

1

Proper Pharmacologic Prescribing and Disposal for Dental Practitioners, The RX Opioid Epidemic

Marvin Leventer DDS

- Mleventer@umaryland.edu
- Dentist Anesthesiologist
- General Dentist
- Assistant Professor University Maryland Dental School

2

Maryland Regulations

- To articulate and inform licensees about COMAR 10.44.22 (Maryland Dental regulation on Continuing Education)
- COMAR 10.44.22.04: "A dentist seeking renewal shall complete a 2 hr. Board -approved course on proper prescribing and disposal of prescription drugs"

3

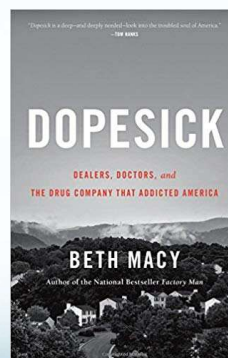
Objectives

- Identify best practices for appropriate handling and disposal of medications and controlled substances.
- Educate licensees regarding protection of prescription pads
- Review PDMP

4



5



6

Mortality



7



8

Background

- Aug. 27, 2019 – NBC News
- The maker of OxyContin, Purdue Pharma, and its owners, the Sackler family, are offering to settle more than 2,000 [lawsuits against the company](#) for \$10 billion to \$12 billion.

9

The Washington Post
Business

The man who made billions of dollars from OxyContin is pushing a drug to wean addicts off opioids

By Lindsey Bever
September 8

Following hundreds of lawsuits over the years against pharmaceutical giant Purdue Pharma, Colorado's attorney general is suing the OxyContin creator for its "significant role in causing the opioid epidemic."

The lawsuit claims Purdue Pharma L.P. and Purdue Pharma Inc. deluded doctors and patients in Colorado about the potential for addiction with prescription opioids and continued to push the drugs. And it comes amid news that the company's former chairman and president, Richard Sackler, has patented a new drug to help wean addicts from opioids.

"Purdue's habit-forming medications coupled with their reckless marketing have robbed children of their parents, families of their sons and daughters, and destroyed the lives of our friends,

10

The New Oxycontin

- Reformulated OxyContin
- Physical and chemical properties that make abuse via injection and intranasal snorting difficult
- The original formulation of 1995 went off patent on April 16, 2013

11

First wave of Abuse Drug Dealers With Degrees

- Single Dr. Prescribed 1,729,845 pills of alprazolam, diazepam, and hydrocodone over a two-year period in a medical practice.
- Average 2500 pills per day
- Sixteen months in federal prison and fines of about \$100k

12

Friends, Family and the Medicine Cabinet



13



14

Brief History

- 1804 Morphine synthesized from the Poppy seed
- 1839 Soldiers Disease
- 1898 Heroin sold OTC in pharmacies
- Cough Syrup, Coca Cola with Cocaine

15

Brief History

- 1960 – Sackler labs created Diazepam
 - First 100 million dollar drug
- 1980 – NEJM – "Addiction is Rare"
- 1996 – Purdue Pharma introduced OxyContin. Sales grew from \$48 million in 1996 to almost \$1.1 billion in 2000.¹
- 1996 – Pain as the 5th vital sign by the American Pain society

16

Reference Statistics

- 1.7 million practitioners in US can write prescriptions
- 70,000 pharmacies in US
- 60 Docs prosecuted last year for drug related crimes

17

Scheduled Drugs

Type of Substance	Potential for Abuse	Potential for Physical or Psychological		Prescription and Refills	Examples
		Approved for Medically Accepted Use?	Dependence		
Schedule I	High	No	Severe	Not available by prescription	Heroin, Marijuana, Ecstasy, LSD

18

Schedule II & III Drugs

Schedule II	High	Yes, with severe restrictions	Severe	By prescription only, no refills	Cocaine, Ritalin, Opium, Vicodin, Oxycodone, Methamphetamine, Morphine
Schedule III	Moderate	Yes	Moderate or low-physical; high-psychological	By prescription only, up to 5 refills in 6 months	Anabolic steroids, Ketamine, Marinol

19

Schedule III & IV Drugs

Schedule IV	Low	Yes	Limited	By prescription only, up to 5 refills in 6 months	Xanax, Valium, Ambien
Schedule V	Low	Yes	Limited	May be available without prescription, for medical use only	Cough suppressants containing Codeine, Lyrica, Pyrovalerone

20

Natural vs. Synthetic Opioids

- "Opioid" includes drugs that are derived naturally and semi-synthetically
 - From the opium poppy plant.
- Naturally derived opioids can be extracted directly from the poppy plant.
 - Codeine and Morphine.
- The illegal drug Heroin is an opioid derived from morphine, a natural opioid.

21

Opioid

- Semisynthetic opioids are a hybrid and go through some laboratory chemical modifications
 - Hydrocodone (Vicodin) and Oxycodone (Percocet).
- Synthetic opioids are entirely laboratory manufactured to mimic the chemical makeup of natural opioids.
 - Fentanyl (Duragesic), typically used for cancer pain.

22

Dopamine and Opioids

- There is a neurological process that occurs in the brain after taking an opioid that will occur in every person
- Increase in dopamine production in the limbic reward system.
- The brain remembers rewarding experiences and makes them easier and more likely to repeat.

