

TTH4LYF Oral Health Program

Einstein once said “Make things as simple as possible, but not simpler.”

Well, for oral hygiene, I wish it were as simple as saying $E=MC^2$, but it's not. But it can be made fairly easy. In fact, when you get to the part below about Orchestra Dental Probiotics, you'll learn how you can even have 10 special microbes working for you -- even while you sleep – probably something Einstein would have appreciated.

Anyway, here's my daily method of oral hygiene, which is really Oral Fitness. But that's another story – or maybe even an online course if I get enough feedback from people interested in it.

Quick Background:

1. Your mouth plaque (biofilm) contains about 20 billion microbes composed of at least 700 to 1,000 different types of bacteria, fungi, and protozoa (plus innumerable viruses which we won't consider in this article). And these 20 billion plaque organisms produce about 100 billion into saliva per 24 hours every day! And of the 100 billion, you grow about 70 billion overnight!! Which is why you often awaken with morning breath.
2. These microbes are grouped as such:
 - a. Good (probiotics – provide health benefits, produce nutrients and metabolites good for gums, mucosa, teeth, throat, and kill bad germs)
 - b. Bad (pathobiotics/pathogens – causing tooth decay, gum disease, bad breath, sore throat, sinusitis, etc.)
 - c. Undetermined, transient, relatively harmless, and/or just passing through on their way to the lower gut.
3. Most microbial experts agree that if you can keep the ratio of the good (probiotics) plus the undetermined compared to the bad at 85% good and undetermined :15% bad, then you will generally be able to avoid disease. But when the ratio changes and you start having more than 15% bad microbes, you will start having trouble, and the more the bad microbes, the worse the trouble.
4. In the past, we tried to kill microbes because microbes were associated with disease: Polio, pneumonia, etc.
5. But now we know that it's not good to kill ALL germs indiscriminately, and that some germs are good, and the good germs help to keep the bad germs from going haywire and causing havoc.
6. Therefore, over the years I have switched from just willy nilly trying to destroy all “germs” (which is impossible anyway), to trying to control them and select for good “germs” (microbes).
7. So, here's how my family and I do our oral hygiene, which I actually call “Oral Fitness”:

Materials:



1. CloSYS toothpaste



2. CloSYS mouthrinse – largest bottle

- Get the largest bottle.
- CloSYS rinse comes with a tiny capsule of mint flavor to add if you like.
- Chlorine dioxide (Cl O₂) penetrates dental microbial biofilm (plaque) and kills many plaque organisms -- some good ones, but mostly anaerobes (bad bacteria).



3. Two small silicone medicament travel bottles (Bed Bath and Beyond, CVS...) These are so you can easily fill up your Sonicare AirFloss interdental irrigator – instead of spilling stuff all over the place.



4. Sonicare Flex Care electric toothbrush

- Dislodges dental plaque and microbes even in shallow gum pockets and somewhat between teeth if held correctly.

5. BreathRX tongue scraper



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- The tongue surface area is larger than the entire palate. Hundreds of millions of microbes live on the tongue. The tongue is a reservoir for bacteria. Therefore, tongue-scraping is essential for bacteria control, as well as for repopulation with probiotics.

6. Glide floss



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- No matter what you have read or heard recently about flossing being fairly useless, the reports are bogus and you should floss. If you could see all the crud that comes out from between people's teeth when we clean them at the dental office, you would definitely want to floss – and better yet – not just floss, but squish toothpaste between your teeth and floss it!

7. Sonicare Airfloss



- (or a Waterpik)

- If you absolutely cannot, will not, hate, don't, floss – then you still must do something to clean between your teeth. Consider interdental cleaning like using toilet paper! Imagine what the world would be like without toilet paper or some way to clean the crack! So get “cracking” and start interdental cleaning, whether with floss, or picks, or irrigators, or whatever – but do something to clean between – unless you like having crud between your teeth, and a dirty crack.
- Interdental cleaning is absolutely essential to oral health. Unless genetically gifted, whoever does not regularly clean interdentally might as well permanently forget about ever obtaining any semblance of good oral health. That's a fact.
- Glide floss – because it is Teflon and goes between teeth easier than any other floss and resists shredding and breaking.
- Sonicare Airfloss – because 80% of people don't floss, or don't floss right, or whatever. Besides, the Airfloss mixes air and water or mouthwash to blast bacteria, plaque and food from between teeth. Remember that gum disease bacteria are anaerobes. They hate oxygen. That is why they burrow like parasites under the gums. So, hitting these bastards every day with an oxygenated spray can make life miserable for them and reduce their growth.
- You can squirt the Closys mouth rinse into your Airfloss and blast that between your teeth as an irrigant.

