

Trendy Dental Drugs: Golden Nuggets For You



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Learning Objectives

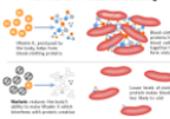
- Describe commonly used drugs & their brand/generic names, classes, & indications
- Identify potential dental implications
- Discuss mechanisms of action and common side effects associated with these medications
- Discuss any questions you may have ☺

CV: Anticoagulants

- Blood clots when you need it
- Hold for Surgery
 - Bridge therapy = low-molecular weight heparin
- INR = International Normalized Ratio

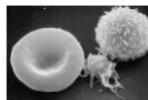


How Warfarin Affects Blood Clotting



CV: Anticoagulants

- Clot prevention
 - Warfarin = Coumadin, Jantoven
 - Clopidogrel = Plavix**
 - Rivaroxaban = Xarelto**
 - Dabigatran = Pradaxa**
- Side effects:
 - signs of bleeding/bruising
- Too much warfarin = Vitamin K
- Diet = consistent vitamin K

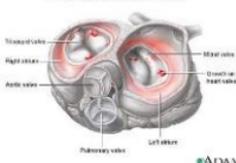


Dental Notes: Hold for dental procedures;
Monitor for excessive gum bleeding

Prevention of Infective Endocarditis (IE)

- Certain dental procedures can lead to bacteremia
- Bacteria can vegetate
 - Valves
 - Endocardium
- Always fatal if untreated
- Only prescribe prophylactic antibiotics to patients at **highest** risk

Infective endocarditis is an infection of the heart chambers or valves



Dental Procedures Requiring Antibiotic Prophylaxis in High Risk Patients

RECOMMENDED

- Tooth extractions
- Periodontal procedures (scaling, root planing, gum surgery, and probing)
- Dental implants
- Tooth replacement
- Root canal

NOT RECOMMENDED

- Routine anesthetic injection
- Placement of removable appliances
- Placement of orthodontic brackets
- Bleeding from trauma to lips/mucosa
- Dental radiographs
- Adjustment of orthodontic appliances
- Shedding of deciduous teeth

Merck Manuals: Common Oral Diseases, Fourth edition

Antibiotics: "The newest one is the best! I want that"

Side effects:

- Diarrhea
- Nausea
- Yeast infections in some women

Tips:

- New drug is not always best
- Always take until gone
- With or without food varies



www.cdc.gov/getsmart

<http://www.cdc.gov/getsmart/community/about/quiz.html>

Prophylactic Antibiotics

- Aminopenicillin
 - Amoxicillin (Amoxil)
 - Ampicillin
- Cephalosporins
 - Cephalexin (Keflex)
 - Cefazolin
 - Ceftriaxone
- Lincosamide
 - Clindamycin (Cleocin)
- Macrolides
 - Azithromycin (Zithromax)
 - Clarithromycin (Biaxin)



It is an old ad that through the hospital kitchen that Albert was first approached by a member of the Antibiotic Resistance.

Antibiotics: Penicillins & their relatives

Penicillin VK

Amoxicillin = Amoxil

Amoxicillin/Clavulanate = Augmentin

Cephalexin = Keflex

- Cautions: Cross-sensitivities and allergies
- Can still be very effective even though "old drugs"

Dental Notes: Antibiotic Prophylaxis



Antibiotics: Quinolones

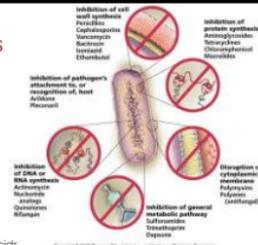
Ciprofloxacin = Cipro

Levofloxacin = Levaquin

Cautions:

- Do not take with milk, antacids
- Sun sensitivity

Dental Notes: Metallic Taste Side Effect



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Antibiotics: Others

Azithromycin = Zithromax, Zmax

Doxycycline = Vibramycin

Cautions:

- Do not take with milk, antacids
- Sun sensitivity, teeth staining

Sulfamethoxazole/Trimethoprim = Septra, Bactrim

Cautions:

- Sun sensitivity, Increase fluid intake, allergies



Analgesic: Anti-inflammatory

Ibuprofen = Motrin, Advil OTC

Naproxen = Naprosyn, Aleve OTC

Celecoxib = Celebrex

Side Effects:

- GI = take with food
- Dizziness?
- Cautions with warfarin, history of ulcer/GERD



Dental Notes: abnormal taste, xerostomia

Analgesic: Opioids

- Oxycodone = OxyContin
 - Side effects: see previous slide
 - High abuse potential due to extended release formulation
- Morphine = MS Contin
- Tramadol = Ultram
 - Side Effects:
 - Dizziness, Drowsiness
 - Dependence? Abuse?
 - Do not take with alcohol



Analgesic: Opiate Combinations

- Hydrocodone/APAP = Vicodin, Lortab, Lorcet
- Codeine/APAP = Tylenol #3
- Oxycodone/APAP = Percocet
 - Side Effects:
 - Dizziness, Drowsiness
 - Constipation
 - Dependence? Abuse?
 - Do not take with alcohol
- APAP = Acetaminophen 325mg limit



Chat break...