23

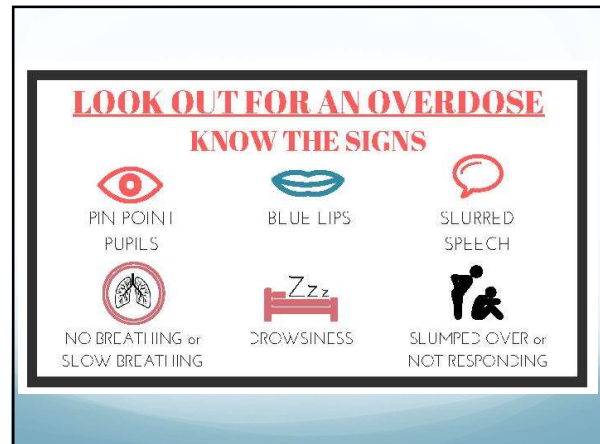
Opioids

- Binds to receptors in the brain involved in the control of pain and other functions
- Opioid Intoxication Effects
 - Pain relief, euphoria, drowsiness, sedation, weakness, dizziness, nausea, impaired coordination, confusion, dry mouth, itching, sweating, clammy skin, constipation

24



25



26

Opioids

- Potential Health Consequences
 - Slowed or arrested breathing, lowered pulse and blood pressure, tolerance, addiction, unconsciousness, coma
- Death
 - Risk increased when combined with alcohol or other CNS depressants

27

M and M

- **Black Box Warning 8-15-2012**
- Food and Drug Administration is reviewing reports of children who developed serious adverse effects or died after taking codeine for pain relief after tonsillectomy and/or adenoidectomy for obstructive sleep apnea syndrome.

28

Metabolism of Codeine

- Converted to Morphine in the liver by the enzyme cytochrome P450 2D6 (CYP2D6).
- Some people have DNA variations that make this enzyme more active and are ultra-rapid metabolizers
- Average 1 to 7 people per 100
- African/Ethiopian populations, rate is:
 - 35 of 122 people = 29%

29

Guidelines for Opioid Prescribing in Children and Adolescents After Surgery

- American College of Surgeons (ACS) Education Committee, the American Academy of Pediatrics Section on Surgery, pediatric anesthesia, pediatric nursing, general surgery residency, pediatric surgery physician assistants, and addiction science.
- New and persistent use in children who are naive to opioids occurs at rates up to 20% after surgery.
- *JAMA Surg.* 2021;156(1):76-90.
doi:10.1001/jamasurg.2020.5045

30

Guidelines for children

- 4.8% of patients filled additional prescriptions within 6 months, compared with a 0.1% opioid fill rate in a comparative nonsurgical group.
- A second study of 70 942 adolescents and young adults who were opioid-naïve (70% ≤18 years old) found that a filled perioperative opioid prescription after **wisdom tooth extraction** was associated with **2.7** higher odds of persistent opioid use compared with those who did not fill an opioid prescription after extraction.

31

Guidelines for Children

- Tramadol and codeine in children are contraindicated to treat pain or cough in children **younger than 12 years** and pain after surgery to remove the tonsils and/or adenoids of children younger than 18 years
- FDA also warns against the use of codeine and tramadol in adolescents aged between 12 and 18 years who are obese or have conditions that increase the risk of serious breathing problems (eg, obstructive sleep apnea, severe lung disease).

32

Guidelines for Children

- We recommend that caregivers and children be educated about expectations and methods of pain management both before the day of surgery and again perioperatively.
- Health care professionals dedicate less than 6 minutes to pain management education on the day of surgery.
- Optimal timing of pain management education reduces parental anxiety, which is strongly associated with a child's preoperative anxiety and postoperative pain.
- Caregivers prefer education to be in plain, nonmedical language, regardless of health literacy level

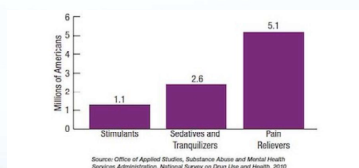
33

Guidelines for Children

- If opioids are prescribed, we recommend perioperative education should include instruction regarding possible adverse drug events, seriousness of adverse drug events, and what to do if they occur.
- Only 3 parents reported receiving written instruction to hold medication if their child was sleeping, sedated, or overly sleepy.
- We recommend educating caregivers and older children to store opioids in a secure location and properly dispose of unused medication.

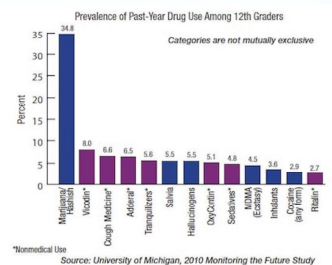
34

Prevalence of Substance Abuse



35

Prevalence



36

Prevalence

- In 2009, 2.2 million persons aged twelve or older used pain relievers non-medically for the first time
- 9.2% of Americans older than 12 years use illicit drugs monthly
- 6,000 new users per day

37

Prevalence

- Americans
 - 4% of world population
 - Consume 80% of all opioids
 - Consume 99% of all Hydrocodone

38

Prevalence

www.cdc.gov/drugoverdose

- 2014 - 28,648 deaths
- 2015 – 33,000 deaths
- 2017 – 70,000 deaths
- 2018 – 67,000 deaths
 - 142 deaths per day
 - 10% inc. in Fentanyl deaths, 30% inc. Cocaine deaths
- More Americans are dying from drug overdoses than in motor vehicle crashes each year.

39

COVID-19 AFFECTS

- The CDC looked at a 12-month span from June 2019 to May 2020 and found more than **81,000 overdose deaths**
- Highest number of overdose deaths ever recorded in a 12-month period.
- Synthetic opioids—especially illicitly manufactured fentanyl appear to be the primary driver, increasing overdose deaths

40

Prevalence

- 25% of people who use opioids become addicted
- 54% percent of Americans say they personally know someone who has been addicted to prescription pain medication.
 - Kaiser Family Foundation

41

The Three Waves of Opioid Overdose Deaths

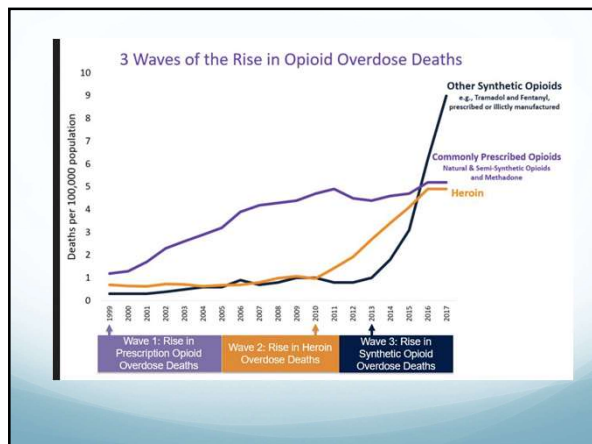
This rise in opioid overdose deaths can be outlined in three distinct waves

The first wave
1990's - Overdose deaths involving overprescribing

Second wave
2010- Increases in overdose deaths involving heroin.