8. Xylo-Sweet xylitol granules – 3 to 5 pound bag



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- Xylitol has a long and proven history of killing *Streptococcus mutans* (the main cavity bacterium) and other unfriendly oral microbes as well.
- Another benefit is that it can stimulate saliva formation for some people with reduced saliva flow.
- It seems that some beneficial bacteria can tolerate xylitol exposure more than many of the bad ones; therefore, regular, timed exposures throughout the day can eventually eradicate *S mutans* and select for more beneficial oral microbes.
- The problem is that you have to use at least a gram of it multiple times every day – like 7-10 times a day to be truly effective, which means morning, after snack, lunch, after snack, dinner, after snack, before bed.
- It has been shown that using 7-10 grams of xylitol every single day without fail for six months straight would eradicate *S mutans* for about 2 years and promote good oral bacteria.
- Until about the last 5 years, research on xylitol was performed without subjects taking additional probiotics. Yet, despite the subjects not taking any probiotics, merely using xylitol every day managed to allow good bacteria to gain a foothold against the stronger bad bacteria just by chance.

- So, imagine how much better and faster you could improve if you were to supplement your oral microbiota daily with known strains of specific beneficial organisms

9. Probiotics



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- Orchestra Dental Probiotics
 - Instead of waiting for some good bacteria to haphazardly take their time and grow, the idea is to forcibly repopulate the mouth several times daily with specific bacteria that are already proven to be beneficial. This is a relatively new subject and needs more research, but it is very promising, and I believe this is where much of preventive dental treatment will soon be heading. People are tired of hearing about communal water fluoridation and other toxins in our environment. Let's reduce these toxins and let the bugs duke it out among themselves.
 - The probiotics are simply live bacteria that you would eat when you eat yogurt with live cultures, sauerkraut, kimchi, buttermilk, kefir, certain cheeses, kombucha, etc., except that you don't need to eat all those foods, and get all the calories, and suffer gas, etc.



10. Xylitol chewing gum

- Chewing xylitol gum throughout the day will do the following:
 - Break up newly formed dental plaque
 - Stimulate saliva flow to neutralize dental plaque acids
 - Dislodge food particles
 - Coat the teeth in xylitol for about 15 minutes at a time
 - Helps achieve the 7-10 xylitol doses per day needed to begin destroying Strep mutans dental decay bacteria

Technique:

1. Fill one small silicone squirt bottle with Closys mouth rinse, and then set it aside for future use.
2. Spoon two teaspoons of Xylo-Sweet xylitol granules into the other silicone medicament squirt bottle and fill it the rest of the way with tap water, then set it aside for future use.
3. Put a small glob of Closys toothpaste into your mouth and squish and swish it around real well before brushing.
4. Use the Glide Floss to floss the toothpaste between your teeth and under your gums. Whoever does not floss daily or use some sort of device or method to clean between the teeth daily might as well permanently forget about having good oral health. That's a fact.
5. Spit out the excess and then put another glob of Closys toothpaste into your mouth and squish and swish that one around too.
6. Brush with Closys toothpaste first to remove as much dental plaque as possible before rinsing. This way, having already flossed and brushed, there will be less plaque for the Closys rinse to have to penetrate.
7. Rinse out the toothpaste foam with the Closys mouth rinse.
8. Squirt some Closys mouth rinse from the silicone squirt bottle into the Airfloss reservoir and irrigate your teeth and gums with the Airfloss. Remember – floss or irrigate daily the teeth you want to keep. Whoever does not do some sort of interdental cleaning every day might as well take every cent spent on dental care, toothpaste, etc. and flush it down the toilet.
9. Spit out the Closys mouth rinse and then squirt some Xylo-Sweet/water mix into your mouth and swish that around for a while – at least a minute or so. Try this while getting ready for work, shopping, bed, whatever.
10. Spit out the Xylo-Sweet/water
11. Use the tongue scraper to scrape your tongue at least 4 times – top, left, right, and then top again.
12. Wait 15 minutes if possible, then pop in an Orchestra Dental Probiotic tablet. For 2 and ½ hours after using probiotics do not eat, brush, or use any xylitol products or you will reduce the probiotic benefit.
13. For the first 30 days, use two probiotic tablets per 24 hours -- one probiotic tablet in the morning and one at night.
14. After 30 days, use one probiotic tablet per 24 hours -- preferably at night before bedtime, and let it work while sleeping.
15. During the day, carry xylitol gum with you always, everywhere, and chew it immediately after every meal, snack, drink, soda, gummy bear, coffee, or anything and everything you might eat. Consider the xylitol gum as the last bit of food with every other food you eat, drink, etc. If you do this at least 5 times per day for at least 6 months, PLUS all the other stuff listed above, you will pretty much eradicate many of the bad bacteria in your mouth, AND, you will have a good chance to avoid transmitting decay bacteria to your child/children and significant others.

