

CLUES TO YOUR PATIENTS' HEALTH: LOOK IN THEIR BAG OF PILLS

Hosted by

**Delaware State
Dental Society
Wilmington, Delaware
May 14, 2021**

- No. 1** **ATORVASTATIN** (generic)
- HMG-CoA reductase Inhibitor
 - Decrease serum total and LDL cholesterol
 - grapefruit juice interactions
 - Lipitor®
 - Similar medications:
 - rosuvastatin (Crestor®)
 - lovastatin (Mevacor®, Altoprev®)
 - simvastatin (Zocor®)-cheaper
 - pravastatin (Pravachol®)
 - pitavastatin (Livalo®)
 - fluvastatin (Lescol®)
 - possible side effects of statins
 - muscle weakness
 - increased blood glucose or HbA1c
 - decreased cognitive ability-questionable
 - **CONTRAINDICATED IN PREGNANCY AND BREAST FEEDING**
 - Do statins influence pulpal morphology?
 - New cholesterol lowering medications-expensive
 - PCSK9 inhibitors-mechanism
 - alirocumab (Praluent®) –Sanofi/Regneron
 - evolocumab (Repatha®)-Amgen
- No. 2** **LISINOPRIL** (generic)
- Antihypertensive Medication Compliance
 - Zestril®, Prinivil®
 - antihypertensive sometime combined with medications to treat heart failure
 - **ACE** (Angiotensin Converting Enzyme) inhibitor (**ACEi**)

- Dental Implications
 - Orthostatic (postural) hypotension-**watch out!**
 - Scalded mouth syndrome
 - Non-productive cough
 - NSAID interaction with long-term use
 - Angioedema
 - **Other ACE inhibitors**
 - benazepril (Lotensin®)
 - captopril (Capoten®)
 - enalapril (Vasotec®, Epaned®)
 - fosinopril (Monopril®)
 - moexipril (Univasc®)
 - pirindopril (Aceon®, Coversyl®)
 - quinapril (Accupril®)
 - trandolapril (Mavik®)
 - Tekturna ® (aliskiren)-direct renin inhibitor

No. 3

ALBUTEROL (generic)

- Beta 2 receptor agonist
- bronchodilator (relaxes muscles in the lungs)
- asthma, COPD
- prevention of exercise-induced bronchospasm
- **use caution** with aspirin/NSAIDs in some patients
- Ventolin HFA®, Proair HFA®
- **ADVAIR DISCUS®**
 - fluticasone and salmeterol
 - maintenance treatment of asthma
 - no problems with vasoconstrictor
 - oral candidiasis/aspergillus niger
- **FLUCONAZOLE** (generic)
 - oral antifungal
 - Diflucan®
 - 100 mg BID first day and 100 mg/day for 13 days
 - contraindicated with patients taking clopidogrel (Plavix®)

No. 4

LEVOTHYROXINE (generic)

- Synthroid®
- replacement therapy (hypothyroidism)
 - incidence is about 5% in the U. S.
 - women 9x more likely than men
 - subclinical hypothyroidism

- local anesthetic with vasoconstrictor is **NOT** contraindicated
- Fluoride is **NOT** contraindicated with levothyroxine

No. 5 **AMLODIPINE BESYLATE** (generic)

- calcium channel blocker
- antihypertensive, angina pectoris
- gingival hyperplasia
- Norvasc®
- Other calcium channel blockers
 - diltiazem(Cardizem®, Tiazac®)
 - felodipine (Plendil®)
 - nifedipine (Adalat®, Procardia®)
 - verapamil (Covera-HS®, VerelanPM®, Calan)
 - nifedipine (Cardene®)
- ***clarithromycin interaction-could be fatal***

No. 6 **GABAPENTIN** (generic)

- Neurontin®
- analgesic for neuropathic pain
 - fibromyalgia
 - diabetic neuropathy
 - post-herpetic neuropathy
- abuse potential (may enhance the abuse and overdose of opioids)

No. 7 **OMEPRAZOLE** (generic)

- hydrogen ion pump inhibitor (PPI)
- **GastroEsophageal Reflux Disease (GERD)**
- possible side effects related to altered stomach Ph
 - increased risk for hip, wrist, and spine fracture
 - increased risk for Clostridium difficile
 - decreased serum magnesium
 - possible Vitamin B₁₂ deficiency
- similar medications
 - **esomeprazole** (Nexium®)
 - **lansoprazole** (Prevacid®)
 - **dexlansoprazole** (Dexilent®, Kapidex®)
 - **rabeprazole** (Aciphex®)
 - **pantoprazole** (Protonix®)
 - Zegarid®-a rapid release form of omeprazole

- No. 8** ***METFORMIN*** (generic)
- first line drug for type II diabetes mellitus (along with diet and exercise)
 - appoint in the morning
 - Glucophage®
 - other uses

