Welcome to your exclusive 3-chapter free preview—the first step on a restorative path toward genuine dental wellness and lasting toothache relief, crafted entirely around powerful, natural methods free from pharmaceuticals and artificial chemicals.

Inside these initial chapters, you will discover a liberating truth: for almost every invasive dental procedure, a gentle, natural alternative exists. Often, reclaiming your mouth's natural harmony takes nothing more than a targeted shift in nutrition—sometimes for only a brief window of time. Once that vital biological balance is restored, costly and painful procedures become completely unnecessary.

Consider this 3-chapter preview your introductory guide to reclaiming control over your oral health. This entire project was created to gather the finest, time-tested natural remedies into one accessible reference. As you explore these first three chapters, share this preview with your friends, family, and coworkers. When more people learn how to naturally keep their teeth strong, healthy, and pain-free, we lift a massive burden from the ones we love—sparing them unnecessary suffering, financial strain, and lost time.

Dive into these foundational chapters, experience the power of non-invasive care, and discover just how complete and transformative the full guide will be for your lifelong dental freedom.

Scott Rauvers

2026 Edition.
The Self-Healing Guide for the Relief and Repair of Toothache with Remineralization Protocols

The Official Guide to Homemade Dental Medicine, Enamel Restoration and Natural Alternatives to Root Canals

Scott Rauvers

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This book is dedicated to those seeking alternatives to the DIC (Dentistry Industrial Complex), especially those seeking to avoid unnecessary root canals

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TRADITIONAL WISDOM
FOR ORAL HEALTH

Introduction

I am the founder of The Institute for Solar Studies on Behavior and Human Health, an organization devoted to the gentler road — noninvasive methods of healing that spare people the scalpel where the scalpel is not truly needed. My original work on this manuscript was released almost a decade ago. It gathered the tried and proven herbal traditions that ease an aching tooth and soothe gums that are sore, receding, or inflamed. Woven through it are my own experiences, and those of the many thousands who have written to me over the past decade, and of how these gentle methods have changed the way many of my readers care for their mouths. It has proved a**n extremely valuable** lifeline for readers who live far from a clinic, travel where none exists, or simply want fewer visits and better reasons for the ones they keep.

Almost a decade in the making, you are holding one of the most thorough books on at-home dental health ever assembled.

Welcome to the 2026 edition! This book has been revised multiple times since it was first penned in December 7, 2018. Since that time multiple revisions of this book were printed under the following titles:

- Avoid Root Canals. 101 Homeopathic Nutrition Remedies to Stop Tooth Cavities: Gentle Non-Invasive Methods for Healing Cavities and Creating Strong Healthy Teeth
- Avoid Root Canals. 101 Homeopathic Nutrition Remedies to Stop Tooth Cavities. Fifth Edition: Explore the latest scientific studies on tooth remineralization and time tested holistic remedies for teeth
- 2021 Edition. The Complete Guide to Natural Toothache Remedies and Remineralization.: Fire your Dentist!!!! Learn about the best natural herbal remedies to prevent and treat tooth decay.
- The Complete Guide to Natural Toothache Remedies and Re-mineralization. Fifth Edition: Discover the latest studies on tooth remineralization and time tested natural remedies

- 2021 Revised Edition. The Complete Guide to Natural Toothache Remedies and Re-mineralization: The best book you'll ever find on how to naturally heal cavities and avoid root canals

- Homemade Medicine Remedies for Toothache Relief and Cavity Prevention: The Official Guidebook for Alleviating and Preventing Toothache and Root Canal Pain

My Personal Journey

For fifteen years my own mouth has been quiet — no emergencies, no drilling, no dread in the waiting room. What changed was not luck. It was what I ate, what I stopped eating, and what I learned to do every single morning.

In these pages I share not only the practices that carried me through those years, but the very best of what the research now shows: how early decay can be reversed, how enamel remineralizes when you give it the right natural ingredients, how inflamed gums quiet down, and — best of all — how to build a mouth in which cavities struggle to form in the first place. Every claim carries its citation.

A word I owe you, honestly: prevention is powerful, but it is not the whole of medicine. Some things — a tooth that throbs through the night, a swelling in the jaw or face, a fever alongside dental pain, a lesion that has already broken through the enamel — are signals to be seen by a professional promptly, not managed alone. Knowing the difference is part of the wisdom this book is trying to give you. The goal was never to never see a dentist. The goal is to identify what can cause an expensive unnecessary visit to a dentist.

A Word before We Begin

Before a single page turns, let me say the thing that matters most. Thank you. You have taken the bold step into the quiet company of people who are rewriting what natural dentistry can be, and that company grew stronger the moment you opened this cover.

This book drew its first breath in Portland, Oregon, almost a decade ago. Since then it has been torn down to the studs and rebuilt again and again,

each revision fed by new published research as the science of natural oral care came of age. It belongs to every person who has ever suspected that what sits on their fork matters more to their teeth than anyone ever bothered to tell them.

Its purpose is single and unwavering: to hand you back your confidence. To let you stand at your own bathroom mirror and know — not hope, not wish, but know — that the small daily choices you make are quietly shaping the health of your mouth.

Use what follows in this rare book to strengthen enamel before decay can take root. To calm gums that bleed at the touch of a brush. To feed your teeth the minerals they were built from. To restore the hormonal balance that underwrites all of it. And to live your life with confidence knowing you have the keys to your own dental health rather than being a passenger in someone else's decision.

Take Back Your Smile

How many times have you sat in that chair, chin tipped back, nodding along to a verdict some quiet part of you knew was incomplete? How many times have you wondered whether there was another road — slower, kinder, closer to the earth — that nobody in the room was going to mention?

For centuries, the great healing traditions — Ayurvedic, European, and Traditional Chinese herbalism — have carried the keys to a confident smile. Modern science has quietly cut its own set of the same keys, and left them scattered across obscure journals and forgotten corners of the Scientific Literature. Two worlds, both right, neither speaking to the other. This book is where they finally meet.

Almost a Decade in the Making
What you hold is the distillation of years of research, writing, and relentless revisions — shaped not in a vacuum but in constant conversation with a living community of readers who asked hard questions and refused easy answers. A vision to bridge ancient wisdom and modern evidence has become something you can hold in two hands.

Inside these pages, you will discover:

- **Global Herbal Wisdom:** time-tested rinses and remedies drawn from Ayurveda, the old European apothecary, and Traditional Chinese Medicine.

- **Targeted Protocols:** practical, evidence-informed routines to ease toothache, calm inflamed gums, avoid root canals when possible, and halt early decay while it is still reversible.

- **True Independence:** the understanding you need to step out of passive obedience and into informed choice — asking better questions, weighing your options, and deciding what happens to your own body.

Built on Unshakable Ground
Real empowerment cannot rest on trust alone. Unlike wellness books that ask you to simply believe, every strategy in this rare guide is anchored to published scientific literature — nearly seven hundred references in all.

You do not have to take my word for anything. You can look it up. You can weigh it. You can argue with it. That is precisely the point: the science belongs to you now, and so does the judgment.

Regenerating New Dentin
Many people, especially those in the established dental community have thought for decades that the regeneration of Dentin was impossible. However in this book I clearly outline why this is false and show the scientifically peer reviewed published studies of how the regeneration of Dentin is not only possible, but can be done using only natural methods.

Why the Holistic Approach Changes Everything

What happens in your mouth does not stay in your mouth. Consider one sobering finding: pregnant women with severe periodontitis face up to a fourfold increase in the likelihood of preterm delivery, a connection underscored by research published in Nature (Lee et al., 2022). Your gums are not a separate country. They are a border crossing into the rest of you.

This book cuts through the noise to offer a reference you will want to hand down — from your hands to your children's, and theirs. By braiding together the three great pillars of global healing — Ayurvedic, Traditional Chinese, and European — alongside the pioneering nutritional work of Dr. Weston Price and Dr. Melvin Page, it delivers methods that have been tested by time with many methods and formulas supported by the laboratory.

You will learn how sound digestion and adequate stomach acid shape the oral environment in which plaque either thrives or struggles. You will learn simple, quick routines that help enamel take minerals back in — the window in which decay can still be turned around, before it hardens into something only a drill can address.

Best of all, some of the oldest remedies are already in your kitchen. The clean, numbing hush of clove oil on an aching tooth. A properly diluted hydrogen peroxide rinse — food-grade 3% cut with an equal part of water, swished briefly and spat, never swallowed and never used at full strength — for a mouth that needs help resetting its bacterial balance. And as your mouth steadies, something else follows: steadier energy, easier digestion, a hormonal calm that reaches well past your jawline.

Further Reading

Dental caries: a treatable infection. Springfield: Charles C Thomas Publisher. Loesche WJ. 1982.

Antibacterial effect of taurolidine (2%) on established dental plaque biofilm. Arweiler NB, Auschill TM, Sculean A. Clin Oral Investig. 2012;16(2):499–504.

Why These Methods Stay in the Margins

To a highly credentialed eye, much of this looks unorthodox — homespun, a little messy, faintly embarrassing. And yet the further medicine advances, the more consistently it arrives back at the same doorstep: nature supplies the core ingredients of healing, and always has.

FAST FACT
Healthy teeth and gums reduce one's chance of contracting pneumonia [6].

Let me be plain about my respect. Dentistry is a genuine craft, and the people who practice it are extraordinary at what they do. Faced with acute pain, infection, or structural damage, they solve problems no herb on earth can touch. I want you to have them.

Where I part ways is the long horizon. Prevention through diet — the specific foods that starve decay, the minerals that rebuild what is fraying — occupies remarkably little space in dental training, and so it occupies remarkably little space in the average appointment. What goes unsaid to the practitioner goes unsaid to the patient. The silence compounds, year over year, one filling at a time.

I prefer the holistic route where it is genuinely sufficient

And here is a detail worth sitting with: the foods and herbs that build sound teeth tend to be the same ones that show up in the research on inflammation, aging, and cancer prevention. Maltitol, studied for its role in remineralization, has also appeared in longevity work — one fruit fly experiment recorded 100 percent survival at eighteen days on a maltitol diet [7]. Longevity nutrition rarely makes anyone rich, which may explain how quietly it travels.

Recalcification of early decay is no longer a fantasy. It is documented, it is repeatable, and awareness of it is spreading — carried along by people who have grown tired of spending resources, and health, and planet, on problems that never had to get that far.

If you are a naturopathic dentist, you have come across the book of a lifetime. You are holding a distillation of years of research, clinical review, and continuous refinement—shaped in dialogue with an engaged community of integrative practitioners and informed patients who refused to accept standard endodontic defaults as the only path forward. This guide bridges time-tested biological traditions with modern dental science, delivering a comprehensive blueprint for natural tooth repair.

Clinical Insights & Protocols Inside

Integrative Pharmacognosy: Time-tested botanical remedies, targeted rinses, and natural antimicrobial agents drawn from Ayurveda, Western herbalism, and Traditional Chinese Medicine.

Conservative Protocols: Evidence-informed workflows to manage acute discomfort, calm inflamed periodontium, arrest early enamel decay while still reversible, and support vital pulp preservation to avoid root canals whenever safe and clinically feasible.

Shared Decision-Making: Practical strategies to shift patient dynamics from passive compliance to true informed consent—empowering your patients to evaluate options, ask deeper questions, and take active ownership of their oral health.

Anchored in Peer-Reviewed Science

True biological dentistry requires rigorous evidence, not blind trust. Unlike general wellness guides that rely on anecdotal claims, every strategy in this manual is grounded in published literature, supported by nearly seven hundred scientific citations. You can interrogate the data, review the biochemical pathways, and adapt these protocols to your practice with complete clinical confidence. The research is in your hands—ready to support your work at the chairside.

Welcome to the New World of Green Dentistry

Decades ago, Dr. Weston Price watched cavities arrest and reverse in people whose diets he had changed. He documented it faithfully. He could not fully explain it — the mechanism simply was not known yet.

It is now. Since 2019, researchers have steadily uncovered the biology behind what Price observed, and this great book gathers those studies into one place: how early decay reverses, how it is prevented, how the whole cascade that ends in a root canal can often be interrupted far upstream. The references are all here, translated out of journal language and into plain speech.

A great deal has moved in just the last three years, including promising work toward a caries vaccine. In these pages you will meet many plant extracts and compounds that serve the teeth and gums well.

One principle above all: every substance behaves according to dose. The same extract acts differently depending on your state of health, your diet, and whether the material is fresh or long past its prime or if the stem or flower delivers the best results. Potency varies enormously between sources, so more is not better and less is not weaker — it depends entirely on what you are holding.

So begin gently. Try an extract as a mouth rinse over a handful of days, pay close attention to how your mouth answers, and settle at the amount that feels right to you. As a rule: the more potent the substance, the less you need, and the shorter the stretch of time you should use it. Your body will tell you. Learn to listen — that skill, more than any single remedy in this book, is what you originally came here for.

> Pregnant women with severe periodontitis are estimated to be between 1.5 to over 4 times more likely to experience preterm delivery (*Ya-Ling Lee et al. Feb 2022. Nature*),

Let's first begin with what many people, including you the reader, may have in their mouth, Mercury.

How Mercury Damages the Body

There are many people who have concerns about having mercury used as a part of their fillings. The mercury used in dental fillings is composed of dental amalgam.

What is Dental Amalgam?

Dental amalgam is composed of a 50/50 mixture of liquid mercury which is mixed with a powdered metal alloy of silver, copper and tin. When it is mixed, it starts to form a pliable putty-like substance that will eventually harden. In December 2010, the U.S. Food and Drug Administration warned against the use of using amalgam in vulnerable populations (the very old, very young and the pregnant). Pediatric Neurologist Dr. Suresh Kotagal testified at the FDA hearing "there is no place for mercury in children." [(1)]

Developed Countries that have Banned the Use of Mercury Fillings

The European Union recently passed a resolution for all nations under the European Union to "start restricting or prohibiting the use of amalgams as dental fillings." [(2)] [(3)] In 1987 the Public Health Office of Germany recommended against using amalgam in pregnant women, children and people with kidney disease.

On July 1st, 1995 Sweden ceased allowing amalgam to be used in patients under the age of twenty and banned it altogether in 1997. In

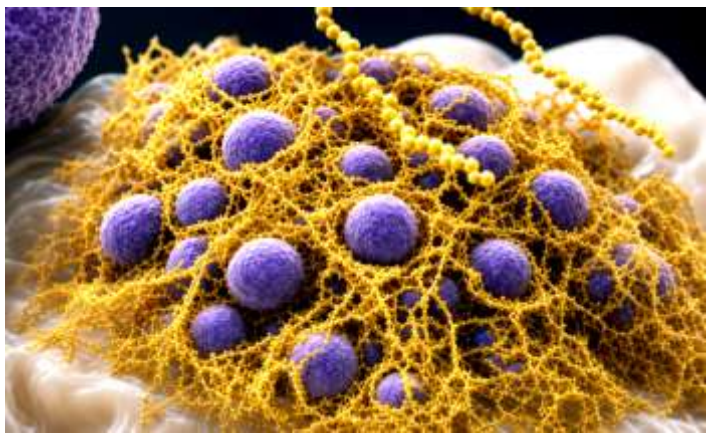
1996, the Canadian Department of Health directed its dentists to cease using amalgam fillings altogether in children, pregnant women and people with impaired kidney function [(4)]. Early exposure to even low doses of mercury in women who are pregnant and breastfeeding have shown it causes an increased risk in having children with a lower intelligence [(5)]. This is because amalgam crosses the placenta and accumulates in unborn babies.

When You, the Reader Should See the Dentist

A continuing toothache is the sign of something much more serious. So you should get to a dentist as soon as possible. However before you do, use the tips and techniques shown in Chapter 19 titled "Actions to Take Immediately if you Have a Toothache" on Page 223 or "Traditional Chinese Medicine Methods to Take if you Have Toothache" on Page 241 and you may just save a trip to the dentist. Pay particular attention to the section on abscesses as there are some great methods to help immediately reduce the pain from them.

A Brief History of Modern Dentistry

The first dentist was Hesy-Re from ancient Egypt. The time period between 1650 and 1800 saw French Physician, Pierre Fauchard emerge as "The Father of Modern Dentistry". Further efforts by Chapin Harris and Horace Hayden in 1840 saw the establishment of the very first dental school in Maryland USA named The Baltimore College of Dental Surgery [(8)].

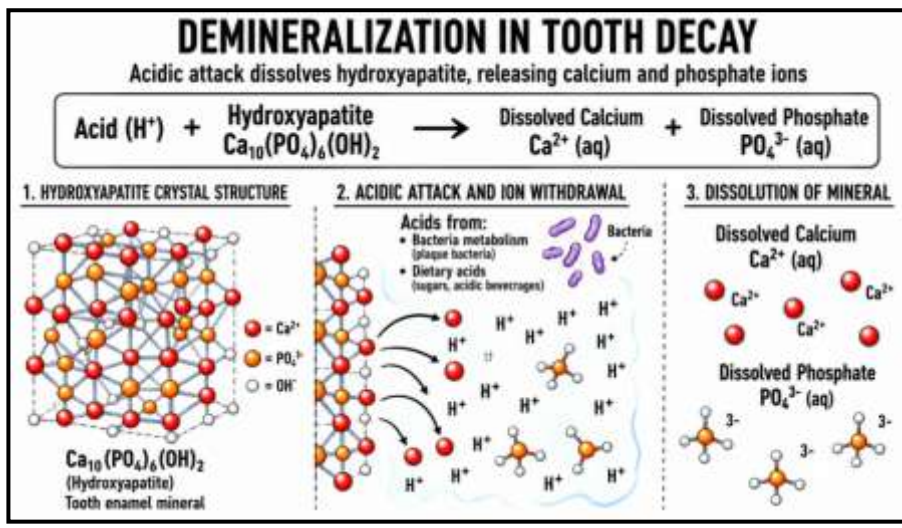


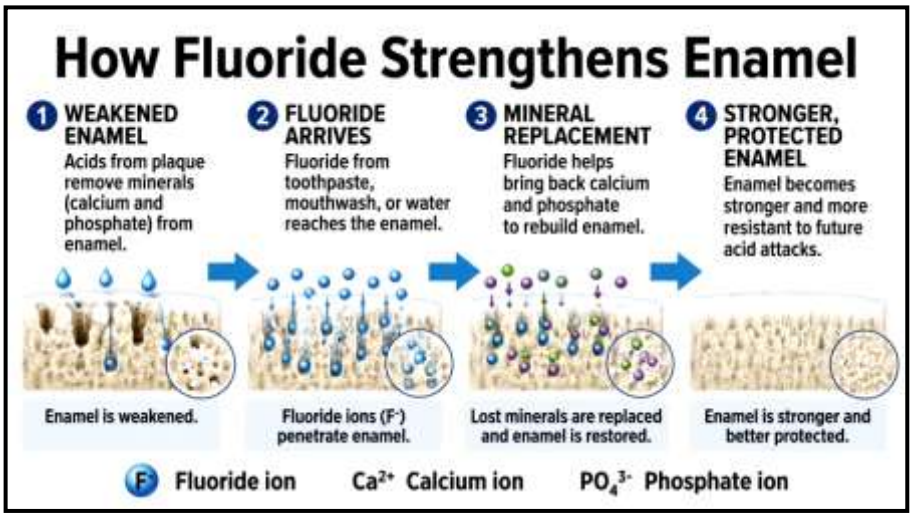
What Exactly Causes Cavities?

Unlike common mainstream belief, a lack of brushing teeth and sugar rich diets DO NOT CAUSE cavities. I know this from over 15 years of personal experience from eating pounds of chocolate and not brushing for weeks. In fact, the main culprit that causes cavities is diet. Cavities, commonly called caries in the dental profession, are caused by cariogenic bacteria such as Streptococcus mutans and Staphylococcus aureus (pictured in the previous image). These bacteria convert dietary sugars into acids that rapidly dissolve the minerals our teeth. Killing these types of cariogenic bacteria is the most effective way to prevent tooth decay.

How Streptococcus mutans rots your teeth

Streptococcus mutans (S. mutans) is a Gram-positive bacterium that thrives in low-oxygen environments and is a major cause of dental decay. It produces lactic acid by fermenting carbohydrates, significantly lowering the mouth's pH and contributing to tooth decay. S. mutans also produces glucosyltransferase enzymes that help form a glucan layer on teeth, promoting adhesion and the development of a toxic biofilm. As this biofilm expands, the bacteria consume sugars, creating an acidic environment that leads to tooth demineralization and reductions in calcium, inorganic phosphorus, and fluoride, ultimately resulting in cavities.





A Remineralization Paste with a 95% success rate

Research has shown that fluoride is effective in preventing cavities between 22% and 29% of the time. However, this is changing with Credentis, a Switzerland-based organization, who has introduced a brush-on treatment for teeth that is used for treating cavities. The product is called Curodont Repair. In 2013 it secured a license for its peptide technology. The method utilizes self-organizing peptides (SAP) to create natural non-invasive biomimetic mineralization. The peptides are applied in a brush like fashion in a water-based solution on teeth, penetrating early cavities and creating an organic matrix that assists in naturally mineralizing calcium and phosphate that already exist in a person's saliva.

