

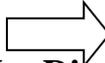
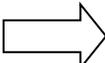
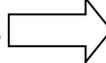
OPIOID USE, ABUSE AND ADDICTION: APPROPRIATE OPIOID AND NON-OPIOID PRESCRIBING

Hosted by

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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”***

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”

- “Among new heroin users, approximately three out of four report having abused prescription opioids prior to using heroin” Cicero et al., JAMA Psychiatry 2014 821-846
 - Past misuse of prescription opioids is the strongest risk factor for starting heroin use-especially among people who became dependent upon or abused prescription opioids in the past year” Compton et al. NEJM 2016
- Chemical Dependency (Alcoholism as an example) is a ***Primary, Chronic, Progressive, Relapsing Disease*** process with ***Genetic, Psychosocial, and Environmental*** factors influencing its development and manifestations.

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. General Information

A. Definitions

1. Misuse: “to use incorrectly”
2. Abuse: “improper or excessive use or treatment”
3. Addiction: “persistent compulsive use of a substance known by the user to be harmful”
 - a. behavioral signs of addiction
 - preoccupation with obtaining the drug
 - **compulsive use despite adverse consequences**
 - relapse following periods of abstinence
 - b. risk factors for addictive disease
 - family history of alcohol or other drug abuse
 - early onset of drug use
 - high risk drinking or behavior
 - c. behaviors associated with addiction
 - anal retentive
 - compulsive obsessive
 - controlling
 - manipulative

- d. progressive nature of addiction
 - experimental → social use → abuse → addiction
 - “gateway drugs” - **nicotine and alcohol**

II. 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.
2. In 2017 the CDC reported that 134 Americans died every day from an opioid overdose
3. In 2017 the CDC reported an estimated 197 Americans died every day from a drug overdose

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

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? Suboxone or Subutex?
 - use NSAIDs
 - review the ADA recommendations for managing patients actively using opioids or in recovery
 - 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-**WHY?**

Because of the typical dental pain in quality and quantity

- A. Quality of Pain
 - Dull, aching, inflammatory
 - Sharp, piercing, lancinating
 - Neuropathic pain
- B. Quantity of Pain
 - Mild/moderate/severe

Non-narcotic analgesics act on the peripheral and/or central nervous system by interfering with the production of chemical mediators at the site of pain

- A. *Acetylsalicylic acid and derivatives*
 1. pharmacologic effects - most of aspirin’s useful pharmacologic effects are due to its ability to inhibit prostaglandin synthesis
 - a. analgesic
 - b. antipyretic
 - c. anticoagulant
 - d. anti-inflammatory
 2. adverse effects
 - a. uric acid retention
 - b. salicylism-acute/chronic poisoning
 - c. allergy-less than 1% but may be as much as 30% in susceptible individuals
 - d. caustic-ouch!

3. contraindications
 - a. allergy to aspirin or NSAIDs
 - b. asthma
 - c. chronic gastritis
 - d. gout-probenecid
 - e. anticoagulants
 - f. pregnancy
- B. **Acetaminophen**
 1. mechanism(s)
 - a. COX-3 inhibitor (located in the CNS)
 - b. Some peripheral effects also
 2. pharmacologic effects
 - a. analgesic
 - b. antipyretic
 - c. **NO** gastritis ☺
 - d. **NO** clinically significant effects on uric acid ☺
 - e. **NO** anti-platelet effects ☺
 - f. **NO ANTI-INFLAMMATORY EFFECTS**
 3. maximum dose
 - a. < 3000 mg/day-McNeil-January 28, 2011
 - b. maximum analgesic **dose** is 1000 mg (650 mg)
- C. **Non-Steroidal Anti-inflammatory Agents (NSAIDs, NSAIDs)**
 1. Mechanism of action
 - inhibition of cyclooxygenase-1 (COX-1) and/or cyclooxygenase-2 (COX-2)
 2. Combined COX-1 and COX-2 inhibitors
 - a. ibuprofen (Advil, Motrin, Motrin-IB)
 - maximum daily dose-3200 mg

Rx Ibuprofen Tablets 400 mg
Disp. 16 tablets
Sig: Take 1-2 tablets 3-4 times per day
as needed for the relief of pain
Do not exceed eight tablets within 24 hours

 - **Pediatric dosing**
 - **7.5 mg/kg every 6 -8 hours**
 - **30 mg/kg/day-maximum dose**
 - Other useful NSAIDs (Cox1 and Cox 2 inhibitors)
 - etodolac (generic)-Lodine®
 - 200-400 mg every 6 to 8 hours