Third wave
2013- Increases in overdose deaths involving synthetic opioids

42



43



44

OVER-PRESCRIBING

- In a study at the University of Pennsylvania, 79 patients had outpatient dental surgery were given 28 opioid pills
- After 3 weeks patients had an average of 15 pills left over
- Unused pills ultimately become available for others
- Recommendation
 - Reduce the quantity of opioids prescribed after surgery
 - Make it easier for patients to dispose of unused pills by providing disposal kiosks in pharmacies.

45

Common Prescribing Methods

- In 2011 the most common opioid prescribed by oral surgeons
 - Hydrocodone > Oxycodone
- Percent of OMFS that prescribe an opioid for surgery pain
 - 85
- Average pill count by GP's of an opioid for post op surgery
 - 10-20 tabs

46



47



48

Dental Use

- JAMA – Association of Opioid Prescriptions From Dental Clinicians for US Adolescents and Young Adults With Subsequent Opioid Use and Abuse, 2019;179(2):145-152
- Retrospective cohort study, 2015, Ages 16-25, 1-year duration, with health insurance coverage.
- 754,002 enrolled with health plan, 12.9% received an opioid RX, 30.6% of those were for dental.
- 6.9% received another opioid RX vs .1% of non treated cohort.

49

Dental Use

- 5.8% of opioid exposed ultimately had an opioid abuse related diagnosis compared with .4% of non-exposed.
- Dentists are the leading source of opioid RX for ages 10-19, accounting for 31% of RX's.

50

Govt. Resources and Recommendations

- The president's fiscal year 2017 budget proposed \$1.1 billion in funding to ensure treatment for opioid use disorder.
- Expand overdose prevention strategies.
- Increase the availability of medication-assisted treatment programs
- More overdose-reversal drug Naloxone

51

Society Costs

- In 2001
 - 8.6 Billion was spent on Prescription Drugs and treatment of their abuse.
 - 2.6 Billion healthcare costs
 - 1.4 Billion criminal justice costs
 - 4.6 Billion workplace costs
- Clinical Journal of Pain 2006;22:667-676

52

Society Costs Since 2001

- 1 TRILLION DOLLARS

53

Bag of Heroin



54

Cost of Opioids

- 1980
 - 1 Gram of Heroin was \$2200
- 2020
 - 1 Gram about \$500.
- 2020
 - A bag of Heroin (.1gram) is 5-10\$
 - \$200 per day
- 2020
 - Oxycontin – 1\$/mg dose = \$60 for 60 mg tab

55

Heroin

- People are skipping pills and going straight to heroin

56



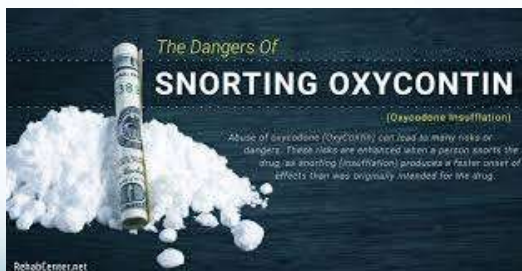
57

\$10 million in Heroin



58

Snorting



59

Vaping



60



- Evidence-based prescribing guidelines reduced postoperative opioid consumption for nine general surgeries by roughly 30%
- *The New England Journal of Medicine* (2019;381[7]:680-682).

63

65

66

PDMP

Prescribers must with some exceptions, query and review their patient's PDMP data prior to:

1. Initially prescribing an opioid or benzodiazepine AND at least every 90 days
2. Prescribers must also document PDMP data query and review in the patient's medical record.

67

Commonly Abused Prescription Drugs

- CNS Depressants:
 - A class of drugs that slow CNS function, some of which are used to treat anxiety and sleep disorders
 - barbiturates and benzodiazepines

68

Barbiturates

- CNS depressant prescribed to promote sleep
 - Nembutal, Seconal, Phenobarbital

69

- Examples of Drugs that may cause sedation
- Antihistamines
 - Diphenhydramine, Promethazine
- Carbamates
 - Anticonvulsants
- Imidazopyridine
 - Ambien, Sonata, Lunesta

70

Benzodiazepines

- A type of CNS depressant prescribed to relieve anxiety and sleep problems.
 - Diazepam (Valium)
 - Lorazepam (Ativan)
 - Triazolam (Halcion)
 - Clonazepam (Xanax)

71

Benzodiazepines

- Most commonly prescribed and abused sedative-hypnotics, less respiratory depression than barbiturates.
- Long-acting metabolites often cause intoxication that lasts for several days.
- Benzodiazepine overdose is most dangerous in combination with other sedative-hypnotics.

72

Sleep medications

- Ambien (zolpidem)
- Sonata (zaleplon)
- Lunesta (eszopiclone)

73

Stimulants

- Amphetamines
 - Biphedamine, Dexedrine, Adderall
- Methylphenidate
 - Concerta, Ritalin

74

Stimulants/Amphetamines

- Intoxication Effects
 - Exhilaration, increased energy, mental alertness
- Potential Health Consequences
 - Increased heart rate, blood pressure, and metabolism, reduced appetite, weight loss, nervousness, insomnia, seizures, heart attack, stroke

75

Robotripping



76

Dextromethorphan

- Found in some cough and cold medicines
 - Robotripping
- Intoxication Effects
 - Euphoria, slurred speech
- Health Consequences
 - Increased heart rate and blood pressure, dizziness, nausea, vomiting, confusion, paranoia, distorted visual perceptions, impaired motor function

77



78

Non-prescription drugs abused

- Heroin
- Methamphetamine
- Marijuana
- Xylazine
- Bath salts
- Cough syrup


- 79

How much Anesthetic?



