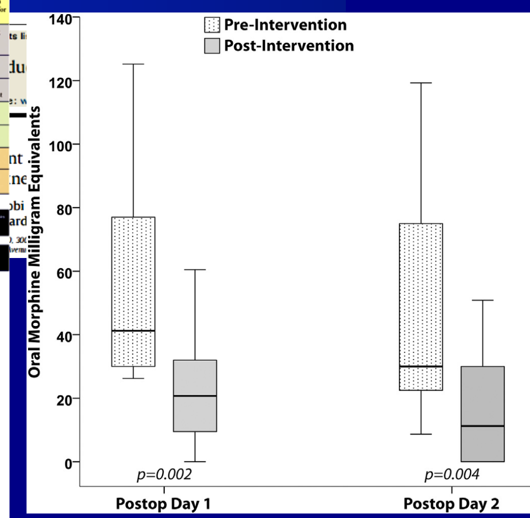
Name: ______ Date: ______

Drug Name	Use	Timing	How to Get It	Tips
☐ **Ropivacaine** • Local anesthetic = numbing medication (non-addictive)	Nerve block	Continuous	Automatic	Can push button every 30 minutes for extra dose
☐ **Oxycodone** • Oral opioid/narcotic pain medication	Moderate-severe pain	Every 4 hours	☐ Automatic ☐ Ask	Consider taking before physical therapy
☐ **Percocet** • Oxycodone + Tylenol	Moderate-severe pain	Every 6 hours	Automatic	
☐ **Dilaudid** (hydromorphone) • IV opioid/narcotic pain medication	Severe pain	Every 4 hours	Ask	Short-acting Try pain pills first
☐ **Tylenol** (acetaminophen) • Pain and fever reducer	Mild-moderate pain	Every 6 hours	☐ Automatic ☐ Ask	
☐ **Diclofenac** • Anti-inflammatory pain reducer	Mild-moderate pain	Twice a day	☐ Automatic ☐ Ask	
☐ **Neurontin** (gabapentin) • Nerve pain reducer	Nerve pain	1-3 times per day	Automatic	May cause drowsiness
☐ **Flexeril** (cyclobenzaprine) • Muscle relaxant	Muscle spasm	3 times per day	☐ Automatic ☐ Ask	

See Reverse Side for Pain Scale

VA





Yajnik, et al. Patient Educ Couns. 2019;102:383

Leadership Required

Joint Commission Enhances Pain Assessment and Management Requirements for Accredited Hospitals

The Joint Commission announces the implementation of new and revised pain assessment and management standards, **effective January 1, 2018**, for its accredited **hospitals**. These new and revised requirements were developed through a rigorous research, evaluation, and review process.

Elements of Performance for LD.04.03.13

1. The hospital has a leader or leadership team that is responsible for pain management and safe opioid prescribing and develops and monitors performance improvement activities.

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ASA-Premier Pilot Collaborative

Be a Leader in Curbing the Opioid Epidemic

Improve safe inpatient use of opioids.
Prevent opioid misuse and potential for abuse post discharge.

JOIN PREMIER HIIN AND ASA'S PILOT COLLABORATIVE

Safer Post-Operative Pain Management: Reducing Opioid-Related Harm

BACKGROUND

The opioid epidemic is a national priority. Research and studies show that opioid misuse and potential for abuse can begin with legitimately prescribed opioids following a medical procedure. Moreover, the prevalence of prescribed opioids is contributing to the drugs availability in society.

WHO

Premier's Hospital Improvement Innovation Network (HIIN) and the **American Society of Anesthesiologists (ASA)** have partnered to offer **HIIN participating hospitals** a pilot project to collaboratively address the national opioid epidemic and priority.

WHY

Improve safe inpatient use of opioids and prevent opioid misuse and potential for abuse post discharge.

WHAT

Measurably reduce and/or prevent opioid-related harm among adult surgical patients having elective hip and knee arthroplasty or colectomy procedures.

HOW

Safer Post-Operative Pain Management is a team activity requiring active leadership, provider champions, a multidisciplinary team, and patient-family engagement.

WHAT TO EXPECT

Monthly Live Webinars & Technical Assistance

Tools & Resources

Data Collection & Chart Audits

Industry-Leading Subject Matter Experts

Peer-to-Peer Learning

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ASA-AAOS Collaboration

Pain Relief Toolkit

Preoperative Pain Relief Discussion
Help prepare patients for what to expect and make a plan for pain relief.

Postoperative Pain Relief
Pain is part of the healing process and knowing what to expect will help patients achieve peace of mind.

Preoperative Screening Questionnaires
Determine your patients' risk for opioid dependence.

Emergency Dept. Opioid Strategy
Strategies for relief of musculoskeletal pain in the Emergency Department.

Orthopaedic Dept./Service Strategies
Having a prescribing policy in place, such as receiving prescriptions from one provider or limiting the number of pills prescribed, will reduce the number of pills that can potentially be diverted, abused, and/or misused.

Safe Use, Storage, and Disposal
Strategies for safely using, storing and disposing of opioids.

https://aaos.org/Quality/PainReliefToolkit/?ssopc

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National Academy of Medicine
Action Collaborative on
Countering the U.S. Opioid Epidemic

Pain Management Guidelines and Evidence Standards Working Group

- **Helen Burstin, MD, MPH,** *Working Group Co-Lead* (Council of Medical Specialty Societies)
- **Debra Houry, MD, MPH,** *Working Group Co-Lead* (US Centers for Disease Control and Prevention)
- **Rebecca Baker, PhD** (National Institutes of Health)
- **Alison Bramhall, MPH** (American Dental Association)
- **Anne L. Burns, BSPharm, RPh** (American Pharmacists Association)
- **Roger Chou, MD** (Oregon Health and Science University)
- **Anna Dopp, PharmD** (American Society of Health-System Pharmacists)
- **Kyle P. Edmonds, MD, FAAHPM** (American Academy of Hospice and Palliative Medicine)
- **Mary R. Grealy, JD** (Healthcare Leadership Council)
- **Nicole Harrington, BS** (CVS Health)
- **Lisa Hines, PharmD** (Pharmacy Quality Alliance)
- **Roneet Lev, MD,** Office of National Drug Control Policy
- **Shari Ling, MD** (Centers for Medicare and Medicaid Services)
- **Jan Losby, PhD, MSW** (US Centers for Disease Control and Prevention)
- **Edward Mariano, MD, MS** (American Society of Anesthesiologists)
- **Vincent G. Nelson, MD, MBA** (Blue Cross Blue Shield Association)
- **Robert "Chuck" Rich, Jr., MD, FAAFP** (American Academy of Family Physicians)
- **Friedhelm Sandbrink, MD** (US Department of Veterans Affairs)
- **Michael Schlosser, MD, MBA** (HCA Healthcare)
- **Bob Twillman, PhD** (Integrative Health Policy Consortium)
- **Scott G. Weiner, MD, MPH, FAAEM, FACEP** (American College of Emergency Physicians)

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Summary

- We discussed:
  - *The opioid epidemic*
  - *Implications for the OSA patient*
  - *Recommendations for clinical practice*