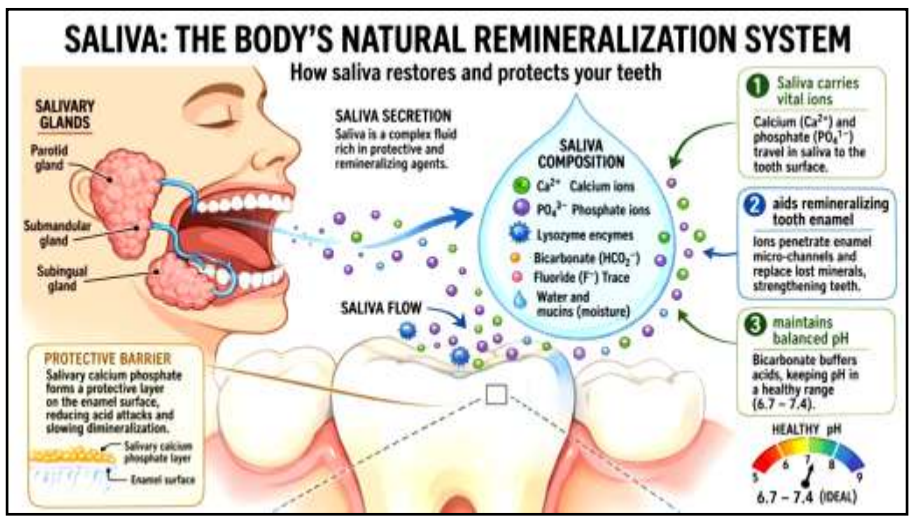
A clinical evaluation revealed that three out of four cavities were stabilized or remineralized using this technique. According to Preston Center Pediatric Dentistry, Curodont boasts a 95% success rate and is 13 times more effective than fluoride varnish alone, making it a top choice for caries treatment [(9)].

In another research study, Chinese scientists combined S. mutans with proteins in order to create a vaccine that wards off bacteria responsible for cavities. The vaccine is similar in principle to developing a flu shot. Tests conducted on mice found that mice without cavities exhibited a 64.2% prevention rate in cavities. Mice with cavities exhibited an astounding 53.9% healing rate. The vaccine needs to be tested in

humans to test for inflammatory responses, particularly in the liver, kidney, cardiovascular system and lungs [10].

At the heart of the science behind cavity vaccines lies a targeted approach against Streptococcus mutans, the primary bacterium responsible for converting dietary sugars into enamel-destroying acid. By stimulating the production of salivary antibodies, these vaccines work to effectively block bacterial accumulation on the teeth. Modern advancements leverage innovative protein designs, such as the flagellin fusion KFD2-rPAc, to significantly boost immunological protection while minimizing adverse side effects. Nevertheless, rigorous safety and human testing protocols remain paramount; preclinical evaluations demand thorough systemic checks to rule out adverse reactions in vital organs like the kidneys, liver, and lungs, alongside strict monitoring of autoimmunity risks to prevent any potential cross-reactivity with human cardiac and tissue proteins. Later on in this book you can find the latest information about cavity vaccine research.

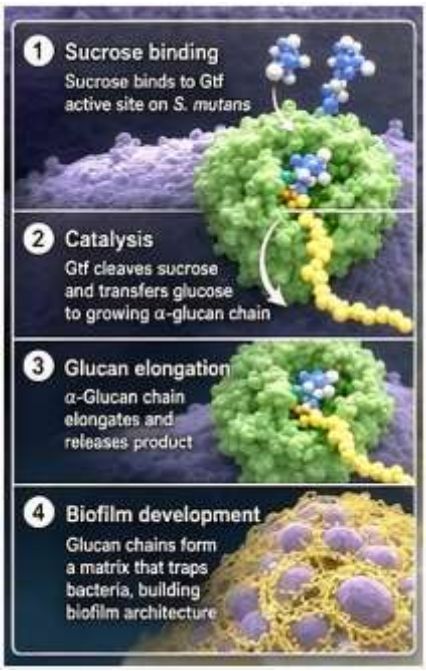
Now let's explore the process how diet and remineralization are key factors for preventing cavities.



Chapter 1

An Overview of Oral Health and Diet

How Cavities Begin forming in your Teeth

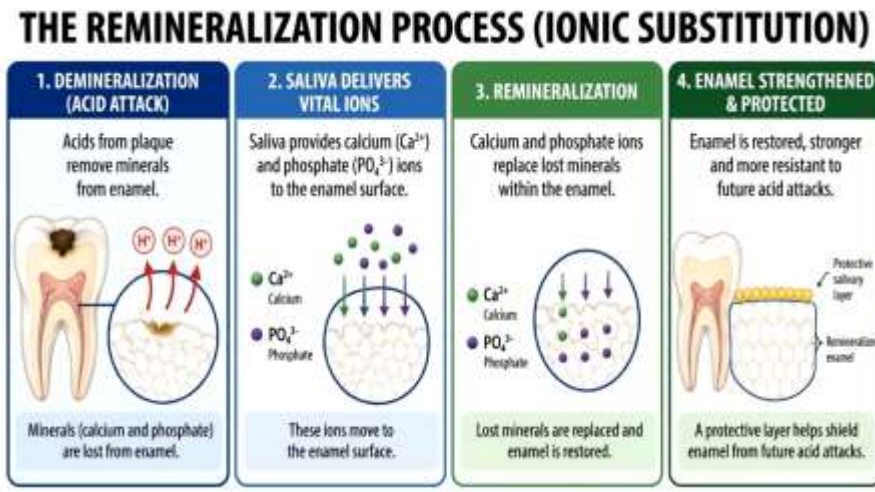


Dental caries result from a loss of enamel minerals exceeding their ability to replenish. This takes place when the bad bacteria overwhelm the good bacteria and when the bacteria in your dental plaque that metabolizes sugars, especially sucrose, begins producing acids that lower your saliva's pH levels. When your mouth's saliva pH drops below 5.5, tooth enamel demineralization begins taking place. The bad bacteria feed on sucrose, glucose, fructose, lactose, and maltose, with sucrose being the most harmful.

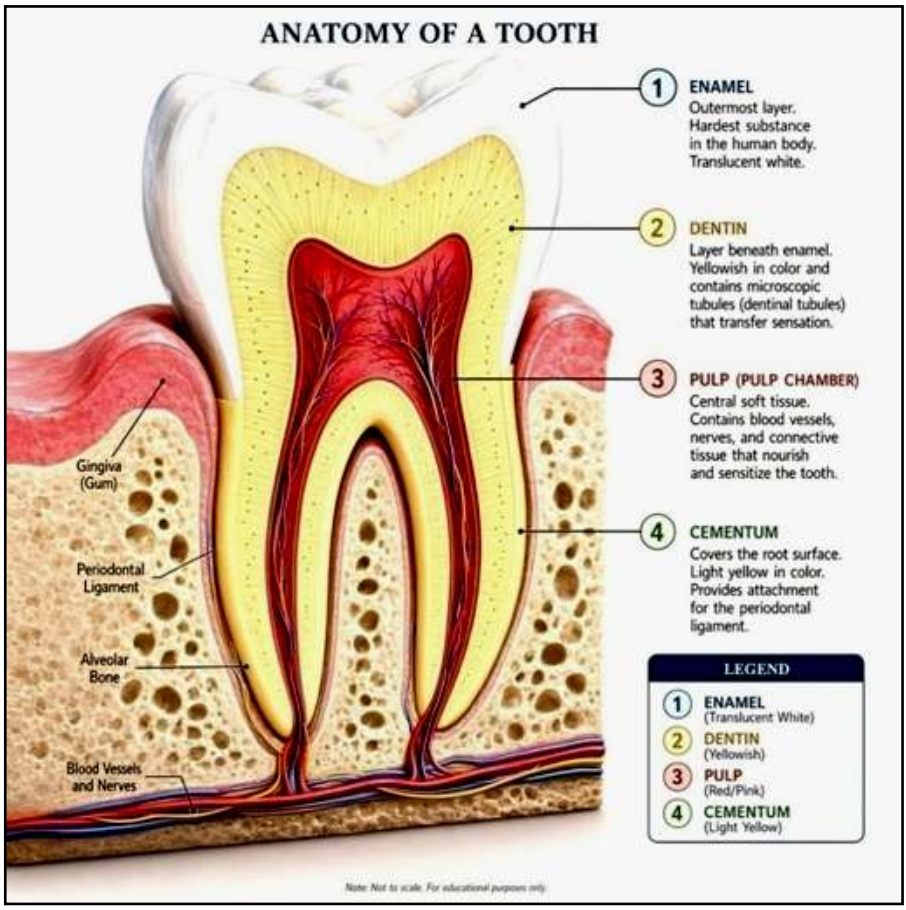
It is important to differentiate between the good natural sugars, found in whole foods, which have a minimal impact on caries due to their protective components, and added sugars, which are present in most processed foods found in the supermarket. These are linked to numerous health problems, such as dental caries as well as numerous chronic diseases. Starchy foods, while generally less cariogenic, can also contribute to caries risk, especially when they come in foods combined with sugars. The stickiness of the food also influences the risk of caries; foods that adhere to teeth, such as white bread, increase this risk significantly. As I show later in this book, when the weather becomes more damp, people are more likely to experience a toothache. Certain weather conditions also

affect the stickiness of certain foods. Weather conditions, particularly humidity and temperature, play a significant role in the stickiness of food. High humidity increases stickiness by promoting moisture absorption, and rising warmer temperatures significantly enhance this effect, especially in sugary or fatty foods. Additionally, lower air pressure can influence stickiness during baking, allowing items to rise more easily.

How does Organic Tooth Remineralization work?



Natural organic tooth remineralization is happening all the time in your teeth by the process of restoring minerals in tooth enamel and dentine, primarily using calcium and phosphate from saliva, along with external mineral sources such as hydroxyapatite. This takes place when saliva and small minerals form deposits in small spaces within the teeth. The process of remineralization is a natural way to repair teeth by restoring minerals through an ionic process to the crystal lattice of hydroxyapatite in teeth. This process happens at a near-neutral pH level in saliva where calcium and phosphate minerals are redeposited in the cavities, leading to the formation of new hydroxyapatite crystals.



Nano-hydroxyapatite is one effective method for preventing cavities, as it is a major component of our tooth enamel and helps with tooth remineralization. There are no reported side effects in the research studies when it was used to remineralize teeth. Remineralization can also happen by forming apatite crystals within the demineralized collagen fibers of teeth. However, excess apatite has been linked to Arthritis.

There is now even Nano-hydroxyapatite toothpaste available. Multiple in-vitro and clinical studies demonstrate that nano-hydroxyapatite (nano-HAP) remineralises early carious lesions comparably to fluoride by directly replenishing calcium and phosphate in demineralised enamel. It also occludes dentinal tubules, reducing sensitivity. (Tschoppe et al. 2011).

Nano-hydroxyapatite assists in:

- **Cavity prevention**: Remineralises enamel; fills micro-porosities created by acid attack. (Tschoppe et al. 2011)

- **Toothache relief**: Tubule occlusion reduces dentinal hypersensitivity; comparable efficacy to 5,000 ppm fluoride in sensitivity reduction. (Vano et al. 2014)

Various studies have demonstrated that certain materials can stimulate the growth of hydroxyapatite, which constitutes about 92% of tooth enamel. The remineralization process involves mainly calcium and phosphate from the saliva. Remineralization can also occur via externally sourced minerals such as hydroxyapatite. Hydroxyapatite in its microcrystalline form, is a source of calcium that is better absorbed than other types of calcium supplements and because of this is being used to prevent Osteoporosis [(11)]. New remineralizing products, such as toothpaste with synthetic hydroxyapatite crystals, effectively support tooth remineralization by taking advantage of the crystals' structural properties. Additionally, calcium from snakehead fish bones can contribute to hydroxyapatite formation, further aiding the remineralization process. Hydroxyapatite is found naturally in Red Algae. Because the natural microscopic pore structure of Red Algae closely mimics human bone, red algae species like Phymatolithon calcareum contain between 75% and 85% calcium carbonate.

Top Nutrients & Foods for tooth Remineralization
Sea Moss / Irish Moss (Chondrus crispus)
Sea moss is exceptionally high in bioavailable trace minerals including calcium, magnesium, phosphorus, and iodine. In Caribbean and Irish folk traditions it has been used for mineral repletion, including support of dental and bone tissues. (MacArtain et al. 2007). Sea Moss provides extremely highly bioavailable calcium and phosphate that underpin enamel remineralisation. (MacArtain et al. 2007). Also because it contains Iodine, it has mild antiseptic properties; also assisting with mineral repletion. (Rupérez 2002).

Why an Alkaline pH leads to better Oral Health

Osteoblast activity is crucial for the mineralization process of bones and teeth. Higher pH levels, or alkaline conditions, support the proliferation and activity of osteoblasts, with research indicating optimal results at a pH of approximately 7.4–7.8, or even higher (up to 8.5), depending on the specific situation, although excessive alkaline conditions in the body over the long term are to the heart and result in a reduction of potassium.

A saliva pH of around 7.0 is the best pH for healthy teeth (Nina Novozhilova. Apr 2023). Alkaline environments trigger various essential processes in bone cells, such as increased collagen synthesis and mineralization [(12)]. Enhanced short-term alkalinity can be achieved either by keeping the saliva pH alkaline or by eating meals that help the body become more alkaline. Drinking spring water will also help make the body temporarily alkaline and using a baking soda mouth rinse or an alkaline toothpaste will increase saliva pH. Research has shown that alkaline toothpastes were extremely effective in treating gingivitis after use for 4 weeks [(13)].

Rosemary

I firmly believe that one of the main reasons I have not had to visit a dentist in over a decade is due to a few facts I want to share with you. First off I would always get toothaches whenever I ate white bread, excessive amount of white Pasta or white Rice. I was able to remedy this by coating pasta before eating with a lot of flax seed oil. I have since eliminated white bread from my diet and eat rice no more than 2 days in a row every 5 days. Also I consume Rosemary at least twice a week in my diet and eat sugar free yogurt with cinnamon at least 4 times a week.

Rosemary is one of the best herbs for tooth remineralization. I use rosemary when sprouting plant proteins to soften them up, such as lintels by adding a pinch of rosemary powder to the water and allowing them to soak for 8 hours; then rinse and cook the lintels. Rosemary slows down the digestion of proteins, allowing the body to absorb more plant protein. Studies have shown that rosemary greatly assists in the process of tooth remineralization by enhancing the hardness of enamel [(14)].

A research study found that a combination of ginger, honey, and rosemary effectively enhanced the remineralization process of teeth that had cavities [(15)]. Other research has shown that the herbs Ashwaganda, Ginger or Maca exhibit tooth remineralization comparable to standard

household toothpaste. The findings indicated that Maca, Ashwagandha, and Ginger had the highest release of calcium, phosphorus, and fluoride ions, respectively. PH results showed that the Ginger extract had the most alkaline pH, while the Ashwagandha extract had the most acidic pH. Morphological analysis suggested that Ashwagandha had a lower ability for remineralization compared to the other groups tested. Maca had a significantly higher Ca/P ratio compared to the other groups ($p < 0.001$), and Ginger showed a significantly higher recovery in surface microhardness compared to Ashwagandha ($p < 0.001$) [16].

Aloe Vera

Other studies found that mixing Aloe Vera with common household toothpaste results in a synergistic effect, aiding tooth remineralization [17].

Proline

Proline, an amino acid, is involved in tooth remineralization due to its ability to help bind calcium and phosphate onto tooth enamel, thereby strengthening it. Proline also repeats in proteins in tooth enamel to enhance its strength and durability by influencing the growth of enamel crystals. The sea algae Spirulina is a significant source of Proline, with a nutritional analysis showing 27 mg/g of proline. Proline is also abundant in Bone Broth, which is also a significant source of collagen. However, when choosing Bone Broth, be sure to choose a source that is free of pesticides and heavy metals as these accumulate easily in the bone from where the Bones for the Bone Broth come from.

Marine collagen

A combination of Marine collagen and grape seed extract have been found effective for tooth remineralization by enhancing tooth microhardness [18]. Marine collagen, obtained from marine creatures such as fish skin, scales, and bones, is a health supplement that is abundant in Type 1 collagen. It is commonly used in supplements to improve skin condition, enhance flexibility, diminish fine lines, and strengthen hair and nails.

Bone Meal

Bone meal contains calcium hydroxyapatite, which helps remineralize teeth, promote bone health by assisting in the repair and maintenance of

bone density [19]. Hydroxyapatite is more effectively absorbed than calcium. Bone meal is another that comes from young cows that are usually grass-fed. However, it is key to make sure that it is free of pesticides and heavy metals before you consume it.

Ozone therapy with hydroxyapatite gel

Remineralization Ozone therapy is noted for its significant remineralizing properties and its effectiveness in treating early cavities due to its bactericidal function. It enhances the penetration of remineralizing agents by dilating dentinal tubules. However, when ozone is combined with hydroxyapatite gel, it yields significantly superior results, as ozone alone primarily affects only the outer enamel [20].

Scientific Studies of the Remineralization of Teeth

Gallic Acid

Studies have found that gallic acid remineralized tooth enamel [21]. According to phenol-explorer.eu, gallic acid is found in abundance in the following foods: Walnut Liquor, Chicory, Red Wine, Black Tea and Sage. Extremely high amounts are present in Sage and Clove. It is interesting to also note that out of all foods, Tea contains the highest levels of natural fluoride. Therefore gallic acid has an affinity for fluoride. Later on in this guide I will list the top teas that have the most natural organic fluoride.

Galla Chinensis

The Chinese herb Galla chinensis contains an abundance of gallic acid and studies have found it effective in the natural remineralization of teeth [22] [23] [24].

Green and White tea

Pretreating demineralized dentin with white or green tea, particularly followed by Casein Phosphopeptide-Amorphous Calcium Phosphate (CPP-ACFP), enhances microhardness, improving remineralization. White tea (10%) shows superior results to green tea in stabilizing dentin collagen, creating better functional remineralization and preventing further dissolution of tooth minerals.

Tea extracts act as anti-collagenolytic agents due to high catechin content (e.g., epigallocatechin gallate - EGCG), which stabilizes the collagen matrix, allowing more minerals to deposit. While Casein

Phosphopeptide-Amorphous Calcium Phosphate (CPP-ACFP) primarily stabilizes inorganic content (calcium and phosphate), the addition of tea helps stabilize the organic collagen matrix, leading to better overall remineralization [25].

Further Reading

Felszeghy S, Holló K, Módis L, Lammi MJ. Type X collagen in human enamel development: A possible role in mineralization. Acta Odontol Scand. 2000;58:171 6.

Cheng L, Li J, Hao Y, Zhou X. Effect of compounds of Galla Chinensis on remineralization of enamel surface in vitro. Arch Oral Biol. 2010;55:435 40.

Burwell AK, Litkowski L, Greenspan D. Calcium sodium phosphosilicate: Remineralization potential. Adv Dent Res. 2009;21:83 6.

Cheng L, Li J, Hao Y, Zhou X. Effect of compounds of Galla Chinensis on remineralization of enamel surface in vitro. Arch Oral Biol. 2010;55:435 40.

Reynolds EC. Calcium phosphate-based remineralization systems: Scientific evidence? Aust Dent J. 2008;53:268 73.

Burwell AK, Litkowski LJ, Greenspan DC. Calcium sodium phosphosilicate (NovaMin): Remineralization potential. Adv Dent Res. 2009;21:35 9.

Natural Strategies for Dental Hard-Tissue Remineralization: A Scoping Review of Galla Chinensis and Its Dual Anticaries ActionLaura Monica Rusu et al. Dec 2025.

Great Tasting Sweets that are good for Your Teeth

It can be easy to assume that foods that prevent / heal cavities have to taste bad or bland. This is a false belief. For example, warm sunshine creates vitamin D in our bodies, one of the best vitamins that ward off cavities and strengthen teeth. As another example, Salmon's rich, savory flavor is high in vitamin D as are mushrooms and studies have found that dark chocolate plays a role in the prevention of cavities. Many of us were

brought up to believe that sweet foods are bad for our teeth. This is true for some foods, however did you know that there are some foods that taste sweet and are good for your teeth?

This next part of our exploration in exploring natural dental health is devoted to foods that not only taste good, but also keep the teeth free of cavities, or in some cases reverse cavities and avoid a root canal altogether. I wish I had these when I had my root canal over 20 years ago.

Ice Cream for the Prevention of Cavities

When I used to live in Hawaii I would eat a 110mL bucket of Organic Ice Cream on the beach at least once a week. But let's look at another sweet food.

Researchers used ice-cream to deliver probiotics (Bifidobacterium lactis Bb-12 and Lactobacillus acidophilus La-5) to 40 adolescents and discovered a significant reduction in their salivary MS scores after consumption of the probiotic ice cream [(26)].

