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Principles of Prescribing Controlled Substances

Scott Hambleton, MD, DFASAM
Chair, Mississippi Physician Health Committee

Disclosures

Scott Hambleton, MD:

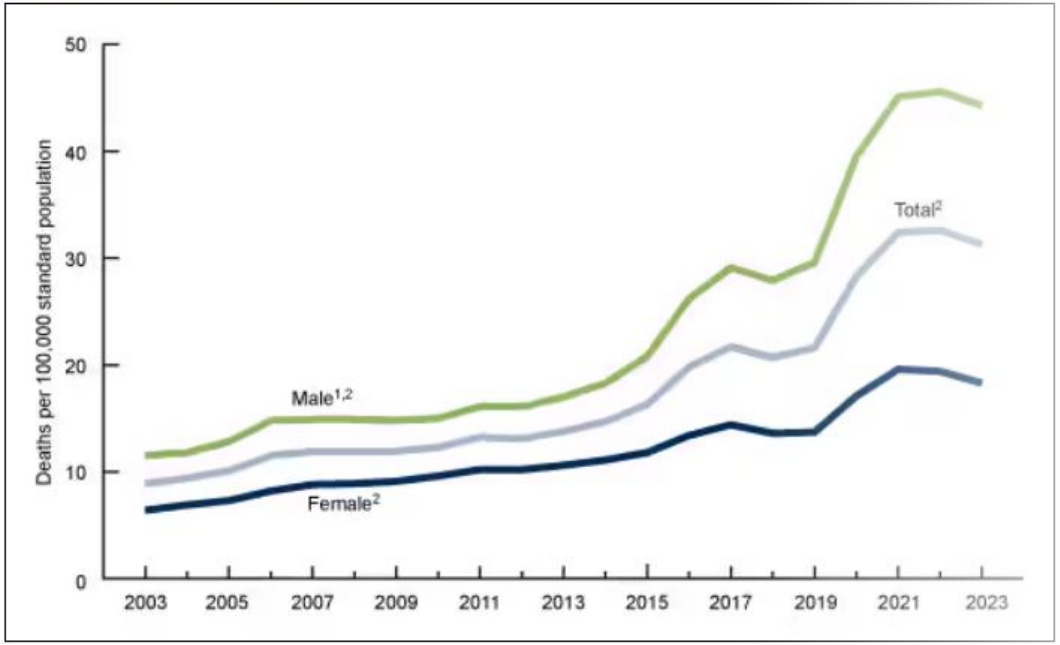
Health Plan Medical Director,
Molina Healthcare

Objectives

- To describe addiction as a brain disease
- To review provider burnout and professionalism
- To describe the overdose death crisis and best prescribing practices for controlled substances

