

Thank you all for your time, attention, and wonderful questions! If you have any more, please email me anytime at karima.ayesh.mil@health.mil and I can add new questions to this document.

If you couldn't tell, I LOVE what I do and will talk teeth all day if you let me!

What are advanced end glycation end products (AGEs)?

Proteins or lipids that become glycated after exposure to sugars that are circulating in the bloodstream, which is why they are prevalent in diabetes, atherosclerosis and periodontal disease. This is why elevated blood glucose is so detrimental; sugar creates AGEs, leading to inflammation of the arteries and throughout the body, disruption of the basement membrane, poor wound healing etc.

Do you have a reference for the recommendation for dental cleanings during pregnancy during all trimesters?

There are many references for managing the pregnant patient, however, dental cleanings are prescriptive, meaning that it will vary from patient to patient so there are no specific recommendations. Providers base their recommendations on the clinical examination. Patients that already have periodontal disease to start with, should have already been maintaining 3-4 month periodontal cleanings up until this point and should continue to maintain that frequency. Prior to pregnancy, a patient that usually has healthy gingiva and presents for cleanings every 6 months, may show evidence of pregnancy gingivitis, and require a preventative cleaning during each trimester. This is no different than non-pregnant patients; the interval for cleanings changes throughout a patient's life, based on their habits and systemic conditions etc.

<https://www.ada.org/en/resources/research/science-and-research-institute/oral-health-topics/pregnancy>

<https://americanpregnancy.org/healthy-pregnancy/is-it-safe/dental-work-and-pregnancy/>

Children who have yellow teeth...comment for cause?

Could be SO many reasons! Some of us just have naturally more yellow teeth. Teeth are not white at all; in fact, teeth derive their color from the red blood supply, yellow dentin and white enamel to form a cream to yellow to gray to brown shade. Skin tone plays a large part in how white the teeth appear; darker skin tones will appear to have whiter, brighter teeth, much like wearing lipstick will give the appearance of having whiter teeth.

Tetracycline use during pregnancy or early childhood can cause yellow to brown staining across the teeth uniformly. It is a purely cosmetic issue but can be devastating which is why we do not recommend any tetracycline use during these precarious stages of development.

Amelogenesis imperfecta/dentinogenesis imperfecta are genetic causes for weakened enamel or dentin, where the enamel fractures off, exposing the yellow dentin underneath or the dentin is weak and cannot support the enamel, respectively.

Childhood biliary atresia, Trisomy 21 or a calcium deficiency can cause yellow or discolored teeth.

Congenital syphilis can cause Hutchinson's or mulberry molars which can be yellow, discolored, and misshapen with small bumps on the teeth.

Does time of day to floss matter?

There is no time of day that is best, just the time of day that works best for the patient, where they are more likely to maintain a constant habit at the same time each day. The key is to floss at least every 24 hours in order to discourage plaque from turning into calculus.

Does the activated charcoal-infused toothpaste really work?

Not only does it not work, but it is also damaging to enamel. Charcoal, baking soda and whitening toothpastes are abrasive and if used daily over the years can lead to enamel abrasion, sensitivity, and yellow teeth due to the exposure of dentin, which is the layer of the teeth that feels pain. I only recommend toothpaste with the ADA seal of approval, the plainest OTC fluoridated toothpaste or prescription strength fluoride toothpaste from your dentist.

Thoughts on wisdom teeth? Reserve Chief Dentist makes DRC3, civ dentist disagrees that they need to be removed. Multiple patients

The American Association of Oral and Maxillofacial Surgeons (AAOMS) has written guidance on when to remove third molars:

https://www.aaoms.org/docs/govt_affairs/advocacy_white_papers/management_third_molar_white_paper.pdf

However, the civilian mission and the military mission are different, so how we treatment plan will also be different. Civilians usually have minimal issues accessing dental care if an emergent situation arises, so they can put off getting their third molars removed until they absolutely need to. Military members need to be deployable and often go to austere locations or ships, where dental care is limited or non-existent. Because of this, the military will recommend extraction of third molars if the benefits outweigh the risks, especially if there is a possibility for infection, which in dental terms translates to a life-threatening airway issue. Military members don't have the luxury to wait until an infection occurs to treat, because that infection could occur at the most inopportune moment. A simple dental infection can quickly progress to Ludwig angina, which is a progressive cellulitis that can escalate to an airway obstruction, or a cavernous sinus thrombosis, a rare blood clot that originates as a response from an infection of the head and/or neck. Both of these life-threatening conditions originate from a dental abscess. These conditions are complex and require an oral surgeon to surgically intervene as soon as possible. Trying to find an oral surgeon when time is of the essence is that last scenario I would ever want to encounter while I am deployed.

How detrimental is carbonation and to teeth?

