

# ***“Everything You Wanted to Know About Street/Pharmaceutical Drug Abuse and Their Impact on You, Your Family, and Your Dental Practice”***

Hosted by the  
***Cincinnati Dental Society***  
**Cincinnati, Ohio**

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## **\*\*\*SUBSTANCES OF ABUSE\*\*\***

### **ALCOHOL**

- A. General Information-Epidemiology- Most abused drug in U.S. today
  - 1. estimated to cost U.S. \$185 billion annually
  - 2. 29% traffic fatalities involve alcohol
- B. Absorption
  - 1. 75% of oral dose is absorbed from small intestine
  - 2. depends on gastric emptying time
  - 3. therefore, rate of absorption is influenced by food
- C. Metabolism-liver
  - alcohol  $\longrightarrow$  acetaldehyde  $\longrightarrow$  acetic acid  $\longrightarrow$  CO<sub>2</sub> & H<sub>2</sub>O
- D. Excretion
  - saliva
  - urine
  - lungs
- E. Pharmacologic effects
  - 1. Central nervous system (CNS)- “downer”
    - continuous CNS depressant (**it is not a stimulant**)
  - 2. Kidneys-diuretic
- F. Toxicity
  - respiratory depression
  - lethal blood alcohol 0.55%
- G. **Statement on Alcohol and Other Substance Use by  
Pregnant and Postpartum Patients-American Dental  
Ass’n**
  - Fetal Alcohol Spectrum Disorder-Incidence/irreversible
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# CANNABIS (MARIJUANA)

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- A. Common street names
  - ganja, sensimilla, giggle smoke, mary jane, dab, scat, shatter
- B. Chemical composition of cannabis-Two major chemicals (cannabinoids)
  - a. tetrahydrocannabinol (THC)-is the psychoactive cannabinoid
  - b. cannabidiol (CBD)-is a central nervous system depressant
- C. species of plant
  - 1. cannabis sativa
    - higher concentrations of tetrahydrocannabinol (THC) resulting in more mood changes, perception, behavior, and hallucinations
  - 2. cannabis indica
    - higher levels of cannabidiol (CBD) makes you drowsier than sativa
    - may be useful as a sedative, treating epilepsy resistant to traditional medications, relieve pain, muscle spasms and tremors
    - **By law: Hemp cannot** contain more than 0.3% THC
- D. Clinical effects
  - 1. dose-dependent
  - 2. determined by set and setting of the intoxicated person
  - 3. euphoria (mellowing out)everything becomes  $\implies$  comical  $\implies$  problems disappear, munchies  $\implies$  time and space distortion  $\implies$  dysphoria  $\implies$  paranoia, fear, anxiety  $\implies$  accidental death
- E. How it is used
  - 1. smoked in the form of a cigarette (joint, spliff, etc.)
    - most efficient method
    - quick onset, short duration
    - smoke is dry and harsh
    - water pipe, hookah, "Bong" alleviates the irritating aspect
  - 2. vaporized in its native state (vegetative material)
    - almost as efficient as smoking without the harsh dry feeling
    - use commercial vaporizers
    - E-cigarettes can be used

3. the cannabinoids can be extracted, concentrated and vaporized
    - butane hash oil (BHO)-distillates
    - “dab, “scat”, “shatter”-Much or
  4. cannabinoids extracted and incorporated into food such as candy, brownies, cakes, etc.
    - very slow, irregular absorption
    - slow onset, long duration
- F. Impact on the Dental Practice
1. Patient
    - a. used by patients to reduce anxiety
    - b. marijuana is a CNS depressant  
\*\*\*may amplify oral or IV sedation
    - c. short term memory is impaired  
\*\*\*give written take home instructions
    - d. have witness for consent forms  
\*\*\*the patient, dentist and one other staff member
    - e. heavy smoker (uses 3 or 4 times a week)  
\*\*\*characteristic stain pattern on teeth
  2. Dentist/Staff
    - a. psychomotor skills can be impaired for 24 hours after use  
\*\*\*TIME/SPACE PERCEPTION IS ALTERED
    - b. How do you measure impairment?  
\*\*\*there is no roadside sobriety test (like alcohol)  
\*\*\*there is no roadside ability to measure blood THC  
(unlike blood alcohol with breathalyzer)
    - b. Considerations  
\*\*\*Should dentists or staff be allowed to use marijuana for medical purposes and continuing practicing?  
\*\*\*Should dentists or staff using marijuana recreationally have a time requirement from last use before they are allowed to treat patients?

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## **INHALANTS**

- A. Inhalants-Volatile Solvents-CNS depressants- “Downers”
- 1.. Fifth most abused drug after alcohol, marijuana, nicotine and prescription drugs (Peaks in 8<sup>th</sup> grade)
  - 2.. Used by “huffing”, “sniffing”, “bagging”

- 3.. Inhalant products (examples)
    - Magic Markers
    - Model paints (Gold and Silver)
    - Moth balls
    - Correction fluid
    - Aerosol keyboard cleaners
  - 4.. Causes of death
    - suffocation
    - respiratory depression
    - hepatotoxicity
    - sudden sniffing death
- B. Inhalants-Other types
- a. amyl and butyl nitrite (poppers, snappers, etc)
  - b. nitrous oxide (Whippets, grocery store high)