- Naloxone

Oregon Pharmacies Can Now Prescribe Naloxone For Overdoses (<http://www.opb.org/news/article/oregon-pharmacies-naloxone-overdoses/>)

Naloxone blocks the effects of an overdose from opioids such as heroin, oxycodone, and morphine.

- 1 - Person wants naloxone, contacts pharmacy for availability
- 2 - They read a 7-pg training document
- 3 - Reads and signs final page
- 4 - RPh may dispense without MD Rx



Analgesic: Muscle Relaxants

- Cyclobenzaprine = Flexeril
- Tizanidine = Zanaflex
- Baclofen = Lioresal
- Carisoprodol = Soma
 - Side Effects:
 - Dizziness, Drowsiness
 - Dependence
 - Do not take with alcohol



Dental Notes: Xerostomia (21% to 32%), used for TMJ

CNS: Antidepressants

- SSRIs
 - Fluoxetine = Prozac
 - Sertraline = Zoloft
 - Paroxetine = Paxil
 - Duloxetine = Cymbalta
 - Citalopram = Celexa
 - Escitalopram = Lexapro
- Side effects:
 - Headache, nausea, insomnia or somnolence

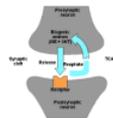


Dental Notes: Xerostomia, bruxism

CNS: Antidepressants

Mechanism of action of tricyclic antidepressants

- Tri-Cyclic Antidepressants (TCAs)
 - Amitriptyline = Elavil
 - Side effects: sedation, dry mouth
- "Other" types
 - Mirtazapine = Remeron
 - Bupropion = Wellbutrin, Zyban
 - Venlafaxine = Effexor
 - Trazodone = Deseryl
 - Side effects: dizziness, drowsiness



Dental Notes: Significant xerostomia, orthostatic hypotension, peculiar taste, and black tongue

CNS: Antianxiety and/or Insomnia

- Benzodiazepines
 - Lorazepam = Ativan
 - Clonazepam = Klonopin
 - Diazepam = Valium
 - Temazepam = Restoril
 - Alprazolam = Xanax
 - Side effects: drowsiness
- Buspirone = BuSpar



Dental Notes: Common dental pre-med

Endocrine: Oral Diabetic agents

- Metformin = Glucophage
 - Side Effects: dose dependent
- Glipizide = Glucotrol
- Glyburide = Micronase, DiaBeta
- Pioglitazone = Actos
 - Side Effects: dose dependent
- Sitagliptin = Januvia



Dental Notes: Taste disorder

Endocrine: Osteoporosis

- Alendronate = Fosamax
- Risedronate = Actonel
 - Side Effects:
 - Esophagitis, Nausea
 - Once weekly dosing possible
- Raloxifene = Evista
 - Side Effects:
 - Hot flashes, Nausea



Dental Notes: Osteonecrosis of the Jaw

Most commonly used dietary supplements (2012)

Supplement name	Use in Adults	Most commonly reported uses
Fish oil/Omega-3 fatty acids	7.8%	Lower blood pressure and/or triglycerides
Glucosamine and/or chondroitin	2.6%	Reduce arthritis pain
Probiotics/Prebiotics	1.6%	Prevent diarrhea from antibiotics or IBS
Melatonin	1.3%	Insomnia, jet lag, & shift work sleep problems
Coenzyme Q-10	1.3%	Treat cardiac conditions (e.g. CHF, angina, etc.)
Echinacea	0.9%	Prevent cold, flu, infections
Cranberry	0.8%	Prevent urinary tract infections
Garlic Supplements	0.8%	Lower cholesterol and blood pressure
Ginseng	0.7%	Increase sense of well-being/overall health
Ginkgo biloba	0.7%	Improve memory and prevent dementia

Chalker TC, Black LI, Swanson NR, Braun PM, Nolas RL. Trends in the use of complementary health approaches among adults, United States, 2002-2011. *Journal of Dietary Supplements*. 2012;19(2):103-112.

