



# FUNCTIONAL DENTISTRY Roadmap To Oral Health

WRITTEN BY

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Katie Morales

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# Forward

BY, LYNDSY KINGHORN -  
CNP, ABAAHP

Functional Medicine has become very popular in recent years as more and more people are looking beyond conventional approaches to be proactive, optimize their health, and reverse disease. Functional Medicine encompasses a whole body, personalized, evidence-backed, approach to prevention, disease reversal, and health optimization, through patient-centered care.

Functional medicine looks at the body as a whole. We see the body as multiple interconnected systems working together to optimize health. It looks at underlying offenders such as imbalances and dysfunctions, identifies the cause, and formulates a personalized treatment plan using lifestyle modifications, nutritional support, and supplementation.

Conventional Medicine looks at the body system by system without understanding the true interconnectedness. The band-aid approach to health is often taken with prescriptions for symptom management to mask the body's communication that something is wrong.

Conventional dentistry, like conventional medicine, takes a band-aid approach to oral health. Instead of looking for root cause of disease, cavities, and other oral conditions are treated reactionary. Partly because this is faster, partly because this makes money, and partly due to a lack of education.

Functional dentistry, like functional medicine, takes a holistic approach by looking at lifestyle habits, exposures, and underlying issues that could be leading to oral diseases. Action is taken to modify and/or correct the offenders leading to the reversal of disease and optimizing not only oral health but systemic health as well.

The combination of Functional Medicine and Functional Dentistry is truly a proactive approach to optimizing health and mitigating disease. Through holistic and personalized care, functional providers empower patients to advocate for themselves, take an active role in their health journey, promote health optimization, and reverse chronic disease.

The value of Functional Medicine and Functional Dentistry in quality-of-life improvement and optimal health cannot be understated.

A handwritten signature in black ink that reads "Lyndsy Kinghorn". The signature is fluid and cursive, with "Lyndsy" on the first line and "Kinghorn" on the second line.

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# Introduction



Welcome to the Functional Dentistry Roadmap To Oral Health. I am Dr. Craig Clayton, a wellness-focused biomimetic and functional dentist. My wife, Eliza, and I opened Restoration Dentistry in 2022 and our social media following grew extremely fast as we shared non-conventional solutions to common dental problems online. I am on a mission to disrupt the dental industry by educating and empowering patients like you and shifting the profession to one that focuses more on prevention, the latest research, and holistic solutions.

You are probably studying this guide because:

- You are sick of spending money on treating symptoms, but never getting to the root of your dental issues.
- You are looking for holistic and functional solutions to your dental problems, such as cavities, dental work breaking down, grinding, gum recession, airway issues, and more.
- You want help finding a dentist like me in your area.
- You are not sure where to start in your journey.

My goal with everything I teach is to empower you to be able to sit in the driver's seat of your oral health. I want to educate you so you know how to think critically about your options and know what decision is best for your family. With that in mind, please remember that I cannot offer medical advice and this is not a substitute for professional dental advice from your care provider, but rather a resource to support you in your decision making. (Please see the Terms and Conditions and legal disclaimers at the end of this guide).

So without further ado, let's figure out the root cause of your dental symptoms and find providers to support you on your journey!

A handwritten signature in black ink, appearing to read "Dr. Craig D. Clayton II, DMD".

Dr. Craig D. Clayton II, DMD

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CHAPTER ONE

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# What Is Functional Dentistry?

## CHAPTER ONE

# What is Functional Dentistry?

### DEFINITION

Functional dentistry identifies the cause of oral disease and then considers physical, mental, and social factors to create customized treatment plans and resolve dental problems.

