Addiction Medicine:
The Good, the Bad and the Ugly

Darrin Mangiacarne, DO, MPH, CPE
Financial Disclosures

• Still over $165,000 in debt from medical school
• This talk is sponsored by no one
Objectives

• Introduce the emerging field of addiction medicine
• Relieve you of the misconception that opioids are necessary for chronic pain management
• Understand the backdrop to the opioid epidemic and how we can get out of it
• Understand that heroin use is the natural consequence of the gross over-prescribing of opiates
THE GOOD—AN EMERGING SPECIALITY
Formal Board Recognition

- ASAM certification offered in 1995
- ABAM started in 2008
- Over 3,000 diplomats currently
- Addiction Medicine is now recognized as a medical specialty by the ABMS
- April 12, 2016, AOA followed suit
- American Board of Preventive Medicine now certifying physicians
Addiction Medicine Fellowships

- There are 40 accredited addiction medicine fellowships.  
  ▪ Goal is to have 65 by 2020 and 125 by 2025.

- Addiction Fellowships are sprouting all over the country
Buprenorphine Prescribing Limit

- DATA 2000 amended as of August 8, 2016
- New Limit is 275 patients
  - Physician must possess a current waiver to treat up to 100 patients
  - Must have maintained that waiver without interruption for at least one year and meet one of the following requirements
    - Board Certified in Addiction Medicine or Addiction Psychiatry
    - Practice in a “qualified practice setting”
- Nurse practitioners and Physician Assistants can now prescribe
What is a “Qualified Setting”? 

- Provides coverage for patient medical emergencies after hours 
- Provides access to case-management services for patients including referral and follow-up services such as medical, behavioral, social, housing, employment, educational, or other related services 
- Uses electronic health records to store, share, and analyze health information 
- Is registered for their State prescription drug monitoring program (PDMP) 
- Accepts third-party payment for costs in providing health services
NARCAN

- FDA approved to treat opioid overdose
- Voice activated
- Analogous to epinephrine pen
- Need to link patients given Narcan to treatment programs
580 primary doctors surveyed in 2014

85% “say they believe that opioids are overused in clinical practice.”

“Surprisingly, despite concerns about overprescribing, nearly all physicians surveyed (88 percent) expressed confidence in their own ability to prescribe opioids appropriately.”

“Prior studies have shown that most doctors believe their colleagues’ prescribing decisions are swayed by pharmaceutical marketing and promotion, yet they themselves are immune to such effects.”

Source: jhsph.edu
"I think we have overestimated the benefits of prescription opioids and underestimated their risks"

"Although opioids have many risks, their addictive potential is of especially great concern."
- Caleb Alexander, MD
"Whereas there is evidence for significant short-term pain relief, there is no substantial evidence for maintenance of pain relief or improved function over long periods of time without incurring serious risk of overdose, dependence, or addiction."

National Safety Council White Paper Evidence for the Efficacy of Pain Medications

NNT for one person to get 50% pain relief post-operatively

NO EVIDENCE of Benefit for Opioids used >4mo

No evidence of decreased suffering- No overall improvement in back & neck pain disability

Denmark Study- Chronic opiates = higher pain, lower QOL, less functional

Long-Acting Opioids Increase Mortality in Patients With Chronic Non-cancer Pain

• Retrospective cohort study between 1999 and 2012 of Tennessee Medicaid patients with chronic non-cancer pain and not on hospice

• Prescription of long-acting opioids for chronic non-cancer pain, compared with anticonvulsants or cyclic antidepressants, was associated with a significantly increased risk of all-cause mortality, including deaths from causes other than overdose

• Risk was 1.64 times greater than that for matched patients corresponding to 69 excess deaths per 10,000 person-years of therapy.