Horse Anesthesia

- Xylazine



A photograph showing a horse lying on its side on a blue padded surface in a clinical or hospital setting. The horse is sedated and has its head restrained. Several medical professionals in blue scrubs and masks are attending to the horse. Various medical equipment, including monitors and IV lines, are visible around the horse.

- 81

The Magazine of the Maryland State Education Association Volume 16 Issue 2 December 2015

FIGHTING HEROIN

82


a sports injury and had ACL replacement surgery. That's when doctors gave him cyclophosphide the first time. I never found the medicine scheduled following his surgery and it was three cyclophosphide in the morning, three at night, and other medications in between—for nearly a week.

Now, it seems like JP became addicted immediately, like so many people I've met. After he graduated from college, he couldn't keep a job. He always had an excuse and he was constantly sick, but we never knew why. I would drive him some place as he was secretly trying to detox himself and he would ask me to pull over so he could vomit. Finally, he said, "Mom, I'm addicted to pain pills and it's really bad. I need help." He went right into rehab and six months later he was clean and working again.

After that, it was more rehabs, hospital stays, halfway houses, bottles with insulin and you just can't imagine this nightmare as a mom. This was a

kids. Even after he left the program he would go and volunteer as a speaker. But that's also where he met his girlfriend.

He was clean for more than six months. In July, we had a family get-together to share pictures from vacation.



Arny Castagnoli, with his new friend Jennifer Bane in the photo, July in October. Arny, a second grade teacher in Newington, was clean for more than six months.

JP's condition was really obvious to my

cause of work and they left.

He teased me, "Mom, I made it home. I love you." The next morning, I got up and he was coffee and said, "Mom, I am at work yet?" And then, as I was sitting on my porch drinking coffee, three police officers walked by and said, "We need to talk to you."

JP and his girlfriend must have stopped in Baltimore to pick up that night before they came to see us. Baltimore was and before they came by and again when they got home. He died in his sleep.

There's seems to be no answer to this crisis. Nobody knows what the left hand is doing. Counties don't talk to each other. The doctors prescribe the stuff. I was at the Fidelity Rally in October and speakers were comparing this crisis to the AIDS epidemic—C-how it was just ignored until finally the government couldn't ignore it any more.

There are more and more dying from heroin and opioid overdoes

83


a sports injury and had ACL replacement surgery. That's when doctors gave him cyclophosphide the first time. I never found the medicine scheduled following his surgery and it was three cyclophosphide in the morning, three at night, and other medications in between—for nearly a week.

Now, it seems like JP became addicted immediately, like so many people I've met. After he graduated from college, he couldn't keep a job. He always had an excuse and he was constantly sick, but we never knew why. I would drive him some place as he was secretly trying to detox himself and he would ask me to pull over so he could vomit. Finally, he said, "Mom, I'm addicted to pain pills and it's really bad. I need help." He went right into rehab and six months later he was clean and working again.

After that, it was more rehabs, hospital stays, halfway houses, bottles with insulin and you just can't imagine this nightmare as a mom. This was a

kids. Even after he left the program he would go and volunteer as a speaker. But that's also where he met his girlfriend.

He was clean for more than six months. In July, we had a family get-together to share pictures from vacation.



Arny Castagnoli, with his new friend Jennifer Bane in the photo, July in October. Arny, a second grade teacher in Newington, was clean for more than six months.

JP's condition was really obvious to my

cause of work and they left.

He teased me, "Mom, I made it home. I love you." The next morning, I got up and he was coffee and said, "Mom, I am at work yet?" And then, as I was sitting on my porch drinking coffee, three police officers walked by and said, "We need to talk to you."

JP and his girlfriend must have stopped in Baltimore to pick up that night before they came to see us. Baltimore was and before they came by and again when they got home. He died in his sleep.

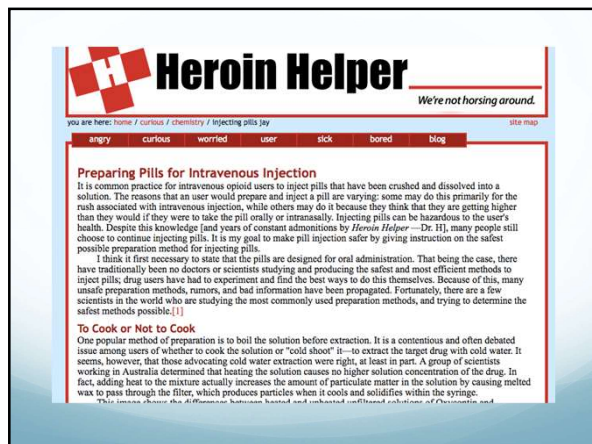
There's seems to be no answer to this crisis. Nobody knows what the left hand is doing. Counties don't talk to each other. The doctors prescribe the stuff. I was at the Fidelity Rally in October and speakers were comparing this crisis to the AIDS epidemic—C-how it was just ignored until finally the government couldn't ignore it any more.

There are more and more dying from heroin and opioid overdoes

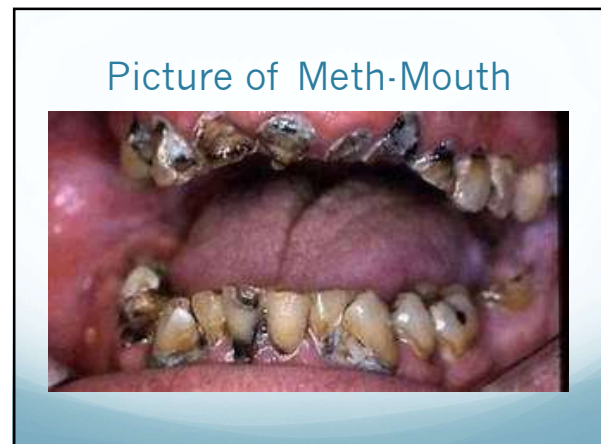
Heroin

- Most commonly abused illicit opiate in US
- Neuropathologic changes
 - Parkinson symptoms, movement disorders