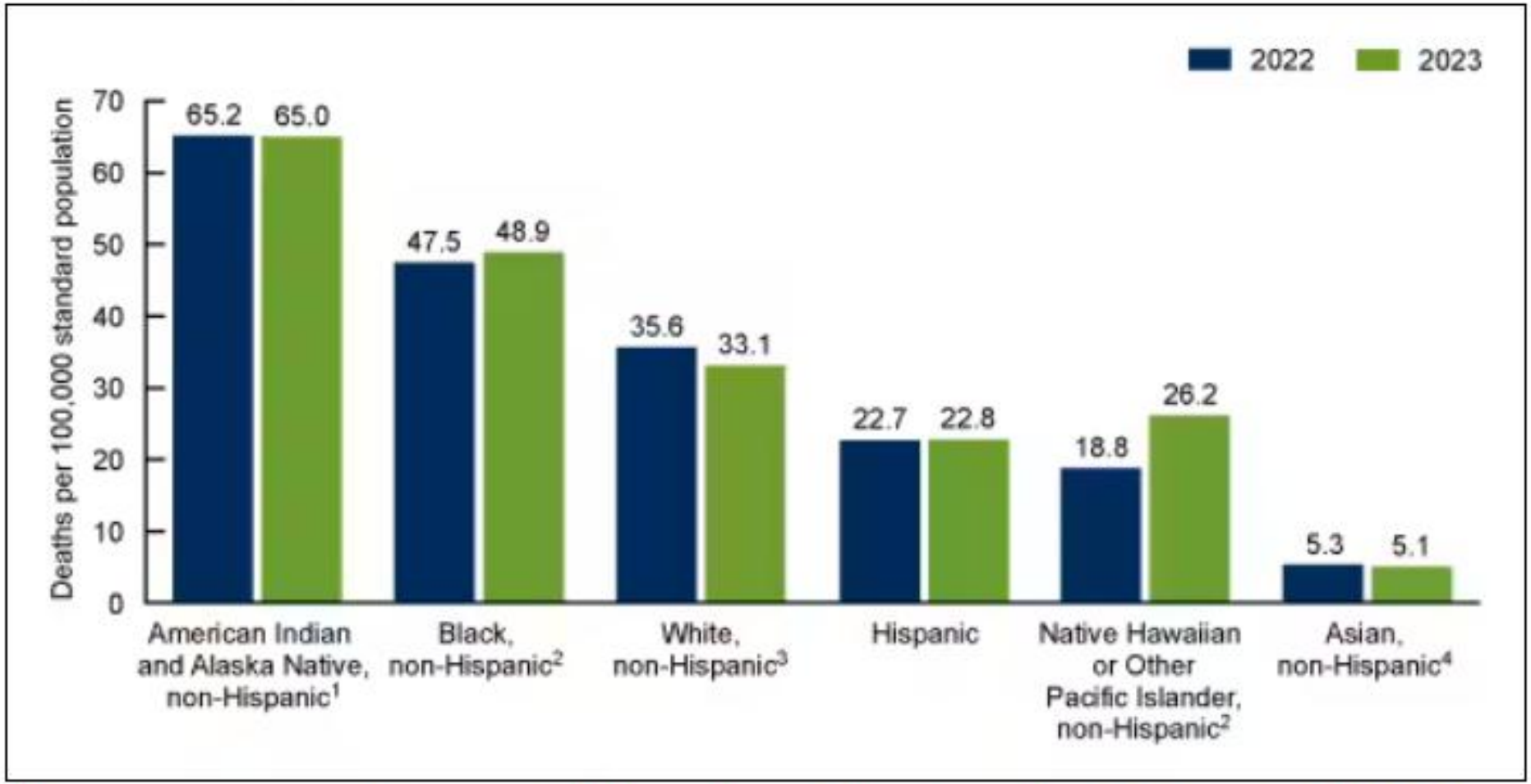
Overdose Death Crisis: 2025 Update

Figure 1. Age-adjusted drug overdose death rate, by sex: United States, 2003–2023



- 107,543 Americans died in 2023
- 111,029 in 2022
- 107,622 in 2021

(Deaths, Drug Overdose Deaths, Drug use (illegal), Drug Use (legal), Vital Statistics Rapid Release, 2024)


2022
2023
Deaths per 100,000 standard population
70
60
50
40
30
20
10
0
65.2
65.0
47.5
48.9
35.6
33.1
22.7
22.8
18.8
26.2
5.3
5.1
American Indian and Alaska Native, non-Hispanic[1]
Black, non-Hispanic[2]
White, non-Hispanic[3]
Hispanic
Native Hawaiian or Other Pacific Islander, non-Hispanic[2]
Asian, non-Hispanic[4]

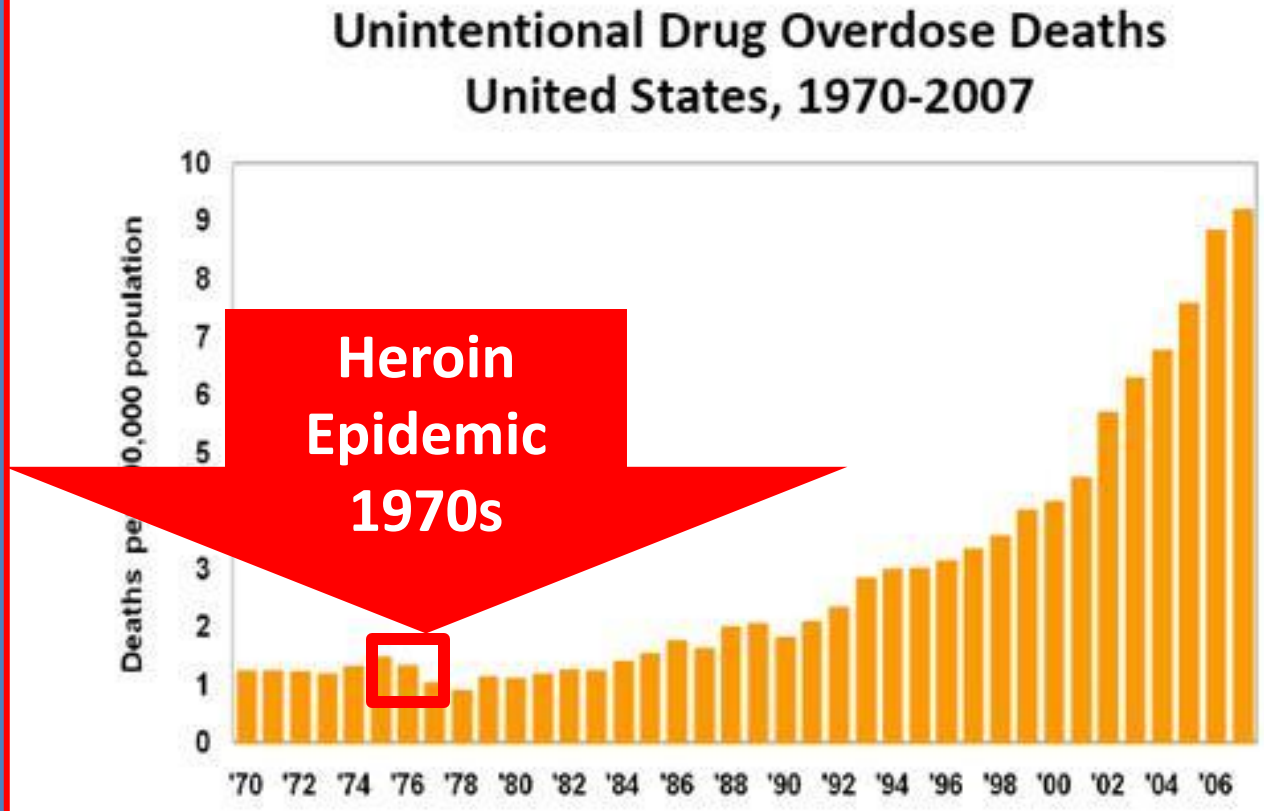
Reasons for Decreases in OD Deaths in 2023 and 2024

- Increased Access to Treatment: expansion of MOUD
- Harm Reduction Strategies: Wider distribution of naloxone, with support from harm reduction organizations
- Changes in Drug Supply: decrease in fentanyl potency

(CDC.gov)

Prescription Drug Crisis Issues

- What is high risk opioid therapy?
- Risk stratification?
- Concomitant use with other controlled substances?
- Tapering strategies?
- Use of other modalities?
- Use PDMP!