• Opioids are not first-line or routine therapy
• Establish and measure goals for pain and function
• Check PDMP
• Use UDS’s
• Avoid concurrent benzo & opioid prescribing
• Arrange treatment for opioid use and disorder if needed.

www.cdc.gov/drugoverdose/prescribing/guideline.html
CDC Suggestions to Reduce Overdose Deaths

• Limit initiation into opioid misuse and addiction through education of healthcare providers
• Expand access to medication-assisted treatment for people with opioid use disorder
• Expand access to naloxone
• Get state and local public health agencies, medical examiners and coroners, and law enforcement agencies to work together to improve detection of and response to illicit opioid overdose outbreaks.

Source:  http://www.cdc.gov/media/releases/2015/p1218-drug-overdose.html
SUPPORT for Patients and Communities Act

- Passed through Congress on 10/4/18 with overwhelming bipartisan support
- Loan repayment relief to addiction treatment professionals who practice in high-need areas
- Medicare demonstration program that covers evidence-based outpatient treatment for beneficiaries with opioid use disorder
- Partial repeal of the Medicaid IMD exclusion that allows state Medicaid programs to cover inpatient treatment in residential facilities
How did we get here?
• A *perception* which begins with a stimulus and is subject to physical and psychological influence

• May be inhibited if fear for survival is strong enough

• May be magnified if psychological need for pain is great enough
PAIN

NEUROPHYSIOLOGIC

PSYCHIATRIC
PAIN

• Beecher attempted to define and quantify pain (1957)
• Exhaustive Review
• Cited 850 references
• Conclusion:

  • BEECHER, H. K. The measurement of pain. Pharm. Rev., 1957, 9, 59-209
“because pain is subjective it cannot be described so that it is meaningful to another person”
PAIN

• Acute Pain
• Chronic Pain
  ▪ Pain of Malignant Origin
  ▪ Pain of Benign or Non Malignant Origin
• Indicated for Acute Pain Only
• Every Pharmacokinetic Study: based on acute pain model
  based on noxious stimulus
ACUTE PAIN

• Response to tissue damage
• Important biological function
• Treatment directed to Etiology
  ▪ Rest, Analgesics (1-3 weeks)
  ▪ Opioids are effective
Chronic Pain (Malignant Origin)

- Tissue damage due to malignancy
- Tissue damage due to treatment
- Combination of recurring Acute Pain and Chronic Pain factors

Treatment
- Pharmacologic
- Escalate opioids in response to tolerance
- Parenteral/intrathecal administration
- Physical and psychological rehab
Chronic Pain (Benign Origin)

- Tissue Damage at Onset
- Becomes chronic at 6 month mark
- Persists due to:
  - Tissue not returning to normal function
  - Psychological and/or Pharmacological factors
- Treatment: Rehabilitation
  
  As with any other disability
Factors that Worsen CHRONIC PAIN
(>6 month duration)

• Opioids & other Narcotics  
  (Long, 1975, Gildenberg, 1996)
• Depression
• Physical Regression
• Psychological Regression
• Intolerance to Stress
Opioids for Chronic Pain

- No study demonstrating long term functional improvement
- No study demonstrating long term analgesia
Negative Effects with Chronic OPIOID use

• Tolerance eliminates analgesia
• Withdrawal increases pain
• Suppress endorphins
• Suppress testosterone, estradiol
• Worsen depression
• ADDICTION
• Pain Improves with Detox
Opioid Induced Hyperalgesia

- Methadone maintenance patients have lower pain thresholds than controls, cocaine addicts and former heroin users not on methadone.

NARCOTICS

PAIN

MORE
NARCOTICS

WITHDRAWAL

MORE
PAIN
Benzodiazepines

- Tolerance & Withdrawal
- Increase Pain
- Disrupt Normal Sleep
- Accidental Overdose with Opioids
- ALMOST NEVER INDICATED
- ALMOST ALWAYS PRESCRIBED

-The Practice of Neurosurgery Vol. III
Tindall, Cooper, Barrow
BENZOS

ANXIETY

WITHDRAWAL

MORE BENZOS

MORE ANXIETY
Depression

• Heightens pain perception
• Consequence of disability (in a motivated patient)
• Intensified by:
  ▪ Family disruption
  ▪ Financial loss
  ▪ Legal problems
  ▪ Bureaucratic stresses
• Pain improves with Anti-depressants

