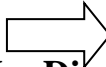




THE BIG THREE: OPIOIDS, ALCOHOL, AND MARIJUANA AND THEIR IMPACT ON YOU, YOUR FAMILY, AND YOUR DENTAL PRACTICE!

Hosted by the
***Calgary District
Dental Society***

Calgary, Alberta
December 7, 2019

SUBSTANCE ABUSE DISORDERS AND THE AMERICAN DENTAL ASSOCIATION

www.ada.org  Advocacy  Current Policies  Substance
Use Disorders (6)

Statement on Provision of Dental Treatment for Patients with Substance Abuse Disorders

***“Dentists are urged to be aware of each patient’s substance use history,
and to take this into consideration when planning treatment and
prescribing medications”***

Guidelines Related to Alcohol, Nicotine, and/or Drug Use by Child or Adolescent Patients

***“Dentists are urged to be knowledgeable about the oral
manifestations of nicotine and drug use in adolescents”***

Age-related warning signs:

Behavioral changes

Health Issues

Hygiene/Appearance problems

School or work concerns

Statement on Alcohol and Other Substance Use by Pregnant and Postpartum Patients

“Dentists are encouraged to inquire about pregnant or postpartum patient’s history of alcohol and other drug use, including nicotine”

Prevalence of Fetal Alcohol Syndrome Disorders (FASD)

In the U.S. reported to be 3.1-9.9% (JAMA Feb. 6 2018)

**1 in 9 U.S. Women report drinking while
Pregnant MMWR May 2019**

I. OPIOIDS

- A. Opioid statistics
- B. Opioid mechanism of action
 - Mu, Delta, and Kappa receptors
- C. 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. Narcotic-general term for any drug that causes drowsiness
- D. 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

FAMILIARIZE YOURSELF WITH NALOXONE (NARCAN)

- E. What is Opium?
 - 1. extracted from plant papaver somniferum
 - 2. Afghanistan largest cultivator in the world
 - 3. Mexico and Colombia greatest contributors to U.S. heroin
- F. Morphine is extracted from opium gum and converted into heroin
- G. Routes of administration of heroin
 - a. intravenous
 - b. snorting
 - c. inhaling (smoking)
- H. Opioid detection in urine
 - a. 300 ng/ml was a positive test
 - b. presently is 2000 ng/ml
- I. Dental Considerations
 - High caries rate
 - craving for sweets and profound xerostomia
 - CNS depressant (watch out for drug interactions with oral/IV Sedation)
- J. Controlling post-operative pain for patients in recovery
 - 1. are they in recovery?
 - if so, in methadone program?
 - use NSAIDs
 - 2. Good prescribing guidelines
 - write the actual amount prescribed in addition to writing the number to discourage alterations of the prescription order
 - when prescribing an opioid medication always select the lowest potency and the smallest quantity that will relieve the patient's pain
- K. **BEWARE OF THE DOCTOR SHOPPER**
 - 1. Warning Signs
 - a. Name that drug
 - b. Rx by telephone
 - c. After hours requests
 - d. Out-of-towners
 - e. Unusual behavior
 - f. Cutaneous indications

2. Management of the “doctor shopper”
 - a. Thorough examination
 - b. Document, document-**CHECK YOUR PDMP**
 - c. Request photo identification
 - d. Confirm Telephone # and address
 - e. Prescribe limited amounts
 - f. NSAIDs are drug of choice

II. ALCOHOL

- A. General information-Social Costs
 1. Most abused drug in Canada today
 2. estimated to cost U.S. \$185 billion annually
 3. 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 CO₂ & H₂O
- D. Pharmacologic effects
 1. Central nervous system (CNS)-“downer”
 - continuous CNS depressant (**it is not a stimulant**)
 2. Kidneys-diuretic
 3. Sexual Function
- E. Toxicity
- F. **Effects on fetus are irreversible**

III. MARIJUANA

- A. A weed-like plant that has been used a source of food, medicine, as a recreational drug and fiber for clothing since prehistoric times.
 - common street names
 - ganja, sensimilla, giggle smoke, mary jane, dab, scat, shatter, mids
 - April 20 is considered “Annual Cannabis Day” (**the number “420” refers to marijuana**)
- B. Identification of cannabis
 - Plant stem will have an odd number of leaves (3, 5, or 7).
 - Each leaf exhibits a serrated edge and the vein pattern is unique

C. Three Species

1. cannabis sativa
 - plants are tall and sparse (may be up to 20 feet)
 - leaves are long and slender
 - usually grown outdoors
 - ~13 weeks to mature with lower yields
 - more potent than indica species
 - higher concentrations of tetrahydrocannabinol (THC) resulting in more mood changes, perception, behavior, and hallucinations
2. cannabis indica
 - plants are short and compact
 - leaves are broader and short
 - usually grown indoors (shorter growing season)
 - higher levels of cannabidiol (CBD) makes you more drowsy than sativa
 - may useful as a sedative, treating epilepsy resistant to traditional medications, relieve pain, muscle spasms and tremors
3. cannabis ruderalis-not significant

