Taking Care of Your Teeth

Often overlooked in favor of sexier aspects of the body, the health of the mouth is one of the key pieces in the puzzle of creating radiant, lifelong wellness. Get this right and many other things naturally fall into place.

by Nadine Artemis
The Bone-Beauty Connection: Teeth and Oral Health

We have been taught to brush twice daily, floss, and visit the dentist to prevent tooth decay, yet the staggering number of cavities, crowns, root canals, and extracted teeth confirms that something is amiss. Although there are a plethora of periodontal promises ranging from fluoride floss to minty mouthwash, there is more dental decay now than in any previous century.

Wearily, we roam the drugstore dental aisles. Searching for solutions, we attain countless tubes of paste, we maintain the ingrained hygienist and dentist appointments, and we brush with daily diligence for decades. Even so, the possibility of periodontal disease percolates. Receding, bleeding gums are the norm. Unexpected cavities form, and millions of root canals are performed. The definition of insanity, doing the same thing and expecting different results, applies to our current state of dental care.

Our mouths are a microcosm mirroring the macrocosm of imbalances on our planet. Our dental dysbiosis reflects our lack of symbiosis in our relationships to our bodies, global food production, medicine, and the environment. On a microscopic level, everything that is going on in our mouth is going on in the world: enamel and topsoil erosion, systemic corrosion, crumbling bones, mold in our homes, triclosan in toothpaste, toxins dumped in haste, factory farms festering with fungi, pollutants in the sky, adverse effects of petroleum oil, glyphosates affecting our gums, guts, and soil; deforestation, fluoridation, pesticides, and antibiotics that mutate microbes, gum pockets that erode, chronic disease, mercury in our mouths and seas, environmental allergens, chaotic carcinogens, and invading pathogens. These things threaten the borders of our body and the boundaries of our planet.

Mastering the Mouth through Bacterial Balance

The mouth is the principal portal into our bodies. It interfaces, absorbs, and assimilates our world. The endocrine, immune, and digestive systems are intimately bound to the microbiome of our mouths. By understanding the human microbiome, we understand that our health depends on a thriving microbiome; and as human hosts to this bacterial banquet, the key to vitality in our bodies and mouths is bacterial balance.

What we now know is that many of the periodontal procedures and medicants of modern dentistry disrupt the beneficial bacteria of our gums and mutate our mouth’s microbes. Many of our oral-care practices suppress immunity. Instead, we need to reconcile with our bacterial community. We need to fluff our oral flora, and befriend our body’s bacteria. We need to abandon the products, practices, and antibiotics that are making our microbes mutate, mottling our teeth, and deforesting the flora of our oral ecology.

On top of this microbe mutation, the profession put in charge of our oral cavity is shrouded in subjective science. Dental diagnosis can vary vastly from dentist to dentist. To demonstrate this, a researcher for the Canadian Broadcasting Corporation, armed with a hidden camera and a dental assessment from the University of Toronto, visited twenty dentists. Her mouth only needed a cleaning and a crown replacement, but if she had followed the combined recommendations of the twenty dentists, then nearly every tooth in her mouth would have been treated, including multiple unnecessary root canals, veneers, fillings, and crowns.

Another journalist, with a trusted dentist’s confirmation that he only needed one crown on a molar, traveled across the United States for fifty dental examinations. All fifty dentists examined the same mouth and the same X-rays. Their estimates ranged from $700 to $19,000, and the treatment plans ranged from crowning one tooth to having all twenty-eight crowned, from gum surgery to veneers! The actual molar that needed a crown was missed by fifteen of the fifty dentists. When asked about the journalists’ findings, the American Dental Association was not surprised by the
inconsistencies, as they claim, “Dentistry is an art based on scientific knowledge.”

This journalistic research illustrates that there is money to be minted from our mouths, which may be fiscally influencing some dentists. Although dentistry conjures images of the exactness of an X-ray, sterile environments, white lab coats, and advanced scientific equipment, it is not an exclusively objective vocation.

Clearly, there are fifty shades of gray affecting our pearly whites. Fifty interpretations from one X-ray! While we let that information sink in, it is easy to feel exasperated and to roll our eyes at such inconsistency; or we can see this as a crack for the light to shine in.

We can master the map of our mouths. With leading-edge information from compassionate, pioneering dentists, we can now understand how our bodies are designed with a dentinal fluid that acts like an invisible toothbrush, repelling cavities and synthesizing new dentin from odontoblasts. We can see that our mouths can be incubators of infection and that we need to create a microbe-topia for the multitudes of microbes in our mouths.