Carbonated beverages are fizzy because of the carbonic acid, however, plenty of other beverages/foods are also acidic as well. Water additives like Crystal Light, wine, fruit, vinegar, seltzer water, and diet soda are acidic and often contain citric acid, phosphoric acid etc. These are exogenous sources of acid that contribute to enamel erosion and caries. Yes – diet soda causes cavities but in a different way than the full sugar counterparts, but I still recommend diet soda over regular soda (The artificial sweetener conversation is for another day, but some are better than others and certainly better than sugar in some

respects 😊). Of course, the best beverage for teeth is water, however, I like some variety in my life, so I do partake in all of those examples, but the key is mitigation. I do not recommend sipping on any of those beverages during the day; frequency and duration of acidic insults over time is what will break down the enamel. Instead, these acidic beverages or foods should be consumed with meals that include protein and fats to buffer the acidic pH. If I am thirsty and I am not eating, but I want to enjoy a carbonated beverage, I will do so, but follow up with a sip of water to neutralize the acid. I keep alcohol-free Fluoride mouthwash handy to rinse with throughout the day to combat the acid from the drinks and I wait 30 minutes to brush after meals, so as not to scrub the acid all over my teeth.

How often should patients taking Biphos meds for Osteoporosis undergo dental cleanings and checkups?

The American Dental Association recommends that all patients visit their dentist at least once per year, however, much like cleanings, exams are also prescriptive and tailored to the needs of each patient. When feasible, a dental exam or clearance is always recommended prior to bisphosphonate therapy or chemo/radiation treatment, in order to eradicate any sources of infection. It is especially important prior to starting bisphosphonate therapy because these drugs never completely leave the body, so the effects are lifelong, which is why the risk of osteonecrosis remains. This would indicate that any surgical procedures like dental implant, extraction of teeth, certain endodontic procedures, gum grafting etc, are best completed prior to starting bisphosphonate therapy. These patients should and can continue to maintain their original cleaning schedule as they normally would, but it is imperative that they understand that they must keep up very strict oral hygiene or risk an abscess, creating a potential need for a surgical procedure, where they risk their jaw not healing. Prevention is extremely important in this population.

You said to use mouthwash before brushing, correct?

That is my preference; I think it makes sense. There is no written documentation of the order of events, but in my professional experience, it is best to end with the product that has the highest concentration of Fluoride, which is usually the toothpaste, especially if prescription strength. That way, flossing immediately after delivers Fluoride in between the teeth and under the gums, where we need it the most. Think about showering and applying cream; if the goal is for the cream to absorb into the skin, then it has to come after the shower. Fluoride is no different because as soon as you rinse with anything, the toothpaste went down the drain, defeating the purpose.

Which floss is best?

Any string floss you like or is on sale 😊 Waxed, unwaxed, cinnamon etc, are all based on patient preference, but equally effective if used correctly. Floss picks are not as effective because they do not custom wrap around tooth curves, and they can only go so far in between the teeth because the plastic part limits how far the floss will reach.

Is whitening safe?

In-office whitening or custom-made whitening trays and whitening solution provided by a licensed, board-certified dentist is safe. I do not recommend seeking whitening services or any dental services if there is not a licensed, board-certified dentist on the premises. Whitening should ONLY occur following a full dental examination (which includes a complete medical history) in order to determine if a patient

is healthy enough to undergo whitening. Whitening should not be done in the presence of caries, infection, and other pathologies. Additionally, crowns, fillings and dentures will not whiten, so that has to be discussed with the patient before any whitening is started; the natural teeth may end up shades lighter than the restored teeth. OTC whitening strips that have the ADA seal of approval are safe as well, although the effect may not be as effective as prescription strength methods. As dentists, a thorough medical history is the most important information we need when treating our patients. Even the most seemingly inert materials can pose a threat to certain patients. A case that comes to mind is the case of a child that had a casein allergy, but the mother did not disclose that to the dentist because she thought it was inconsequential. This patient died because they were prescribed MI paste, a fluoride toothpaste with ReCaldent (casein phosphopeptide-amorphous calcium phosphate) that is excellent for most patients, except for those with a fatal casein allergy. The packaging does have two warning labels indicating the use of milk products, but it is always best to have these conversations with your dentist and share all information, whether it seems pertinent or not.

How does a waterpik not work for flossing?

Water spray does not remove plaque, especially in between teeth. The only tool that removes plaque in between the teeth is string floss and that is only when the correct technique is employed. Caries frequently start undetected in between the teeth and go unnoticed by the patient until dental radiographs are taken or they feel pain, which indicates progressive stages of disease. A water pik can be a good adjunct to an oral hygiene routine, but it is not a replacement for string floss. Water piks or water flossers are helpful for patients undergoing orthodontic treatment or those with dexterity issues, but there is no substitute for daily flossing and brushing after meals. If you keep the food off the teeth after each meal and disrupt the bacterial colonies with floss every 24 hours, then the bacteria have no substrates, their numbers dwindle, and their party is over. You WIN!!

Charcoal tooth paste...your comment/ good / or not good

ONE OF THE ABSOLUTE WORST TRENDS I HAVE SEEN without the use of evidence-based medicine to support. Not only does it not work, but it is also damaging to enamel. Charcoal, baking soda and whitening toothpastes are abrasive and if used daily over the years can lead to enamel abrasion, sensitivity, and yellow teeth due to the exposure of dentin, which is the layer of the teeth that feels pain. I only recommend toothpaste with the ADA seal of approval, the plainest OTC fluoridated toothpaste or prescription strength fluoride toothpaste from your dentist. Fortunately, charcoal did not make the ADA's cut!