Orchestra Dental Probiotics

- 30 tablets
- Mild mint flavor
- 3 **Billion** total bacteria
- Dose: one per day for the first month, then one every other day thereafter
- 10 types of bacteria

Lactobacillus reuteri

Targets the gums, reduces gingivitis, reduces caries, significantly lowers *S. mutans* counts, secretes reuterin and other bacteriocins, reduces inflammation by reducing pro-inflammatory cytokines, works similar to *L. acidophilus*, works also on gastrointestinal membranes, colonizes mouth, nasal cavity, pharynx, stomach, duodenum, adheres to host tissues, and has many other functions

Lactobacillus salivarius

Targets the gums, inhibits *Tannerella forsythia* (gum disease), inhibits *Porphyromonas gingivalis*, works in tandem with *Lactobacillus plantarum*, inhibits *S. mutans*, reduces caries, reduces strep throat, inhibits *Streptococcus pyogenes* (strep throat), reduces ulcerative colitis, inhibits *Candida*, inhibits *Salmonella*

Lactobacillus casei

Targets the gums and decay, inhibits *S. mutans* (dental caries), inhibits *S. sobrinus* (dental caries), reduces C-reactive protein, reduces Irritable Bowel Syndrome, reduces inflammation

Lactobacillus plantarum

Targets periodontal disease, works in tandem with *L. salivarius*, reduces Irritable Bowel Syndrome, reduces Interleukin 6 levels -- which may affect perio disease

Lactobacillus paracasei

Targets periodontal disease, binds to *Porphyromonas gingivalis* (gum disease) -- (by the way, *P. gingivalis* is rarely detected in people who do not have gum disease)

Lactobacillus acidophilus

Oral, vaginal, intestinal, Seems to reduce incidence of *Streptococcus mutans* (the major dental decay bacterium), controls *Candida albicans*, inhibits *E. coli*, inhibits *Helicobacter pylori* (stomach ulcers), inhibits *Salmonella* (food poisoning), inhibits *Shigella* (diarrhea), inhibits *Staphylococcus*, produces many antimicrobials and enzymes

Lactobacillus rhamnosus GG

Targets periodontal disease, reduces *Candida*, reduces caries, inhibits *S. mutans*, inhibits *S. sobrinus*, inhibits inflammation

Streptococcus thermophilus

Targets decay, enters biofilm on hydroxyapatite, interferes with *Strep sobrinus*, affects *Strep mutans*, reduces acute diarrhea rotavirus, reduces intestinal permeability, reduces *Helicobacter pylori* (stomach ulcers)

Streptococcus salivarius BLIS K-12

Freshens breath, reduces sinusitis, fights *Strep pyogenes* (strep throat), reduces ulcerative colitis, fights middle ear infections

Streptococcus salivarius BLIS M-18

Fights decay, breaks up dental plaque, releases urease, neutralizes plaque acids

Summary:

Our current lifestyle, diets, stress, antibiotics, toxins, food preservatives, processed foods, etc. can affect our microbiota (microbial inhabitants of our bodies) in such a way as to tip the delicate balance toward relatively unfriendly microbes than can survive harsh environments. It is estimated that if you have about 85% beneficial microbes overpopulating the bad ones, you will have improved health in your gut, mouth, respiratory tract, etc. However, for many of us, this 85%/15% ratio becomes distorted, and the result is disease.

By studying the microbiota of healthy people, we can determine many types of beneficial bacteria, just like when we discover pathogenic bacteria from sick people. Therefore, armed with knowledge of good bacteria (probiotics) we can purposefully try to repopulate our mouths, guts, etc. with good microbes.

Unfortunately, it turns out that many of the beneficial microbes are a bit sensitive. They have a hard time living in the stresses, diets, and other issues I listed above. And since the above-mentioned situations tend to select for hardier, and often, the harmful microbes, it is easier for many harmful microbes to carve out their niches and defend them vigilantly.

Thus, the beneficial bacteria need to continually be re-introduced until they can gain a decent foothold. And even then, they can eventually succumb after a while. So, it may be that, unless our lives change, our stresses dissipate, our diets revert to mostly salads, fruits, nuts, and fermented foods such as sauerkraut and kombucha, or whatever the hell we ate thousands of years ago when we had to hunt and forage and exercise, etc., then we will probably have to supplement with probiotics.

Another reason for probiotics for gum health is that at home, we cannot brush, nor floss, nor irrigate deeper than about 1.5 – 2.5 millimeters under the gums. So, the bad bugs in gum pockets of 4mm+ are relatively unaffected by whatever we do at home. Since home care is 95% or so of the battle, then we are failing unless we figure out a better way. Sure, I can inject Doxycycline or Minocycline antibiotics into the gum crevices, but these products last only 30 days at the most, and they cost \$65 per site of injection! Many times, it is money flushed down the drain. However, if you could repopulate your gums with beneficial gum bacteria that automatically crawl and swim and claw their way down into the pockets naturally, and then let the bacteria duke it out amongst themselves, and then keep re-populating, and keep hassling the bad bugs with the good ones, every day, then there is a very good chance you will see positive results. And if you keep it up, it should really help.

Since I have been studying probiotics, I have changed my diet a little, to include some fermented foods that already have beneficial bacteria living in them: live sauerkraut, kimchee, kombucha, yogurt with active cultures, certain cheeses, etc. Also, it turns out that we should eat more PRE-biotics – meaning, fiber and complex carbohydrates that the beneficial bacteria like to digest – which means lots of vegetables.

The result of studying probiotics is that I am eating healthier, not only for me, but for my bugs that inhabit me, and I can say that I have noticed a few percent better feeling when I actually do eat more of what I should eat.

Best regards,

Dr. Edwards