- 84



85



86

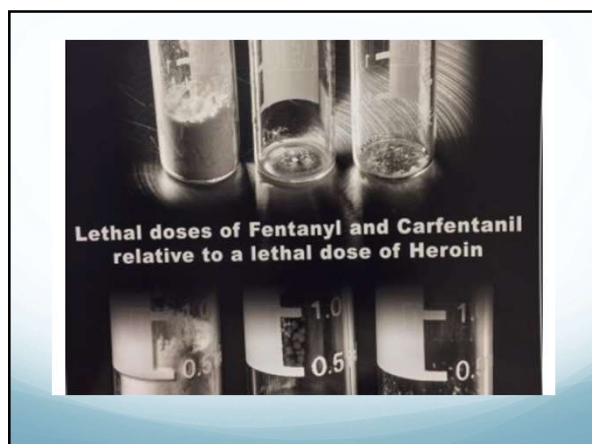
Methamphetamine

- Most widely abused drug recognized in dental literature
- Meth mouth - buccal smooth surface and interproximal caries
- Increased parafunction
- Xerostomia: increased consumption of carbonated beverages, poor oral hygiene

87



88



89



90

Carfentanil

- Elephant tranquilizer used by veterinarians.
- 10,000 times more potent than morphine,
- *4000 times more potent than heroin*
- *1 kilogram of Carfentanil would be equivalent to four metric tons of pure heroin"*
- Officers and EMT's are giving 4–8 doses of naloxone just to get a response.

91

Erowid

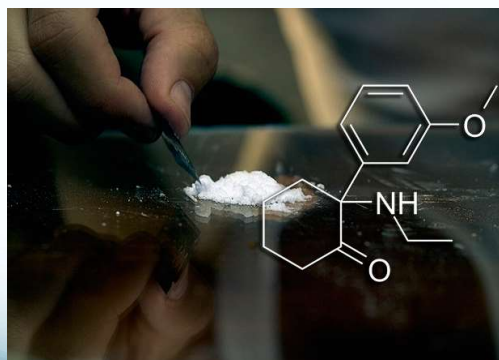


92

MDMA, Methylenedioxymethamphetamine, Ecstasy



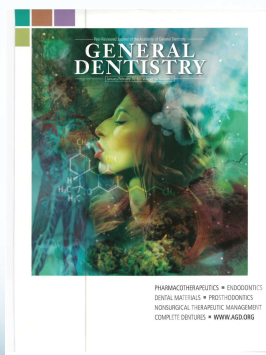
93



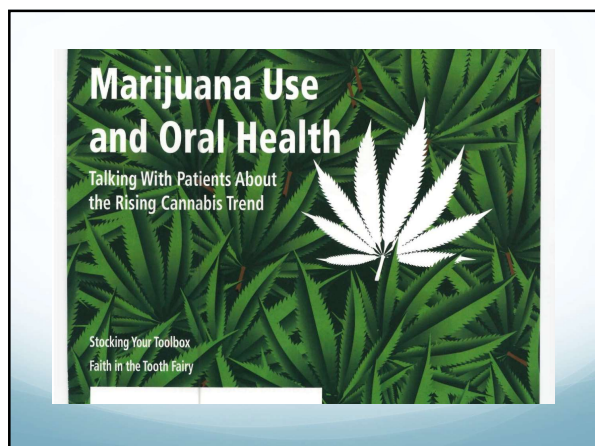
94



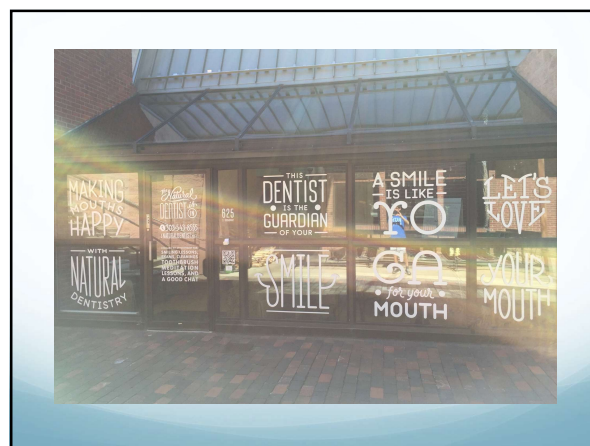
95



96



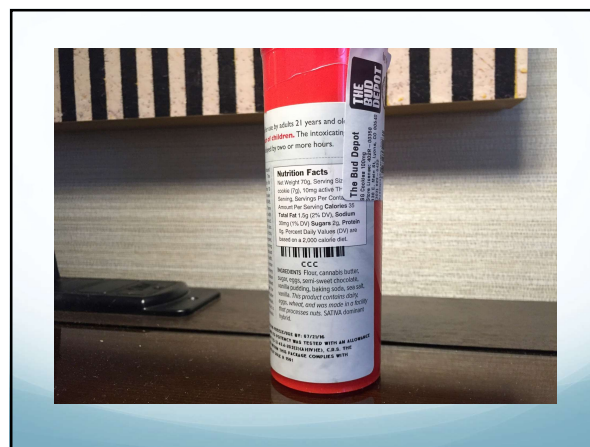
97



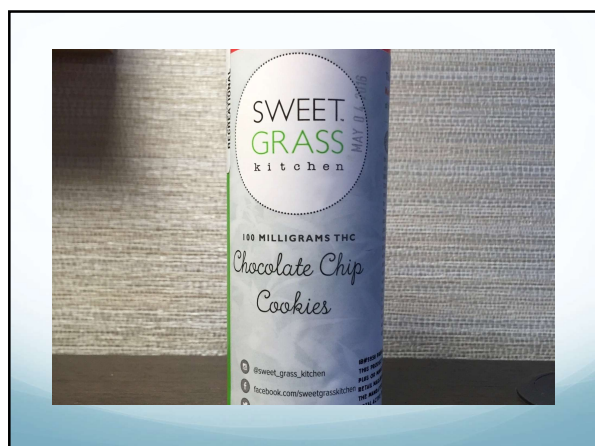
98



99



100



101

Cannabis

- There is a lack of multicenter randomized trial data due to cannabis being illegal at the federal level.