- No. 9** ***LOSARTAN POTASSIUM*** (generic)
- **Angiotensin Receptor Blocker (ARB)**
 - antihypertensive, reduce the risk of stroke, and slow the progression of kidney disease in patients with diabetes
 - Dental Implications
 - Orthostatic hypotension
 - Scalded mouth syndrome
 - Non-productive cough (less than ACE Inhibitors)
 - NSAID interaction with long-term use
 - Other popular ARBs
 - **candesartan** (Atacand®)
 - **irbesartan** (Avapro®)
 - **valsartan** (Diovan®)
 - **olmesartan** (Benicar®)

- No. 10** ***AMOXICILLIN*** (generic)
- bactericidal
 - broad spectrum
 - acid stable
 - beta lactamase labile
 - ***Amoxicillin/Clavulanic acid (Augmentin®)***
 - used for beta lactamase producing microorganisms
 - 250/500 mg every eight hours

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

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 Doxycycline tablets 100 mg
Disp: 1 tablet
Sig: Take one 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

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

PLEASE REVIEW:

www.orthoguidelines.org

“Appropriate Use Criteria”

- No. 11** ***HYDROCHLORTHIAZIDE*** (generic)
- HCTZ
 - diuretic/antihypertensive
 - depletes potassium
 - eat lots of bananas and drink lots of orange juice
 - watch out for potassium chloride supplements

- No. 12** ***METOPROLOL TARTRATE/SUCCINATE*** (generic)
- Selective Beta Blocking Agent (Beta₁ blocking agent)
 - Indications
 - antihypertensive
 - premature atrial (PACs) and/or ventricular contractions (PVCs)
 - other abnormal cardiac rhythms
 - Lopressor®, /Toprol XL®
 - DO NOT DISCONTINUE ABRUPTLY
 - Long-term use of NSAIDs (~ 3 weeks) may diminish hypotensive effectiveness of beta blockers
 - Other selective Beta₁ blocking agents
 - nebivolol (Bystolic®)
 - atenolol (Tenormin®)
 - bisoprolol (Zebeta®)
 - acebutolol (Sectral®)
 - esmolol (Brevibloc®)
 - betaxolol (Kerlone®)

NO DRUG INTERACTIONS WITH VASOCONSTRICTOR

- No. 13** ***SERTRALINE*** (generic)
- Selective Serotonin *Reuptake Inhibitor* (SSRI)
 - depressive episodes
 - chronic fatigue syndrome
 - chronic pain
 - adjunctive therapy for attention deficit hyperactivity disorder (ADHD)
 - Zoloft®
 - possible side effects
 - bruxism
 - bleeding

- No. 14** ***FUROSEMIDE ORAL*** (generic)
- loop diuretic
 - antihypertensive
 - Lasix®

No. 15 **ALPRAZOLAM** (generic)

- antianxiety agent
- Xanax®
- Xerostomia
- most common drug found in “dirty” urine of methadone patients
- combination of Xanax and Ecstasy is called “Parachuting”
- other popular benzodiazepines
 - lorazepam (Ativan)
 - clonazepam (Klonopin)

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THE WEED OF TODAY IS *NOT* YOUR MOMMA'S WEED

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May 14, 2021

CANNABIS (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
 - 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. 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
 4. **terpenes** provide the odor and taste of the strains, they may also add to the effects of marijuana (**entourage effect**)
 5. Two major cannabinoids
 - a. tetrahydrocannabinol (**THC**)-psychoactive
 - b. cannabidiol (**CBD**)-sedating

D. Three Species

1. cannabis sativa
 - plants are tall and sparse (may grow 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 drowsier than sativa
 - may useful as a sedative, treating epilepsy resistant to traditional medications, relieve pain, muscle spasms and tremors
3. cannabis ruderalis-not significant

E. 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-legal definition
 - 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

F. Pharmacology

1. Cannabinoid receptors are located in the central nervous system (CB₁) and as well as the peripheral nervous system (CB₂). These receptors are referred to as the endocannabinoid system of activity.
2. The endogenous cannabinoids are named **anandamide and 2AG.**
3. CB₁ receptors are located in the basal ganglia, limbic system, hippocampus, and cerebellum. They are absent in the medulla oblongata which is responsible for respiration and cardiovascular functions.
4. CB₂ are located mostly in the spleen and associated with the immune system which might be responsible for the anti-inflammatory properties of Marijuana

G. Clinical effects

1. dose-dependent
2. determined by set and setting of the intoxicated person
3. euphoria (mellowing out)everything becomes \rightleftarrows comical \rightleftarrows problems disappear, munchies \rightleftarrows time and space distortion \rightleftarrows dysphoria \rightleftarrows paranoia, fear, anxiety \rightleftarrows 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

H. 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”
4. cannabinoids extracted and incorporated into food such as candy, brownies, cakes, etc.
 - cannabutter
 - very slow, irregular absorption
 - slow onset, long duration
 - very unpredictable

I. 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/antianxiety
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

J. 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 pattern 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?

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