Source: CDC, Unintentional Drug Poisoning in the United States (July 2010)

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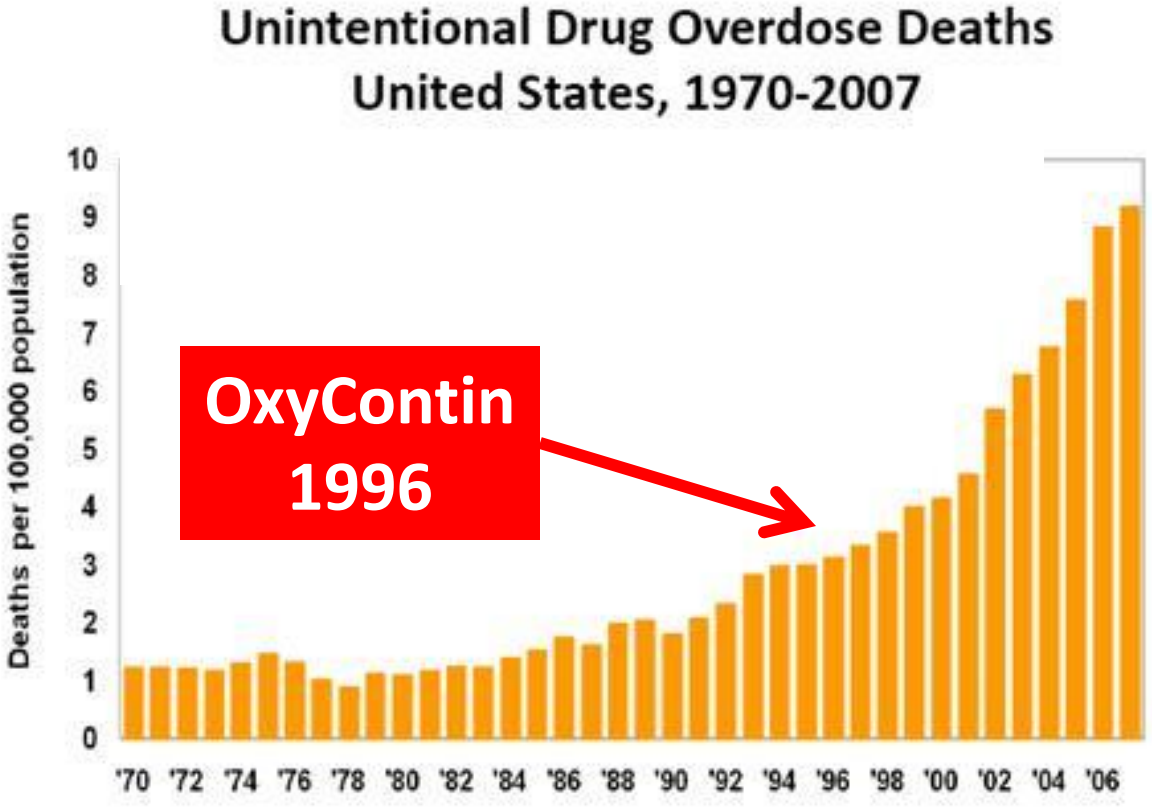

Source: CDC, Unintentional Drug Poisoning in the United States (July 2010)

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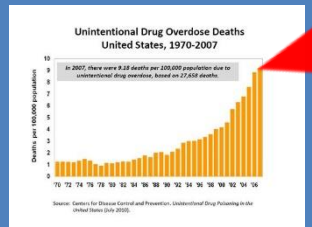
Unintentional Drug Overdose Deaths
United States, 1970-2007

Source: Centers for Disease Control and Prevention. *Unintentional Drug Poisoning in the United States* (July 2010).

65 deaths per 100,000 among Native Americans in 2023



9 deaths per 100/000 in **2**007

Controlled Substances: Schedules

- The Controlled Substances Act (CSA) classifies drugs into five schedules based on their potential for abuse, accepted medical use, and safety or dependence liability.
- As the schedule number increases from I to V, the potential for abuse decreases, and the accepted medical use increases.

(DEA.GOV)

Controlled Substances: Schedules I and II

- Schedule I:
  - Potential for Abuse: High
  - Accepted Medical Use: None
  - Examples: Heroin, LSD, marijuana, ecstasy
- Schedule II:
  - Potential for Abuse: High
  - Accepted Medical Use: Yes, with severe restrictions
  - Examples: Oxycodone (OxyContin), Fentanyl, Adderall, Hydrocodone

(DEA.GOV)

Controlled Substances: Schedules III and IV

- Schedule III:
  - Potential for Abuse: Moderate
  - Accepted Medical Use: Yes
  - Examples: buprenorphine, testosterone, ketamine, butalbital
- Schedule IV:
  - Potential for Abuse: Low
  - Accepted Medical Use: Yes
  - Examples: Benzodiazepines (Xanax, Valium), Tramadol, Ambien

(DEA.GOV)

Controlled Substances: Schedule V

- Schedule V:
  - Potential for Abuse: Low
  - Accepted Medical Use: Yes
  - Examples: Lyrica, Neurontin, Lomotil, cough preparations with codeine

(DEA.GOV)

What are Opioids?