Herbal therapies for dental conditions

Grade	Common name	Genus/species	Condition
B	Bloodroot	<i>Sanguinaria canadensis</i>	plaque/gingivitis
B	Rhubarb	Rheum spp.	gingivitis
C	Betel nut	<i>Areca catechu</i>	dental caries



Bloodroot (*Sanguinaria canadensis*)



- Mechanism of action:
 - Reduces bacterial growth (both G+ & G-), potentially through altering bacterial adherence and plaque formation
 - Reduces inflammation
- FDA concluded: "sanguinaria extract at 0.03-0.075% concentration is safe, but there are insufficient data available to permit final classification of its effectiveness in an oral rinse or dentifrice dosage form as an [OTC] antingivitis/antiplaque active ingredient."

Rhubarb (*Rheum* spp.)

- Mechanism of action
 - Reduces bacterial growth & inflammation
- Evidence
 - Pyralvex has been used for decades as a salve (salicylic acid & rhubarb extract)
 - Parodium more recently (chlorhexidine & rhubarb extract)



Betel Nut (*Areca catechu*)

- Mechanism of action
 - Slows microbial growth
- Background
 - Limited clinical studies
 - Not recommended due to safety concerns
- Adverse effects
 - Enhanced periodontitis, gingival lesions, gum recession, teeth staining
 - Potentially carcinogenic
 - Respiratory issues (e.g., wheezing, asthma exacerbations, bronchoconstriction, etc.)

Long term betel nut chewer



*Around 600 million people worldwide are thought to chew betel quids, making them the fourth most commonly used psychoactive substance after tobacco, alcohol, and caffeinated drinks. <https://www.2013.11.05/health/what-is-betel-nut.html>

Marijuana and The Oregon Law

Status in Oregon:

- Recreational and Medical
- OLCC regulated
- Schedule I Federally
- Banking unresolved
- Cities and Counties may opt out of licensing



<http://whatslegaloregon.com/>

https://public.govdelivery.com/accounts/OLCC/subscriber/new?topic_id=OLCC_69

Biologics & Biosimilars vs. Interchangeable Biologic

Biologics



Aspirin



What is Biosimilar?

- Biologic
- Highly similar to reference
- No clinical difference
- Doesn't imply interchangeable

What is Interchangeably Biosimilar?

- Biosimilar to reference
- Same clinical effect
- No additional risk

What is Generic?

- Bioequivalent
- Manufacturing not disclosed

Thank You ☺

Reference

Lexi-Comp Online Drug Database

Contact information:
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Bonus Slides if Time Allows ☺

New Pregnancy Labeling: PLLR

Pregnancy & Lactation Label Requirements

- Letter categories (A,B,C,D,X) removed



<http://www.fda.gov/Drugs/DevelopmentApprovalProcess/DevelopmentResources/Labeling/ucm093307.htm>

Corticosteroids

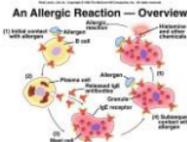
Prednisone:
The all the time eating, shaking, bone thinning, weight gaining, B1@&h making, so you can never sleep again medicine!

- Prednisone = Deltason
- Methylprednisolone
 - Side effects:
 - Insomnia, nervousness, hunger
 - Nausea: Take With Food
 - Long term use concern



Respiratory: Allergies

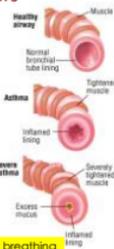
- Antihistamines
 - Cetirizine = Zyrtec OTC
 - Fexofenadine = Allegra OTC
 - Loratadine = Claritin OTC
 - Diphenhydramine = Benadryl
- Montelukast = Singular
- Nasal Corticosteroids
 - Fluticasone = Flonase
 - Mometasone = Nasonex
- Side Effects
 - Headache, bloody nose
 - Long term use caution



Dental Notes: Xerostomia

Respiratory: Asthma Inhalers

- "Rescue Inhalers"
 - Albuterol = Proventil HFA, Proair HFA, Ventolin HFA
 - Side effects:
 - Increased heart rate, "jittery" feeling
- "Maintenance Inhalers"
 - Fluticasone/Salmeterol = Advair Diskus
 - ipratropium/Albuterol = Combivent, DuoNeb
 - Budesonide/Formoterol = Symbicort
 - Tiotropium = Spirova Handihaler
 - <https://www.spiviva.com/>
- Side effects:
 - Headache
 - Oral Thrush (*Candida albicans*), voice changes



Dental Notes: Candida infection, Monitor breathing

CNS: Antipsychotic

- Quetiapine = Seroquel
- Risperidone = Risperdal
- Olanzapine = Zyprexa
- Aripiprazole = Abilify
 - Side effects: Significant xerostomia, agitation, insomnia, somnolence, weight gain
- Caution:
 - Do not stop abruptly