This is the triple threat to our mouths: the harmful procedures, the lack of understanding about the tooth-nurturing dentinal fluid, and the periodontal scorched-earth policy on bacteria. This trifecta is the perfect periodontal storm that fosters endodontic entropy, dental decay, and a system that settles for Band-Aid solutions of bleaching, gum grafts, veneers, and fillings.

**Common Dental Procedures**

Now let’s look at some common dental procedures and weigh the pros and cons.

**Silver Fillings**

Silver-colored dental amalgams have been used to fill cavities for more than 150 years. They are made from a combination of silver, copper, tin, and mercury. These fillings are more economical and durable than other filling materials. The American Dental Associa-
tion recommends silver fillings for children who squirm in the dentist’s chair because they are easier to place than composite fillings.

Silver Fillings: Cons

- Dentists must drill away healthy bone to prepare the tooth for silver fillings.
- These eighteenth-century dental solutions are 50% mercury, one of the most toxic substances on the planet; yet even though this toxicity is scientific fact, mercury is implanted in multitudes of mouths in the form of fillings. Mercury is also a cumulative toxin that passes through the blood-brain and placental barriers. It tenaciously binds to tissue, altering DNA, nerves, cell membranes, and mitochondrial function. Mercury toxicity is linked to dementia, multiple sclerosis, Parkinson’s, and other degenerative disorders. Mercury is also linked to periodontal disease, receding gums, and skin hyperpigmentation. The U.S. Environmental Protection Agency (EPA) claims that the highest body burden of chronic mercury toxicity comes from silver fillings. In addition, when mercury fillings are removed, even though there is not a metallurgic change to the mercury, the EPA considers it toxic waste, and fillings must be handled with a strict no-touch protocol to protect dentists and the environment from mercury poisoning. The FDA states, “A person with four fillings has enough mercury to make a 20-acre lake unfit for fishing.” Yet, somehow, it is still okay for our mouths and tongues to touch it daily, and it is still not universally banned in dentistry.

- Both old and new mercury fillings release vapors twenty-four hours a day, with a 500% increase when chewing, teeth grinding, and drinking hot fluids. According to the Journal of Dental Research, gum chewing increases mercury-vapor release considerably!

Other Filling Options

- Costly porcelain fillings are not 100% pure porcelain; they contain carcinogenic nickel and aluminum too. Most white composite fillings contain bisphenol A (BPA), formaldehyde, and aluminum. The best current filling choices are zirconium-oxide fillings, ceramic resins, and non-drilling techniques.

- Because all filling materials are foreign to the immune system, it is a best practice for dentists to do a biocompatibility blood-serum test. Ideally, preventing cavities is optimal! (We’ll go into that soon.)

Wisdom Teeth

This third set of molars generally develops in the late teens and early twenties. These teeth are considered best to be removed as prophylactic prevention to avoid impacted teeth, and partially erupted wisdom teeth may be hard to clean or may affect neighboring teeth.

Wisdom-Teeth Removal: Cons

- A report published in the American Journal of Public Health deemed that 6.7 million out of 10 million preventive wisdom-tooth extractions are unnecessary.

- The British National Health Service has stated that the practice of prophylactic removal of pathology-free impacted wisdom teeth should be discontinued. There is insufficient evidence that impacted wisdom teeth cause problems, and the expense and risks of the surgery are not justified.

- We may need the wisdom of these teeth later in life for chewing surfaces; additionally, extraction alters the structure of
the neck, jaw, and mouth.

> But that’s not all. Multiple pathologi-
cal bacteria are often found in the jaw on
wisdom-tooth extraction sites. This is be-
cause it is standard protocol to leave the
periodontal ligament in after extraction.
Simply put, this causes a sluggish area in
the bone marrow where virulent bacteria
gather and eat away at the jawbone.

> These jaw cavitations are a hidden conse-
quence of wisdom-teeth extractions, as
most of the time there are no visible symp-
toms. When a jaw cavitation shows up on
an X-ray, the bone has already eroded by
50%. These areas in the jaw are medica-
larly referred to as osteonecrotic lesions. Dr.
Hal Huggins’s research institute revealed
that these jaw-cavitation sites are sanc-
tuaries for serious pathogens that can
lead to an array of autoimmune diseases.

