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THE BIG THREE: OPIOIDS, ALCOHOL, AND MARIJUANA AND THEIR IMPACT ON YOU, YOUR FAMILY, AND YOUR DENTAL PRACTICE!
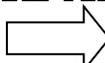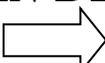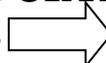
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SUBSTANCE ABUSE DISORDERS AND THE AMERICAN DENTAL ASSOCIATION

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

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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"

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For example: Does your medical history form include the question:
"Do you have a history of chemical dependency"
"If so, how long have you been in recovery"

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"

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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"

I. OPIOIDS

A. Opioid statistics
1. Nationally the annual number of deaths
from drug overdoses now exceeds the number of deaths caused by motor vehicle accidents, guns, and HIV/AIDS each in 2018.
2. In 2019 the CDC reported an estimated 193 Americans died every day from a drug overdose
3. From May 2019 to May 2020 approximately 81,000 overdose deaths (222people/day)-CDC Wonder 2021

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
a. tranquilizers
b. sedatives
c. hypnotics

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
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
 1.   High caries rate
  -    craving for sweets and profound xerostomia
 2.   CNS depressant (watch out for drug interactions with oral/IV
   Sedation)
 3.   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
J.   **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 U.S. 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 ➡ acetaldehyde ➡ acetic acid ➡ CO_2 & H_2O
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
        -      the term **"dope"** rarely used today more contemporary term is "weed"
        -      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
        Cannabis sativa (continued)
        -    ~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
                   drowsier than sativa
        -    may be 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

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 ⟹ comical ⟹ problems disappear, munchies ⟹ time and space distortion ⟹ dysphoria ⟹ paranoia, fear, anxiety ⟹ 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 exracted, 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 (especially for neuropathic pain)

4.   Antiemetic-heavy users experience acute **hyperemesis**

5.   Hypnotic/Sedative

6.   Epilepsy- cannabidiol (CBD) (Epidiolex)-GW Pharmaceuticals

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

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.   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/hygienists be allowed to use marijuana for medical purposes and continue practicing?
- c.   How do you measure impairment?