- Drugs that interact with Mu opioid receptor
  - Opiates: extracted from opium poppy (Codeine, Morphine)
  - Semi synthetic opiates: partially derived from opium poppy (Buprenorphine, Hydrocodone, Oxycodone, Heroin)
  - Synthetic opiates: not derived from opium poppy (Fentanyl, Demerol, Methadone)

ACOEM 2014 Practice Guidelines: Opioids and Safety-Sensitive Work

- **Acute or chronic opioid use is not recommended for patients who perform safety-sensitive jobs.**
- These jobs include operating motor vehicles… other modes of transportation… sharps work (eg, knives, box cutters, needles)… and tasks involving high levels of cognitive function and judgment.

(Hegmann et al., 2014)

Concurrent BZOs and Opioids

- When prescribing opioids for either chronic or acute pain, it is a ***relative contraindication*** (black box warning) to prescribe opioids concurrently with Benzodiazepines and/or Soma.
- Prescribing of opioids concurrently with benzodiazepines and/or Soma may be allowed ***only under very limited circumstances*** in which the combination is used to treat very specific chronic medical conditions for which there is no other treatment modality available.

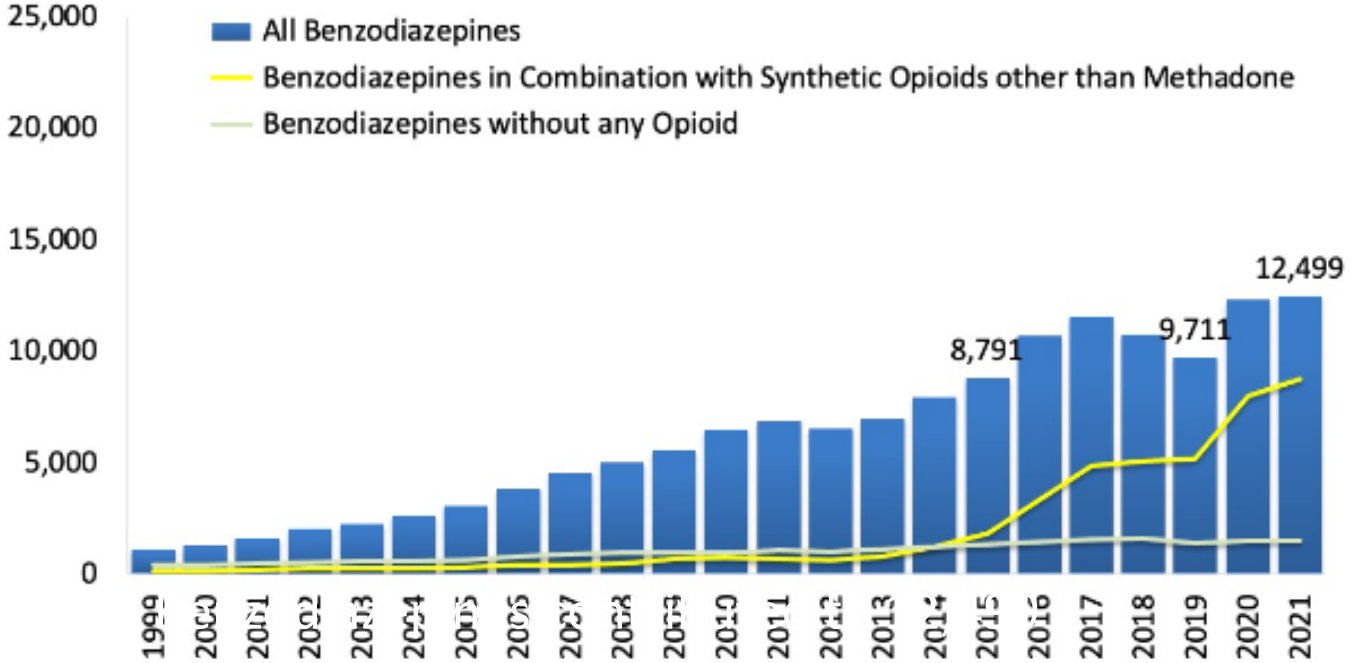
[MS Admin Code Part 2640 Chapter 1: Rules Pertaining to Prescribing, Administering and Dispensing of Medication. Rule 1.7 Use of Controlled Substances for Chronic (Non-Cancer/Non-Terminal) Pain.]

Benzodiazepine Tolerance

- Tolerance to the **sedative/ depressant effects** of benzodiazepines is rapid: days to weeks
- Tolerance to the **anxiolytic/ anti-convulsant effects** develops slowly and to a limited extent (weeks to months)
- Tolerance to **amnestic and cognitive impairing effects** do not develop even after years of use
- Deficits in chronic users of memory, attention and visuospatial ability (especially in drinkers/ elderly)

(Miller, 2024)

Figure 9. National Drug Overdose Deaths Involving Benzodiazepines*, by Opioid Involvement, Number Among All Ages, 1999-2021



*Among deaths with drug overdose as the underlying cause, the benzodiazepine category was determined by the T42.4 ICD-10 multiple cause-of-death code. Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2021 on CDC WONDER Online Database, released 1/2023.

Anxiety and CBT

- The majority of anxiety disorders are optimally treated with cognitive behavioral therapies (CBT)
- CBT and other psychological therapies are evidence based, effective interventions with a sustained impact on anxiety disorders.
- There is a considerable overlap in the symptoms of the major anxiety disorders
- Effective treatments for one often address the other
- Developing simple referral pathways with psychologists, primary care providers can begin to offer alternatives to benzodiazepines.