A Lollipop that Prevents Cavities

Licorice root (Glycyrrhizol A) is a sweet tasting herb that contains substances that exhibit strong antimicrobial activity against cariogenic bacteria. A research study created a method for producing a sugar-free lollipop containing licorice root, aiming to effectively kill cariogenic bacteria such as Streptococcus mutans. The study found that the licorice lollipops were not only sugar-free, but that their antimicrobial activity is stable in lollipop form. Two pilot human studies were conducted which

found that sucking on these lollipops twice a day for 10 days led to a significant reduction of oral causing cariogenic bacteria in the mouth among most of the volunteers [27].

Dark Chocolate (Cocoa) for the Prevention of Cavities

The following information comes from a meta-data analysis study titled: Anti-cariogenic effects of polyphenols from plant stimulant beverages (cocoa, coffee, tea), which was conducted by Ferrazzano GF and published in May 2009.

Recent studies have found that cocoa, coffee and tea are abundant in polyphenols which play a role in the prevention of cariogenic processes (cavity formation). This is due to their antibacterial action. The main substances responsible for the protection against cavities in dark chocolate are Cocoa polyphenol pentamers, which have been scientifically proven to significantly reduce acid production and biofilm formation produced by the cavity forming bacteria Streptococcus mutans and S. sanguinis.

Flavanols and oligomers isolated from cocoa may protect the respiratory and digestive tracts resulting in a reduction in cavities and periodontal diseases.
(T.K. Mao et al. 2002)

Dark Chocolate reduces Cavities by 73 per cent

It is a common belief that chocolate causes cavities. However it depends upon **the type of chocolate**. Chocolate comes in 4 main verities.

Dark Chocolate

Made with Cocoa solids, cocoa butter, and sugar, combined without any dairy. The absence of milk is what gives it its edge—a roasted, sometimes almost tannic quality, with cacao percentages that can climb high enough to taste more mineral than sweet. This is the type of chocolate that is actually GOOD for your teeth.

Milk Chocolate

Make with milk powder or condensed milk joins the mixture, and the effect is immediate: softer, sweeter, with a creaminess that coats the mouth.

White Chocolate

Cocoa butter survives here, but cocoa solids do not, which is why it is ivory-colored and why purists sometimes refuse to call it chocolate at all. What remains is rich and very sweet, tasting primarily of milk and vanilla.

Ruby Chocolate

The youngest of the four, formally introduced in 2017. Its pink color is not a marketing trick—it occurs naturally through a specific handling of the ruby cocoa bean—and its flavor is genuinely strange for chocolate: sour-edged, fruity, closer to a fresh raspberry than anything roasted.

Dental Health and Dark Chocolate

Studies on hamsters in which 20% of their sugar containing control diet was replaced by sweetened chocolate, had a reduction in their caries by up to 35 per cent when fed milk chocolate and up to 73 per cent when they enjoyed dark chocolate [(28)].

You may ask, "How is this possible?. This is because both milk and dark chocolate contain theobromine and polyphenols which fight bacteria and harden tooth enamel. There is approximately 44 mg to 60 mg of theobromine per ounce (28 grams) in milk chocolate and about 150 mg to 200 mg in dark chocolate. In the future there may be a diet or substance that amplify or enhance the absorption of theobromine to help protect teeth from cavities. Now let's look at a popular beverage and see if it helps protect teeth from cavities.

Roasted Coffee for Strong and Healthy Teeth

Roasted Coffee and Green Tea contain the substances caffeine, chlorogenic acid and trigonelline which interfere with the cavity causing bacteria Streptococcus mutans' ability to cause cavities [(29)].

A Dark Chocolate Rich Diet for the Prevention of Periodontitis

Studies conducted by Tomofuji et al. examined the effects of a cocoa-enriched diet (10% of total food intake) on gingival oxidative stress upon rats that had periodontitis. His study concluded that a cocoa rich diet diminished periodontitis-induced oxidative stress, thus possibly suppressing the progression of periodontitis.

The study further observed that the rats did not exhibit gingival infection compared to the control group. The study recommended further studies to define the optimum dose of dark chocolate in the diet for healthy teeth and gums as well as new experiments to develop inflammatory processes to reduce chronic periodontitis in humans.

Furthermore, certain chocolates **may REDUCE the risk for Cavities** and Periodontal Disease. Studies by Mao et al. found that consuming some cocoas and chocolates could reduce the risk for dental caries and periodontal disease (T.K. Mao et al. 2002).

His team's hypothesis was that purified cocoa flavanol oligomers inhibit the bacteria responsible for cavities via immunomodulatory effects in the production of various cytokines as well as the abundance of procyanidins. Especially noted was the presence of the cytokine IgA which has been shown to exhibit protective effects in periodontal diseases. The study concluded that dark chocolate could be therapeutic for those suffering from periodontal disease.

Further Reading

The effect of cocoa ash on caries in the rat: comparison of ashed cocoa with a mineral mixture. Kinkel HJ et al. May 1960.

The role of cacao extract in reduction of the number of mutans streptococci colonies in the saliva of 12-14 year-old- children. Fajriani et al. Apr 2016.

Inhibition of hamster caries by cocoa. Caries inhibition of water and alcohol extracts of cocoa. Strålfors A. Mar 1966.

Effect on hamster caries by dialysed, detanned or carbon- treated water-extract of cocoa.Strålfors A. Jun 1966.

Dark Chocolate contains Less Sugar

The next time you are in the supermarket, pick up a bar of dark chocolate and look at the nutrition facts label of a 90% or more Cacao Chocolate Bar. You will find it has much less sugar then a standard chocolate bar, which can contain on average up to 15 grams of sugar. 90% dark chocolate contains on average between 2 and 8 grams of sugar.

Sucking on Lozenges for Cavity Prevention

Another study used lozenges to deliver probiotics (Lactobacillus brevis CD2) to 191 children. The subjects sucked on the lozenges at six week intervals. The study found a statistically significant reduction in cariogenic oral bacteria at the end of the study [(26)].

At the end of this book I shall cover a new dental vaccine that uses probiotics delivered as a toothpaste to prevent cavities.

A Natural Herbal Tea for Strong and Healthy Teeth

The Calcium Assimilation Formula - This combination is also known as Kid-e-calc or Calc Tea ("Dr. Christopher" products). It is manufactured according to the instructions given by the famous American herbalist John Christopher. It is a herbal formula that contains calcium combined with horsetail, nettle, oat straw and lobelia.

The Kid-e-Calc product is a liquid glycerite drop formula and Calc Tea is a cut herb or powder mixture. Kid-e-Calc is specifically made for

children (alcohol-free) and Calc Tea is typically used by adults or prepared as a tea.

Sugarless Mints for Strong Healthy Teeth

CaviStat - (An arginine bicarbonate calcium carbonate complex). In a scientific study titled: Clinical evaluation of the ability of CaviStat in a mint confection to inhibit the development of dental caries in children, the researchers concluded that CaviStat mints is one of the most simple and economical methods for substantially reducing cavities in children.

CaviStat works because when the amino acid arginine and a calcium salt are added to fluoride toothpaste, it greatly prevents dental cavities. In another scientific study, children who used CaviStat toothpaste for two years had 17.7% fewer decayed teeth and missing teeth compared to those children who used a standard toothpaste. The research study was performed by Colgate- Palmolive and published in the November issue of Caries Research.

In another study performed by researchers at the University of New York, Cavistat was administered in the form of breath mints and tested in a one year clinical trial. The study showed that it prevented dental caries in the primary molars and first permanent molars of children between the ages of 10 1/2 and 11 years when the study was performed on Venezuelan children. The study was published in the Journal of Clinical Dentistry 2008;19(1):1-8).

A Sugarless gum for Strong Healthy Teeth

Recaldent - Recaldent™ is derived from casein. Casein is a phosphorous substance obtained from cow's milk. Recaldent strengthens teeth by delivering the proper amounts of calcium and phosphate to the tooth enamel. This greatly assists in tooth remineralization. Recaldent is available in Trident White Sugarless gum, Trident for kids sugarless berry gum and some other products worldwide. Because some of these contain aspartame, it is probably not a good idea to use the mints or gum long term, due to aspartame being a possible cancer causing carcinogen.

Xylitol and Xylitol Chewing Gum for Strong Healthy Teeth

Xylitol – Xylitol continuing to become popular due to its powerful cavity prevention properties. Many of Xylitol's advantages include fighting tooth

decay, reducing plaque build-up, eliminating bad breath and alleviating symptoms of a dry mouth.

Honey

Honey applied topically minimizes the severity of oral mucositis in patients that had oral cancer. Honey also expedites healing and reduces the occurrence of oral fungal infections as well as reduces the incidence of cavities due to its ability to inhibit colonization by S. mutans. Also studies have found that Manuka honey restricts the growth of S. mutans [(30)].

Chewing Gum for Healthy Teeth

Meswak Extract Chewing Gum

This chewing gum was found to promote periodontal health due to its ability to reverse plaque, bleeding and gingival in the gums (Hilal Ahmad et al. July 2014).

Persica Chewing Gum

This gum has been shown to be highly beneficial for reducing gingival bleeding and gingival inflammation (Hilal Ahmad et al. July 2014). In a 2019 research study titled: Persica Chewing Gum Effects on Saliva Fluoride Concentration and Flow Rate: A Triple-Blind Randomized Clinical Trial, researchers discovered that Chewing Persica gum released fluoride ions in saliva and increased saliva flow that was comparable to sodium fluoride.

Probiotics for the Prevention of Cavities

The probiotic Lactobacillus reuteri was administered via chewing gum two times daily for 2 weeks. After 2 weeks, the study discovered that plaque in the group taking the probiotic fell significantly. The study concluded that Lactobacillus reuteri was highly effective in reducing both plaque and gingivitis in patients with moderate to severe gingivitis [(31)] [(32)] [(33)]. This study is key for a few reasons. First chewing enhances the production of salivia in the mouth, and probiotics, as I shall show later on in this book, are highly effective in building new bones.

Cranberry Packs a Powerful Natural Punch blow against the formation of Oral Biofilm

Out of all the many substances that reduce biofilm accumulation, the one that delivers the best bang for the buck is Cranberry (and in some cases Grape Seed Extract), because only a small amount is necessary. Studies by Kokubu and colleagues reported significant decreases in biofilm formation at concentrations of between 0.5 and 1.0 mg/mL of cranberry juice in a 1000 mL dilution of 70% ethanol [(34)].

The following data is from the research study titled: Effect of flavonoids from grape seed and cranberry extracts on the microbiological activity of Streptococcus mutans: a systematic review of in vitro studies by Jeison Stiven Castellanos et al. in June of 2024 and highlights the effectiveness of various plant extracts in reducing biofilm formation.

Greene et al. found that 0.5 and 5 mg/mL cranberry extract decreased biofilm.

Singhal et al. reported that concentrations of 16.67 mg/dL and 20.83 mg/dL of cranberry led to a 50% and 70% reduction after 24 hours.

Sumathi et al. noted that 50 mg/mL of cranberry extract inhibited biofilm by 95.2% within the same timeframe.

Meanwhile, Daglia et al. demonstrated that 15 mL of grape seed extract in methanol reduced biofilm by 89%, while dealcoholized wine achieved a 79% reduction.

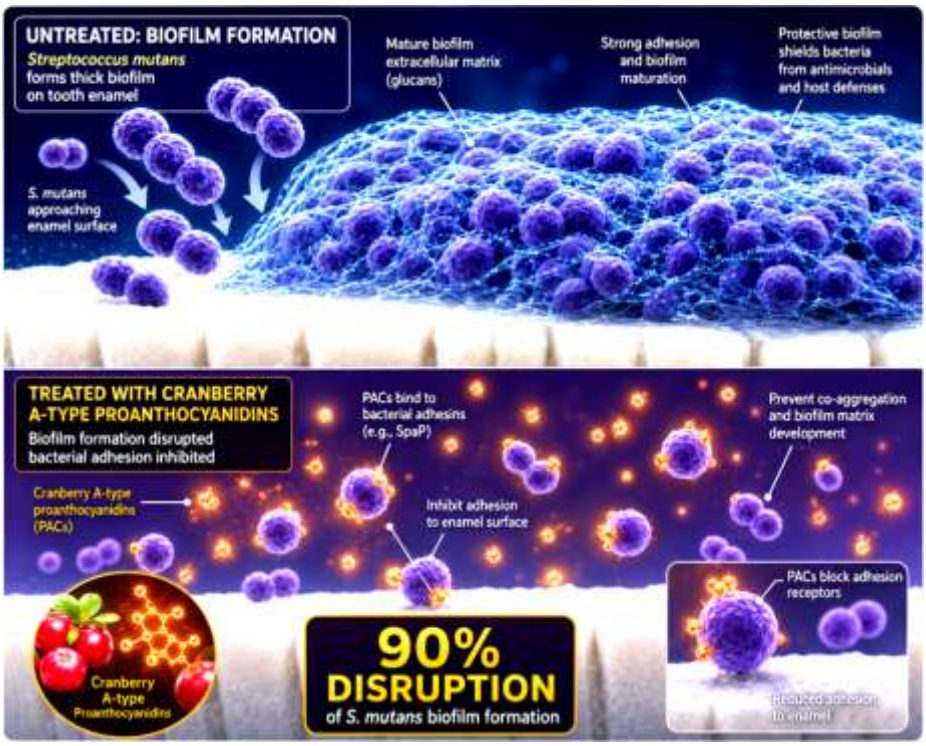
Zhao et al. indicated that 4 mg/mL of grape seed extract could also impede biofilm formation.

Net et al. found biofilm reductions at just 80 µg/mL with non-dialyzable cranberry plus acetone, while cranberry alone required 320 µg/mL for significant impact.

Smullen et al. observed that grape seed extract decreases biofilm within 30 minutes.

Yamanaka et al. identified inhibition at 100 µg/mL and 500 µg/mL with 25% KCl.

And finally, Nowaczyk et al. noted a 68% reduction in bacterial colonies using a concentration of 50 µg/2 mL of probiotic candy mixed with distilled water.



Cranberry was found to prevent the formation of P. gingivalis and it also inhibited tooth demineralization [35]. Out of the 420 studies gathered, 22 publications were ultimately chosen for review. The studies included in the review indicated that cranberry extract inhibits the growth of S. mutans at concentrations ranging from 0.5 mg/mL to 25 mg/mL, while Grape Seed Extract demonstrates a similar inhibitory effect within the range of 0.5 mg/mL to 250 mg/mL.

Furthermore, the extracts or their fractions exhibited reduced capacity for biofilm formation, lower biomass of polymicrobial biofilms, and maintained pH stability. They also showed sufficient antioxidant activity associated with their polyphenol content.

In conclusion, the findings suggest that cranberry and grape seed extracts are effective in decreasing the virulence factors of oral pathogens. The data indicates that proanthocyanidins are the active ingredients in cranberry and grape seed that effectively combat S. mutans. They are capable of inhibiting the formation of insoluble polysaccharides in the

extracellular matrix and hindering the glycan-mediated adhesion, cohesion, and aggregation of proteins in S. mutans. This implies that these natural extracts may significantly contribute to the prevention of cariogenic bacteria responsible for tooth decay [36].

What is Gingivalis?
Gingivalis is a bacteria found in the oral cavity, where it is responsible for periodontal diseases. It is also found in the respiratory tract and colon.

Probiotic Cheese
Cheese and peanuts have been found to reduce the acid production after eating foods high in sucrose [37]. When a group of elderly people consumed cheese containing probiotic strains designed to improve stomach health for 16 weeks, the number of high oral yeast counts decreased [38]. It appears that probiotics may be one of the most powerful methods to protect teeth against tooth decay.

Carob
Carob, commonly used as a chocolate substitute, contains an abundance of gallic acid (as do walnuts) which enhances tooth remineralization, reduces the effects caused by demineralization and synergizes with chitosan [39] [40].

Raisins
Raisins are beneficial to oral health due to their antimicrobial action against oral pathogens which are responsible for causing cavities and / or periodontal disease [30].

Curry Leaf
A research study found that a mouthrinse containing curry leaf can be considered as a safe and effective alternative to the commercial antiseptic mouth rinse product Chlorhexidine [41].

Olives
A research study examined the antimicrobial impact of an extract of olive and found that low doses of olive exhibited strong bactericidal effects at low concentrations against periodontal pathogens that cause gum disease (gingivitis and periodontitis). [42].

Fast Fact

Combining certain extracts with naringin, quercetin, genistein and piperine can enhance the bioavailability of an extract, when drops of the extracts are diluted in a glass of water and placed under the tongue and held for up to 15 seconds [48].

Olive Leaf Powder

According to the June 2022 Diyala Journal of Medicine Olive leaf reduced gingivitis. Its activity was similar to the commercially purchased mouthwash chlorhexidine. It is important that you get a good quality supplier for Olive Leaf Powder as it is prone to microbial contamination during processing and storage.

Further Reading

Efficacy of Olive Leaf Extract Mouthwash on Clinical and Inflammatory Parameters of Gingival Inflammation in Relation to Chlorhexidine in Acute Gingivitis Serum Patients. Liqa Sabah et al. June 2022.

Red Wine

Extracts of red wine were shown to reduce the severity of two key Gram-negative, anaerobic bacteria intimately associated with oral infections, particularly periodontal disease (gum disease). The study found that red wine inhibited antimicrobial action by creating an organic oral biofilm. Also studies by Muñoz-González and colleagues stated that the bactericidal effects of caffeic acid extracted from red wine and grape seed extract were effective against an opportunistic pathogen linked to periodontal disease, colorectal cancer (CRC), and adverse pregnancy outcomes. Caffeic and p-coumaric acids (found in abundance in Rosemary) and provinols extract were found to inhibit biofilm formation of the same opportunistic pathogen shown earlier [43] [44] [45] [46] [47].

Further Reading

Remineralization of Artificial Caries in Primary Teeth by Grape Seed Extract: An In Vitro Study. Mahkameh Mirkarimi et al. Dec 2013.

Red wine and Probiotics

Reciprocal activity was found to take place between probiotics and polyphenols. This includes phenolic extracts of red wine combined with the probiotics Bifidobacterium and Lactobacillus. Also combinations of red wine with oenological-origin probiotic strains were shown to exhibit inhibitory effects against E. coli adhesion [(35)].

Wintergreen (Gaultheria procumbens)

Wintergreen is part of the Ericaceae family of trees. Wintergreen is commonly used as a mouth rinse and makes an excellent antiseptic and exhibits strong astringency properties (tightens tissues). Cotton swabs soaked in wintergreen oil are used for the relief / remedy for gum inflammation and sore throats.

Studies by Nikoli et al. showed Wintergreen essential oil exhibits strong antimicrobial activity against a wide variety of Gram-positive and Gram-negative bacteria and fungi, and that it exhibits good antioxidant behavior [(49)].

The commercial mouthrinse Listerine Antiseptic, which has been for sale for over 100 years, was scientifically studied for its ability to reduce plaque. The study found that it reduced plaque up to 34% and gingivitis up to 35% [(50)].

Dark Chocolate for the Protection against Cavities

Research studies conducted by Ferrazzano et al. noted the protective effect of dark chocolate (cocoa) on dental caries. Dark Chocolate contains a dextransucrase enzyme which naturally inhibits the formation of plaque caused by sucrose / sugar. Dark chocolate also contains an abundance of phenolic substances, which exhibit anticaries effects such as Theobromine, which I covered earlier.

A research study involving mice that were exposed to the cavity forming bacteria Streptococcus sobrinus, were fed a water-soluble extract of dark chocolate powder (cocoa). The study found that the mice exhibited significantly less cavities due to the dark chocolates ability to inhibit acid production.

A Natural Dark Chocolate Mouth Wash

A recent study used ground husks of cocoa beans (which are abundant in polyphenols) to make a mouthwash. The study found that the mouthwash reduced mutans streptococci counts up to 20.9% and plaque decreased up to 49.6% [(51)].

The following information comes from a meta-data analysis study titled: Plant Polyphenols and Their Anti-Cariogenic Properties:A Review, which was conducted by Gianmaria F. Ferrazzano, et al and published in February of 2011.

Polyphenols for Protection against Cavities

An in-vitro study discovered that tea polyphenols showed no effect on the de/remineralisation enamel, however the cavity protection came from anti-microbial activity.

The Composition of Dark Chocolate Cocoa powder contains up to 50mg of polyphenols per gram. Flavanols in cocoa exist as monomers catechin and epicatechin and contain proanthocyanidins or condensed tannins [(52)].

Dr. Christopher's Herbal Tooth Powder

Dr. Christopher's herbal tooth powder is made of Peppermint Leaf, Licorice Root, Prickly Ash Bark, White Oak Bark, Cloves, Stevia, Propolis, Ginger Root and wildcrafted Shavegrass and is used to keep the teeth strong and prevent cavities. Later on in this book I shall show how Peppermint Leaves are one of the most powerful natural herbs that fight the bad bacteria that cause cavities.

Xylitol

This is a natural sweetener, now widely available, that has been scientifically proven to prevent cavities [(53)] [(54)] [(55)].

Stevia

Another natural sweetener. Showed very potent antiplaque and anti-gingivitis properties reducing plaque up to 10% and a strong reduction in gingival scores [(56)] [(57)].

Excessive Stevia Intake and Brain Damage

A research study looking at a number of artificial sweeteners, including Stevia, found that Stevia is composed of stevioside and rebaudioside A.