**Why does this matter?** Because the mouth is not disconnected from the rest of the body! The health of the mouth impacts the health of the entire body, and the health of the whole person affects the health of the mouth. This is called the oral-systemic connection. Yet, Dentistry has evolved into what is now primarily a technical profession, mainly focusing on reactionary dental care like fillings, crowns, and replacing missing teeth. It is CRAZY to me! And a bit enraging, to be honest. I feel yucky every time I introduce myself or am introduced with the title "dentist." This title ignores the fact that I am an oral health physician and should have been trained with a greater focus on healing rather than treating symptoms with technical skills. Treating the symptoms of disease rather than the disease itself does not resolve the reason for needing dental treatment in the first place.

### STORY

Halfway through my second year in dental school, I became disheartened as I realized more and more that my profession focused more on technical work like fillings, crowns, and dentures instead of treating the cause. I wanted to spend more time helping people heal their dental issues, not just treating the symptoms. After I graduated, I started working in traditional dentistry offices. I felt horribly guilty every time I had to cut off healthy tooth structure to fit a crown over the top, all because dental insurance paid for crowns, not more conservative treatments such as onlays. Nonsensical right? But, thanks to Instagram, I stumbled upon some dentists who were doing what seemed to me to be impossible things, like saving teeth that I was taught would need to be extracted. I didn't think what I was seeing was legitimate. But after more investigation, I started to feel hope. This form of dentistry was Biomimetic Dentistry.

This was the answer, and exactly what I had been looking for. After taking a biomimetic dentistry course, I knew I needed to focus my soon-to-be-open dental practice on these advanced techniques. In 2022, Restoration Dentistry was born.

As a new dental practice owner, I knew I wanted to continue investing in the most modern continuing education so after being open only one week, I flew to the Kois Center, a world-renowned evidence-based teaching center in Seattle, Washington. For the first time, I learned about saliva testing and treating **caries disease** (which causes cavities) holistically and how to address the cause of other diseases such as occlusal disease, gum disease, and teeth grinding. I learned how to evaluate my patients more comprehensively, and it again felt like everything I had been searching for! Can you imagine my relief? I returned home ON FIRE and ready to implement all I had learned.

I became obsessed.

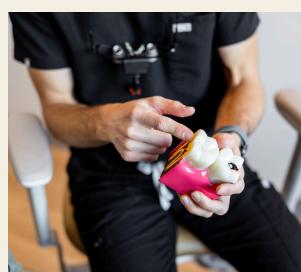
I partnered with a cariologist (someone who studies cavities) to deep dive into the root cause of cavities, which quickly became a passion of mine. I went to an airway course taught by the world-renowned airway specialist Dr. Zaghi of the Breathe Institute with our myofunctional therapist, Sammie. Together, we developed an airway program in our practice. I sent one of our hygienists to the Kois Center to learn about periodontal medicine and how to treat the bacteria causing inflammation in the mouth that are connected to 57 diseases in the body. I sought out additional training in less invasive dental work to fix teeth.

And today, I just. Can't. Stop.

Call me holistic. Call me wellness-focused. Call me integrative. But, I personally identify most with the term "functional dentistry", which is the dental version of functional medicine.