Biological dentists can check for cavita-
tions by making a small incision in the gum of
the extraction site and examining for mushy
pockets in the jawbone. If there is decay, a
simple procedure can clear it up: the site is
opened, the decay is scraped off the bone,
bacteria are thoroughly removed, blood flow
to the area is reestablished, and the site is
treated with ozone. If you do need a tooth
extracted, including a wisdom tooth, be sure
to work with a dentist who will also be sure
to remove the periodontal ligament as part of
the protocol.

> Through the dedicated research of dentists
Weston Price and Ralph R. Steinman, we now
know that proper nutrition is the key to keep-
ing wisdom teeth. When enough nutrients
are supplied to the jawbone during pregnan-
cy and childhood, all thirty-two teeth have
enough space in the mouth without crowd-
ing.

**Root Canals**

A root canal is a procedure for infected teeth
that kills the tooth by removing its internal
structure, including the nerves, pulp tissue,
and blood vessels. The hollowed-out tooth is
rinsed, filled with latex and cement, and then
topped with a crown. The purpose of a root
canal is to hermetically seal the tooth and
save the chewing surface.

**Root Canal: Cons**

Theoretically, a root canal seems like a good
idea, but, clinically, it is a bacterial horror
story. A dead tooth remains in the mouth as
an incubator of infection, a bacterial breeding
ground, and a necrotic nest for pathogens to
grow and spread. This oxygen-starved stag-
nant tooth becomes a haven for harmful mi-
crobes. The whole goal of a root canal is to have
a non-infected, sterile tooth; but the exact
opposite is created. Each tooth contains three
miles of microscopic dentin tubules that are
impossible to sterilize! With the blood vessels
removed, neither antibiotics nor white blood
cells can reach the location to fight infection.
Every time a root-canaled tooth is used to
chew, bacterial toxins are squirted into the
bloodstream. These toxins that flow from
the anaerobic infection silently spread to the
gums, ligaments, and jawbone. Because the
nerve tissue is removed in the procedure,
there will be no pain indicating infection. In
an interesting correlation, physician Josef
Issels in forty years of treating cancer found
that 98% of his patients had root canals. He
insists that his patients remove root-canaled
teeth before starting treatment.

Dr. Stuart Nunnally, a highly respected
and pioneering biological dentist, conduct-
ed independent tests on root-canaled teeth.
To qualify, the teeth had to be symptom-free
and show zero signs of pathology on an
X-ray. One hundred percent of these root-
canaled teeth, upon surface inspection and
in X-rays, were textbook-perfect root canals
yet lab tests revealed that the teeth harbored
severe toxic pathogens. While this type of in-
formation has not permeated into every den-
tal practice, and with the knowledge comes
some ethical decisions for dentists about how
to approach diseased teeth, thankfully there
is vibrant discussion in endodontics journals
about the impossibility of sterility in root-ca-
nal-treated teeth.

If you have a root canal and this informa-
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It takes a special quality of mind to be schooled in certain methods yet hold the capacity to question these methods and to forge ahead to find new terrains of thought and scientific solutions. Fortunately, some dentists do, and there are new frontiers in dentistry that can help us all rectify the damage of previous decades of dental procedures. Some biological dentists are pioneering the way with the use of platelet-rich plasma (PRP) therapy that stimulates growth factors, and ozone injections and gels to clean infections and infuse surgical sites with a "breath of fresh air." These dentists are also leading the way with more biocompatible material choices. Dentists that are leading the field with these innovations will be among the first to integrate successful stem-cell therapy for tooth regeneration, which will be a reality in the very near future.

Fluoride’s Effect on Bones and Skin
If you suffer from cavities, then fluoride toothpaste and treatments might be right for you. Possible side effects may include bleeding gums, skeletal fluorosis, sclerosis, dementia diagnosis, pitted and crumbled teeth, impaired myelin sheath, acne, arthritis, gingivitis, bone-crippling disease, joint pain in

“Contrary to marketing madness, tooth decay is not caused by fluoride deficiency.”
your knees, thyroid disease, hip fractures, hyperactivity, damaged sperm motility, increased infertility, disrupted collagen synthesis, gastritis, suppressed immune system, impaired glucose metabolism, skin rashes, damaged bone formation, cell mutation, nausea, tooth discoloration, frequent urination, poisoning, DNA alteration, and reduced IQ. Go ahead and ask your dentist if fluoride is right for you.