These substances are rich in the minerals cobalt, iron and manganese. In a study conducted on rats fed Stevia, the rats showed slower cognitive abilities when trying to navigate a water maze. The study concluded that the reason for the neuronal damage occurring may have been due to the mineral components of stevia.

Further research on the artificial sweeteners aspartame and sucralose found significant percentages of neuronal damage occurred, compared to the control group [(58)].

Luo Han Kuo fruit extract (Siraitia grosvenori)
This natural sweetener has shown inhibitory ability against the oral bacterial species Porphyromonas gingivalis and Streptococcus mutans. This powder is 250 to 400 times sweeter than sugar. It also has medicinal properties that include healing throat infections, coughs, heat stroke, constipation and diabetes.

Allulose
This is one of the newest sweeteners, only having been on the market for a few years. It almost tastes exactly like sugar, but without almost any calories. A 2025 study noted that while Allulose is not typically cariogenic, it may pose a minor risk for root decay, particularly for older adults with receding gums (John D. Ruby et al. 2025).

Jiaogulan (Gynostemma pentaphyllum)
This herb is very similar in structure to ginseng, but without the bitter after taste of ginseng. Jiaogulan was found to contain fifteen new compounds that had an intensity of sweetness 10–100 times higher than that of sucrose, with Gypenoside being the sweetest. Gypenoside had the highest concentration of sweetness (Hong-Xia Zhang et al. Sept 2022).

Yogurt
The first studies of the use of probiotics for enhancing oral health were tested for the effectiveness against periodontal inflammation. Patients with various periodontal diseases, pregnancy gingivitis, gingivitis and periodontitis were locally treated with a culture supernatant of a L. acidophilus strain (found in abundance in yogurt and fermented milk). Significant recovery was reported for almost every patient [(31)].

Green and Black Tea

A research study found that both green and black tea inhibited the growth of Streptococcus mutans when used as a mouthwash with Black Tea showing the best results. When Chlorhexidine (0.2%) was added, it created a beneficial synergy which enhanced the results [(59) (60) (61) (62)].

Oolong Tea

This unique tea has a high number of monomeric polyphenols which show a stronger inhibitory effect on the growth of the disease oral causing bacteria S. mutans compared to green tea and black tea [(63)].

Additional research studies conducted on oolong, green and black teas showed the tea polyphenols exerted an anti-cavity effect via their anti-microbial modes-of-action. Also the galloyl esters of epicatechin, epigallocatechin and gallocatechin, which are found in the teas, exhibit strong antibacterial activities. The study concluded that anti-cariogenic effects against bacteria that cause cavities (streptococci) by polyphenols from dark chocolate, coffee and tea should be studied further for the prevention of cavities. Ferrazzano GF et al. May 2009).

In summary, there is an abundance of foods that help prevent / treat cavities. The secret is knowing which foods to take and that is what this unique book is all about, giving you the best foods to prevent / heal cavities and keep your teeth healthy and strong all lifelong.

Biofilms and Hydrophobicity

The term hydrophobic also goes by the name biofilm. This means that a substance that is applied to a surface greatly reduces the ability for bad bacteria to cling to it.

One example is the Lotus Seed. A Lotus Seed (Nelumbo nucifera Gaertn.) that was over 1,000 years old was removed from a dry lake bed at Pulantien in Liaoning Province, China, where it was successfully grown. This is the oldest directly dated seed ever reported being grown. It not only germinated but is still growing strong (since March, 1994). Of six lotus fruits that were planted, over two-thirds germinated from seeds more than 1,000 years old [(64)]. This is because the exterior surface of the Lotus Seed contains a slippery, hydrophobic surface, that keeps bad bacteria away, thus preserving it from rotting for centuries. The lotus effect is caused by nanoscopic particles which contain closely packed

protuberances, which act as a self-cleaning mechanism. This method is similarly used in the industrial paint, Lotusan [65].

Further Reading
Genome of the long-living sacred lotus (Nelumbo nucifera Gaertn). Ray Ming, et al. May 2013.

Hydrophobic Substances include Quercetin and Chicory; with Quercetin synergists such as Ampcillin, Cephradine, Ceftiaxone, Imidenem and Methicillin**.**

Red Wine with Grape Seed Extract
Red Wine with Grape Seed Extract reduces the ability of bad bacteria to cling to teeth [66] [44].

Plant Extracts that Exhibit Biofilm Activity
A Meta-Analyses study involving 1,848 scientific studies and articles found that plant extracts displaying anti-adhesive and anti-biofilm activity included: Coffea canephora (coffee), Camellia sinensis, Vitis vinifera, Pinus spp., Vaccinium macrocarpon, Caesalpinia ferrea Martius, Galla chinensis, Psidium cattleianum, representative Brazilian plants and Manuka honey [67].

Further Reading
Grape Seed Extract Exerts Ahesive Effect Against Staphylococcus aureus: In vitro Study. Marwan S.M. Al-Nimer.et al. 2012.

Mechanism of Bacterial Inactivation by (+)-Limonene and Its Potential Use in Food Preservation Combined Processes. Laura Espina, et al. Feb 2013.

In Vitro Antimicrobial Activity and Effect on Biofilm Production of a White Grape Juice (Vitis vinifera) Extract. Angela Filocamo et al. Aug 2015.

Effect of Wine Wastes Extracts on the Viability and Biofilm Formation of Pseudomonas aeruginosa and Staphylococcus aureus Strains. Carolina María Viola et al. 2018.

Good Dental Hygiene Contributes to Longevity

Many substances that exhibit potent lifespan extension effects are also powerful cavity prevention substances. For example below is a short list of substances that not only help prevent cavities, but also have potent life-extension properties. A more detailed comprehensive list is covered later on. I should note here that probiotics, which is currently being studied as an anti-cavity vaccine is also a powerful anti-aging substance. This was shown in a 2025 study titled: Deciphering the anti-aging potential of probiotics: A narrative review on gerobiotics published by Abrar Hussain and collegeus.

In worm longevity trials, the strain Lactobacillus paracasei JS-3 extended lifespan by 28.02% and Abrar also stated that data from 300 meta-analysis studies showed human trials evaluating disease prevention reported up to 79% effectiveness in improving or preventing age-related health issues using probiotics.

What are Gerobiotics?

Gerobiotics are specialized probiotic strains, postbiotics, and para-probiotics selected or engineered to target the fundamental molecular mechanisms of aging and extend healthspan,

Thioflavin T

Thioflavin T, which is a potent inhibitor of amyloids that cause Alzheimer's (Grelle G et al. Dec 2011), has been shown to extend lifespan up to 78%, across three strains of Caenorhabditis species by restoring protein homeostasis. This is due to the amyloid dye [68] [69] [70]. Some studies suggest Thioflavin T can target structures that inhibit biofilm formation (Xu Han and Christine K Payne Mar 2022).

Resveratrol and Black Tea Polyphenol Combination

Combining resveratrol (a compound in grapes and red wine) with black tea polyphenols (such as theaflavins and thearubigins) shows promise for enhancing oral health, primarily through synergistic antibacterial, anti-inflammatory, and antioxidant effects that target dental caries and periodontal disease as well as well as resveratrol's benefits in extending lifespan (D Kumar and SI Rizvi. Dec 2014) [(71)].

Peptides

These have shown promise in Oral Tissues Regeneration [(72)], reducing inflammation caused by Periodontitis [(73)] and for enamel remineralization [(74)].

> Applying short thermal heat treatment such as hot-pressing to Grapes extracts their ound anthocyanins and antioxidants from grape skins (Rémy Junqua et al. Mar 2021)

Chapter 2

Why Communities are Beginning to Ban Fluoride in Drinking Water

During the year 2025, Utah became the first U.S. state to ban water fluoridation, followed by a similar ban in Florida. Multiple cities and counties across the U.S. are also moving to stop adding fluoride to public water systems. The city of Portland, Oregon, does not fluoridate its water supply. Voters have rejected fluoridation proposals multiple times, most recently in 2013, making Portland the largest city in the United States without it.

Does Fluoridation of Water Prevent Cavities?
Let's look at the facts. For many decades, the ADA (American Dental Association) has issued warning statements to various cities across the United States that if they ended their water fluoridation programs, that the rate of their citizen's tooth decay will most likely increase. However, let's look at the facts.

Fluoridation Cessation Studies

CANADA:
Cavities decreased over time in a community that ended water fluoridation [(76)].

FINLAND
The city of Kuopio ceased water fluoridation and found no increase in cavities [(77)].

GERMANY
Authorities initially expected an overall increase in dental cavities in residents following the cessation of adding fluoride to the water in the cities of Chemnitz and Plauen. However over time studies showed a significant fall in cavities instead [(78)]. Germany originally began the banning of adding fluoride to drinking water in the 1970's.

CUBA

In 1997 Cuba stopped adding fluoride to its city's water. In March 1997, a study in La Salud, Province of Habana, Cuba aimed to investigate trends in dental caries following the cessation of water fluoridation in 1990. A total of 414 children aged 6-13 were assessed using diagnostic techniques from studies in 1973 and 1982. Notably, from 1973 to 1982, there was a significant decline in the average number of decayed, missing, and filled teeth and a reduction in cavities in children. Surprisingly in 1997, despite the lack of fluoridation, caries prevalence remained low among younger children, with slight declines noted in older age groups. The percentage of caries-free 12-13-year-olds increased to 55.2%. [79].

Improvements in oral hygiene, the proper diet and better access to fluoride-containing toothpastes are the primary reason a reduction of cavities is present in communites without fluoridated drinking water

USA

The National Toxicology Program released its own study and concluded, with confidence, that higher levels of fluoride exposure, including that in drinking water that contained more than 1.5 milligrams of fluoride per liter, are associated with lower IQ's in children.

Utah: Signed into law in March 2025, the ban officially took effect on May 7, 2025, making it the first state to prohibit public water fluoridation.

Florida: Signed into law in May 2025, the legislation prohibiting water facilities from adding fluoride took effect on July 1, 2025.

Further Reading

National Toxicology Program. NTP Monograph on the State of the Science Concerning Fluoride Exposure and Neurodevelopment and Cognition: A Systematic Review. August 2024. U.S. Department of Health and Human Services.

The facts and data are confirming that the banning of fluoride in public drinking water is starting to become a policy of successful long term health planning

Water Fluoridation Lowers Intelligence

An in-depth 2025 systematic review [(81)] and meta-analysis study aimed once and for all to clarify this relationship through a dose-response approach, focusing on IQ scores across varying fluoride exposure levels.

Out of 1,996 records reviewed, 33 studies qualified, with 30 suitable for meta-analysis. The findings indicated an average IQ decrease of −4.68 when comparing the highest exposure to the lowest fluoride categories. Specifically, fluoride in drinking water showed a decline of −5.60. The analysis revealed a significant linear decrease in IQ with fluoride levels above 1 mg/L in drinking water, with a reduction of −3.05 IQ points per mg/L. The negative impact on IQ was most notable in studies with a high risk of bias. Overall, the evidence suggests that even minimal fluoride exposure negatively impacts children's IQ [(80)].

In another research study reviewing 74 published research studies, researchers discovered significant negative correlations between fluoride exposure and children's IQ scores. This analysis showed that negative associations persisted for fluoride levels in water and urine, particularly at concentrations below 4 mg/L, 2 mg/L, and 1.5 mg/L.

These findings were consistent even in studies with a low risk of bias, reinforcing concerns about fluoride exposure affecting cognitive development in children [(81)].

Why Living near Volcanoes results in Higher Fluoride Intake

People living in regions where volcanoes are active are susceptible to increased fluoride levels due to hydrogen fluoride—and ash deposits entering local water sources and soil, volcanic aquifers and atmospheric volcanic emissions. This may contribute to skeletal fluorosis.

Fluoride happens to be a cumulative toxin, meaning low doses ingested continuously over a long period of time build up to critical levels. Fluoride is naturally removed from the body via urine as well as being absorbed by the bones. When a person is young, especially if they are an infant, fluoride retention in their bones can be as much as 90% of the absorbed levels from the environment. However fluoride retention in the bones of an adult is only (50)% or less.

Studies by Mostafaei et al. discovered the rate of absorption of fluoride in bones is 3 times as much among people who drink tea, compared to non-tea drinkers. Some mineral waters as well as black tea contain an abundance of fluoride. Studies have found that populations that consume lots of black tea, that water fluoridation is not only unnecessary in those communities, but also possibly harmful [(82)]. Also

normal bottled water (not mineral water) has not been shown to prevent cavities [(83)]. Black tea is high in natural fluoride [(84)].

Further Reading

Fluoride content of bottled natural mineral waters in Spain and prevention of dental caries. Maraver F et al. Jan 2015.

Green tea: A boon for periodontal and general health. Anirban Chatterjee, et al. Apr 2012.

Seasonal Variations of fluoride Levels in the Body

To avoid one's risk of dental fluorosis, it can be good to know what time of year this occurs more often. A study looking at fluoride levels in children throughout the year found that children aged between 0 and 12 months and 12 to 72 months showed varying results in how their bodies processed fluoride. Children that were younger than 12 months did not show seasonal variation. However as the children got older, the children aged between 12 and 72 years of age retained fluoride in the bodies more often during summer with fluoride intake from beverages showing increasing levels with the monthly temperature [(85)].

Seasonal Variations of Cavities

Seasonal variation of tooth pain tooth pain occurs more often during the early morning with less pain occurring during the early afternoon.

Seasonally maximum pain peaks from October to November yearly with a minimum occurring during May [(86)].

In another study in Quebec researchers discovered that during the seasons of fall and winter people were more susceptible to dental pain, possibly due to the outdoor cooler temperatures [(87)].

Seasonal Variation of Dental Cavities

A study looked at the number of times people in South America (Brazil, Colombia, Peru, and Venezuela) used the Internet to search for remedies for toothache between 2004 and 2017. The lowest number of Internet searchers occurred during the months of June, July and December [(88)]. In South America the warmer summer months occur between fall between December and February with winter months being June and August.

Seasonal Variability of Gingivitis

A research study in Kenya examining volunteers aged between 5 and 46 years of age found that gingivitis occurred in 58.5 per cent below 11 years and 32.9 per cent between 21 and 40 years of age. 72 per cent of the volunteers exhibited symptoms from March to April and again between September and December (close to the equinoxes). Could this mean that bad bacteria is more prevalent around the equinoxes? [89] or that the body's immunity to gingivitis is weaker during the equinoxes?

Another study conducted in Cape Town South Africa, which is in the Southern Hemisphere, between 15 March 1992 to 15 March 1998 examined the prevalence of gingivitis in patients. The study found that out of 19,944 patients that were admitted for periodontal treatment, 58% were males and 73% were between 5 to 12 years of age. 55.4% of patients were admitted during summer, 27.7% during fall and 8.4% during winter and spring [90]. Later in this book I will show that foods that help prevent cavities are more abundant during spring.

Extracts of Ginkgo biloba have been shown to significantly mitigate the neurotoxic damage caused by fluoride [93]

People most vulnerable to Plaque Buildup

The demineralization of dental enamel initially presents through surface-level decalcification, which results in porous, chalky white spot lesions (WSLs). These lesions are early indicators of caries before they evolve into more severe cavities.

A research study reviewed numerous enamel remineralization techniques, drawing from 17 selected studies obtained from a comprehensive literature review via PubMed, Scopus, and Web of Science. The research data revealed that people undergoing orthodontic treatments were particularly vulnerable to WSLs due to increased plaque accumulation from braces and other devices, highlighting the necessity for thorough oral hygiene education [20].

Seasonal Variations of Plaque

A study involving 80 schoolchildren aged between 12 and 15 years was conducted. The PH levels of their saliva was higher (more alkaline) in summer, compared to winter and the plaque accumulation tended to be higher in winter compared to summer. Gingivitis was also more common

during winter. The study hypothesized the reason for higher plaque and gingivitis levels during winter may have been due to sweet foods in stores and school cafeterias during winter and that these substances tend to become more sticky, solid and more retentive during cooler weather, which allows the substances to strongly adhere to the tooth surface for longer durations during cooler temperatures, lowering pH levels in the salvia.

A study published by MC Mazengo et al (1994) and colleagues discovered that gingivitis was more common among urban subjects due to their diet(s) containing more sucrose and less fiber-rich foods. The study also observed that children in the city had healthier teeth. The study stated this may be due to improved oral hygiene among urban children compared to rural children. This finding was also published by Blay D, Astrom AN, Haugejorden O (2000) [(91)].

Seasonal Variation of Toothache

An analysis of toothache reports in Kanpur District India, which is located in the Northern Hemisphere, discovered that toothaches peaked during the cooler months of March and May [(92)].

The Yearly Cycle of Tooth Vulnerability and Strength

Spring: This time of year, foods highest in nutrients that promote strong and healthy teeth are in season.

Summer: Statistically, less there are less cavities occurring because people drink more water to stay cool. For people outdoors, this water is usually fluoridated.

Fall: The sweet tooth season. The cooler temperatures of fall shifts behavior away from chugging water toward slowly sipping hot, comforting sugary beverages like hot chocolate, peppermint mochas, and warm apple cider.

Winter: Shorter days leads to a massive plunge in Vitamin D. Vitamin D is the key that unlocks calcium absorption; without it, your teeth cannot properly absorb the calcium needed to keep enamel strong. By the end of Winter, tooth enamel is at its weakest, and cavities have taken root—which is exactly why the body naturally craves the crisp, watery, nutrient-dense foods as Spring approaches. Those spring foods act as nature's toothbrush, scrubbing away winter plaque and delivering the heavy dose of vitamins needed to remineralize the teeth, starting the cycle all over again.

Chapter 3

The Pioneering Work of Dr. Melvin Page

Dr. Page studied Dr. Weston Price's research on the dental health of remote tribes. He began his research at Hackley Hospital and Mercy Hospital in Muskegon. His studies involved over two thousand blood chemistries. His concluded that cavities would not form when the calcium to phosphorus ratio was 10 to 4 in the blood. The Department of Dental Research confirmed this finding 42 years later. Dr. Page also discovered that the ideal blood sugar level of 85, plus or minus 5 (on the Sclavo test) was optimal for dental health and that refined carbohydrates and white sugar increased calcium drawn from the bones. It was these findings that led Dr. Page to develop what's today known as the "The Page Food Plan". This plan created a diet that restored an upset body chemistry and is based on the glycemic index. This is due to the fact that tooth decay occurs far less often, or in some cases not at all, when a precise ratio of calcium to phosphorus is present in the blood. When this condition persists for a period of time, tooth decay organically develops. The sweet spot ratio is as follows –

Collard greens hit or exceed the 10:4 sweet spot

Calcium to Phosphorus Ratio - 10 to 4
Blood Sugar - 80-90

Foods that have close to the ideal calcium ratio of 10 to 4 include: Butterbur (Fuki), Papayas, Oranges and Chinese cabbage and the herbs Dill Weed, Basil and Arugul. These greens have some of the highest Ca:P ratios in the vegetable kingdom: Collard Greens, Turnip Greens, Beet Greens, Dandelion Greens and Mustard Spinach (Tendergreens).

While hitting the 10:4 ratio on paper is great, keep an eye on oxalates (oxalic acid) in certain greens. Beet greens and dandelion greens contain oxalates, which can bind to calcium and reduce how much of it your body actually absorbs. Collards, turnip greens, and Chinese cabbage are very low in oxalates, meaning your body will absorb a much higher percentage of that important calcium.

Calcium-rich foods
- Dairy: milk, cheese, yogurt.
- Leafy greens: kale, collard greens, spinach
- Sardines, salmon with bones

Phosphorus-rich foods
Works with calcium to rebuild hydroxyapatite (the crystal structure of teeth).
- Meat, fish, eggs, nuts, beans

Vitamin D Sources
Helps your body absorb calcium and phosphorus efficiently.
- Sunlight exposure
- Fatty fish, cod liver oil, egg yolks
- Vitamin K2 (directs calcium to teeth and bones)
- Grass-fed butter, ghee
- Natto (fermented soybeans, very high in K2)
- Pasture-raised egg yolks, liver
- Prevents calcium from going into soft tissues and redirects it to hard tissues like teeth.

Magnesium
Essential for strong tooth enamel.
- Pumpkin seeds, almonds, cacao, leafy greens

Collagen & Gelatin (for dentin remineralization)
Provides amino acids for dentin and periodontal health.

• Bone broth, chicken skin, collagen peptides.

Herbs & Natural Substances with Dental Benefits

Antimicrobial, reduces Streptococcus mutans (cavity-causing bacteria).

• Green Tea (Catechins). Provides fluoride naturally in small amounts.

• Licorice Root (Glycyrrhizin. Shown in studies to reduce cavity-causing bacteria and protect enamel.

• Neem. Traditional Ayurvedic herb for oral health. Antibacterial, plaque-reducing, cavity-preventive.

• Clove Oil. Antimicrobial + pain relief. Supports gum and dentin health.

• Xylitol (from birch or corn). Natural sugar alcohol that starves cavity-causing bacteria. Also stimulates saliva flow which promotes tooth remineralization.

• Cocoa (raw cacao, not sugary chocolate). Contains theobromine, which has been shown to strengthen tooth enamel and work similarly to fluoride.