- ketoprofen (generic)-Orudis®
 - 50-75 mg every 6 to 8 hours-immediate release
 - 200 mg per day for extended release
- meloxicam (Mobic®)-Long acting
 - 7.5mg - 15 mg per day
 - do not exceed 15 mg per day

AMERICAN DENTAL ASSOCIATION
recommendations for controlling post-operative dental pain

CDC Guidelines for Prescribing Opioids for Acute Pain
Limits duration for less than three days and under no circumstances greater than seven days for acute pain

PHARMACOLOGIC MANAGEMENT OF OROFACIAL INFECTIONS

I. *Choosing an Antibiotic*

- A. Identification of Microorganism
- B. Determine Antibiotic Sensitivity - MIC
- C. Low Host Toxicity
- D. Bactericidal
- E. Low Resistance Potential
- F. Antibiotic resistance occurs with
 - 1. inadequate dose (prescribe loading dose)
 - 2. inadequate duration (minimum 7 days treatment)
 - 3. repeated administration (avoid if possible)
 - 4. topical administration (avoid if possible)

II. *Types of Penicillins*

- A. Penicillin G-natural
 - 1. bactericidal
 - 2. narrow spectrum
 - 3. **acid labile (destroyed by stomach acid)**
 - 4. beta lactamase (penicillinase) labile

- B. Penicillin V-semisynthetic
1. bactericidal
 2. narrow spectrum
 3. **acid stable**
 4. beta lactamase (penicillinase) labile

Rx *Penicillin V Tablets 500 mg*

Disp: *30 tablets*

Sig: *Take two tablets to start, then one tablet every six hours until all tablets are gone*

- C. Ampicillin/amoxicillin
1. bactericidal
 2. **broad spectrum**
 3. **acid stable**
 4. beta lactamase (penicillinase) labile
- D. Clavulanic acid (penicillinase inhibitor) and amoxicillin combination (Augmentin®)

Subacute Bacterial Endocarditis Antibiotic Prophylaxis

Cardiac Conditions Associated with the Highest Risk of Adverse Outcome from Endocarditis for Which Prophylaxis With Dental Procedures is Recommended

1. prosthetic cardiac valves, including transcatheter-implanted prostheses and homografts
2. prosthetic material used for cardiac valve repair (annuloplasty rings and chords)
3. a history of infective endocarditis
4. a cardiac transplant with valve regurgitation due to a structurally abnormal valve
5. the following congenital (present from birth) heart disease:
 - a. unrepaired congenital cyanotic heart disease, including palliative shunts and conduits
 - b. any repaired congenital heart defect with residual shunts or valvular regurgitation at the site of or adjacent to the site of a prosthetic patch or prosthetic device

Antibiotic Prophylaxis for Patients with Orthopedic Prostheses

“The ADA and the American Academy of Orthopaedic Surgeons have found that the evidence does not support routine prescription of antibiotic prophylaxis for joint replacement patients undergoing dental procedures. This finding is based on a collaborative systematic review of the scientific literature.” -www.ada.org/news

“In 2014, the ADA Council on Scientific Affairs assembled an expert panel to update and clarify the clinical recommendations found in the 2012 evidence-based guideline, *Prevention of Orthopaedic Implant Infection in Patients Undergoing Dental Procedures*. As was found in 2012, the 2014 updated systematic review found no association between dental procedures and prosthetic joint infections. Based on this review, the 2014 Panel concluded that prophylactic antibiotics given prior to dental procedures are *not recommended* for patients with prosthetic joint implants.” www.ada.org

www.ada.org → member center → ADA library and archives →
oral health topics → “A” → antibiotic prophylaxis

*******Guest Editorial: ADA Guidance for Utilizing Appropriate Use Criteria in the Management of the Care of Patients with Orthopedic Implants Undergoing Dental Procedures.* Journal of American Dental Association-February 2017**

www.orthoguidelines.org

“Appropriate Use Criteria”

SBE prophylaxis antibiotics

Rx Amoxicillin tablets 500 mg

Disp: 4 tablets

**Sig: Take four tablets by mouth 30-60 minutes
before dental appointment**

Rx Cephalexin tablets 500 mg
Disp: 4 tablets
Sig: Take four tablets by mouth 30-60 minutes
before dental appointment