- The Practice of Neurosurgery Vol. III
  - Tindall, Cooper, Barrow
DEPRESSION

HEIGHTENED PAIN PERCEPTION

MORE PAIN

MORE DEPRESSION

PAIN
Physical Regression

- Patient Driven
  - Decreased activity due to pain
- Physician Driven
  - Instructed to decrease activity
- Muscle Weakness
- Pain Increases with Activity
Psychological Regression

- Decreased recreational, social and adult responsibilities
- Increasingly more dependent on caregivers
- Live centered on pain
- Physical therapy/recreational therapy
INACTIVITY

PAIN

MORE INACTIVITY

MUSCLE WEAKNESS

PAIN WITH ACTIVITY
Stress

- Muscle Tension/Spasm
  - Financial Strain
  - Insurance Companies
  - Legal Proceedings
  - Daily Annoyances
  - Biofeedback/Relaxation Techniques
## Chronic Pain Management

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>SOLUTION</th>
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</thead>
<tbody>
<tr>
<td>• Narcotics</td>
<td>• Discontinue/Treat Addiction</td>
</tr>
<tr>
<td>• Depression</td>
<td>• Antidepressants and Counseling</td>
</tr>
<tr>
<td>• Physical/Psychological</td>
<td>• Increase Activity</td>
</tr>
<tr>
<td>Regression</td>
<td>• P.T., Exercise, Massage, Yoga, Recreational Therapy, Acupuncture</td>
</tr>
<tr>
<td>• Stress</td>
<td>• Biofeedback, Relaxation</td>
</tr>
<tr>
<td></td>
<td>• Guided Imagery</td>
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-Neurological Surgery Vol. 6 (Pain)
Youman
If they don’t work, why are they so popular?
Factors Influencing Opioid Use in Chronic Benign Pain

• “Pain Experts”
  • Junk Science
  • Pharmaceutical Company Influence
  • JCAHO
PORTENOOY

- Internist, NYC, 1980s
- Undertreated pain-cancer patients
- Promotes liberal use of opioids
- Adds non-cancer patients
  - addiction only rare-occurring drawback
“Pain is a little science, a lot of intuition, and a lot of art”

-Russell Portenoy, MD

Now admits the “research” used to promote long acting opioids was pseudoscience.

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He received millions of dollars over the preceding decade in funding from opioid makers including Endo, Abbott Laboratories, Cephalon, Purdue Pharma and Johnson & Johnson

https://www.wsj.com/articles/SB10001424127887324478304578173342657044604
12/17/2012
“the terminology of substance abuse, as discussed elsewhere in this volume, was developed by specialists in addiction, whose frame of reference is the addict, rather than the medical patient receiving opioids for pain. It is necessary to clarify this terminology when applying it to the assessment of medical patients.”

-Substance Abuse, Lowinson, et al, 4th edition
Published Oct 2004
Factors Influencing Opioid Use in Chronic Benign Pain

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- Pharmaceutical Company Influence
- JCAHO
“Get your facts first, and then you can distort them as much as you please.”

- Mark Twain

Addiction rare in patients treated with narcotics. New England Journal of Medicine, 302, 123.

- Boston Collaborative Drug Surveillance Project
  - Reviewed 39,946 hospital records
  - 11,882 received narcotics
  - Only 4 documented cases of addiction
    - 2 meperidine, 1 oxycodone, 1 hydromorphone
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

“There are three kinds of lies: Lies, Damn Lies, and Statistics.”