Saliva Support (critical for remineralization)

• Drink mineral-rich spring water.

• Chew fibrous foods or xylitol gum to stimulate healthy saliva flow.

• Avoid smoking, excessive alcohol, and constant snacking (they reduce saliva quality).

Gingivitis. Its causes and Natural Treatment

Dr. Page found gingivitis was present in patients who had high phosphorus and low calcium counts. This could be remedied by reducing phosphorous to its correct proportions. Hence gingivitis is a precursor to periodontal disease due to an imbalance in blood chemistry.

When performing oil pulling, it is key to use Cold Pressed Sunflower Oil, and organic if possible for the very best results

Oil Pulling for Strong Healthy Teeth and Gums

A research study set out to see how effective oil pulling therapy actually is. The study involved 20 adolescent youths with plaque-induced gingivitis. The participants were divided into two groups: one practicing oil pulling with flaxseed oil and the other using chlorhexidine mouthwash. Both groups underwent assessments of plaque and gingival indices at the start and after 30 days. Results showed a significant decrease in both indices for each group, indicating that oil pulling with flaxseed oil is an effective supplementary treatment for managing gingivitis. [(94)]. I shall cover oil pulling in greater detail a little later on.

How to use Flaxseed for Oil Pulling

Flaxseed, known for its high levels of essential minerals such as calcium, magnesium, phosphorus, and potassium, also contains antibacterial lignans that combat cariogenic bacteria like Streptococcus mutans, making it a promising natural remedy for many tooth related disorders [(95)].

A research study set out to evaluate how effective oil pulling was using flaxseed oil and how effective it was at removing plaque-induced gingivitis. The study also aimed to see how well it performed against the mouthwash chlorhexidine. Long-term use of chlorhexidine can lead to altered taste sensation and difficult-to-remove brown staining on the teeth, as well as potential effects on mucous membranes and the tongue. In contrast, flaxseed oil offers advantages such as no staining and a lower risk of allergy. The only drawback of oil pulling therapy is its longer duration compared to chlorhexidine. The authors in the study concluded that oil pulling therapy was as equally effective as chlorhexidine mouthwash against plaque- induced gingivitis [(94)].

The meaning of Types 1 and 2 Gum Disease

Type 1 - Blood calcium is too low in relation to blood phosphorous.

Type 2 - Both phosphorous and blood calcium levels are low. These can be corrected by replenishing the body with the proper minerals and vitamins.

Indian Gooseberry for Strong, Healthy Gums

Amla, or Indian gooseberry, is highly regarded in the Indian art of healing known as Ayurveda for promoting oral health. It strengthens gums, helps reduce cavities, and combats bad breath. Its antibacterial properties contribute to preventing tooth decay effectively. Amla can be used as a mouth rinse in decoction form. Taking one to two grams daily in capsules can support long- term gum health, as it aids in the healing of connective tissues. Additionally, herbs like bilberry and hawthorn reinforce gum tissue by stabilizing collagen, while liquorice root has anti-cavity properties and reduces plaque. Ayurveda views teeth as part of the body's bone structure, so herbs that strengthen bone tissue, such as yellow dock, alfalfa, cinnamon, and turmeric, also contribute to dental health.

Thank you for reading this 3-chapter free preview! You have taken a powerful first step on a restorative path toward genuine dental wellness and lasting, natural relief.

As you've discovered in these opening chapters, for nearly every invasive procedure, a gentle, non-invasive alternative exists. Reclaiming your mouth's natural harmony often requires nothing more than a targeted shift in nutrition to restore balance—making costly and painful measures completely unnecessary.

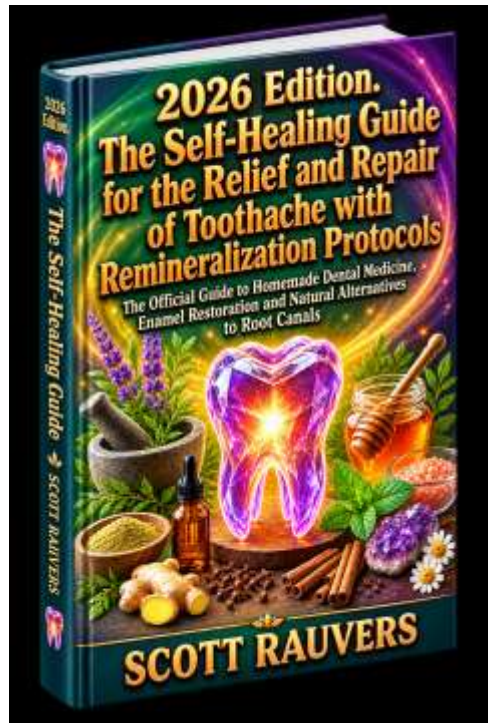
If these foundational insights inspired you, please pass this preview along to your friends, family, and coworkers. By sharing these time-tested, pharmaceutical-free remedies, we can help spare our loved ones from unnecessary pain, lost time, and heavy financial strain.

Keep this preview close as a quick reference, dive into the full book to unlock the complete holistic system, and enjoy a lifetime of strong, healthy, and natural confidence!

Continued Health and a Cavity Free Life to you and your loved ones!

Scott Rauvers

This unique book is available in Color Hardcover Edition, Paperback, Audiobook, Nook and Kindle Editions. Or request it at your local bookstore



Quoted Scientific References

The following list of references corresponds, in numerical order, to the citation numbers used throughout this book.

(1) The US Dental Amalgam Debate, 2010 Meeting of the FDA Dental Products Panel, Robert F. Cartland, Jr.
(2) Parliamentary Assembly of the Council of Europe, Resolution 1816 (2011), available at http://assembly.coe.int/Mainf.asp?link=/Documents/AdoptedTe xt/ta11/ERES1816.htm
(3) Social, Health and Family Affairs Committee of the Parliamentary Assembly of the Council of Europe, Report: Health Hazards of Heavy Metals and Other Metals (12 May 2011), available at http://assembly.coe.int/Main.asp?link=/Documents/WorkingDoc s/Doc11/EDOC12613.htm
(4) Health Canada http://www.hc-sc.gc.ca/
(5) Biol Trace Elem Res. 2013 Sep;154(3):326-32. doi: 10.1007/s12011-013-9743-3. Epub 2013 Jul 9. Mercury transfer during pregnancy and breastfeeding: hair mercury concentrations as biomarker. Marques RC1, Bernardi JV, Dórea JG, Leão RS, Malm O. Universidade Federal do Rio de Janeiro, Campus Macaé, Rio de Janeiro, RJ, Brazil. rejanecmarques@globo.com
(6) Aspiration pneumonia: dental and oral risk factors in an older veteran population. Terpenning MS et al. 2001
(7) The Newsletter of Longevity Books, West Towan House, Porthtowan, Truro, Cornwall TR4 8AX the Life Extension Foundation LONGEVITY REPORT 98 http://www.quantium.plus.com/lr/lr98.htm
(8) Oral sciences: History and future research. Divya Mehrotra. Aug 2014
(9) Clinical effect of biomimetic mineralization in proximal caries. M. Schlee et al. July 2014
(10) Second-generation Flagellin-rPAc Fusion Protein, KFD2-rPAc, Shows High Protective Efficacy against Dental Caries with Low Potential Side Effects. Jingyi Yang et al. Sept 2017
(11) Nanohydroxyapatite Application to Osteoporosis Management. Zairin Noor. Oct 2013
(12) Increased osteoblast viability at alkaline pH in vitro provides a new perspective on bone regeneration. Anne-Marie Galow et al. Jul 2017
(13) Antigingivitis, Desensitizing, and Antiplaque Effects of Alkaline Toothpastes: A Randomized Clinical Trial. Nina Novozhilova et al. Apr 2023
(14) Clinical Assessment of Rosemary-based Toothpaste (Rosmarinus officinalis Linn.): A Randomized Controlled Double-blind Study. Marcela A A Valone et al. Apr 2019
(15) Effectiveness of some herbals on initial enamel caries lesion. Gulcin Bilgin Gocmen et al. Oct 2016
(16) Ghada Ahmed Elzayat et al. March 2025

(17) Remineralization activities of toothpastes with and without aloe vera with different ratios of fluoride on demineralized enamel: An In-vitro study C Yikici and S Ozcan Sept 2022
(18) Evaluation of the Genotoxic Effects of Grape Seed Extract and Marine Collagen Peptide on the Fibroblast Cell Line: An In Vitro Study. Neshkumar KLS and Kavitha Ramar. June 2024
(19) Nano- hydroxyapatite and its applications in preventive, restorative and regenerative dentistry: a review of literature. Erlind Pepla et al. 2014
(20) Analysis of Dental Enamel Remineralization: A Systematic Review of Technique Comparisons. Giuseppina Malcangi et al. Apr 2023
(21) Effect of gallic acid on the wear behavior of early carious enamel. Gao SS et al. Jun 2009
(22) Effect of enamel organic matrix on the potential of Galla chinensis to promote the remineralization of initial enamel carious lesions in vitro. Linglin Zhang et al. Jun 2009
(23) Galla chinensis Compounds Remineralize Enamel Caries Lesions in a Rat Model. Zhang TT et al. 2016
(24) Effect of Galla chinensis on the in vitro remineralization of advanced enamel lesions.Cheng L and ten Cate JM. Mar 2010
(25) Effect of Green and White Tea Pretreatment on Remineralization of Demineralized Dentin by CPP-ACFP-An Invitro Microhardness Analysis.Poornima Jose et al. Apr 2016
(26) The Use of Probiotic Strains in Caries Prevention: A Systematic Review, that was conducted by Maria Grazia Cagetti, and published in July of 2013
(27) Development and evaluation of a safe and effective sugar-free herbal lollipop that kills cavity-causing bacteria. Chu-hong Hu.et al. Jan 2011
(28) Inhibition of hamster caries by substance in chocolate. A Strålfors. Sept 1967
(29) Anti- cariogenic effects of polyphenols from plant stimulant beverages (cocoa, coffee, tea) Ferrazzano GF et al. May 2009
(30) Beneficial effects of specific natural substances on oral health. Sameer Shaikh, MDSc and S. Manoj Kumar, Dec 2017
(31) Probiotics in periodontal health and disease that was conducted by Anirban Chatterjee et al. and published in January of 2011
(32) Decreased gum bleeding and reduced gingivitis by the probiotic Lactobacillus reuteri. Krasse P et al. 2006
(33) Short-term effect of chewing gums containing probiotic Lactobacillus reuteri on the levels of inflammatory mediators in gingival crevicular fluid. Svante Twetman et al. Jul 2009
(34) Inhibitory effect of cranberry juice on the colonization of Streptococci species: An in vitro study. Ragini Sethi and Vivek Govila
(35) Inhibition of Oral Pathogens Adhesion to Human Gingival Fibroblasts by Wine Polyphenols Alone and in Combination with an Oral Probiotic. Adelaida Esteban-Fernández et al. Feb 2018

(36) Effect of flavonoids from grape seed and cranberry extracts on the microbiological activity of Streptococcus mutans: a systematic review of in vitro studies. Jeison Stiven Castellanos et al. June 2024
(37) Role of Sugar and Sugar Substitutes in Dental Caries: A Review that was conducted by Prahlad Gupta et al and published in December of 2013
(38) Regular consumption of Lactobacillus reuteri-containing lozenges reduces pregnancy gingivitis: an RCT. Jul 2016
(39) Chitosan effect on dental enamel de-remineralization: an in vitro evaluation. Arnaud TM et al. Nov 2010
(40) Changes in composition and enamel demineralization inhibition activities of gallic acid at different pH values. Zhang J et al. Feb 2015
(41) Effectiveness of Curry-Leaf Mouthwash in Maintaining Salivary and Tongue pH as Compared to Chlorhexidine Mouthwash: A Randomised Controlled Trial. Gupta A and Purohit A. Jan 2018
(42) High-Level Antimicrobial Efficacy of Representative Mediterranean Natural Plant Extracts against Oral Microorganisms. Lamprini Karygianni, et al. Jun 2014
(43) Inhibition of Oral Pathogens Adhesion to Human Gingival Fibroblasts by Wine Polyphenols Alone and in Combination with an Oral Probiotic. Adelaida Esteban- Fernández et al. Feb 2018
(44) Red wine and oenological extracts display antimicrobial effects in an oral bacteria biofilm model. Muñoz-González et al. May 2014
(45) Natural Antimicrobials and Oral Microorganisms: A Systematic Review on Herbal Interventions for the Eradication of Multispecies Oral Biofilms. Lamprini Karygianni, et al. Jan 2016
(46) Effect of Wine Wastes Extracts on the Viability and Biofilm Formation of Pseudomonas aeruginosa and Staphylococcus aureus Strains.Carolina María Viola et al. Jul 2015
(47) Antibiofilm Activity of Plant Polyphenols. Lívia Slobodníková, et al. Dec 2016
(48) Bioavailability enhancers of herbal origin: An overview Kritika Kesarwani and Rajiv Gupta. Apr 2013
(49) Periodontal Disease and Phytotherapy. Petrovic MS. et al. March 2015. Journal of Oral Hygiene & Health. ISSN: 2332-0702
(50) Prevention in Clinical Oral Health Care. By David P. Cappelli, DMD, MPH, PhD, Connie Chenevert Mobley, PhD, RD. 2008
(51) Chocolate mouth rinse: Effect on plaque accumulation and mutans streptococci counts when used by children. Srikanth RK et al. June 2008
(52) Cocoa and Chocolate in Human Health and Disease. David L. Katz et al. Nov 2011
(53) Xylitol in preventing dental caries: A systematic review and meta-analyses. Chandrashekar Janakiram et al. Jan 2017
(54) Effect of erythritol and xylitol on dental caries prevention in children.Honkala S et al. 2014
(55) Dental plaque formation and salivary mutans streptococci in schoolchildren after use of xylitol-containing chewing gum. Holgerson PL et al. Mar 2007

(56) Effectiveness of stevia as a mouthrinse among 12 to 15-year-old schoolchildren in Nellore district, Andhra Pradesh - A randomized controlled trial. Kuna Vandana et al. Jan 2017
(57) Stevia in the fight against dental caries.Ma MS and Blanksma NG. Jan 2015
(58) Neurotropic effects of aspartame, stevia and sucralose on memory retention and on the histology of the hippocampus of the ICR mice (Mus musculus). Lejan Miguel Alabastro Villareal et al. Feb 2016
(59) An In vitro Study to Compare the Effect of Different Types of Tea with Chlorhexidine on Streptococcus mutans. Dona Elizabeth George et al. Sept 2017
(60) Effectiveness of Black Tea Mouthwash on Plaque Formation.Dr. Smitha K.B, Sri Hasanamba Dental College and Hospital.Sept 2015
(61) Effect of green tea mouthwash on reducing plaque and gingivitis.Elham Romoozi et al. Dec 2017
(62) An In vitro Study to Compare the Effect of Different Types of Tea with Chlorhexidine on Streptococcusmutans. George DE et al. Sept 2017
(63) An In vitro Study to Compare the Effect of Different. Types of Tea with Chlorhexidine on Streptococcus mutans. Dona Elizabeth George et al. Sept 2017
(64) Exceptional Seed Longevity and Robust Growth: Ancient Sacred Lotus from China. J. Shen-Miller et al. 1995
(65) Exceptional Seed Longevity and Robust Growth: Ancient Sacred Lotus from China. J. Shen-Miller, et al. Nov 1995
(66) In Vitro Antimicrobial Activity and Effect on Biofilm Production of a White Grape Juice (Vitis vinifera) Extract Angela Filocamo, et al. Dec 2015
(67) Natural Antimicrobials and Oral Microorganisms: A Systematic Review on Herbal Interventions for the Eradication of Multispecies Oral Biofilms Lamprini Karygianni, et al. Jan 2016
(68) Amyloid-binding compounds maintain protein homeostasis during ageing and extend lifespan. Alavez S et al. Apr 2011
(69) Regulation of Aging and Age-Related Disease by DAF-16 and Heat-Shock Factor Ao- Lin Hsu et al. May 2003
(70) Article - A chemical that stains Alzheimer's-associated proteins may help cells to cope with toxic trash. Ewen Callaway. Nature Mar 2011
(71) Lifespan and healthspan extension by resveratrol. Bhullar KS and Hubbard BP. June 2015
(72) Bioactive Synthetic Peptides for Oral Tissues Regeneration. Mercedes Bermudez et al. Apr 2023.
(73) Role of Antimicrobial Peptides in Periodontal Health and Disease—A Review. Ruchita T Patil et al. Feb 2025.
(74) Peptides for Receding Gums and Dental Health: What the Research Shows. https://superpower.com. April 2026.
(75) Effects of Cocoa Antioxidants in Type 2 Diabetes Mellitus Sonia Ramos, et al. Oct 2017
(76) Patterns of dental caries following the cessation of water fluoridation. Community Dentistry and Oral Epidemiology. Maupome G, et al. 2001

(77) Caries Trends 1992-1998 in Two Low- Fluoride Finnish Towns Formerly with and without Fluoridation. Seppa L, et al
(78) Decline of caries prevalence after the cessation of water fluoridation in the former East Germany. Kunzel W et al. 2000
(79) Caries prevalence after cessation of water fluoridation in La Salud, Cuba. Kunzel W et al. 2000
(80) Fluoride exposure and cognitive neurodevelopment: Systematic review and dose-response meta-analysis. Federica Veneri et al. March 2023
(81) Fluoride Exposure and Children's IQ Scores. A Systematic Review and Meta-Analysis. Kyla W. Taylor, et al. 2025
(82) Mechanisms of action of fluoride for caries control. Buzalaf MA et al. 2011
(83) An investigation of bottled water use and caries in the mixed dentition. Broffitt B et al. Summer 2007
(84) Risk Assessment of Fluoride Intake from Tea in the Republic of Ireland and its Implications for Public Health and Water Fluoridation. Declan T. Waugh et al. Feb 2016
(85) Seasonal variation in fluoride intake: the Iowa fluoride study. Broffitt B et al. Fall 2004
(86) Rhythmic changes in pain sensitivity in teeth. Pöllmann L,et al. 1978
(87) Dental pain induced by an ambient thermal differential: pathophysiological hypothesis. Anaïs Le Fur-Bonnabesse et al. Dec 2017
(88) Digital behavior surveillance: Monitoring dental caries and toothache interests of Google users from developing countries. Cruvinel T et al. Oct 2018
(89) Demography and seasonal variation of acute necrotising gingivitis in Nairobi, Kenya. Kaimenyi JT. et al Dec 1999
(90) Seasonal variation of acute necrotising ulcerative gingivitis in South Africans. Arendorf TM et al. May 2001
(91) Variation in Salivary Parameters and its Correlation with Plaque and Gingival Status among 12 to 15 Years Schoolchildren of Rural and Urban Jaipur City in Winter and Summer Seasons. Anupama Gaur et al. Feb 2012
(92) Morbidity Profile and Seasonal Variation of Diseases in a Primary Health Center in Kanpur District: A Tool for the Health Planners. Ranjeeta Kumari et al. Jul 2012
(93) Extract of Ginkgo biloba leaves attenuates neurotoxic damages in rats and SH-SY5Y cells exposed to a high level of fluoride. Jie Xiang et al. Jan 2023
(94) Effect Of Flaxseed Oil In Plaque Induced Gingivitis- A Randomized Controlled Double-Blind Study. Alluru Deepika
(95) Comparative Evaluation of the Remineralizing Potential of Flaxseed Paste, Chicken Eggshell Paste, and Fluoride Toothpaste on the Enamel of Primary Teeth, published by Farah Shehani A and Kavitha Ramar Sr in May of 2024
(96) Dental caries prevalence among type II diabetic and nondiabetic adults attending a hospital. Ekta A. Malvania et al. Dec 2016
(97) Periodontal disease in research beagle dogs--an epidemiological study. Kortegaard HE et al. Dec 2008
(98) Periodontal pocket treatment in beagle dogs using subgingival doxycycline from a biodegradable system. I. Initial clinical responses. Polson AM1 et al. Nov 1996