102



103

Bong – water pipe



104



105

Medical Marijuana

- Colorado
- 23 states and DC allow medical marijuana
- May provide benefit in painful conditions, seizures, reducing inflammation
- Mostly studied in synthetic form

106

MARIJUANA

- Between 2001 and 2009
 - 5000 users of MM
- Between 2014 and present
 - 271K Applications for medical use
 - 115K registered users

107

FORMS OF MARIJUANA

- Buds
- Hash oils lotions
- Sodas
- Infused candy
- Pizza sauces
- THC content 5-90 percent with no controls

108

MARIJUANA STATISTICS

2011-2013

- 57% increase in ED visits
- 82% increase in hospitalizations
- Accidental ingestion in children
- 268% increase in exposures to children 0-5yrs
- Documented addictive potential

109

CONCLUSIONS: MARIJUANA

- Need larger , longer controlled studies
- “We need to stop flying the plane while we are building it. Science should determine a medication not public opinion”
 - Ken Finn – CO springs rehab.

110

Marijuana

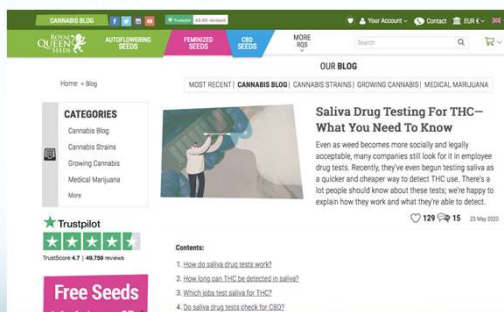
- Oral manifestations-
- Poor OH, caries, xerostomia, inflammation
- Skin cancers - related to increased risk of HIV
- Tachycardia, peripheral vasodilation
- Illegal forms of marijuana: K2, spice
- Heavy use
 - d/c use 1 week prior to avoid tachycardia and vasodilation

111

How to Detect Cannabis Use

- Urinalysis detection is inexpensive, quick, and accurate.
- Blood samples may be used to measure quantitative levels of cannabinoids.
- Saliva testing is a better indication of recent use than the presence of THC in urine.

112



113

Cocaine



114

Cocaine Intoxication

- Euphoria, hypervigilance, talkativeness, grandiosity
- Violent behavior
- Nausea, vomiting, perspiration
- Respiratory depression, chest pain, or dysrhythmia
- Disorientation, seizures, dyskinesias
- Blood pressure change

115

Bridging

- Use of other prescription medications to minimize physiologic withdrawal until individuals can obtain their next "chemical high" with their drug of choice.

116

Prescription Drug Abuse

- Use of a medication without a prescription
- In a way other than as prescribed
- For the experience or feelings
- Recurrent use leading to failure to fulfill major obligations

117

Addiction

- A chronic, relapsing disease
- Compulsive drug seeking
- Despite serious adverse consequences
- Long-lasting changes in the brain.

118

Physical Dependence

- An adaptive physiological state that occurs with regular drug use and results in a withdrawal syndrome when drug use is stopped
- Often occurs with tolerance. Physical dependence can happen with chronic—even appropriate—use of many medications.

119

Tolerance

- A condition in which higher doses of a drug are required to produce the same effect achieved during initial use; often associated with physical dependence.

120

Receptors

- Agonist
 - A chemical entity that binds to a receptor and activates it, mimicking the action of the natural (or abused) substance
- Antagonist
 - A chemical entity that binds to a receptor and blocks its activation.

121

Pain Management Strategies to Limit Narcotic Use

- Long acting local anesthetic
 - Bupivacaine
- Repeat local anesthetic at end of procedure
- Combination NSAIDs and Acetaminophen pre-op or immediately post op.

122

Choosing an Analgesic

- Quality of pain
 - Dull, sharp, neuropathic
- Quantity of pain
 - Mild, mod, severe
- Locus of action
 - Central, local

123

Aspirin

- Inhibition of prostaglandin synthesis
- Advantages
 - Analgesic, antipyretic, anticoagulant, anti-inflammatory
- Disadvantages
 - Uric acid (exacerbates gout), salicylism, allergy, caustic
- Contraindications
 - Allergy, asthma, gastritis, gout-probenecid, anticoagulants, pregnancy

124

Acetaminophen

- CNS action, some peripheral
- Analgesic, antipyretic
- Does not have
 - Gastritis, anti-platelet effects
 - Anti-inflammatory effects
- Acetaminophen reduced to 2.5 gms /day for >2 drinks /day

125

Non-steroidal Anti-Inflammatory Drugs

- Inhibits cyclooxygenase-1 and/or COX 2
- Combined COX-1 and COX-2
 - Ibuprofen ; max dose 3200mg/day
 - Naproxen (Naprosyn): max dose 1250mg/day
 - Naproxen sodium (Anaprox DS)
 - Better absorption

126

NSAIDS

- COX-2 inhibitors
 - No greater efficacy than ibuprofen
 - Minimal gastric irritation
- Celecoxib (Celebrex)
 - No effect on platelet aggregation
 - 100-200mg/day
 - Acute/chronic pain
 - Acute - 400mg start, 200mg/24hrs

127

NSAIDS

- Contraindications
 - Allergic response to NSAIDS/ASA
 - Gastritis
 - Blood thinners
 - Asthma
 - Pregnancy

128

Ibuprofen - Cautions

- Side effects:
 - Edema
- Interactions:
 - long term may reduce effectiveness of antihypertensives

129

Tramadol (Ultram)

- Not a controlled substance but with addiction potential
- Equal to ibuprofen in pain relief
- Dose 50-100mg Q4-6hr, Max 400/day