- Mark Twain
Drug Misuse in Chronic Pain

100 Consecutive patients admitted to Johns Hopkins Pain Treatment Program in the mid 1970s

- Addicted to Narcotics 90%
- Misusing/Abusing Narcotics 90%
- Misusing/Abusing Psychotropics 80%
- Prescriptions from multiple physicians >50%
- Withdrawal symptoms 90%
- Inappropriate combinations of drugs or inappropriate ingestion 97%
After Portenoy

- Portenoy and Foley, 1986, *Pain*
  - 5% addiction with chronic opioid treatment

  - Review article, upper limit of addiction rates at 19%
>30% of patients in the Chronic Pain Rehabilitation Program have an active Substance Use Disorder.
SUDs & Chronic Pain


• Meta-analysis of 38 studies

• Prevalence of SUD in chronic back pain patients receiving opioids with a lifetime prevalence as high as 54%
Factors Influencing Opioid Use in Chronic Benign Pain

- “Pain Experts”
- Junk Science

**Pharmaceutical Company Influence**

- JCAHO
Morphine
Early 1800s

- Developed as a less addictive alternative to opium
- Civil War vets treated
- “Soldiers Disease”
  - Civil War Vet Addicts
- Named after Morpheus
  - (god of dreams)
- 300,000 addicts in 1900
Heroin

- Developed in 1874 by C.R. Adler Wright
- Bayer pharmaceuticals released it over the counter in 1895
- “Less addictive” alternative to Morphine
- 3 times more potent than Morphine
Dilaudid

• First synthesized and researched in Germany by **Knoll** (first patent 1922)
  - Today owned by Abbott Laboratories

• Touted as less addictive form of morphine
• 4 times stronger than morphine
• Developed in 1950 by Endo
• 1963 – Attorney General of California states Percodan responsible for ¼ of all addiction statewide
• Endo’s Response
  ▪ Percodan has little or no addictive potential
OxyContin

- Released in 1995 – Purdue Pharma
- “Delayed absorption as provided by OxyContin tablets is believed to reduce the abuse liability of the drug”
  - FDA Examiner, Curtis Wright, MD okayed this label
  - Curtis Scores Big Job at Purdue!!

- “Medical Newsletter” widely distributed to Physicians reports a “study” reveals ONE in every household is suffering from undertreated pain – 2 weeks later OxyContin is introduced
David Haddox, MD, DDS – Emory/Atlanta, Psychiatry/Addiction coined term “pseudo-addiction”

- Now the VP, Health Policy at Purdue Pharma
- Does damage control
  - Incidence of Addiction <1%

“We do not want to niche OxyContin just for cancer pain,” a marketing executive explained to employees planning the drug’s debut, according to minutes of the 1995 meeting.
Thebaine

• From Poppy Plant
• Used to Produce Oxycodone
• Thebaine rich poppy grown in Tasmania
• Production and export to U.S. after OxyContin release increased so much it drew the attention of the International Narcotics Control Board
PAIN KILLER

A “WONDER” DRUG’S TRAIL OF ADDICTION AND DEATH

BARRY MEIER
Purdue Pharmaceuticals
Johnson & Johnson
Dupont
Abbott

Janssen produces Duragesic
Ortho McNeil produces Tylox

Dupont
ENDO produces Percodan/Percocet

Abbott
Knoll produces Vicodin

American Pain Foundation
American Pain Society
American Academy of Pain Medicine

FUND:
American Pain Foundation
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produces
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American Pain Society
American Academy of Pain Medicine

www.fairbanksced.org
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IMPLEMENTATION STRATEGIES
JCAHO Pain Standards

• Introduced in July 2000
• Include pain treatment in patient Bill of Rights
• Screen all patients for pain on admission and regularly thereafter
• Ensure competency of staff and physicians in pain assessment and management
• 5th Vital Sign
• Ask every patient on admission: “Do you have pain now?” If yes, obtain additional data (Initial Pain Assessment Tool).

• Standardize the use of pain scales
  ▪ JCAHO did not appreciate Beecher (1957)
The UGLY—OUR PATIENTS ARE DYING
“There are 50 million people in this country who are undertreated for pain”

-Howard Heit, MD

2009 ASAM Annual Conference
New Orleans, LA
• 117 “pain clinics” (pill mills)
• 70 McDonald’s’s Restaurants
• Oakland Park Boulevard had 31 different pain clinics on it

- Orlando Sentinel, Feb. 2011
259M

Health care providers wrote 259 million prescriptions for painkillers in 2012, enough for every American adult to have a bottle of pills.