Although we have been told and sold on fluoride in tap water and in dental products to strengthen bones, it actually makes bones brittle and stiffens skin by impeding collagen production. “Contrary to marketing madness, tooth decay is not caused by fluoride deficiency! The United States’ EPA has fluoride on its ‘substantial evidence of neurotoxicity’ list. Fluoride appears to interfere with critical bodily chemistry, damaging gums, disrupting collagen production, and reducing enzyme activity. Fluoride accumulates in the body, especially in the pineal gland, lowers IQ, forms deposits in the brain related to Alzheimer’s, promotes early-onset puberty, and the list goes on and on.”

With all of these documented side effects, maybe fluoride isn’t the answer. To truly grasp how cavities form, we need to understand how teeth are nourished and cleansed from the inside by a dentinal-lymph fluid.

Mottled, fragile, disintegrating, tainted teeth are the dental devastation from not understanding that our teeth are alive and intimately connected to the body, bloodstream, and lymph. It is through this systemic connection that some medications and chemicals, such as antibiotics and fluoride, contribute to brittle, discolored, and even crumbling teeth, by suppressing the dentinal-lymph system. This affects bone mineralization, nerve health, microbial diversity, saliva pH, and endocrine function.

The Invisible Toothbrush

Teeth are fed from their roots by the dentinal-lymph system, like tree roots drawing up nutrients via the sap. Teeth are fed from their roots by the dentinal-lymph system, like tree roots drawing up nutrients via the sap. The dentinal-lymph flow is a toroidal system: Lymph-liquid spins inward and upward into the tooth’s core, the pulp chamber. It flows through the tooth and out onto the enamel. Like microscopic sweat, these tiny droplets coalesce on the surface of the enamel, forming a fluid layer that prevents biofilm formation and commingles with saliva to lubricate and communicate with the mouth’s microbiome.

Operating much like the lymph system, there is a microscopic flow of fluid in the teeth that originates near the intestinal area and flows upward and outward through the teeth, flushing out toxins, providing nutrients for the teeth’s mineral matrix, and repelling microbial biofilm on the tooth surfaces, preventing tooth decay and gum disease. When this dentinal-lymph secretion is properly metabolized and functional, it acts like an invisible toothbrush, preventing systemic decay, inhibiting the penetration of pathogens, and neutralizing acids on the tooth’s surface. However, this dentinal-lymph flow can stagnate and even fully reverse. Diet and hormones are the principal activators of this self-cleansing system. Certain chemicals and medication, as well as a diet of processed food, sugar, and carbohydrates that spikes insulin levels and disharmonizes hormones, cause the dentinal-lymph system to reverse. When this happens, the capillaries in the tooth suck in bacteria, like a straw, and other microbes from the mouth into the tooth, causing infection and biofilm formation within the pulp chamber and dentin tubules. This self-contaminating system causes a “leaky tooth,” and it is the genesis of cavity creation.

A cavity is an infection in the tooth. Like all wounds, it has the ability to heal. Teeth are alive! The current condition of your teeth and mouth can evolve. Dr. Ralph R. Steinman, the same dentist who scientifically proved the existence of the dentinal-lymph system, showed that including dietary magnesium and phosphorus reduced the decay rate by 86%. Dr. Melvin Page confirmed this by finding that when phosphorus blood levels drop below 3.5, cavities begin to form. Additionally, the former president of the ADA, Dr. Weston Price, concluded that fat-soluble vitamins K2 and D3 reversed and inhibited decay. Fillings are Band-Aid solutions and are
susceptible to recurrent decay. Yet, when the underlying causes of cavities are addressed and the dentinal-lymph flow is restored, teeth will remineralize and be more resilient to cavities in the future.

The Mouth’s Microbial Menagerie

There are more bacteria in a kiss than there are people on the planet. Our mouths are a microbial menagerie. As holobiont human hosts to these microbes, we have forged an elaborate evolutionary and ancient alliance. A good host provides a stable, loving home and nourishing food for their flora friends. In return, these microbes micromanage our bodies by digesting food and secreting beneficial biochemicals. They are also sentient sentinels that strengthen our immunity while preventing pathogenic periodontal party-crashers from proliferating and from excreting endotoxins and colonizing the community.

The key to oral health is maintaining an ecologically balanced and diverse microbiome.