130

Indicators of drug abuse

- Personality changes - hyperactivity, irritability
- Malnourished
- Missed appointments
- Poor compliance
- Skin lesions
- Poor response to preventative treatment

131



132

Warning Signs of Drug Seekers

- Name the drug
- Want the Rx phoned in
- After hours
- Out of towners
- Unusual behavior
- Excuses for lost prescriptions

133

Strategies

- Thorough exam
- Document
- Photo ID
- Confirm telephone and address
- Prescribe limited amounts
- NSAIDs when possible

134



135

Drugs Abused by Dentists

- Valium
- Alcohol
- Tylenol#3, Hydrocodone
- Nitrous Oxide

136

Whippets



- Nitrous oxide balloons

137



138

Whipped Cream



139

The Dentist Well Being Committee Maryland

- Purpose
 - Assists dentists with problems of stress, alcohol and drug abuse, depression
 - Confidential and Non-disciplinary
- Advocacy
 - Licensure issues
- Contact
 - 410-328-8549
 - 1-888-233-9044
 - www.dentistwellbeing.com

140

Prevention

- Dentists who are practicing in good faith and who use professional judgement regarding the prescription of opioids for the treatment of pain should not be held responsible for the willful and deceptive behavior of patients who successfully obtain opioids for non-dental purposes.
- Prevention of prescription opioid abuse: The role of the dentist, JADA 2011; 142(7):800-809
 - Denisco RC, Kenna GA, O'Neil MG et al.

141

Treatment

- Addiction is a disease, and does not affect all people the same
- General population has a 15-18% recovery
- Physicians and airline pilots have a 90% recovery

142

Treatment

- 2016 - 21 million people in the USA have a substance use disorder.
 - Only 10 percent of these individuals receive care
- 2011-2014
 - 40 percent of Americans with a substance use disorder that required treatment didn't go to rehab because they believed they could not afford it or they did not have health insurance.

143

Treatment

- Detoxification
 - A process in which the body rids itself of a drug
- Withdrawal
 - Symptoms that occur after chronic use of a drug is reduced abruptly or stopped.

144

Behavioral treatment

- Individual counseling
- Group or family counseling
- Cognitive behavioral therapies

145

Rehab Centers

- Inpatient centers
 - 30,60,90 day programs
 - Counselors, round the clock supervision
 - Bed, bathroom, shared room, accommodations vary on location
 - \$14,000-\$27000 for a 30-day program

146

Rehab Centers

- Outpatient Centers
 - Access to group, individual or family therapy
 - Live outside the facility
 - Free to \$500 per session
 - Detoxification period - \$600-\$1000/day
- Lower cost sliding scale community centers
- Insurance covers some but not all services

147

Narcan Atomizer



148



Naloxone

149

Naloxone should be prescribed to the following individuals

- Individuals at risk of experiencing or witnessing an opioid overdose include, but are not limited, to:
- Those who have been prescribed opioids for pain
- Those who have been treated for an opioid use disorder
- Those who have received prescriptions for both an opioid and a benzodiazepine
- Those who reside or spend time with an individual who is prescribed opioids, misuses opioids, or has an opioid use disorder
- Those who resume opioid use after a period of ceasing or reducing opioid use (perceived tolerance may be different from actual tolerance)
- Those who have respiratory problems such as chronic obstructive pulmonary disease (COPD) or sleep apnea

150

Naloxone

- Co-prescribing Naloxone: Maryland law allows any healthcare provider with prescribing authority to prescribe naloxone.
- Maryland Standing Order: Patients may obtain naloxone from a pharmacy by presenting a prescription written by their healthcare provider.
- In the absence of such a prescription, individuals in Maryland can obtain naloxone from a pharmacy through the statewide standing order.
 - A person-specific paper or electronic prescription is not required for a pharmacist to dispense naloxone under the standing order.

151

Narcan 4mg/.1ml



152

Naloxone/Narcan

- Synthesized in 1961 and off patent since 1985
- 2010 – Cost for a reversal dose was about 1\$
- 2020 –
 - Nasal spray- 4mg/.1 ml = \$150
 - Syringe- 2mg/2ml = \$51
 - Vial- 4mg/ml, 10 ml multidose vial = \$125

153

Nasal Narcan



154

Nasal Admin Narcan



155

Pharmacologic treatment

- The injectable long-acting form of Naltrexone (Vivitrol),
- Effects last for weeks, Vivitrol is ideal for patients who do not have ready access to healthcare or who struggle with taking their medications regularly.

156

Pharmacologic treatment

- Methadone
- Synthetic opioid agonist that eliminates withdrawal symptoms and relieves drug cravings by acting on the same brain targets as other opioids
- Used successfully for more than 40 years to treat heroin addiction, but must be dispensed through opioid treatment programs.

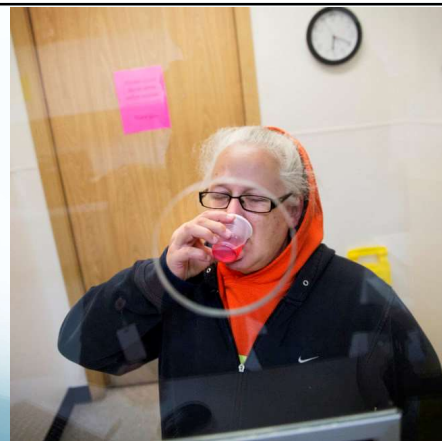
157



158



159



160

Pharmacologic treatment

- Buprenorphine
- Partial opioid agonist (i.e., it has agonist and antagonist properties), which can be prescribed only by certified physicians
- Like methadone, it can reduce cravings and is well tolerated by patients.