(99) Mangiferin: A possible strategy for periodontal disease to therapy. Xing-yu Duang. et al. Dec 2010
(100) Efficacy of lycopene in the treatment of gingivitis: a randomized placebo-controlled clinical trial. Chandra RV et al. 2007
(101) Patients with chronic periodontitis are more likely to develop upper urinary tract stone: a nation-wide population-based eight-year follow up study. I-Shen Huang, et al. Jul 2018
(102) Antibacterial Effects of Blackberry Extract Target Periodontopathogens Octavio A. González et al. Jul 2012
(103) Periodontal Therapy with 0.25%Lemongrass Oil Mouthwash in Reducing Risk of Cardiovascular Diseases: A 3-Arm Prospective Parallel Experimental Study. Dany S Subha and Tangde Pradeep. Sept 2017
(104) In vitro adherence of Candida albicans isolated from patients with chronic periodontitis. Adriana Gadotti Machado et al. Jul 2011
(105) Berberine Antifungal Activity in Fluconazole-Resistant Pathogenic Yeasts: Action Mechanism Evaluated by Flow Cytometry and Biofilm Growth Inhibition in Candida spp. Anderson Ramos da Silva, et al. May 2016
(106) In vitro synergism between berberine and miconazole against planktonic and biofilm Candida cultures. Wei GX et al. June 2011
(107) Prevalence of candida albicans in dental plaque and caries lesion of early childhood caries (ECC) according to sampling site. Maryam Ghasempour et al. Fall 2011
(108) The Effect of Essential Oils and Bioactive Fractions on Streptococcus mutans and Candida albicans Biofilms: A Confocal Analysis. Freires I et al. Oct 2015
(109) Drinking Hydrogen- Rich Water Has Additive Effects on Non-Surgical Periodontal Treatment of Improving Periodontitis: A Pilot Study. Tetsuji Azuma et al. Jul 2015
(110) Protective role of flavonoid baicalin from Scutellaria baicalensis in periodontal disease pathogenesis: A literature review. Ming J et al. June 2018
(111) A subchronic oral toxicity study of Salacia reticulata extract powder in rats. Yuriko Oda et al. 2015
(112) The stomach in health and disease. R H Hunt, et al. Sept 2015
(113) Age and disease related changes in intestinal bacterial populations assessed by cell culture, Hopkins MJ et al. Feb2001
(114) Antimicrobial activity of aerial parts of Drosera peltata Smith on oral bacteria. Nicole Didry et al. Feb 1998
(115) Determination of quercetin, plumbagin and total flavonoids in Drosera peltata Smith var. glabrata Y.Z.Ruan. He Y et al. Oct 2012
(116) Effects of plumbagin on antibiotic resistance in bacteria. Durga R et al. Jan 1990
(117) Medical Botany: Plants Affecting Human Health By Walter H. Lewis, Memory P. F. Elvin-Lewis
(118) Quantitative Determination Of Tannin Content And Evaluation Of Antibacterial Activity Of Amaranthus Tricolor (L) Sowjanya Pulipati et al. 2014
(119) In vitro cultivation of hairy roots of Plumbago rosea L. in a customized Reaction kettle for the production of plumbagin. An anticancer compound.BinoyJose et al. Sept 2016

(120) Production of plumbagin from cell cultures of Plumbago rosea L. P. Komaraiah et al. Aug 2001
(121) Increased production of plumbagin in Plumbago indica root cultures by biotic and abiotic elicitors. Jaisi A. et al. Feb 2016
(122) The proteolysis-chelation theory of dental caries Albert Schatz, Ph. et al.September 1962
(123) Manganese absorption and retention by young women is associated with serum ferritin concentration. John W Finley. July 1999
(124) Manganese and its Role in Parkinson's Disease: From Transport to Neuropathology Michael Aschner, et al. Oct 2015
(125) Silicon-, Silica-, and Silicate-Toothpastes for Remineralization and Repair of Teeth: A Scoping Review. Fabio Correia Sampaio et al. Aug 2024
(126) Chromium picolinate and biotin combination improves glucose metabolism in treated,uncontrolled overweight to obese patients with type 2 diabetes. Albarracin CA et al. Jan 2008
(127) Prostaglandins Leukot Essent Fatty Acids. 2003 Mar;68(3):213- 8. Pilot study of dietary fatty acid supplementation in the treatment of adult periodontitis. Rosenstein ED1, Kushner LJ, Kramer N, Kazandjian G. Arthritis and Rheumatic Disease Center, St. Barnabas Medical Center, 200 South Orange Avenue, Livingston, NJ 07039, USA. erosenstein@sbhcs.com
(128) Salvadora persica L. (Meswak) in dental hygiene. Hilal Ahmad and K Rajagopal. July 2014
(129) Prolongevity Effects of an Oregano and Cranberry Extract are Diet Dependent in the Mexican Fruit Fly (Anastrepha ludens). Sige Zou et al. 2009
(130) Inhibition of Helicobacter pylori and Associated Urease by Oregano and Cranberry Phytochemical Synergies. Y. T. Lin et al. Dec 2005
(131) Role of Helicobacter pylori in gastric cancer: Jahanarah Khatoon et al. Feb 2016
(132) Antioxidant and Antiproliferative Activities of Common Fruits. Jie Sun ,† Yi-Fang Chu ,† Xianzhong Wu ,† and Rui Hai Liu. Department of Food Science and Institute of Comparative and Environmental Toxicology, Stocking Hall, Cornell University, Ithaca, New York 14853-7201. J. Agric. Food Chem., 2002, 50 (25), pp 7449–7454. DOI: 10.1021/jf0207530. Publication Date (Web): November 9, 2002. Copyright © 2002 American Chemical Society
(133) Journal of Periodontology. March 2009, Vol. 80, No. 3, Pages 372-377 , DOI 10.1902/jop.2009.080510. (doi:10.1902/jop.2009.080510). Relationship Between Intake of Green Tea and Periodontal Disease. Mitoshi Kushiyama,* Yoshihiro Shimazaki, Masatoshi Murakami and Yoshihisa.Yamashit. Department of Preventive Dentistry, Kyushu University Faculty of Dental Science, Fukuoka, Japan. Correspondence: Dr. Yoshihiro Shimazaki, Department of Preventive Dentistry,Kyushu University Faculty of Dental Science, 3-1-1 Maidashi,Higashi-ku, Fukuoka 812- 8582, Japan. Fax: 81-92-642-6354; e-mail: shima@dent.kyushu-u.ac.jp.
(134) Antimicrob Agents Chemother. 2011 Mar; 55(3): 1229–1236. Published online 2010 Dec 13. doi: 10.1128/AAC.01016-10 PMCID: PMC3067078. The Tea Catechin Epigallocatechin Gallate Suppresses Cariogenic Virulence Factors of

Streptococcus mutans? Xin Xu,1,2 Xue D. Zhou,2 and Christine D. Wu1. Department of Pediatric Dentistry, College of Dentistry, University of Illinois at Chicago, Chicago, Illinois,1 State Key Laboratory of Oral Diseases, Sichuan University, Chengdu, China. Corresponding author. Mailing address: Department of Pediatric Dentistry, University of Illinois at Chicago, College of Dentistry, MC850, 801 S. Paulina Street, Room 469J, Chicago, IL 60612-7212. Phone: (312) 355-1990. Fax: (312) 996-1981.

(135) Resveratrol and Omega-3 Fatty Acid: Its Implications in Cardiovascular Diseases Bibhuti Bhusan Kakoti, et al. Dec 2015

(136) Ecological Approaches to Dental Caries Prevention: Paradigm Shift or Shibboleth?.Philip N et al. 2018

(137) Anticariogenic activity of macelignan isolated from Myristica fragrans (nutmeg) against Streptococcus mutans. J.Y. Chung et al. Apr 2006

(138) Understanding the Presence of Biofilms in Wound Healing: Opportunities for Intervention. Cathy Thomas Hess. Apr 2012

(139) The virulence of Streptococcus mutans and the ability to form biofilms. W. Krzysciak et al. Oct 2013

(140) Anti-biofilm activity of Salvadora persica on cariogenic isolates of Streptococcus mutans: in vitro and molecular docking studies. Al-Sohaibani S. et al. 2012

(141) Use of probiotics Bifidumbacterin and Acilact in tablets in therapy of periodontal inflammations. A.I. Grudianov et al. Jan 2002

(142) Effects of Lactobacillus helveticus fermented milk on bone cells in vitro. Narva M et al. Aug 2004

(143) Effectiveness of Probiotic Lactobacillus salivarius WB21 Tablets on Oral Malodor among Patients Attending Dental Institution in Mysuru City, India. An Open Label Pilot Trial. Nao Taniguchi. Jul 2017

(144) Probiotic effects of orally administered Lactobacillus salivarius WB21-containing tablets on periodontopathic bacteria: A double-blinded, placebo-controlled, randomized clinical trial. Gen Mayanagi et al. Jun 2009

(145) Probiotics in periodontal health and disease. Anirban Chatterjee et al. Jan 2011

(146) Probiotics in periodontal health and disease. Anirban Chatterjee, Hirak Bhattacharya, and Abhishek Kandwal. Jan 2011

(147) Guiding Periodontal Pocket Recolonization: a Proof of Concept. W. Teughels et al. J Dent Res 86(11):1078-1082, 2007

(148) Intake of dairy products and periodontal disease: the Hisayama Study. Shimazaki Y et al. Jan 2008

(149) Effect of Probiotics on Depression: A Systematic Review and Meta- Analysis of Randomized Controlled Trials. Ruixue Huang, et al. Aug 2016

(150) Traditional Medicinal Plant Extracts and Natural Products with Activity against Oral Bacteria: Potential Application in the Prevention and Treatment of Oral Diseases that was conducted by Enzo A. Palombo et al. and published in January Jan 2011

(151) Lactobacillus brevis CD2 lozenges prevent oral mucositis in patients undergoing high dose chemotherapy followed by haematopoietic stem cell transplantation Atul Sharma et al. Feb 2017

(152) Short-term effect of ice-cream containing Bifidobacterium lactis Bb-12 on the number of salivary mutans streptococci and lactobacilli. Caglar E et al. Jun 2008
(153) Salivary Streptococcus mutans and Lactobacilli levels following probiotic cheese consumption in adults: A double blind randomized clinical trial* Shiva Mortazavi1 and Najme AkhlaghR. Jan 2012
(154) Bifidobacterium animalis subsp. lactis BB-12 administration in early childhood: a randomized clinical trial of effects on oral colonization by mutans streptococci and the probiotic. Taipale T et al. Feb 2012
(155) Effect of long-term consumption of a probiotic bacterium, Lactobacillus rhamnosus GG, in milk on dental caries and caries risk in children. Näse L et al. Dec 2001
(156) PLoS One. 2014; 9(1): e87061. Published online 2014 Jan 21. doi: 10.1371/journal.pone.0087061. PMCID: PMC389776. Anti- Oxidative Effects of Rooibos Tea (Aspalathus linearis) on Immobilization-Induced Oxidative Stress in Rat Brain. In-Sun Hong,#1,2 Hwa-Yong Lee,#1,2 and Hyun-Pyo Kim3,* Xianglin Shi, Editor. Adult Stem Cell Research Center, Seoul National University, Seoul, Republic of Korea. Department of Veterinary Public Health, Laboratory of Stem Cell and Tumor Biology, Seoul National University, Seoul, Republic of Korea. Department of Biomedical Science, Jungwon University, Chungbuk, Korea. University of Kentucky, United States of America. #Contributed equally. E-mail: rk.ca.uwj@sssphk. Competing Interests: The authors have declared that no competing interests exist. Conceived and designed the experiments: HPK. Performed the experiments: ISH HYL HPK.Analyzed the data: ISH HYL HPK.Wrote the paper: ISH HYL HPK.
(157) Antibacterial Effect of Juglans Regia Bark against Oral Pathologic Bacteria. Faramarz Zakavi, et al. Jul 2013
(158) Potent and specific bactericidal effect of juglone (5- hydroxy-1,4-naphthoquinone) on the fire blight pathogen Erwinia amylovora. Fischer TC et al. Dec 2012
(159) Staining of Parasitic Helminths by Extracts of Allium cepa, Juglans regia, and Rubia tinctorum: An Approach to Herbal Dyes. Zahra Marhaba and Ali Haniloo. Apr 2018
(160) Proliferative and Anti-Inflammatory Effects of Resveratrol and Silymarin on Human Gingival Fibroblasts: A View to the Future. Minoo Shahidi et al. Jul 2017
(161) Neuroprotective and antioxidant activities of bamboo salt soy sauce against H2O2-induced oxidative stress in rat cortical neurons. Jong Hee Jeong et al. Feb 2016
(162) J Orthop Sci. 2000;5(6):546-51.Effect of combined administration of vitamin D3 and vitamin K2 on bone mineral density of the lumbar spine in postmenopausal women with osteoporosis. Iwamoto J1, Takeda T, Ichimura S. Department of Sports Clinic, Keio University School of Medicine, 35 Shinanomachi, Shinjuku-ku, Tokyo 160-8582, Japan.
(163) Med Hypotheses. 2007;68(5):1026-34. Epub 2006 Dec 4. Vitamin D toxicity redefined: vitamin K and the molecular mechanism. Masterjohn C1. Weston A. Price Foundation, 4200 Wisconsin Ave., NW, Washington, DC 20016, United States. ChrisMasterjohn@gmail.com

(164) Int J Cancer. 2007 Apr 1;120(7):1402-9. Inhibition of lung carcinogenesis by 1alpha,25-dihydroxyvitamin D3 and 9-cis retinoic acid in the A/J mouse model: evidence of retinoid mitigation of vitamin D toxicity. Mernitz H1, Smith DE, Wood RJ, Russell RM, Wang XD. Nutrition and Cancer Biology Laboratory, Jean Mayer USDA Human Nutrition Research Center on Aging, Tufts University, Boston, MA 02111, USA.
(165) Med Hypotheses. 2007;68(5):1026-34. Epub 2006 Dec 4. Vitamin D toxicity redefined: vitamin K and the molecular mechanism. Masterjohn C1. Weston A. Price Foundation, 4200 Wisconsin Ave., NW, Washington, DC 20016, United States. ChrisMasterjohn@gmail.com
(166) Medical and biological role of Apigenin: A comprehensive review. Mayukh Bhattacharya and Shyamapada Mandal. March 2025
(167) Study Title: Studies of anti-inflammatory effects of Rooibos tea in rats. Pediatr Int. 2009 Oct;51(5):700-4. doi: 10.1111/j.1442- 200X.2009.02835.x. Epub 2009 Mar 27. Studies of anti- inflammatory effects of Rooibos tea in rats. Baba H1, Ohtsuka Y, Haruna H, Lee T, Nagata S, Maeda M, Yamashiro Y, Shimizu.T. Department of Pediatrics and Adolescent Medicine, JuntendoUniversity School of Medicine, Tokyo, Japan.
(168) Health Effects of Psidium guajava L. Leaves: An Overview of the Last Decade. Elixabet Díaz-de-Cerio et al. Apr 2017
(169) Lick the Sugar Habit: Sugar Addiction Upsets Your Whole Body Chemistry. Nancy Appleton Phd. 1988
(170) The inhibitory effects of naringin on the growth of periodontal pathogensin vitro. V W K Tsui et al. Mar 2008
(171) A Phytopharmacological Review on a Medicinal Plant: Juniperus communis. Souravh Bais et al. Nov 2014
(172) Periodontal Disease and Phytotherapy. Journal of Oral Hygiene & Health. ISSN: 2332-702.Petrovic MS. et al. March 2015
(173) Effect of ethanol extract of Lepidium meyenii Walp (Maca). on osteoporosis in ovariectomized rat. Zhang Y et al. April 2006
(174) Astragalus embranaceus extract activates immune response in macrophages via heparanase. Qin Q et al. June 2012
(175) The Effect of Astragalus Extractive on Alveolar Bone Rebuilding Progress of Tooth Extracted Socket of Ovariectomied Rats. Xiaochen Liu et al. Aug 2014
(176) Effects of Astragalus membranaceus with supplemental calcium on bone mineral density and bone metabolism in calcium-deficient ovariectomized rats. Kang SC et al. Jan 2013
(177) Effects of Luteolin and Quercetin in Combination with Some Conventional Antibiotics against Methicillin-Resistant Staphylococcus aureus Muhammad Usman Amin et al. Nov 2016
(178) Disruption of the Gut Ecosystem by Antibiotics. Mi Young Yoon1,2 and Sang Sun Yoon. Nov 2017
(179) Osborn, T.W.B. and J.N. Noriskin.The Relationship betwen diet and dental caries in South African Bantu. J. Dental Res. 16: 431 (1937)

(180) Cebrian D and others. Inositol hexaphosphate: a potential chelating agent for uranium. Radiation Protection Dosimetry 2007 127(1-4):477–9.
(181) Crit Rev Food Sci Nutr. 1995 Nov;35(6):495-508. Phytic acid in health and disease. Zhou JR1, Erdman JW Jr.
(182) A Comparison of Crude and Refined Sugar and Cereals in their Ability to Produce in Vitro Decalcification of Teeth. J DENT RES June 1937 16: 165-171.
(183) Long-Term Study of Heart Rate Variability Responses to Changes in the Solar and Geomagnetic Environment Abdullah Alabdulgader et al. Feb 2018
(184) Can Dent Assoc. 1996 Jul;62(7):578-84. Barodontalgia among flyers: a review of seven cases. Holowatyj RE1. Department of oral medicine and pathology, faculty of dentistry, University of Toronto.
(185) Physical and Chemical Properties, Biosafety Evaluation, and Effects of Nano Natural Deer Bone Meal on Bone Marrow Mesenchymal Stem Cells. Yongbo LiYongbo Li et al. July 2022
(186) Sika deer antler as a novel model to investigate dental implant healing: A pilot experimental study. Yun He et al. July 2018
(187) Physical and Chemical Properties, Biosafety Evaluation, and Effects of Nano Natural Deer Bone Meal on Bone Marrow Mesenchymal Stem Cells. Yongbo LiYongbo Li et al. July 2022
(188) Panelist Acceptance Analyses of Tooth Remineralization Paste Formulation: Adding the Bone Meal of Channa Striata Fish Hydroxyapatite. Sri Wahyuni et al. Jan 2024
(189) Tooth brushing, oil pulling and tissue regeneration: A review of holistic approaches to oral health that was conducted by Abhinav Singh and Bharathi Purohit and published during April of 2011
(190) Effect of oil pulling on plaque induced gingivitis: a randomized, controlled, triple-blind study. Sharath Asokan et al. Jan 2009
(191) The Times of India Bangalore. Tuesday, July 11th, 1995
(192) Telugu Newspaper. Wonderful Therapy – Oil Pulling. Sunday special editions from October 1993 to September 1996.
(193) J Am Diet Assoc. 2005 Jul;105(7):1071-9.A diet rich in high- oleic-acid sunflower oil favorably alters low-density lipoprotein cholesterol, triglycerides, and factor VII coagulant activity.Allman- Farinelli MA1, Gomes K, Favaloro EJ, Petocz P. Author information. Department of Biochemistry, University of Sydney, Australia.
(194) Climacteric. 2011 Oct;14(5):558-64. doi: 10.3109/13697137.2011.563882. Epub 2011 May 5.Improvement in HDL cholesterol in postmenopausal women supplemented with pumpkin seed oil: pilot study.Gossell-Williams M1, Hyde C, Hunter T, Simms-Stewart D, Fletcher H, Mc. Growder D, Walters CA. Author information.Department of Basic Medical Sciences, University of the West Indies, Kingston, Jamaica. http://www.ncbi.nlm.nih.gov/pubmed/21545273
(195) Acta Biomed. 2011 Dec;82(3):197-9.Comparative study of cinnamon oil and clove oil on some oral microbiota. Gupta C1, Kumari A, Garg AP, Catanzaro R, Marotta F. Amity Institute for Herbal Research and Studies, Amity University, Noida, India.