Dental Notes: Significant xerostomia

CNS: Anticonvulsant

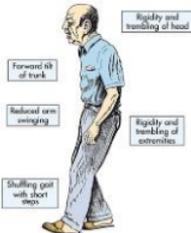
- Gabapentin = Neurontin
- Pregabalin = Lyrica
- Topiramate = Topamax
- Divalproex = Depakote
- Lamotrigine = Lamictal
- Levetiracetam = Keppra
- Phenytoin = Dilantin
 - Side Effects: Headache, sedation, dizziness, gingival hyperplasia



Dental Notes: Gingival Hyperplasia, used for trigeminal neuralgia, periodontal abscess and taste perversion.

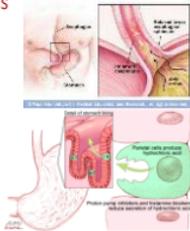
CNS: Jumble

- Alzheimer's/Dementia
 - Donepezil = Aricept
 - Memantine = Namenda
- Antiparkinsons
 - Ropinirole = Requip
 - <https://www.michaelfox.org/>
 - <http://www.youtube.com/user/MichaelFoxShow>
- Side effects: increase with dose escalation, diarrhea, somnolence
- ADHD
 - Amphetamine/Dextroamphetamine = Adderall



GI: Acid Reducers

- Proton Pump Inhibitors
 - Omeprazole = Prilosec OTC
 - Lansoprazole = Prevacid OTC
 - Pantoprazole = Protonix
 - Esomeprazole = Nexium
 - Rabeprazole = Aciphex
- H2 Receptor antagonists
 - Ranitidine = Zantac OTC
 - Famotidine = Pepcid OTC
- Side Effects
 - rare



Dental Notes: pH of oral cavity and chair position

CV: Beta Blockers

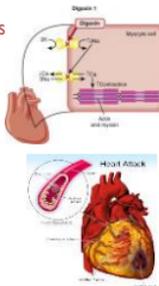
- Hypertension, Arrhythmias, Heart Failure, MI
 - Atenolol = Tenamin
 - Metoprolol = Toprol, Lopressor
 - Carvedilol = Coreg
 - Propranolol = Inderal LA
- Other indications: Performance anxiety, Raynaud's, migraine prophylaxis
- Side Effects:
 - Dizziness, orthostatic hypotension
 - Weakness, lack of energy



Dental Notes: Xerostomia, Monitor BP, and chair position.

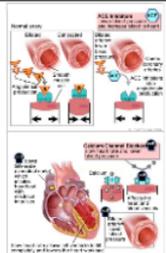
CV: "Heart-ache" drugs

- Digitalis: Heart Failure
 - Digoxin = Lanoxin, Digitek
 - Side effects: Dose dependent, nausea
- Nitrates: Angina
 - Isosorbide Mononitrate = Imdur
 - Nitroglycerin = Nitrostat, Nitroquick
 - Side effects: headache (tolerance)



CV: Hypertension

- ACE-inhibitors:
 - Lisinopril = Prinivil, Zestril
 - Lisinopril/HCTZ = Prinidap, Zestoretic
 - Benazepril = Lotensin
 - Ramipril = Altace
- Calcium Channel Blockers:
 - Amlodipine = Norvasc
 - Amlodipine/Benazepril = Lotrel
 - Diltiazem = Cardizem CD, Carlia
- Side effects:
 - Dizziness, Headache



Dental Notes: Monitor BP and chair position and gingival hyperplasia for CCBs & nifedipine

CV: Hypertension

Angiotensin Receptor Blockers (ARBs):

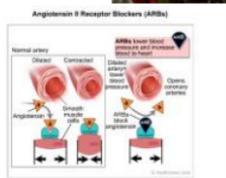
- **Losartan** = Cozaar
- **Irbesartan** = Avapro
- **Valsartan** = Diovan

Others:

- Clonidine = Catapres
- Doxazosin = Cardura

Side effects:

- Dizziness, Headache



Dental Notes: Monitor BP and chair position

CV: Diuretics

Furosemide = Lasix

Spirolactone = Aldactone

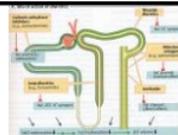
Hydrochlorothiazide = HCTZ, Microzide

Triamterene/HCTZ= Maxzide, Dyazide

PT may need Potassium Chloride = KDur, MicroK

Side effects:

- Nausea, photosensitivity
- Low blood pressure, dizziness



Dental Notes: Monitor BP and chair position and urgency