Just as toxic food and chemical irritants induce leaky guts by microscopically perforating the intestines, the scrubbing and rubbing of our gums with mutating medicants and caustic chemicals cause leaky gums. Bacteria from our mouth does not normally enter our bloodstream, but dental procedures and products can perforate the epithelium, the skin in our mouths, which is only one cell thick, providing a port of entry into the bloodstream. When the bacteria and plaque that cause tooth decay and gum disease enter our circulatory system, they cause a cascade of inflammation, releasing cytokines and C-reactive proteins.

A healthy mouth is a healthy gut and vice versa. We have gone from a seemingly Golden Age of Antibiotics to a very real Anarchy of Antibiotic Resistance. On average, a baby receives three courses of antibiotics in the first two years of life. By age ten, another eight courses. By age twenty, seventeen courses, and by age forty, thirty courses in total!

Antibiotic exposure is everywhere, in drinking water and in non-organic supermarket food. All antibiotics have their allowable limits in the food and water supply. Antibiotics are indiscriminate assassins. Any surviving resistant bacteria mutate fast and bask in the empty niches the antibiotics made. Soon pathogenic biofilms bloom, and we no longer have protection from infection. It is important to save antibiotic use for life-threatening crises rather than ingesting them in daily doses that erode our immunity.

Our bodies will always contain a population of pathogens; the beautiful balance is to have the good bacteria far outnumber the bad. For example, even healthy mouths are homes to the cavity-causing Streptococcus mutans. Some research is positing that what might make S. mutans virulent is that it’s missing its ancestral bacterial buddies. This particular pathogen only causes a problem when it forms a biofilm and adheres to the tooth’s surface. Normally, pathogens exist in a free-floating planktonic state in our body’s ecosystem. But when they grow in numbers, they are able to gain traction by communicating through quorum sensing, enabling them to colonize into a biofilm. Quorum sensing is the way in which pathogens communicate to coordinate group behavior and regulate gene expression. A biofilm is a densely packed colony of microbes that adhere to surfaces
and surround themselves with sticky secretions. A mucopolysaccharide plaque layer is produced around the biofilm colony, which forms a barrier that is not permeable to antibiotics, yet antibiotics are often prescribed for oral disease.

Dental plaque is a biofilm that can either entrap existing oral pathogens from flourishing or provide a refuge for pathogens to hide from alkalinizing salivary flow. Under healthy conditions, an oral-ecological balance of bacteria keeps biofilms healthy and stable. But plaque is an ideal nest for germs. This blocks the teeth from respiration and prevents the saliva and dentinal-lymph fluid from doing its job of cleansing the teeth with a protective coating.

To restore balance to the mouth’s microbiome, we need strategies to inhibit the quorum sensing that forms biofilms. We need to clear colonized citadels of their powerful cohesion on our mouth’s surfaces and crevices. There is extensive research on strategies that inhibit quorum sensing. In various studies, essential oils such as cinnamon, peppermint, tea tree, frankincense, and clove showed promising results in reducing quorum-sensing activity. In one study, clove oil reduced quorum sensing by up to 70%! These essential oils indicate anti-infective activity that can coexist with our flora while cleaning up periodontal pathogens. Now we have scientific studies confirming the ancient wisdom of using botanical-biotics to maintain oral ecology.

**Elevate Oral Ecology: Stop, Seal, and Seed**

1. **Stop**

Start by ceasing many of the daily and dietary habits that are compromising to healthy oral ecology. Whatever improvements you make to your mouth will benefit your body’s well-being as well.

Stop **dentinal-lymph suppressors** of processed food, sugar, and chemicals that inhibit endocrine function.
Stop spikes in blood sugar that create insulin resistance. Ideally, maintain blood sugar around 80.

Stop mouth breathing by assessing medications, food allergies and sensitivities, sinuses, and cranial balance. Chronic mouth breathing in children deeply affects the way in which the shape of their face grows. Myofunctional orofacial therapy is a revolutionary way to reeducate the habitual patterns of the oral and facial muscles and can help with teeth grinding, sleep apnea, headaches, and other health issues.

Heal and seal leaky guts by eliminating gluten, corn, and glyphosate irritants.

Stop phytic acid consumption. Phytic acid is an antinutrient that plunders phosphorus stores in the body. Soak and ferment gluten-free grains, legumes, and nuts to reduce this antinutrient.