(Miller, 2024)

BZO Use in Patients with SUD

- "Benzodiazepines and other sedative-hypnotics carry the potential for abuse or dependence and *should rarely be prescribed to patients with co-occurring substance use disorders*, except as part of a brief detoxification regimen."

(Gelenberg, et al. APA Practice Guidelines, 2010)

Long term use of Benzodiazepines

- Long term use is ≥ 8-12 months
- 90% experience withdrawal symptoms, whether withdrawn slowly or rapidly
- Gradual taper off alprazolam after long-term treatment of panic disorder results in rebound panic and anxiety, exceeding pretreatment levels in 50-90% of patients.

(Saddock et al., 2009)

Warning Signs for High Risk Patients

- History of substance misuse
- Concurrent polysubstance misuse
- Illicitly obtained benzodiazepines
- Inaccurate patient report about amount of BZ consumed
- Unsuccessful attempts to decrease or discontinue use
- Chronic opiate use

(Ries, 2014)

What About Patients on Suboxone?

- In general, do not prescribe opioids to patients on Suboxone (buprenorphine)
- Suboxone works for pain (divide doses q 4 hours)
- Increase dose of suboxone for a few days after surgery, or stop Suboxone 24 hours before using opioid pain medication
- Talk to their doctor, if possible

Best Post-Operative Pain Relief?

- Which combo provides the best pain relief (measured as 50% reduction) after third molar extraction?
  - ✓ Oxycodone 15mg
  - ✓ Oxycodone 10mg + Acetaminophen 650mg
  - ✓ Naproxen 500mg
  - ✓ Ibuprofen 200mg + Acetaminophen 500mg

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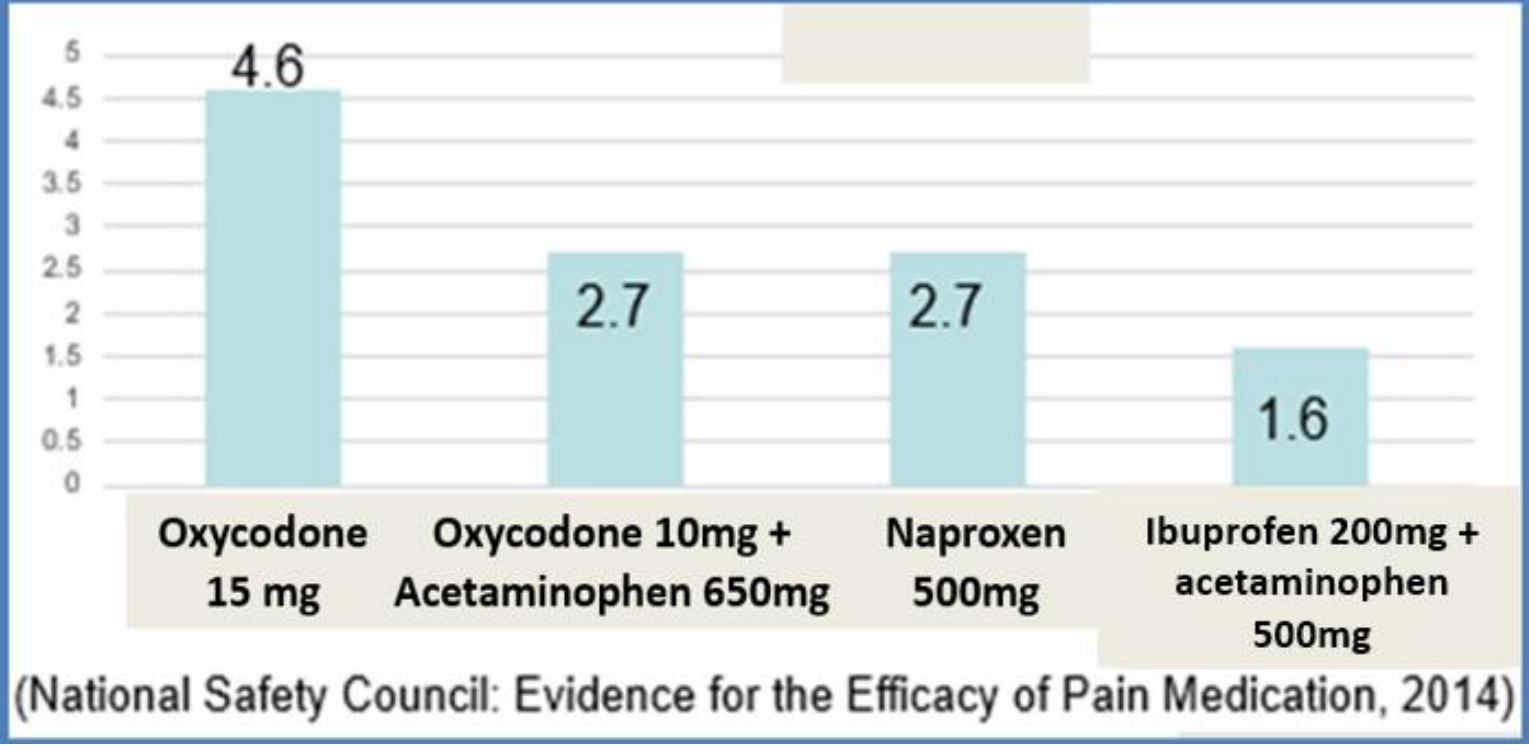
Number Needed to Treat (NNT) for 50% Post-Op Pain Reduction



(National Safety Council: Evidence for the Efficacy of Pain Medication, 2014)

Professionals Health Programs

- Utilized by professionals for over 40 years
- Generally unfamiliar to most providers
- Demonstrate that rehabilitation works
- Confidentiality is an amazing incentive for recovery!