(196) Effects Of Strength And Endurance Exercise On Calcium-Regulating Hormones Between Different Levels Of Physical Activity. Linda L Lin and Sandy Shsieh. Nov 2011
(197) Facebook post title: Two amazing testimonials on how essential oils can heal your TEETH! Thieves Keeps Fall From Stealing Tooth. April 2011. Dr. David Stewart Phd. Post archived from: The Raindrop Messenger newsletter (Vol. 9, No. 2, April-June 2011).
(198) Biofilm: a resource of anti-biofilm agents and their potential implications in targeting antibiotic drug resistance Akanksha Rajput et al. Nov 2017
(199) Comparative Evaluation of Polyphenol Contents and Antioxidant Activities between Ethanol Extracts of Vitex negundo and Vitex trifolia L. Leaves by Different Methods. Sarla Saklani et al. Sept 2017
(200) Effects of myrrh on intra-oral mucosal wounds compared with tetracycline- and chlorhexidine- based mouthwashes. Azizah Al-Mobeeriek. Aug 2011
(201) Anticariogenic potentials of clove, tobacco and bitter kola. Uju DE and Obioma. Np. Oct 2011
(202) NIH. Eugenol CLOVE 15%- 30% Clove (Syzygium aromaticum): a precious spice. Diego Francisco Cortés-Rojas et al. Feb 2014
(203) Comparative assessment of Cranberry and Chlorhexidine mouthwash on streptococcal colonization among dental students: A randomized parallel clinical trial. Mahesh R. Khairnar, et al. Jan 2015
(204) A Jamaican Study: Invitro Comparison of the Effects of Lantana camara, Gouania lupuloides and Commercial Mouthwashes on Oral Microorganisms. Gad Onywere et al. Jan 2016
(205) Efficacy of garlic extract and chlorhexidine mouthwash in reduction of oral salivary microorganisms, an in vitro study. H. T. Ajay Rao. et al. Dec 2014
(206) Comparative Evaluation of Effects of Triphala, Garlic Extracts, and Chlorhexidine Mouthwashes on Salivary Streptococcus mutans Counts and Oral Hygiene Status.Bharathi Padiyar, et al. Aug 2018
(207) Inhibitory effect of garlic extract on oral bacteria. Bakri IM and Douglas CW. Feb 2005
(208) Potential use of tea extract as a complementary mouthwash: comparative evaluation of two commercial samples. Esimone CO et al. Oct 2001
(209) Comparison of the efficacy of herbal mouth rinse with commercially available mouth rinses: A clinical trial. Nadeem Jeddy et al. Sept 2018
(210) Comparison Between Antibacterial Effect of Chlorhexidine 0.2% and Different Concentrations of Cyperus rotundus Extract: An In vitro Study. Roza Haghgoo et al. Sept 2017
(211) Labdane diterpenoids from Sagittaria sagittifolia and their antibacterial activity against three oral pathogens. Liu Xt et al. Feb 2006
(212) Modifications of hydrophobicity, in vitro adherence and cellular aggregation of Streptococcus mutans by Helichrysum italicum extract. Nostro A et al. 2004
(213) Selective activity of Streblus asper on Mutans streptococci. Taweechaisupapong S et al. Apr 2000

(214) Effects of herbal mouthwash containing the pericarp extract of Garcinia mangostana L on halitosis, plaque and papillary bleeding index.Rassameemasmaung S et al. Jan 2007
(215) Plant Polyphenols and Their Anti-Cariogenic Properties:A Review. Gianmaria F. Ferrazzano et al. Feb 2011
(216) Comparative Evaluation of the Antimicrobial Effects of Different Mouthrinses against Oral Pathogens: An In Vitro Study. Eman Abu-Obaid et al. May 2020
(217) Comparative evaluation of antibacterial property and substantivity of chlorhexidine containing dentifrices with sodium lauryl sulfate and Tween as surfactants: an in vivo study. Venu V et al. Jul 2013
(218) Traditional Medicinal Plant Extracts and Natural Products with Activity against Oral Bacteria: Potential Application in the Prevention and Treatment of Oral Diseases Enzo A. Palombof. Jan 2011
(219) The role of lead and cadmium in deciduous teeth and saliva on dental caries in children residing in Tehran, Iran. Fariba Motevasselian et al. Sept 2023
(220) The association of lead and cadmium exposure with periodontitis: a systematic review and meta-analysis. Saiyan Yang et al. June 2025
(221) A sustainable way to prevent oral diseases caused by heavy metals with phytoremediation Sana Salehi et al. June 2025
(222) Hydrogen peroxide: a review of its use in dentistry. M.V. Marshall et al. Sept 1995
(223) Primary tooth abscess caused by Mycobacterium bovis in an immunocompetent child. Chrysoula Maragou et al. May. 2014
(224) Plants from Puerto Rico with anti- Mycobacterium tuberculosis properties. Frame AD et al. Sept 1998
(225) C/EBPε mediates nicotinamide-enhanced clearance of Staphylococcus aureus in mice. Pierre Kyme et al. September 2012.
(226) Gulf War Illness: Evaluation of an Innovative Detoxification Program. University of Albany. December 2015
(227) Iran Endod J. 2012 Summer; 7(3): 127–133.Published online 2012 Aug 1. PMCID: PMC3467135. Propolis: A New Alternative for Root Canal Disinfection. Maryam Zare Jahromi,1,* Hasan Toubayani,2 and Majid Rezaei3. Department of Dentistry, Khorasgan Branch, Islamic Azad University, Isfahan, Iran.Dentist, Isfahan, Iran.Department of Oral and Maxillofacial Surgery, Isfahan University of medical sciences, Isfahan, Iran. Maryam Zare Jahromi, Department of Endodontics, Faculty of Dentistry, Islamic Azad University, Khorasgan Branch, East Jey Avenue, Arghavaniye St., Isfahan, Iran. Tel.: +98-3115354123,Fax: +98-3115354053.
(228) Comparative evaluation of in-vitro effects of Brazilian green propolis and Baccharis dracunculifolia extracts on cariogenic factors of Streptococcus mutans. Leitão DP et al. 2004
(229) Synergistic effect of ethanolic extract of propolis and antibiotics on the growth of staphylococcus aureus. Krol W et al. 1993
(230) The anti-inflammatory and antioxidant effects of bergamot juice extract. Impellizzeri et al. Dec 2015

(231) Chamomile: A herbal medicine of the past with bright future Janmejai K Srivastava et al. Nov 2010
(232) Anti-inflammatory activities of colloidal oatmeal. Reynertson KA et al. Jan 2015
(233) Controlling Streptococcus mutans and Staphylococcus aureus biofilms with direct current and chlorhexidine. Hao Wang et al. Nov 2001
(234) Controlling Streptococcus mutans and Staphylococcus aureus biofilms with direct current and chlorhexidine. Hao Wang and Dacheng Ren. Nov 2017
(235) Antimicrobial effects of Finnish plant extracts containing flavonoids and other phenolic compounds. Rauha JP et al. May 2000
(236) Chemoprevention of Oral Cancer by Topical Application of Black Raspberries on High At-Risk Mucosa. Blake M. Warner, et al. Sept 2014
(237) A dual antibacterial mechanism involved in membrane disruption and DNA binding of 2R,3R- dihydromyricetin from pine needles of Cedrus deodara against Staphylococcus aureus. Wu Y et al. Mar 2017
(238) Streptococcus mutans, Caries and Simulation Models. Sofia D. Forssten et al. Mar 2010
(239) Assessment of Streptococcus mutans in healthy versus gingivitis and chronic periodontitis: A clinico-microbiological study. Sneha Dani et al. Dec 2016
(240) Susceptibility of Porphyromonas gingivalis and Streptococcus mutans to Antibacterial Effect from Mammea americana. Herrera Herrera A et al. Apr 2014
(241) Plants from Puerto Rico with anti- Mycobacterium tuberculosis properties. Frame AD et al. Sept 1998
(242) Susceptibility of Porphyromonas gingivalis and Streptococcus mutans to Antibacterial Effect from Mammea americana. Alejandra Herrera Herrera et al. Apr 2014
(243) Antimicrobial activity of the essential oil of Tetradenia riparia (Hochst.)Codd.(Lamiaceae) against cariogenic bacteria. Nathalya Isabel de Melo et al. Jun 2015
(244) Comparative studies on the effect of crude aqueous (CA) and solvent (CM) extracts of clove on the cariogenic properties of Streptococcus mutans.Journal of oral science. Rahim ZH et al. 2006
(245) Comparative evaluation of the antimicrobial efficacy of aloe vera tooth gel and two popular commercial toothpastes: an in vitro study. George D et al. May 2009
(246) Effect of potential remineralizing agent and antioxidants on color stability of bleached tooth exposed to different staining solutions. Sonali Taneja et al. Jul 2018
(247) Antimicrobial Activity of Peganum Harmala L. on Streptococcus mutans. Motamedifar M et al. Sept 2016
(248) Studies on Modulation of Gut Microbiota by Wine Polyphenols: From Isolated Cultures to Omic Approaches. Montserrat Dueñas et al. Jan 2015
(249) Inhibition of Streptococcus mutans and Other Oral streptococci by hop (Humulus lupulus L.) constituents. Sanchita Bhattacharya. March 2003
(250) In vitro activity of xanthorrhizol against Streptococcus mutans biofilms. Rukayadi Y et al. Apr 2006

(251) Susceptibility of cariogenic Streptococcus mutans to extracts of Garcinia kola, Hibiscus sabdariffa, and Solanum americanum. Afolabi Oc et al. Oct 2008
(252) In vitro inhibitory effects of Polygonum cuspidatum on bacterial viability and virulence factors of Streptococcus mutans and Streptococcus sobrinus. Song et al. 2006
(253) Inhibitory effect of some herbal extracts on adherence of Streptococcus mutans. Limsong J et al. Jun 2004
(254) Antibacterial activity of polyphenol components in oolong tea extract against Streptococcus mutans. Sasaki H et al. Feb 2004
(255) Susceptibility of cariogenic Streptococcus mutans to extracts of Garcinia kola, Hibiscus sabdariffa, and Solanum americanum. O C Afolabi. et al. Nov 2008
(256) Anticariogenic activity of macelignan isolated from Myristica fragrans (nutmeg) against Streptococcus mutans. Chung JY. et al. Mar 2016
(257) Vitamin C attenuates the toxic effect of nutmeg on primary visual occipital cortex in rats. Salman NAAFA. et al. Aug 2018
(258) Comparative Evaluation of Antibacterial Efficacy of Six Indian Plant Extracts against Streptococcus Mutans. Isha Jain et al. Feb 2015
(259) Curcuma Xanthorrhiza In vitro activity of xanthorrhizol against Streptococcus mutans biofilms. Rukayadi Y. Apr 2006
(260) Screening and characterization of medicinal plants extracts with bactericidal activity against Streptococcus mutans. Alejandra Isabel Vargas-Segura et al. Jan 2019
(261) Effectiveness of Salvadora persica extracts against common oral pathogens.Balto H. et al. Jan 2017
(262) British Dental Journal 199, 210 (2005). Published online: 27 August 2005 | doi:10.1038/sj.bdj.4812616. Title: Vitamin C intake and periodontal disease. A Borutta1 The Study can be accessed online at: http://www.nature.com/bdj/journal/v199/n4/full/4812616a.html
(263) Am J Clin Nutr. 1988 Sep;48(3):601-4.Comparative bioavailability to humans of ascorbic acid alone or in a citrus extract. Vinson JA1, Bose P. Department of Chemistry, University of Scranton, PA 18510.
(264) Review of the efficacy of 0.15% benzydamine hydrochloride (tantum verde) in oropharyngeal inflammatory processes. Irantzu Rossello and Francesc Montaña. Oct 2007
(265) Antimicrobial effect of spices and herbs on Vibrio parahaemolyticus. Yano Y et al. Aug 2006
(266) Microbiol Rev. 1986 Dec; 50(4): 353–380. PMCID: PMC373078. Role of Streptococcus mutans in human dental decay.W J Loesche.
(267) Role of manganese in bone metabolism. In: Nutritional Bioavailability of Manganese. Strause L, Saltmar P: Kies, C, Ed. Am. Jul 2009
(268) Oral health and impact on performance of athletes participating in the London 2012 Olympic Games: a cross-sectional study. Needleman, et al. Nov 2013
(269) Exercise-Induced Immunodepression in Endurance Athletes and Nutritional Intervention with Carbohydrate, Protein and Fat—What Is Possible, What Is Not? Wolfgang Gunzer et al. Sept 2012

(270) Overtraining, excessive exercise, and altered immunity: is this a T helper-1 versus T helper-2 lymphocyte response? Lakier Smith L 2003
(271) Anti- Streptococcus mutans efficacy of Thai herbal formula used as a remedy for dental caries. Nantiya Joycharat et al. Dec 2011
(272) Practice and beliefs of the Kammu people. Tayanin GL et al. Apr 2006
(273) The effect of mango and neem extract on four organisms causing dental caries: Streptococcus mutans, Streptococcus salivavius, Streptococcus mitis, and Streptococcus sanguis: an in vitro study. Prashant GM et al. Dec 2007
(274) Recombinant self-assembling peptides as biomaterials for tissue engineering. Stuart Kyle et al. December 2010.
(275) Daily Carnosine and Anserine Supplementation Alters Verbal Episodic Memory and Resting State Network Connectivity in Healthy Elderly Adults. J. Rokicki et al. November 2015
(276) The Effect of Formulated Dentin Remineralizing Gel Containing Hydroxyapatite, Fluoride, and Bioactive Glass on Dentin Microhardness: An In Vitro Study. Mohadese Asadi, et al. Aug 2024
(277) Remineralization and inactivation of carious lesions treated with silver fluoride in Brazilian children with special healthcare needs. Nicoline Potgieter. et al. Mar 2024
(278) Azadirachta indica: A herbal panacea in dentistry. T. Lakshm et al. Jan 2015
(279) Effect of an oxygenating agent on oral bacteria in vitro and on dental plaque composition in healthy young adults. Mercedes Fernandez y Mostajo, et al. 2014
(280) Strong antibacterial effect of miswak against oral microorganisms associated with periodontitis and caries. Sofrata AH et al. Aug 2008
(281) J Electron Microsc (Tokyo). 2003;52(5):471-6. Remineralization effects of xylitol on demineralized enamel. Miake Y1, Saeki Y, Takahashi M, Yanagisawa T.Department of Ultrastructural Science, Oral Health Science Center, Tokyo Dental College, 1- 2-2 Masago, Mihama-ku, Chiba 261-8502, Japan. miake@tdc.ac.jp
(282) Caries Res. 2007;41(5):342-9. The antibacterial activity of plant extracts containing polyphenols against Streptococcus mutans.Smullen J1, Koutsou GA, Foster HA, Zumbé A, Storey DM. Biomedical Sciences Research Institute, University of Salford, Manchester, UK.
(283) J Dent. Author manuscript; available in PMC 2009 Nov 1.Published in final edited form as; J Dent. 2008 Nov; 36(11): 900– 906. Published online 2008 Sep 25. doi: 10.1016/j.jdent.2008.07.011. PMCID: PMC2583354. NIHMSID: NIHMS77534. In Vitro Remineralization Effects of Grape Seed Extract on Artificial Root Caries. Qian Xie, DDS, PhD, Post- Doctoral Research Assistant,a Ana Karina Bedran-Russo, DDS, MS, PhD, Assistant Professor,b,* and Christine D. Wu, M.S. PhD, Professora,** The Department of Pediatric Dentistry, College of Dentistry, University of Illinois at Chicago, IL, 60612, USA. Department of Restorative Dentistry, College of Dentistry, University of Illinois at Chicago, IL, 60612, USA Corresponding author: Ana Karina Bedran-Russo, Department of Restorative Dentistry, College of Dentistry, University of Illinois at Chicago, 801 South Paulina Street, room 551, Chicago, IL 60612, Phone: 312-413-9581, Fax:

312-996-3535, E-mail: ude.ciu@nardeb. **This author has formerly published under "Christine D. Wu-yuan"
(284) Lifespan Extending and Stress Resistant Properties of Vitexin from Adzuki Beans. Eun Byeol Lee et al. Nov 2015
(285) Occurrence of Astringent Oligomeric Proanthocyanidins in Legume Seeds. Toshiaki.ARIGA. Dec 1980
(286) Severe Periodontitis Is Inversely Associated with Coffee Consumption in the Maintenance. Phase of Periodontal Treatment. Tatsuya Machida, et al. Oct 2014
(287) Galla chinensis Compounds Remineralize Enamel Caries Lesions in a Rat Model. Zhang TT et al. Apr 2016
(288) Phytochemical, antioxidant and mineral composition of hydroalcoholic extract of chicory (Cichorium intybus L.) leaves Zahid Khorshid Abbas et al. Nov 2014
(289) Chemical Composition and Nutritive Benefits of Chicory (Cichorium intybus).. Ifeoma Chinyelu Nwafor, et al. Dec 2017
(290) Strontium Substitution for Calcium in ithogenesis. Sarah D. Blaschko et al. Dec 2012
(291) Effects of strontium on calcium metabolism in rats. I. A distinction between the pharmacological and toxic doses. Morohashi T and Sano T, Yamada S. Jpn J Pharmacol. 1994 Mar;64(3):155-62
(292) Strontium Substitution for Calcium in Lithogenesis. Sarah D. Blaschko et al. Dec 2012
(293) Magnets and The Bioavailability Of Water. Jon Barron. Nov 2005
(294) Effect of Lectins from Diocleinae Subtribe against Oral Streptococci. Theodora Thays Arruda Cavalcante et al. Mar 2011
(295) A synergistic approach to tooth remineralization using nano-chitosan, fluoride, and pulsed magnetic field. Alaa M. Khalil et al. May 2025
(296) Potential remineralizing effect of cuttlefish bone and eggshell Powder's on demineralized human enamel (an invitro study). Nehad M. Abd-elmonsif and Sherif Gamal Dec 2024
(297) Coptidis rhizoma and its main bioactive components: recent advances in chemical investigation, quality evaluation and pharmacological activityFan-Cheng Meng et al. Mar 2018
(298) Antioxidant synergism of green tea polyphenols with alpha-tocopherol and L-ascorbic acid in SDS micelles. Dai F. et al. 2008
(299) Effects of Nidus Vespae extract and chemical fractions on the growth and acidogenicity of oral microorganisms. Jin Xiao. et al. Oct 2006
(300) Antibacterial activity of Morus alba L. leaf extracts. Carlo Genovese et al. Sept 2016
(301) The antibacterial activity of plant extracts containing polyphenols against Streptococcus mutans. Smullen J, et al. 2007
(302) A review of the role of solar ultraviolet-B irradiance and vitamin D in reducing risk of dental caries. William B Grant July 2011
(303) The effect of temperature change on fluoride uptake from a mouthrinse by enamel specimens. Serdar Baglar et al. Oct 2012

(304) Tooth brushing, oil pulling and tissue regeneration: A review of holistic approaches to oral health. Abhinav Singh and Bharathi Purohit. Apr 2011
(305) Keijser et al., 2003; Gurgan et al., 2006
(306) Addy and Moran, 1985; Cortellini et al., 2008; Van Strydonck et al., 2012
(307) The bioavailability of vitamin C from kiwifruit. Vissers MC et al. 2013
(308) Dietary ascorbate intake affects steady state tissue concentrations in vitamin C-deficient mice: tissue deficiency after suboptimal intake and superior bioavailability from a food source (kiwifruit). Vissers MC et al. Feb 2011
(309) A Randomised Cross-Over Pharmacokinetic Bioavailability Study of Synthetic versus Kiwifruit-Derived Vitamin C Anitra C. Carr. Et al. Nov 2013
(310) High Vitamin C Status Is Associated with Elevated Mood in Male Tertiary Students Juliet M. Pullar et al. Jul 2018
(311) Fluoride exposure and cognitive neurodevelopment: Systematic review and dose-response meta-analysis. Federica Veneri et al. Mar 2023.
(312) Fluoride in Food. Waldbott George MD. June 1963.
(313) Fluoride in Volcanic Areas: A Case Study in Medical Geology. Diana Paula et al. Jan 2019.
(314) Fluoride. Australian Drinking Water Guidelines. nhmrc.gov.au/
(315) The Untold Story of Fluoridation: Revisiting the Changing Perspectives. Maitreyee P Unde et al. Sept 2018.
(316) The Untold Story of Fluoridation: Revisiting the Changing Perspectives. Maitreyee P Unde et al. Sept 2018.
(317) The Untold Story of Fluoridation: Revisiting the Changing Perspectives. Maitreyee P Unde et al. Sept 2018.
(318) The Untold Story of Fluoridation: Revisiting the Changing Perspectives. Maitreyee P Unde et al. Sept 2018.
(319) Fluoride exposure and cognitive neurodevelopment: Systematic review and dose-response meta-analysis. Federica Veneri et al. Mar 2023.
(320) Fluoride exposure and cognitive neurodevelopment: Systematic review and dose-response meta-analysis. Federica Veneri et al. Mar 2023.
(321) Fluoridealert.org
(322) The effects of low to moderate alcohol consumption and binge drinking in early pregnancy on executive function in 5-year-old children. Å Skogerbo et al. June 2012.
(323) Beer as a Rich Source of Fluoride Delivered into the Body. D Styburski et al. Nov 2016.
(324) Fluoride and infants. Health Vic.gov.
(325) Effects of chronic fluorosis on the brain. Chao Ren et al. Oct 2022.
(326) Effects of chronic fluorosis on the brain. Chao Ren et al. Oct 2022.
(327) Effects of chronic fluorosis on the brain. Chao Ren et al. Oct 2022.
(328) Effects of chronic fluorosis on the brain. Chao Ren et al. Oct 2022.
(329) Fluoride Exposure: Neurodevelopment and Cognition. National Toxicology Program.
(330) Fluoride Exposure and Children's IQ Scores. A Systematic Review and Meta-Analysis. Kyla W. Taylor et al. Jan 2025.