Remove mercury fillings. These silver fillings irritate gums and guts, cause gum recession, feed virulent pathogens, and more. Be sure to see a qualified biological dentist who follows the removal procedures of the Hal Huggins Institute for your safety and the dentist’s.

Stop the microbe mutators of excessive antibiotics, glyphosates, surfactants, and fluoride toothpastes.

Stop using synthetic dental-care products from the “May Be Harmful if Swallowed” category. Our gums and teeth are living tissue, and we want to approach cleaning them a little differently than we would scrub a countertop. If toothpaste is the magic cleaner for our teeth, then why are cavities at an all-time high, and why does toothpaste come with a big warning label: “May Be Harmful if Swallowed”?

Most toothpastes and rinses, including many of the brands sold in health food stores, use chemical and synthetic ingredients that are more appropriate for industrial purposes than for cleaning the delicate tissue of the body or cultivating oral health. Brushing with these chemicals may be harmful to our health. Absorbing through the mouth’s mucous membrane into the bloodstream, these synthetic substances may lead to decomposing collagen, hinder hormones, damage the delicate epithelium, activate acne, disturb microflora in the digestive tract, and, in the end, encourage poor health.

Some toothpastes, rinses, and mouthwashes are better than others. To help you make a wise decision about what you brush into your mouth (and apply to your body), there are oral-care formulas in my book Renegade Beauty.

Commercial toothpaste gives an illusion of a fresh and clean mouth, yet it is the art of oral care, diet, and diligent brushing that actually removes the plaque. It is best to be a purist about oral health and diligently care with a toothbrush and a dab of salt or baking soda and a pure botanical serum. These simple, time-tested ingredients help prevent dental caries due to their buffering capacity, bacteriostatic nature, and alkalinity promoters that inhibit plaque formation and balance the mouth’s microbiome. They also increase calcium uptake to the enamel, neutralize the pH in the mouth, reduce the effect of harmful metabolic acids, and they are quite safe to swallow!

Hopefully, no one is gulping gobs of toothpaste! However, the rate of absorption is very high inside the mouth, where the moist tissue of the skin wall, the epithelium, is only one cell thick. This is very important if one has bleeding gums (and some of the surfactants in commercial toothpaste can cause gums to bleed, break down the phospholipids of our tongue and gums, and aggravate cankers) where anything in the mouth will have direct access to the bloodstream. We would not want to put anything in, on, or around the body that could not be swallowed. We can also maintain our molars with the molecular matter of phytonutrients; brushing with botanicals such as neem, cardamom, clove, peppermint, and mastic provides antibacterial and antifungal support while benefiting

Our gums and teeth are living tissue, and we want to approach cleaning them a little differently than we would scrub a countertop.
2. Seal and Heal

Bleeding, inflamed, and receding gums are signifiers of bacterial imbalance and that bacteria may be entering the bloodstream. Restore integrity to the oral epithelium by healing and sealing leaky gums and enabling the saliva’s ability to protect enamel.

Gum sealers are soothing serums with vulnerary botanical-biotics—seabuckthorn, rose otto, frankincense, and myrrh—diluted in a lipid such as coconut or MCT oil, as well as using ozonated oral gels. These botanical-biotics are rich in phytonutrients known for their ability to heal tissue, restore skin cells, foster phospholipids, and nurture the epithelium. When these soothing serums are applied, people often find a reduction in gum bleeding overnight.

Oral alkalinizers of baking soda, sea salt, and magnesium are soothing in mouth rinses and effective as toothpastes due to their al-kalinizing-exfoliating action that removes plaque. Their nutrients also switch on saliva’s soothing and soothing abilities. Saliva contains chemicals and enzymes that exist solely to take care of the teeth. Healthy teeth exist in a sea of saliva, a sea of saline alkalinity. If saliva is too acidic, it dissolves the enamel on your teeth and creates an environment that supports bacteria. With decay, saliva jumps into action to coat the tooth with its beautiful healing fluid. The quality and quantity of saliva also hinge on hydration, so drink up!

Mouth swishers of coconut or MCT oil imbued with essential oils work well for pulling and then spitting out. Or swish the oral environment with probiotics; simply pop a capsule in water with an oral alkalinizer and swish a freshly cleaned mouth and then swallow.

Whiteness comes from within! Tooth enamel is actually transparent, and gray, glassy teeth denote a deficiency in the body of vitamins D3 and K2. These fat-soluble vitamins nourish the dentin, creating shiny, white teeth.