Physician Burnout

- Physician burnout rate drops below 50% for first time in 4 years
  - (AMA Wire, Jul 2,2024)

Characteristics of Medical Work

- Long hours
- Intense involvement
- Emotionally charged interactions
- Requirement for complex decision making
- Ambiguous and frustrating solutions/outcomes
- Requirement for constant “giving” (e.g., time, knowledge, empathy)
- **Breeding ground for distress**

Enhancing Intrinsic Motivation

- **Three Pillars that support intrinsic motivation and psychological well-being:**

1. Autonomy
2. Competence
3. Relatedness

(Gagne' & Dcei, 2005)

Autonomy

- The right to act with a sense of volition and having the experience of choice

(Gagné & Deci, 2005)

- One of the principle determinants of ethical decision making and solid professional boundaries

Competence

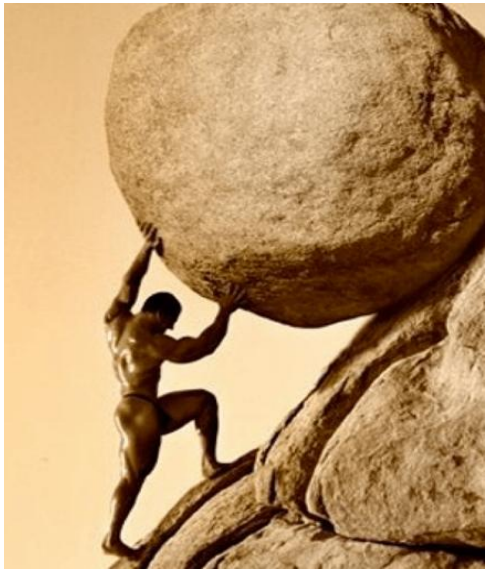
- A deep fund of medical knowledge
- Exercising clinical judgment appropriately with each patient

(Gagné & Deci, 2005)

Relatedness

- Feeling of belonging
- Strong interpersonal attachments
- Sense of connection with the social Organization (Gagné & Deci, 2005)
- “Medicine’s daily tasks have become Sisyphean…”

(Hartzband & Groopman. N Engl J Med. 2020)



Real Solutions: Flexibility in Scheduling

- "The problem of burnout will not be solved without addressing the issues of autonomy, competence, and relatedness."
- Flexibility in scheduling: one of the few system solutions that reduced burnout

(Panagioti M, et al. *JAMA Intern Med* 2017; Hartzband & Groopman. *N Engl J Med*. 2020)

Maslach Burnout Inventory

- Validated instrument
- Evaluate and diagnose workplace burnout
- Three dimensions:
  1. Emotional exhaustion
  2. Depersonalization
  3. Reduced personal accomplishment

  (Maslach Burnout Inventory Manual, 4th ed)

Maintenance of Professionalism

- Best prevention of burnout is the maintenance of personal and professional boundaries
- Base as many decisions as possible on ethical premises:
  - Is autonomy increased or decreased by the decision?
  - Is the decision in the best interest of the patient?

Principles of Ethical Decisions

- Any decision concerning a professional boundary can be evaluated based on the ethical premises of:
  - ✓ Autonomy
  - ✓ Beneficence
  - ✓ Non-Malfeasance
  - ✓ Fidelity
  - ✓ Justice

Fiduciary Relationships

- A ***power relationship*** in which the fiduciary is dominant on the basis of law, status, position, or knowledge.
- The fiduciary places the interest of the ward above their own interest:
  - ✓ HCP - patient
  - ✓ Priest - parishioner
  - ✓ Lawyer - client
  - ✓ Policeman - citizen

Asymmetric Relationship

- Healthcare professionals must abide by a professional code of ethics and regulations.
  - ✓ Patients have no such restraints
  - ✓ Represents significant asymmetry and unequal distribution of power
  - ✓ ***The professional, not the patient, is ultimately responsible for setting and maintaining the professional boundary***

What is a Boundary?

"A line in the sand that represents the edge of appropriate, professional conduct."

Gutheil and Gabbard, 1993

Boundary Crossings

- Minor deviations from traditional treatment that neither harm nor exploit the patient
- May possibly enhance the provider-patient relationship and foster a treatment alliance
- Benign departures from the structures and procedures of traditional treatment
- The key point is the ***purpose*** of the crossing, e.g. self-disclosure, gifts, etc.

Boundary Violations

- Cause harm to the patient
- Typically involves some form of exploitation:
  - ✓ Psychological/emotional
  - ✓ Financial
  - ✓ Sexual
  - ✓ Serve the practitioner's desires
  - ✓ Not in the service of the best welfare of the patient
  - ✓ May occur anytime the professional relationship becomes anything other than patient and doctor.

Why are Patients Vulnerable to Boundary Violations?

- Impulsivity
- Dependence
- Loneliness
- Childhood trauma
- Low self-esteem
- Insecurity
- Domestic issues
- Alcohol or drug use
- Psychiatric disorders
- Transference
- Sick/needy

Why are Physicians Vulnerable to Boundary Violations?