Source: http://www.cdc.gov/drugoverdose/data/prescribing.html
North Carolina Population in 2015: 10 million
Opioids of the masses
Narcotic analgesic dispensed volume in morphine milligram equivalents (MME)

Source: IQVIA National Prescription Audit

CNBC
OPIOIDS THE DARK SIDE

• Between 1999 and 2002
  ▪ Oxycodone prescriptions increased 50% to 29 million
  ▪ Fentanyl prescriptions increased 150% to 4.6 million
    • 80% Fentanyl patches prescribed for nonmalignant pain-approved only for cancer pain
  ▪ Morphine prescriptions increased 60% to 3.8 million
Pharmaceutical drug distribution:
1997-equivalent 96mg morphine/person
2007-equivalent 700mg morphine/person
>600% increase
This is enough for everyone in the U.S. to take 5mg hydrocodone Q 4hr for 3 weeks
-JAMA, 2-22/29-2012
OPIOIDS THE DARK SIDE

• During the time (2001-2006) the most prescribed medication of any category in the US has been:
  ▪ Hydrocodone/Acetaminophen – over 100 million prescriptions in 2005

• In 2004, the United States used 99% of the world’s supply of hydrocodone

- JAMA, 1-17-2007
Opioid Prescriptions Drop for First Time in Two Decades

- Opioid prescriptions have fallen in 49 states since 2013
  - Sorry North Dakota
- Hydrocodone has been the largest decline
  - No longer the number one prescribed drug in America
- Fatal overdoses from opioids have continued to rise, taking more than 28,000 lives in 2014

• As we have been more reluctant to prescribe high dose opiates to patients, the heroin market has taken off and patients have been overdosing at exponential rates.
National Overdose Deaths
Number of Deaths Involving Heroin

Source: National Center for Health Statistics, CDC Wonder
National Overdose Deaths
Number of Deaths Involving Opioids

Source: National Center for Health Statistics, CDC Wonder
National Overdose Deaths
Number of Deaths Involving All Drugs

Source: National Center for Health Statistics, CDC Wonder
Drugs Involved in U.S. Overdose Deaths, 1999 to 2017

- Synthetic Opioids other than Methadone, 29,406
- Heroin, 15,958
- Natural and semi-synthetic opioids, 14,958
- Cocaine, 14,556
- Methamphetamine, 10,721
- Methadone, 3,295
• North Carolina MB/PHP 2011
• 3 deaths/day
  ▪ Accidental Rx drug overdose
  ▪ Highest percentage of deaths:
    *Pts on high daily doses of opioids Rx’d by their own Family MD*

Forum North Carolina Medical Board
Winter 2012
MVA vs. Poisoning Deaths Nationally

Motor Vehicle Traffic Poisoning Drug Poisoning (Overdose)

Deaths per 100,000 population

Year


NCHS Data Brief, December, 2011. Updated with 2009 and 2010 mortality data

Source: Centers for Disease Control and Prevention, WISQARS Database
Who Is Today's Average Heroin User?

- 32 Years Old
- Average Age
- White: 79%
- Male: 56%
- Small Urban or Rural Region: 75%

Source:
Heroin Bindles ($15 to $25 will buy you 1/10 gram)
Indianapolis Heroin Balloons $10 each
10% to 50% Pure
Philadelphia Marketing Stephen Curry $25 each
“I’ve seen the needle and the damage done
a little part of it in everyone, but every junkie’s like a setting sun…”

The needle and the damage done
Neil Young
Imodium
“for every complex problem there is a solution that is simple, neat and wrong.”

H.L. Mencken
SOLUTIONS

- Education
- Medical/Dental School, providers, public
- Pharmaceutical Industry
- Regulate/provide addiction treatment
- Prescription monitoring
- DEA
• Evaluation
• Treatment Plan
• Informed Consent
• Periodic Review
• Consultation

68 cases public discipline 2010 NCMB
“improper prescribing”
Questions?