Polish off plaque that can get stained by food pigments with one-half teaspoon of 3% food-grade hydrogen peroxide mixed with a teaspoon of baking soda on a dry electric toothbrush.

Quorum-sensing inhibitors are your beneficial bacteria’s best friends. Erudite essential oils of rose otto, thyme, peppermint, cardamom, frankincense, tea tree, clove, and cinnamon can be used in diluted forms to brush teeth, as a rinse with oil or water, and in tooth serums to massage into the gums. Get really clean in between each tooth by sliding these serums across dental floss and upgrade your flossing routine.

Botanical-biotics are aromatic compounds of essential oils act as bacteriostatic microbiome regenerators, and biofilm disruptors. Neem, cardamom, tea tree, frankincense, rose otto, myrrh, and clove are just a few of the intelligent essences that tidy up bacterial activity rather than indiscriminately bombing all bacteria. They effectively reduce biofilm formation, specifically biofilms formed by S. mutans. Cinnamon has shown the ability to penetrate pathogenic biofilms.

Healing and scaling the guts with diet, herbs, and probiotics are also essential to optimal oral care. There is a relationship between the mouth and the metabolism of the rest of the body. Our teeth are connected to every organ and gland via the bloodstream. Any infection that the mouth harbors, any metals, and any toxins in our mouths affect our overall health.

3. Feed with Seeds

With so many agents in our society making our microbes extinct, from antibiotics to pesticide-laden processed foods, we need to build our oral bacterial bank account and fund it with investments of diverse flora.

Prebiotics and Probiotics. Maintain an oral microbiome of bustling bacteria with prebiotics and probiotics, as they are microbe multipliers. Prebiotics feed and enhance the growth of probiotics. Chicory root, avail-
able as an easy-to-use powder, is a prebiotic rich in oligosaccharides. Probiotics are food supplements with living microbes that are beneficial when used in adequate numbers. *Lactobacilli* (specifically *L. fermentum*, *L. plantarum*, *L. casei*, *L. reuteri*, and *L. rhamnosus*) and *Bifidobacterium* all showed the ability to adhere to saliva, inhibit the proliferation of periodontal pathogens, and reduce cavity-causeing bacteria and plaque.

A probiotic-dairy combination was found to reduce the cavity- and periodontal-disease-causing bacteria in the mouth. Providing *Lactobacillus reuteri* to children from the last trimester through the first birthday has been found to reduce cavities at nine years old. It can also help heal damaged gums and gingivitis.

Researchers are looking for modes of delivery that increase retention and exposure times of probiotics to the mouth using lozenges. Yet we don’t have to wait. Daily use in the diet along with swishing, seeding, and applying increase probiotic presence in saliva, dentinal lymph, and the entire GI tract. Successful experiments at some dental practices have applied a mixture of probiotics after scaling and root planning called guided pocket recolonization. This can be safely and simply carried out at home with a blunt-tipped syringe, filled with a mix of probiotics and a carrier oil, like MCT.

**Seeding a Dental Diet.** Switch on saliva and dentinal-lymph flow with wholesome sustenance, fermented foods, and balanced blood sugar. Healthy fats are where it’s at, as a deficiency in the vital fat-soluble vitamins K2 and D3 can alter gut bacteria. K2 is a carboxylating osteocalcin, meaning it ushers key minerals like calcium and magnesium into the bones from the blood, preventing calcification of the soft tissues and inhibiting mouth plaque from turning into tartar. Certain enzymes, serratia proteolytic enzymes for example, can clean up plaque like Pac-Man and break down biofilm barriers.

Further boost the health of the oral environment with supportive vitamins and minerals of CoQ10, N-acetylcyteine (NAC), magnesium, phosphorus, amino acids, and vitamin C. Find superfoods, herbs, and supplements that have these nutrients, and flourish with food fares of smoothies, soups, and brews.

Our bodies are brilliantly designed. When we repopulate our mouth’s microbiome and activate our invisible toothbrush by eliminating what hinders the innate functioning of our bodies, the external maintenance of brushing and flossing is so easy, because our teeth are alive and will respond to our efforts! The current condition of our mouth can evolve, as enamel can be restored, dentine can be reactivated, saliva can remineralize, and gums can be rejuvenated.

A mouthful of bustling bacteria just might keep the dentist away.

“Switch on saliva and dentinal-lymph flow with wholesome sustenance, fermented foods, and balanced blood sugar.”

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