Personal Factors:

- Excessive ambition
- Low self-esteem
- Axis I and II disorders
- Burnout
- Isolation
- Alcohol and drug use
- Rescue fantasy
- H/O childhood trauma
- Counter-transference

External Factors:

- Family problems
- Financial stresses
- Excessive professional demands
- No “boundary education”

Addiction: ASAM Definition

- Addiction is a treatable, chronic medical disease involving complex interactions among brain circuits, genetics, the environment, and an individual's life experiences.
- People with addiction use substances or engage in behaviors that become compulsive and often continue despite harmful consequences.

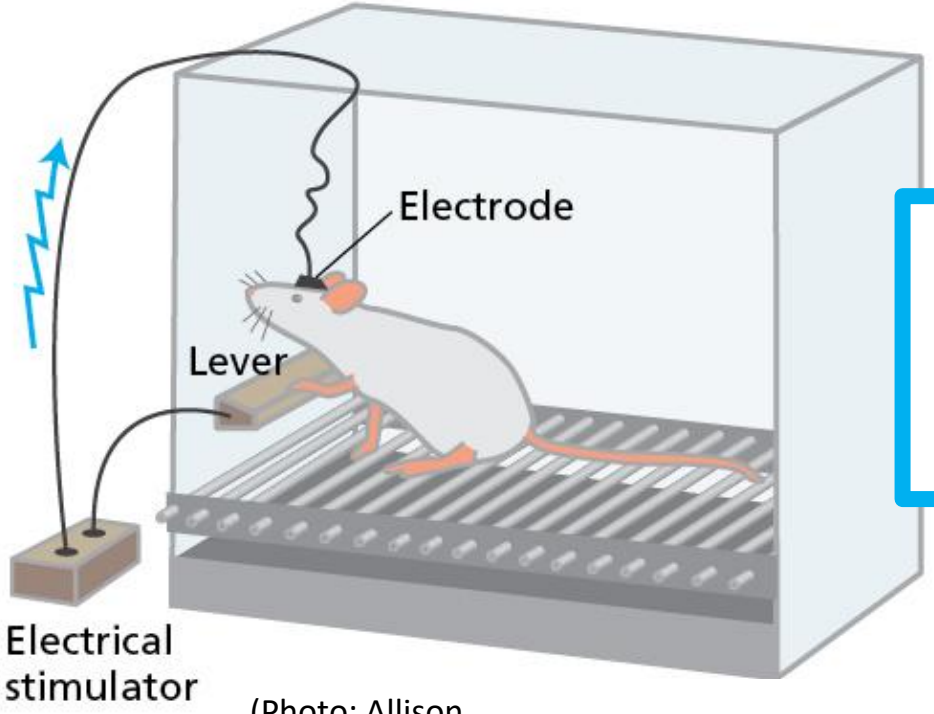
(ASAM, 2019)

Diagnosis of addiction: DSM V

- Abuse and dependence combined into a single disorder: "Substance Use Disorder"
- Continuum from mild to severe
  - 0-1 criteria=no disorder
  - 2-3 criteria=mild disorder
  - 4-5 criteria=moderate disorder
  - 6 or more criteria=severe disorder

(DSM – V - TR)

Intracranial Self-Stimulation & Reward Pathway Activation



Olds & Milner, 1954

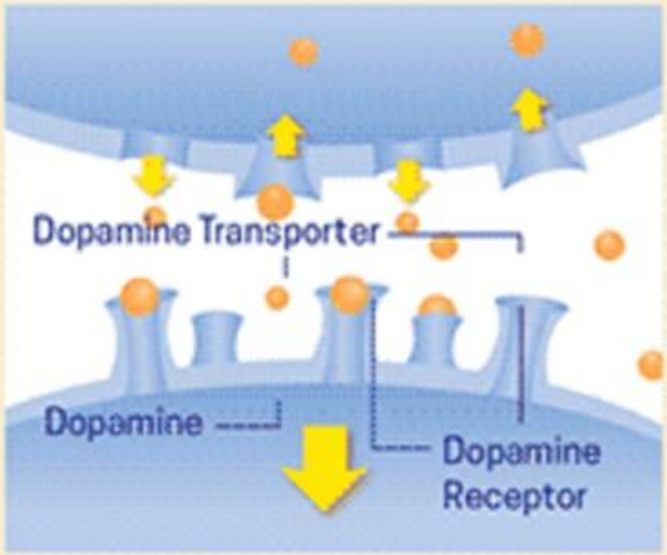
(Photo: Allison Mackey/DiscoverMagazine.com)

Reward Pathways: Vital Survival Function

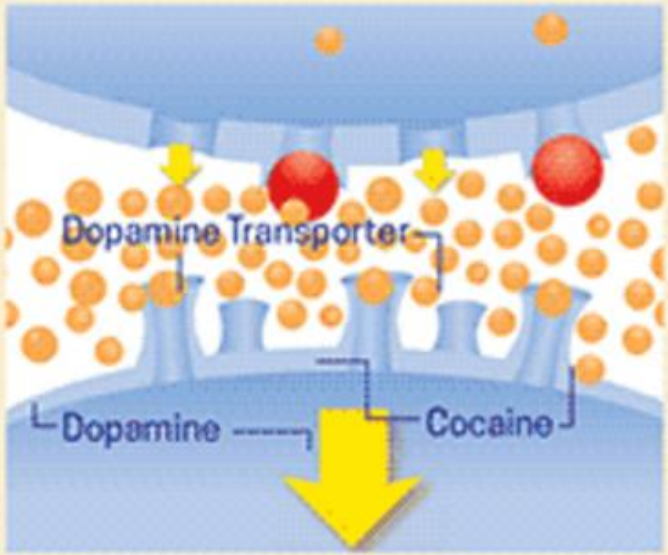
- Stimulation of midbrain dopaminergic tracts occurs when an individual engages in behavior that promotes and reinforces survival
  - ✓ Eating - Drinking
  - ✓ Fight – flight- freeze
  - ✓ Sexual activity – Reproduction

(Ries, et al., 2014)

Supernormal concentrations of dopamine are released with drugs of abuse.