161

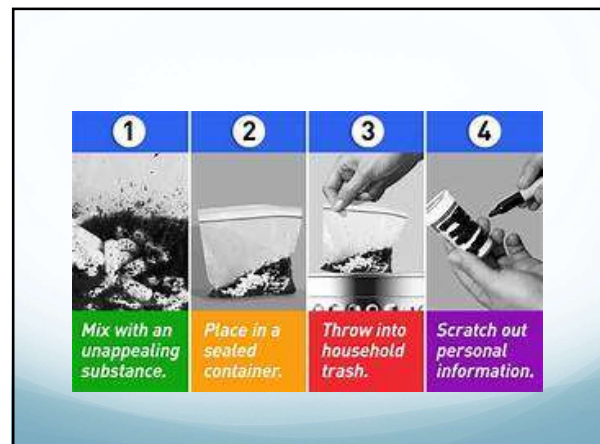
Chronic Pain

- Risks of development of drug tolerance, hyperalgesia (increased pain sensitivity), and addiction.
- Patients may be reluctant to take an opioid medication prescribed to them for fear of becoming addicted.
- Estimates of addiction are 3-40%

162



163



164

Disposal

- Household trash, but first:
- Take them out of their original containers and mix them with an undesirable substance, such as used coffee grounds or kitty litter.
- Put them in a sealable bag, empty can, or other container to prevent the medication from leaking or breaking out of a garbage bag.
- Scratch out all identifying information on the prescription label to make it unreadable.

165

Don't Rush to Flush

- Water Contamination

166

Practitioner Disposal

- Dispose of out-of-date, damaged, or otherwise unusable or unwanted controlled substances, by transferring them to a registrant who is authorized to receive such materials.
- These registrants are referred to as "Reverse Distributors." The practitioner should contact the local DEA field office for a list of authorized Reverse Distributors.

167

Narcotic Disposal

- Schedule I and II controlled substances should be transferred via the DEA Form 222,
- Schedule III-V compounds may be transferred via invoice.
- Maintain copies of the records documenting the transfer and disposal of controlled substances for a period of two years.

168

Disposal

- Police Station Drop Box



169

Disposal

- Best disposal is incineration
- Pharmacy mailbox receptacles
- Must be non-retrievable
 - Cannot be altered to be re-used
 - Manufacture may give recommendations for disposal
- Need 2 witnesses

170

Safe keeping

- Lock your meds at home
- Doctor is responsible for proper record keeping

171

Home Lock Box or Durable Double Lock in Drawer



172

Record Keeping

- Keep records for scheduled drugs for 2-years
- Schedule 2 drugs records should be kept separate from sched 3-5
- Data requirements
 - Storage at registered location, readily retrievable
 - Physical count
 - Date of medication received
 - Count at beginning or close of business
 - Names, dosages, units, containers and how distributed

173

Emergency Phone Prescriptions for Opioids

- Only if there is no alternative
- Limited quantity for emergency period, i.e. 3-7 days
- Doctor must call the pharmacy
 - Cannot delegate to staff.
- Follow with paper original
 - If not received pharmacist will call the DEA

174

Theft

- Unexplained loss of 5% or more
- Report to DEA within 1 business day, Form 106
- What was lost and report to local law enforcement as well

175

Form 106

- Theft Reporting

DEA Form 106 – now an online process

REPORT OF THEFT OR LOSS OF CONTROLLED SUBSTANCES

- Date of Theft or Loss
- Notifying Police
- Number of Thefts
- Type of Theft or Loss
- Purchase Value of the Controlled Substances
- Pharmaceuticals or Merchandise Taken



176

Take back Event



177

Take Back Events

- DEA holds its National Prescription Drug Take Back Day the last Saturday of April and October of every year,
- 2014 - 371 tons of prescription medications were collected from more than 5,829 locations.
- Since 2010, the DEA has collected and incinerated over **4,982 tons** of unused, and potentially dangerous medications.

178

Authentication Parameters for Narcotics

Need two of the following -

- 1. Something you know – Password
- 2. Something you have - hard token – Random generated password
- 3. Something you are - biometric information - fingerprint

179

Electronic Prescriptions

- All states now allow e-prescribing for drugs, including opioid painkillers and other controlled substances. Still, only 7% of doctors do so.
- Between 3 and 9% of opioid abusers use forged prescriptions, says Surescripts' chief legal officer
- E-prescribing would prevent forging and doctor-shopping

Sources: Virginia Gazette; Bearing Drift; Centers for Disease Control and Prevention; CBS Local; WHPR

180

Electronic Prescription Advantages

- Automatic check on Rx by software
- Insurance eligibility
- Renewals are ok
- Gives interactions and precautions
- Financial incentive by government

181

Electronic Prescriptions

- Ok for schedules 2,3,4,5
- Most major pharmacies
- Identity proofing for prescription writer
 - Card, phone, fingerprint etc.
- Mandatory use in 21 states
- Medicare will require all practitioners to sign up in 2021

182

Delegation of prescriptions

- May delegate a prescription of a controlled substance to your staff.
 - Schedule 3,4,5
 - You must direct and authorize and sign

183

Prescriptions

- Prescription pads, prescription writing programs, electronic prescribing information must be in a secure location not accessible to the public or staff.

184



185

Prescriptions

- Cannot replenish office stock with a prescription

186

Form of Written Prescription

- Superscription: patients name and address and age and date
 - Must be filled within 120 days from date of issue
- Inscription: name of drug, dosage form and amount
 - Write amount and number, I.e. 5, five
 - Use leading zero for less than 1, I.e. 0.5mg
 - Do not use a trailing zero for whole numbers, I.e. 1.0

187

Signature-sig-directions

- How to take the medication, how often, and why.
- Refills; specify written number or none
- Generic vs. non-generic

188

DEA number

- Protect your DEA and identifier numbers
 - Don't preprint on prescription
- If evidence of tampering
 - Local police
 - MSBDE 410 402 8538
 - DEA 410 962 7580
 - Maryland division of drug control
- ONLY NECESSARY FOR SCHEDULED DRUGS

189

Requirements for prescriptions written for controlled substances

- Name and address of prescriber
- Name and address of patient
- DEA number
- Date of prescription
- Written in pen

190



191

Thank you

- Have great day!
- Be safe

192