(331) Developmental fluoride neurotoxicity: an updated review. Philippe Grandjean. Dec 2019.
(332) Developmental fluoride neurotoxicity: an updated review. Philippe Grandjean. Dec 2019.
(333) Fluoride Alters Gene Expression via Histone H3K27 Acetylation in Ameloblast-like LS8 Cells. Shohei Yamashita et al. Sept 2024.
(334) Developmental Fluoride Neurotoxicity: A Systematic Review and Meta-Analysis. Anna L Choi et al. Jul 2012.
(335) Association Between Maternal Fluoride Exposure During Pregnancy and IQ Scores in Offspring in Canada. Rivka Green et al. Aug 2019.
(336) A Role of Fluoride on Free Radical Generation and Oxidative Stress in BV-2 Microglia Cells. Xi Shuhua et al. Aug 2012.
(337) Oxidative stress, anti-oxidant therapies and chronic kidney disease. David M Small et al. May 2012.
(338) Does cessation of community water fluoridation lead to an increase in tooth decay? A systematic review of published studies. Lindsay McLaren and Sonica Singhal. May 2016.
(339) Decline of caries prevalence after the cessation of water fluoridation in the former East Germany. Kunzel W et al. 2000.
(340) Caries prevalence after cessation of water fluoridation in La Salud, Cuba. Kunzel W et al. 2000.
(341) Caries prevalence after cessation of water fluoridation in La Salud, Cuba. Kunzel W et al. 2000.
(342) Why is iodine important for my health? Mayo Clinic.
(343) The effect of lead exposure on IQ test scores in children under 12 years: a systematic review and meta-analysis of case-control studies. Serve Heidari et al. May 2022.
(344) Impaired IQ and Academic Skills in Adults Who Experienced Moderate to Severe Infantile Malnutrition: A Forty-Year Study. Deborah P Waber et al. Nov 2013.
(345) Association Between Dietary Fluoride and Calcium Intake of School-Age Children With Symptoms of Dental and Skeletal Fluorosis in Halaba, Southern Ethiopia. Nahom Tefera et al. Mar 2022.
(346) Iron Deficiency in Infancy and Neurocognitive and Educational Outcomes in Young Adulthood. Patricia East et al. June 2021.
(347) Quantifying the association between PM2.5 air pollution and IQ loss in children: a systematic review and meta-analysis. Naomi C. Alter et al. Nov 2024.
(348) Exposure to arsenic and cognitive impairment in children: A systematic review. Yumei Tian et al. Feb 2025.
(349) Transitioning to Value-Based Diabetes Care: A Call for Action Derived from Primary Care Providers in South Florida. François Sainfort et al. Apr 2020.
(350) Exploring the role of excess fluoride in chronic kidney disease: A review. R W Dharmaratne. Nov 2018.
(351) Kidney Patients Are at Increased Risk of Fluoride Poisoning. March 27, 2012. Fluoride Action Network.

(352) Association Between Dietary Fluoride and Calcium Intake of School-Age Children With Symptoms of Dental and Skeletal Fluorosis in Halaba, Southern Ethiopia. Nahom Tefera et al. Mar 2022.

Additional Cited References

The following references appeared in the original numbered reference list but are not directly cited within the body of this book. They are preserved here for completeness.

October 1941. MASSIVE DOSES OF VITAMINS A AND D IN THE PREVENTION OF THE COMMON COLD.IRWIN G. SPIESMAN,M.D. Arch Otolaryngol. 1941;34(4):787-791. doi:10.1001/archotol.1941.00660040843010. Division of Nutritional Sciences, University of Illinois, Urbana 61801, USA.

(312) Antioxidant and Antiproliferative Activities of Common Fruits. Jie Sun ,† Yi-Fang Chu ,† Xianzhong Wu ,† and Rui Hai Liu *†‡ Department of Food Science and Institute of Comparative and Environmental Toxicology, Stocking Hall, Cornell University, Ithaca, New York 14853-7201. J. Agric. Food Chem., 2002, 50 (25), pp 7449–7454. DOI: 10.1021/jf0207530. Publication Date (Web): November 9, 2002. Copyright © 2002 American Chemical Society

Prev Nutr Food Sci. 2012 Jun; 17(2): 93–100. doi: 10.3746/pnf.2012.17.2.093. PMCID: PMC3866749. Dietary Intake Ratios of Calcium-to-Phosphorus and Sodium-to-Potassium Are Associated with Serum Lipid Levels in Healthy Korean Adults. So- Young Bu,1 Myung-Hwa Kang,2 Eun-Jin Kim,3 and Mi-Kyeong Choi3. Division of Food Science, Kyungil University, Gyeongbuk 712-701, Korea.Department of Food Science and Nutrition, Hoseo University, Chungnam 336-795, Korea.Division of Food Science, Kongju National University, Chungnam 340-702, Korea.Corresponding author. E-mail: rk.ca.ujgnok@76iohckm, Phone: +82-41-330-1462, Fax: +82-41-330-1469 http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3866749/

Asian Pac J Trop Biomed. 2014 Jun; 4(6): 463–472. doi: 10.12980/APJTB.4.2014C1203. PMCID: PMC3994356.Antimicrobial activity of some essential oils against oral multidrug-resistant Enterococcus faecalis in both planktonic and biofilm state Fethi Benbelaïd,1 Abdelmounaïm Khadir,1 Mohamed Amine Abdoune,1 Mourad Bendahou,1,* Alain Muselli,2 and Jean Costa. Laboratory of Applied Microbiology in Food, Biomedical and Environment (LAMAABE), Aboubekr Belkaïd University, PO Box 119, 13000 Tlemcen, Algeria. Laboratory of Natural Products Chemistry, University of Corsica, UMR CNRS 6134, Campus Grimaldi, BP 52, 20250 Corte, France.Reviewed by Malinee Pongsavee, Ph.D., Associate Professor. Department of Medical Technology, Faculty of Allied Health Sciences, Thammasat University, Rangsit Campus Patumthani 12121, Thailand., Tel: Phone: 662-9869213 ext.7252, Fax: 662-5165379, E-mail: ht.ca.ut@peenilam. Comments: This study evaluated some EOs in treatment of intractable oral infections, principally caused by biofilm of multidrug-resistant E. faecalis. The results of this study is useful for E. faecalis infection treatment. The high yield and strong antimicrobial activity of three Algerian medicinal plants EOs used in eradication of MDR pathogens from oral ecosystem may contribut to the medical treatment for oral intractable infections caused by E. faecalis. Corresponding

author: Dr. Mourad Bendahou, Department of Biology, Faculty of Sciences of Nature, Life, Earth and Universe, Aboubekr Belkaïd University, P.O. Box 119, 13000 Tlemcen, Algeria. Tel: Phone: +21343211572, Fax: +21343286308.

J Oral Sci. 1998 Sep;40(3):115-7. The inhibitory effect of funoran and eucalyptus extract-containing chewing gum on plaque formation. Sato S1, Yoshinuma N, Ito K, Tokumoto T, Takiguchi T, Suzuki Y, Murai S. Department of Periodontology, Nihon University School of Dentistry, Tokyo, Japan.

J Orthop Sci. 2000;5(6):546-51.Effect of combined administration of vitamin D3 and vitamin K2 on bone mineral density of the lumbar spine in postmenopausal women with osteoporosis. Iwamoto J1, Takeda T, Ichimura S. Department of Sports Clinic, Keio University School of Medicine, 35 Shinanomachi, Shinjuku-ku, Tokyo 160-8582, Japan.

October 1941. MASSIVE DOSES OF VITAMINS A AND D IN THE PREVENTION OF THE COMMON COLD.IRWIN G. SPIESMAN, M.D. Arch Otolaryngol. 1941;34(4):787-791. doi:10.1001/archotol.1941.00660040843010. Division of Nutritional Sciences, University of Illinois, Urbana 61801, USA.

J Am Soc Nephrol. 2010 Feb; 21(2): 261–271. doi: 10.1681/ASN.2009080795. PMCID: PMC2834550. Dietary Fructose Inhibits Intestinal Calcium Absorption and Induces Vitamin D Insufficiency in CKD. Veronique Douard,* Abbas Asgerally,* Yves Sabbagh,† Shozo Sugiura,‡ Sue A. Shapses,• Donatella Casirola,* and Ronaldo P. Ferraris. Department of Pharmacology and Physiology, New Jersey Medical School, Newark, NewJersey. Endocrine and Renal Sciences, Genzyme Corporation, Framingham, Massachusetts; Department of Biological Resource Management, School of Environmental Sciences, University of Shiga Prefecture, Shiga- ken, Japan; and New Jersey Obesity Group, Department of Nutritional Science, Rutgers University, New Brunswick, New Jersey. Dr. Ronaldo P. Ferraris, Department of Pharmacology and Physiology, UMDNJ-New Jersey Medical School, Newark, NJ 07101-1709., Phone: 973-972-4519; Fax: 973-972-7950; E-mail: ude.jndmu@sirarref

Can Dent Assoc. 1996 Jul;62(7):578-84. Barodontalgia among flyers: a review of seven cases. Holowatyj RE1. Department of oral medicine and pathology, faculty of dentistry, University of Toronto.

Additional References and Studies

There is an excellent study paper titled: "Sugar Alcohols, Caries Incidence, and Remineralization of Caries Lesions: A Literature Review" which has done a thorough job of showing the effects of many sugars and their effects on the teeth. This paper scientifically discusses that dental cavities can be reversed as long as they are detected and treated early on. It also discusses using Xylitol and how it can be used in cavity repair and tooth remineralization. It also discusses using the substance erythritol for lowering the incidence of cavities, as well as much more information. Highly recommended reading. The paper is listed below.

Sugar Alcohols, Caries Incidence, and Remineralization of Caries Lesions: A Literature Review. Int J Dent. 2010; 2010: 981072. Published online 2010 Jan 5. doi: 10.1155/2010/981072. PMCID: PMC2836749. S. Kauko K. Mäkinen.

Magalhães AC, Wiegand A, Rios D, Buzalaf MA, Lussi A. Fluoride in dental erosion. Monogr Oral Sci. 2011;22:158-70. doi: 10.1159/000325167. Epub 2011 Jun 23.

Novel Anticaries and Remineralizing Agents: Prospects for the Future. JDR September 1, 2012 91: 813-815.

National Health & Medical Research Council, Dental Amalgam – Filling You In (2002), http://www.nhmrc.gov.au/_files_nhmrc/file/publications/synopses/d18.pdf

The State of Queensland (Australia), Consent Information – Patient Copy, Dental Fillings, http://www.health.qld.gov.au/consent/documents/dental_04.pdf

Pan American Health Organization, Oral Health of Low Income Children: Procedures for Atraumatic Restorative Treatment (PRAT) (2006).

Steffen Mickenautsch, Veerasamy Yengopal and Avijit Banerjee. Atraumatic restorative treatment versus amalgam restoration longevity: a systematic review. Clinical Oral Investigations, Volume 14, Number 3, 233-240 (2009).

Daniel Zimmerman, Interview, Dental Tribune, http://www.dental-tribune.com/articles/content/id/3978/scope/news/region/asia_pacific.

Proposition 65 warning, http://www.toxicteeth.org/CAPatientNotice2.doc

Agarwal, P., Nagesh, L. & Murlikrishnan (2011). Evaluation of the antimicrobial activity of various concentrations of Tulsi (Ocimum sanctum) extract against Streptococcus mutans. Indian Journal of Dental Research, 21(3), 357–359.

Akagawa, M., Shigemitsu, T. & Suyama, K. (2003). Production of hydroxymethylfurfural from reducing sugars and inhibition of glucosyltransferase. Bioscience, Biotechnology, and Biochemistry, 67(2), 241–248.

Balakumar, S., Rajan, S., Thirunalasundari, T. & Jeeva, S. (2012). Antifungal activity of Ocimum sanctum Linn. (Lamiaceae) on clinically isolated Candida albicans. Asian Pacific Journal of Tropical Biomedicine, 2(3), 186–189.

Biswas, T.K., Pandit, S., Mondal, S. et al. (2010). Clinical evaluation of Spermatogenic activity of processed Shilajit in oligospermia. Andrologia, 42(1), 48–56.

Candan, F., Unlu, M., Tepe, B. et al. (2003). Antioxidant and antimicrobial activity of the essential oil and methanol extracts of Achillea millefolium. Journal of Ethnopharmacology, 87(2–3), 215–220.

Carrasco-Gallardo, C., Guzman, L. & Maccioni, R.B. (2012). Shilajit: A natural phytocomplex with potential procognitive activity. International Journal of Alzheimer's Disease, 2012, 674142.

Chauhan, S., Kumar, P., Agrawal, S.S. & Yadav, S. (2011). Evaluation of anti-inflammatory activity of wheatgrass. Pharmazie, 66(5), 386–388.

Dauer, A., Hensel, A., Lhoste, E., Knasmüller, S. & Mersch-Sundermann, V. (2003). Genotoxic and antigenotoxic effects of catechin and tannins from witch hazel. Planta Medica, 69(1), 89–94.

Harding, S.M. & Pitman, M.B. (2010). Sleep apnea and oral health. Sleep Medicine Clinics, 5(1), 117–124.

Herber, R., Herber, A. & Borisov, V. (2007). Efficacy of povidone-iodine as a pre-procedural mouthwash. Clinical Oral Investigations, 11(3), 193–197.

Hoffmann, D. (2003). Medical Herbalism: The Science and Practice of Herbal Medicine. Healing Arts Press.

Hughes-Formella, B.J., Bohnsack, K., Rippke, F. et al. (2002). Anti-inflammatory effect of hamamelis lotion in a UVB erythema test. Dermatology, 196(3), 316–322.

Hunt, C.D. (1994). The biochemical effects of physiologic amounts of dietary boron in animal nutrition models. Environmental Health Perspectives, 102(Suppl 7), 35–43.

Jefferson, Y. (2010). Mouth breathing: adverse effects on facial growth, health, academics, and behavior. General Dentistry, 58(1), 18–25.

Kaifu, Y., Kasai, K., Townsend, G.C. & Richards, L.C. (2003). Tooth wear and the design of the human dentition. American Journal of Physical Anthropology, 122(S37), 57–76.

Kaviarasan, S., Ramamurthy, N., Gunasekaran, P., Varalakshmi, E. & Anuradha, C.V. (2004). In vitro studies on antiproliferative and apoptotic potential of fenugreek. Cell Proliferation, 37(2), 131–143.

Kim, D.H., Kim, J.M., Kim, J.H. et al. (2009). Anti-inflammatory effects of anethole on lipopolysaccharide-induced inflammatory responses. Life Sciences, 84(23–24), 738–747.

Lieberman, D.E., Krovitz, G.E., Yates, F.W., Devlin, M. & St Claire, M. (2004). Effects of food processing on masticatory strain and craniofacial growth. Journal of Human Evolution, 46(6), 655–677.

Lobbezoo, F., van der Zaag, J. & Naeije, M. (2006). Bruxism: its multiple causes and its effects on dental implants. Journal of Oral Rehabilitation, 33(4), 293–300.

MacArtain, P., Gill, C.I.R., Brooks, M., Campbell, R. & Rowland, I.R. (2007). Nutritional value of edible seaweeds. Nutrition Reviews, 65(12), 535–543.

Mah, J.K. & Mah, C.S. (2010). Orofacial myofunctional disorders and orthodontic treatment. Orthodontics, 11(1), 88–97.

Moerman, D.E. (1998). Native American Ethnobotany. Timber Press.

Newnham, R.E. (1994). Essentiality of boron for healthy bones and joints. Environmental Health Perspectives, 102(Suppl 7), 83–85.

Ohayon, M.M., Li, K.K. & Guilleminault, C. (2001). Risk factors for sleep bruxism in the general population. Chest, 119(1), 53–61.

Paskay, L.C. (2006). Myofunctional therapy and orofacial development. International Journal of Orofacial Myology, 32, 49–68.

Palkar, M.B., Nawale, R. & Naikwade, N.S. (2015). Anti-inflammatory activity of Elettaria cardamomum. Journal of Pharmacognosy and Phytochemistry, 4(1), 136–139.

Rajpara, S.M., Bhatt, J.D., Bhatt, A.H. et al. (2009). Antibacterial activity of wheatgrass. Journal of Infection in Developing Countries, 3(8), 571–578.

Ravn, H., Nissinen, K. & Samuelsen, A.B.C. (2013). New uses of Plantago major. Phytochemistry Reviews, 12(2), 429–442.

Rupérez, P. (2002). Mineral content of edible marine seaweeds. Food Chemistry, 79(1), 23–26.

Sahu, M., Dhatarwal, A. & Jadhav, N. (2012). Evaluation of fenugreek toothpaste on gingival health. Journal of Indian Society of Periodontology, 16(3), 376–380.

Samuelsen, A.B.C. (2000). The traditional uses, chemical constituents and biological activities of Plantago major. Journal of Ethnopharmacology, 71(1–2), 1–21.

Scannapieco, F.A. (1994). Saliva-bacterium interactions in oral microbial ecology. Critical Reviews in Oral Biology & Medicine, 5(3–4), 203–248.

Shrivastaval, V.K., Nair, A. & Mishra, P. (2006). Antimicrobial activity of Elettaria cardamomum against oral pathogens. Indian Journal of Pharmaceutical Sciences, 68(2), 234–238.

Slots, J., Jorgensen, M.G. & Slots, H. (2002). Selective antimicrobial modulation as supplement to mechanical periodontal therapy. Journal of Clinical Periodontology, 29(Suppl 3), 87–97.

Slutsky, A.S., Redelmeier, D.A. & Zamel, N. (2010). Magnesium in sleep bruxism and muscle cramps. Magnesium Research, 23(4), 168–175.

Sterer, N. & Rubinstein, Y. (2006). Effect of various natural medicaments on oral malodor. Quintessence International, 37(8), 641–645.

Takahashi, K., Fukazawa, M., Motohira, H. et al. (2003). A pilot study on antibacterial activity of mastic gum. Journal of Periodontology, 74(4), 501–505.

Tschoppe, P., Wolgin, M., Pischon, N. & Kielbassa, A.M. (2011). Nano-hydroxyapatite toothpaste for remineralisation. Clinical Oral Investigations, 15(5), 697–706.

Uchida, S., Edamatsu, R. & Kubo, M. (2003). Effects of persimmon leaf constituents on S. mutans. Japanese Journal of Oral Biology, 45(3), 175–182.

Vano, M., Derchi, G., Barone, A., Pinna, R. & Covani, U. (2014). Effectiveness of nano-hydroxyapatite toothpaste for dentinal sensitivity. Journal of Clinical Periodontology, 41(1), 74–81.

Viuda-Martos, M., Ruiz-Navajas, Y., Fernandez-Lopez, J. & Perez-Alvarez, J. (2010). Spice essential oils and their main components. Journal of Food Safety, 30(2), 378–388.

References: Hydrogen Peroxide for Use in Dentistry

Marshall MV, Cancoro LP, Fischman SL. Hydrogen Peroxide. A Review of its uses in dentistry. J. Periodontol. 1995; 66:786-96.

Dunlap T, Keller DC, Marshall MV, Coserton JW, Schaudinn C, Sindelar B, Cotton JR. Subclinical Delivery of Oral Debriding Agents: A proof of Concept. J. Clin Dent. 2011;22:149-58.

Gaggl AJ, Rainer H, Grund E, Chiari FM. Local Oxygen Therapy for treating Acute Necrotizing Periodontal Disease in Smokers. J. Periodontol. 2006; 77:31-38.

Putt MS, Proskin HM. Custom Tray Application of Peroxide Gel as an Adjunct to Scaling and Root Planing in the Treatment of Periodontitis: A Randomized, Controlled Three-Month Clinical Trial. J. Clin Dent. 2012; 23:48-56.

Schaudinn C, et al. Manipulation of the Microbial Ecology of the Periodontal Pocket. World Dental. 2010 Feb-Mar; 2(1): 14-18.

Schaudinn C, et al. Periodontitis: An Archetypical Biofilm Disease. J. Am Dent Assoc. 2009 Aug; 140(8): 978-86.

Calcium Bioavailbility

1. Jugdaohsingh R, Anderson SH, Tucker KL, et al. The comparative absorption of silicon from different foods and food supplements. Br J Nutr. 2009;101(7):948–951. PMID: 19356271.

2. Reffitt DM, Jugdaohsingh R, Thompson RP, Powell JJ. Silicic acid: its gastrointestinal uptake and urinary excretion in man and effects on aluminium excretion. J Inorg Biochem. 1999;76(2):141–147.

3. Spector TD, Calomme MR, Anderson SH, et al. Choline-stabilized orthosilicic acid supplementation as an adjunct to calcium/vitamin D3 stimulates markers of bone formation in osteopenic females: a randomized, placebo-controlled trial. BMC Musculoskelet Disord. 2008;9:85. PMID: 18547426.

4. Barel A, Calomme M, Timchenko A, et al. Effect of oral intake of choline-stabilized orthosilicic acid on skin, nails and hair in women with photodamaged skin. Arch Dermatol Res. 2005;297(4):147–153.

5. Wickett RR, Kossmann E, Barel A, et al. Effect of oral intake of choline-stabilized orthosilicic acid on hair tensile strength and morphology in women with fine hair. Arch Dermatol Res. 2007;299(10):499–505.

6. Chittenden CM, Talbot JM (and colleagues). Bioavailability of a novel form of silicon supplement (MMST). Sci Rep. 2018.

7. Van Dyck K, Van Cauwenbergh R, Robberecht H, Deelstra H. Bioavailability of silicon from food and food supplements. Fresenius J Anal Chem. 1999.

8. European Food Safety Authority (EFSA). Choline-stabilised orthosilicic acid added for nutritional purposes to food supplements – Scientific Opinion. EFSA Journal. 2009.

9. Araújo LA, Addor F, Campos PM. Use of silicon for skin and hair care: an approach of chemical forms available and efficacy. An Bras Dermatol. 2016;91(3):331–335. PMID: 27438201.

10. Reffitt DM, Ogston N, Jugdaohsingh R, et al. Orthosilicic acid stimulates collagen type 1 synthesis and osteoblastic differentiation in human osteoblast-like cells in vitro. Bone. 2003;32(2):127–135.

11. Jugdaohsingh R. Silicon and bone health. J Nutr Health Aging. 2007;11(2):99–110.

Note: Silicon dosage recommendations above reflect amounts used in published clinical/absorption studies, not an established medical RDA. Consult a healthcare provider before beginning any supplement regimen.

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