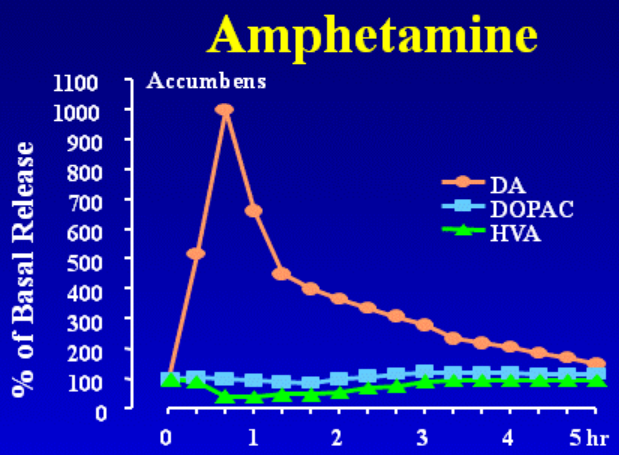
While eating food

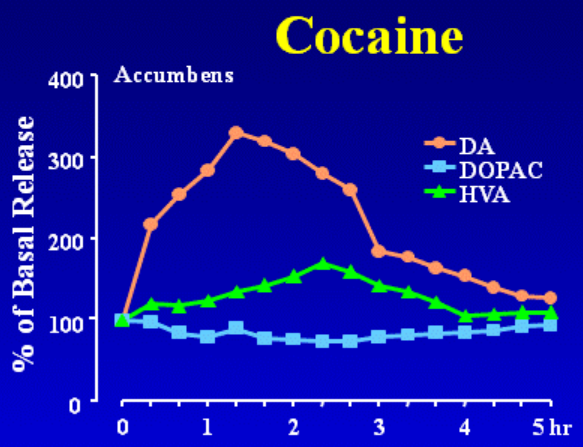


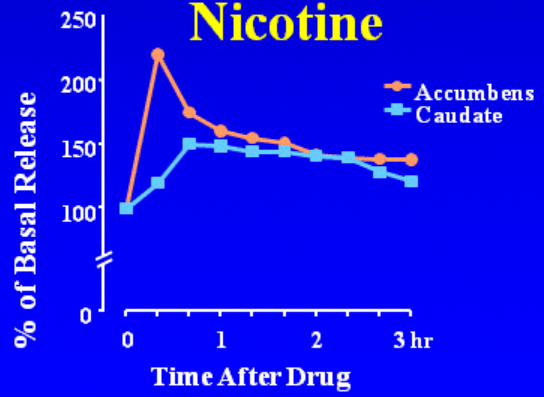
While using cocaine

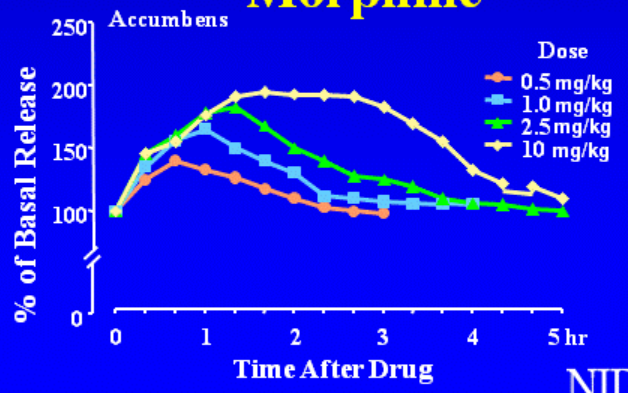
(www.drugabuse.gov)

Effects of Drugs on Dopamine Release









Di Chiara and Imperato, PNAS, 1988

NIDA

Can the cortex override the limbic system or reptilian brain?

Unequivocal Success of Professionals Health Programs (PHPs)

- 5-year abstinence rates: 78%-84%
- Return to work rates: 96%
- Virtually no risk of harm to patients treated by participating physicians

(DuPont, et al., 2009)

Addictive Disorders: Management Principles

- Encourage 12 step fellowship participation
- Maximize leverage, encourage family involvement
- Longitudinal contingency management is best (Physician Health Program approach)

(Author)

Keys to Understanding the Patient with Untreated Addiction

- Recovery means brain healing
  - ✓ Less likely without total abstinence
  - ✓ Abstinence does not equal treatment
  - ✓ The brain does not heal after a few days without drugs
  - ✓ Recovery of executive function can take weeks to months
- Treatment is a lifetime process, not a single event

(Author)

Keys to Understanding the Patient with Untreated Addiction

- Expect denial and cognitive distortion
- Think survival mode
- These situations are high risk for professional boundary violations
- Be kind and have patience, but do not enable!

(Author)

Thank you!

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