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## **OPIOIDS**

- A. Opioid statistics
- B. Definitions
  1. Opiate-naturally derived
    - a. morphine
    - b. codeine
    - c. thebaine
  2. Opioid-general term to denote any opioid-synthetic or semisynthetic
    - a. synthetic opioids
      - meperidine (Demerol)
      - fentanyl (Duragesic, Actiq)
      - carfentanil (Wildnil)
      - methadone (Dolophine)
      - buprenorphine (Subutex)
    - b. semisynthetic opioids
      - hydrocodone
      - oxycodone
      - oxymorphone
      - hydromorphone
      - heroin
  3. Mechanism of action-Mu, Delta, Kappa receptors

- C. Signs and symptoms of opioid use
  - 1. lethargy
  - 2. confused
  - 3. glazed eyes
  - 4. unresponsive
  - 5. slurred speech
  - 6. pinpoint pupils (miosis)
  - 7. craving for sweets
  - 8. Xerostomia
- D. Opium is extracted from plant papaver somniferum
  - Morphine is extracted from opium gum and converted into heroin
- E. Routes of administration of heroin
  - a. intravenous
  - b. snorting
  - c. inhaling (smoking)
- F. Dental Considerations
  - High caries rate
  - craving for sweets and profound xerostomia
  - CNS depressant (watch out for drug interactions with oral/IV Sedation)

## **FENTANYL AND DERIVATIVES**

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- Synthetic opioid used legitimately in medicine as anesthetic/analgesic
  - 50-100 times more potent than morphine
  - newer analogs such as carfentanil may be 10,000 x more potent than
  - recently a new analog has become more popular-parafluorofentanyl
- Fentanyl and these newer derivatives have been detected in lethal doses in other street drugs as well-marijuana, methamphetamine, cocaine, and
- Available as Lozenges, Lollypops (Actiq), Injectables, and Patches

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## **COCAINE**

- A. Sources of cocaine
  - 1. South America (Andes Mountains)
    - Peru, Bolivia, Colombia
  - 2. Name of plant-Erythroxylon Coca
  - 3. Forms
    - a. leaf/paste
    - b. cocaine hydrochloride
    - c. crack, rock, free base
  - 4. Routes of administration
    - a. smoked

- b. snorted
- c. injected
- B. Routes of Administration
  - 1. Oral
  - 2. Snorting-onset - 3-5 minutes/duration - 1 hour
  - 3. Intravenous-onset - 15-30 seconds/duration - 30 minutes
  - 4. Inhalation-onset - 8-10 seconds/duration - 10-12 minutes

## **METHAMPHETAMINE AND DERIVATIVES**

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- A. STREET NAMES -methamphetamine (Meth, Speed, Crystal, Ice)-  
“Uppers”
- B. Methamphetamine production/Cost on the street
- C. signs & symptoms of acute Methamphetamine use
  - 1. weight loss
  - 2. "sweats"
  - 3. restlessness, anxiety
  - 4. increased blood pressure
- D. bingeing-characteristics
  - 1. compulsive use
  - 2. physical exhaustion
  - 3. violent behavior
  - 4. “tweaking”
  - 5. “coke bugs”

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## **OVER-THE-COUNTER (OTC) MEDS**

- A. cough medications containing dextromethorphan (DXM)
- B. energy drinks
- C. loperamide/ranitidine

## **STREET/PRESCRIPTION DRUG COMBINATIONS**

- A. alprazolam and ecstasy (**parachuting**)
- B. promethazine/codeine-Lean, Sizzurp, Pink
- C. black tar/diphenhydramine- “cheese”

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## **PARTY DRUGS**

- A. **GHB/GBH/Liquid X/Liquid E/Fantasy**

- B. Colorless, Odorless, Salty, Tasting liquid (Occasionally found as an off-white powder)
- C. Central nervous system depressant
  - 1. euphoria
  - 2. enhanced sense of touch
  - 3. increased sociability
  - 4. decreased inhibitions-leading to increased sexual activity and increased libido
- D. **Ecstasy (MDMA)-XTC, E, X, Rolling, Adam, Versace**
- E. Toxicity/Death due to
  - 1. hypertension (stroke)
  - 2. hyperthermia
  - 3. seizures

## MISCELLANEOUS SUBSTANCES OF ABUSE

- A. “Holy Trinity”
  - oxycodone (opiate) + carisoprodol (Soma) (muscle relaxant) + alprazolam (Xanax) (anti-anxiety)
- B. “Bath Salts”-Stimulants (uppers)
- C. Hand Sanitizers
- D. Jimson Weed (Locoweed, Thornapple, Datura)
- E. Salvia (Catnip, Mint, etc.)
- F. Nutmeg-hallucinogen
- G. Toad licking-
- H. Flakka-(gravel)-similar to bath salts
  - hypertension
  - clenching, bruxing
  - combativeness, agitation
- I. Kratom
  - tropical tree from Southeast Asia
    - mitragyna speciosa
    - leaves can be smoked, dried, and made into a powder and ingested orally
    - higher doses cause opioid-like effects
    - lower doses produce mild stimulation
    - illegal in the U.S. but available on the Internet
- J. Phenbutin
  - anti-anxiety medication (not approved for use in U.S. or most

- classified as a central nervous system depressant/anxiolytic
  - reported to produce euphoria, addiction, dependence, and
  - chemically related to gamma amino butyric acid (GABA)
  - orally in pill form
  - classified as **nootropic**
- K. Psilocybin
- “magic mushrooms”
  - grow in feces of ruminant animals
  - have been used clinically for PTSD and alcohol use disorder  
with some degree of success
- L. Peyote cactus
- Mescaline comes from the cactus “buttons” (hallucinogen)

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