- *Patients who are allergic to penicillins*

Rx Clindamycin tablets 150 mg
Disp: 4 tablets
Sig: Take four tablets by mouth 30-60 minutes
before dental appointment

Rx Azithromycin tablets 250 mg
Disp: 2 tablets
Sig: Take two tablets by mouth 30-60 minutes
before dental appointment

Rx Clarithromycin tablets 250 mg
Disp: 2 tablets
Sig: Take two tablets by mouth 30-60 minutes
before dental appointment

III. Cephalosporins

- A. Properties
 - 1. bactericidal (similar mechanism to penicillin)
 - 2. broad spectrum
 - 3. acid stable (oral forms)
 - 4. beta lactamase stable/labile
- B. Synthesized in generations: first generation (cephalexin-Keflex®), (cefadroxil-Duricef®) most effective against gram positive strep or staph
higher generations more effective against gram negative
- C. Cross-sensitivity with penicillin probably very low ~0.5%

IV. Clindamycin (Cleocin®)

- A. Bacteriostatic/cidal
- B. Broad spectrum
- C. Acid Stable
- D. Adverse Effects
 - pseudomembranous colitis (PMC)/ulcerative colitis caused by **Clostridium difficile (C. diff)**

V. *Extended Spectrum antibiotics*

- A. clarithromycin (Biaxin®)
-interaction with calcium channel blockers-**COULD BE FATAL**
- B. azithromycin (Zithromax®)-prolonged QT interval

VI. *Tetracyclines*

- A. Bacteriostatic/broad spectrum
- B. Possible adverse Reactions
 - 1. GI Distress/Nausea
 - 2. hepato/renal toxicity
 - 3. teeth/bone pathology
 - 4. superinfection-Can I treat this?
 - 5. photosensitivity
- C. Possible drug Interactions
 - 1. iron/antacids/dairy products
 - 2. oral contraceptives
 - 3. oral anticoagulants-warfarin (Coumadin)
 - 4. other antimicrobials-penicillins
- D. ***Tetracyclines are contraindicated with penicillins***

VII. *Metronidazole (Flagyl®)*-synthetic (not an antibiotic)

- A. Bactericidal
- B. Broad spectrum
- C. Adverse effects
 - 1. gastrointestinal
 - 2. oral effects
 - 3. CNS effects
 - 4. renal toxicity
 - 5. hematopoietic system
- D. alcohol is contraindicated with metronidazole

VIII. *Antifungals*

- A. nystatin (Mycostatin®) - topical
- B. clotrimazole (Mycelex®) - topical
- C. fluconazole (Diflucan®) – systemic
- D. Available preparations

Rx Mycelex Troches

Disp: 70 tablets

Sig: Dissolve one tablet in mouth

five times a day for two weeks

Rx Mycostatin Pastilles
Disp: 56 tablets
Sig: Dissolve one or two tablets in mouth
four times a day for as long as 14 days
if necessary

Rx Diflucan® tablets 100mg
Disp: Fifteen tablets
Sig: Take two tablets by mouth the first day then
one tablet daily for thirteen days

IX. Medications used to treat Type I herpes simplex (labialis)

- A. idoxuridine (Stoxil®, Herplex®)
- B. acyclovir (Zovirax®)

Rx Zovirax® Ointment 5%
Disp: 15 gm
Sig: Apply small amount to affected area
every three hours six times a day for
7 days

- C. valacyclovir (Valtrex®)-*systemic*
 - metabolite of acyclovir
 - approved for herpes simplex
 - 2 Grams orally twice a day (twelve hours apart) for one day
- D. penciclovir (Denavir®)-topical

Rx Denavir Cream 1%
Disp: 2 Gm tube
Sig: Apply small amount of cream to affected areas
every two hours during waking hours for four
days

- E. docosanol (Abreva®)
 - 10% cream
 - only OTC topical preparation approved by FDA
 - expensive

- F. Viroxyn®
- benzalkonium chloride 0.13%-cationic surface active agent
 - benzocaine 7.5%
 - requires a dentist to provide it

X. *Apthous Ulcers*

- A. Amlexanox (Apthasol)
- B. Debacterol
 - sulphonated phenols and sulphuric acid
- C. silver nitrate sticks
- D. Alum
- E. Cola drinks

XI. *Angular cheilitis*

- A. etiology-fungal/bacterial
- B. location-corners of the mouth
- C. duration-a few days to several weeks
- D. treatment
 - antifungals/steroids- Mycolog ointment
 - allow to heal naturally

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