D. Parts of the Plant

1. Seeds, leaves, and stems-low concentration of psychoactive cannabinoids
 - often referred to as “**marijuana**”, “**grass**”, “**weed**”
 - seeds do not contain any psychoactive cannabinoids-used to grow more plants
 - ground up seeds, stems, and leaves are rolled into “**joints**” or “**spliffs**”
 - as the joint burns down it is referred to as a “**roach**”
 - cigars can be hollowed out and packed with marijuana called “**blunts**” or “**rillos**”
 - **Hemp** contains less than 0.3% THC
 - used to make rope, soaps, cosmetics, clothing, and car parts
 - Hemp lollypops can be purchased in shops selling drug paraphernalia
2. The “Flowers or “buds”
 - Sex of plant very important-female plant contains higher concentrations of psychoactive chemicals
 - **Sinsemilla** (without seeds)

- The buds contain hair-like projections called “trichomes”
- Trichomes contain a resin which is released with heat and pressure-called **hashish**
- **Hashish** has the highest concentration of psychoactive cannabinoids
- = Terpenes-Entourage effects

E. Chemical composition of cannabis

1. Approximately 483 compounds have been identified 65 have been identified as cannabinoids (active)
2. proportion and type of cannabinoids vary according to species, variety (strain) and growing conditions.
3. strain is named by the grower according to smell, appearance, and psychoactive effects

F. Clinical pharmacologic 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
4. signs/symptoms of marijuana use
 - a. blood shot eyes
 - b. slow to respond
 - c. slurred speech
 - d. glazed eyes
 - e. odor on breath and clothes
5. Excretion/detection
 - a. casual user-2 to 4 days
 - b. heavy user-30 to 60 days

G. Routes of administration

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”
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)
 - “dab, “scat”, “shatter”
 - “distillates”
 4. cannabinoids extracted and incorporated into food such as candy, brownies, cakes, etc.
 - very slow, irregular absorption
 - slow onset, long duration
- H. Medical Uses
1. Glaucoma
 - need to smoke 6 to 8 times a day-not practical
 2. Multiple sclerosis-questionable, Scientific research does not support but anecdotally may have some benefit.
 3. Chronic pain
 4. Antiemetic-heavy users experience acute hyperemesis
 5. Hypnotic/Sedative
 6. Epilepsy
 7. FDA approved cannabinoid-like synthetics
 - a. approved for anorexia associated with weight loss in patients with AIDS
 - b. To treat nausea and vomiting associated with cancer chemotherapy
 - c. dronabinol (Marinol)-AbbVie, (Syndros)-INSYS Therapeutics
 - d. nabilone (Cesamet)-Valeant Pharmaceuticals
 - e. cannabidiol (CBD) (Epidiolex)-GW Pharmaceuticals
- I. Impact on the Dental Practice
1. Patient
 - a. used by patient to reduce anxiety
 - b. marijuana is a CNS depressant and may amplify oral or IV sedation
 - c. short term memory is impaired. Give written take home instructions
 - d. have witness for consent forms
 - e. heavy 3 or 4 times a week smokers have characteristic stain on teeth
 2. Dentist/Staff
 - a. psychomotor skills can be impaired for 24 hours after using marijuana
 - b. Questions: Should dentists be allowed to use marijuana for medical purposes and continuing practicing?
 - c. How do you measure impairment?

3. Family
 - a. Is Marijuana addictive-YES. According to the NIDA 9% of marijuana users will become dependent and this increases to 17% when they begin in teen years.
 - b. According to NIDA heavy marijuana smokers function at a lower intellectual level compared to non-smokers affecting attention span, memory, cognitive ability, and psychomotor skills

****OTHER POPULAR STREET DRUGS****

INHALANTS

- A. Inhalants-Volatile Solvents-CNS depressants- “Downers”
 - 1.. Fifth most abused drug after alcohol, marijuana, nicotine and prescription drugs (Peaks in 8th grade)
 - 2.. Used by “huffing”, “sniffing”, “bagging”
 - 3.. Other inhalant products
 - Model paints (Gold and Silver)
 - Magic Markers
 - 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)

OVER-THE-COUNTER (OTC)

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

STREET/PRESCRIPTION DRUG COMBINATIONS

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

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-alcohol
- D. Jimson Weed (Locoweed, Thornapple, Datura)
- E. Salvia (Catnip, Mint, etc.)
- F. Nutmeg-hallucinogen
- G. Toad licking-
- H. Synthetic cannabinoids/cathinones

AMPHETAMINES

- A. STREET NAMES -methamphetamine (Meth, Speed, Crystal, Ice)-
“Uppers”
- B. Methamphetamine production/Cost on the street
- C. signs & symptoms of 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”

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
- F. Signs/symptoms
 - 1. peaceful
 - 2. empathetic
 - 3. energetic

I rights reserved. This material may not be reproduced, published, rewritten, redistributed, or transmitted in whole or part without the express written permission of the author. Any use without the author's consent is prohibited.

©Harold L. Crossley, DDS., M.S., Ph.D.