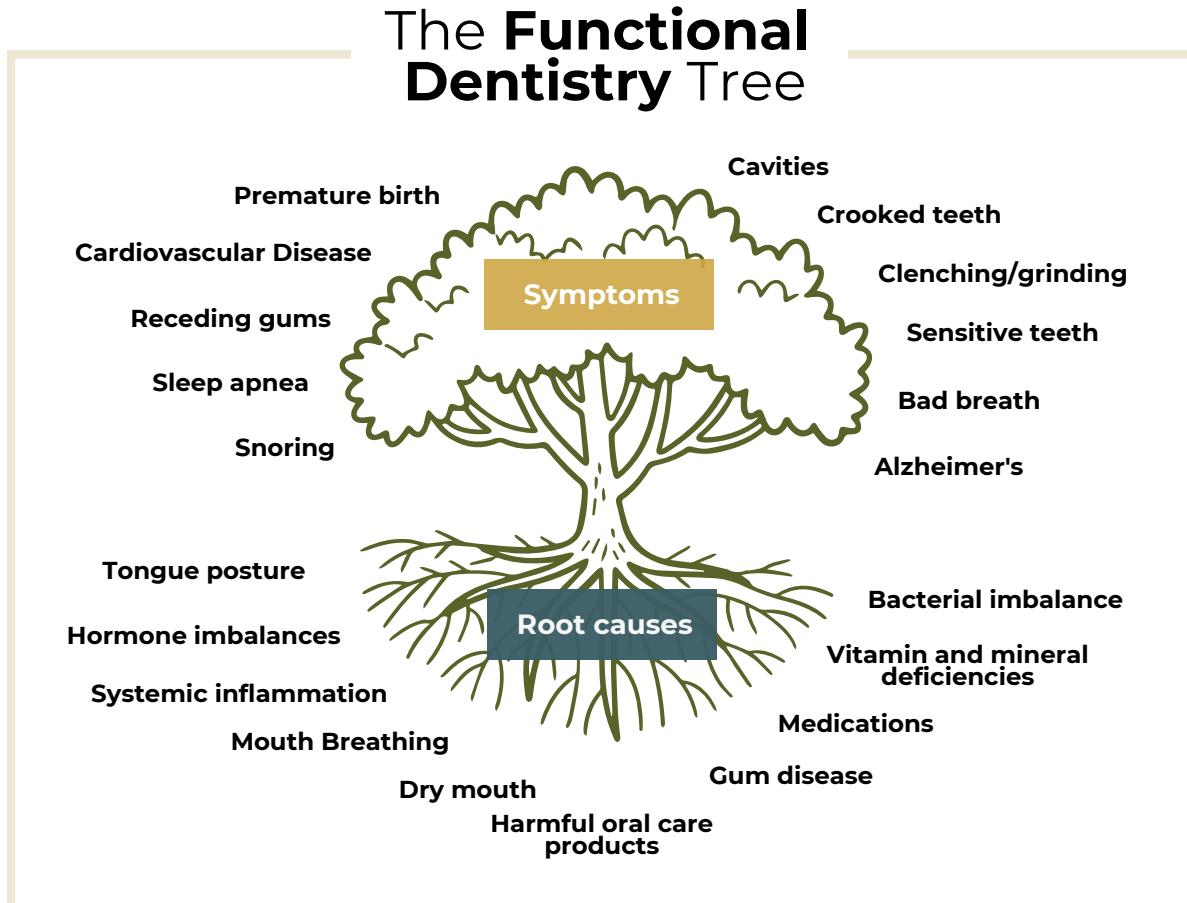
Our social media following exploded as I started educating people like you about functional/holistic dental solutions. One of the biggest questions I kept getting daily in my DMs was, "How do I find a dentist like you near me?"

Well. This guide is the answer to that question.



# Guide Overview

I have organized this guide by symptom. Imagine that each symptom is like a tree branch, and each branch connects through the trunk to one of the tree roots. Check out this neat graphic that illustrates the organizational metaphor! Each chapter of this guide will be about a specific symptom or dental problem. I will teach you how a functional dentist would likely address the root cause of the issue that the chapter covers and how to find a like-minded provider.



I also created an **index** for you with explanations and definitions of dental terms contained in this guide and hot-topic issues such as cavitation surgery, ozone, onlays, and malocclusion. Any word highlighted in **yellow** throughout the guide will have a corresponding definition and additional information listed in the index. So, if you have a question about a word you've read in a chapter or a topic you've heard about on social media, check out the index! I put some juicy, good stuff in there.

Now, here is the tricky part. It is VERY rare to find a dentist that does all of the following:

- Biomimetic Dentistry
- Airway medicine
- Advanced training in comprehensive dentistry (i.e., Kois or Spear Center)
- Offers saliva testing and custom oral hygiene treatment plans
- Offers Guided Biofilm Therapy
- Focuses on the root cause of cavities and how to cure/prevent the disease

So, based on your specific dental issue, I will recommend a particular kind of dentist who likely will not have all of the above training. This means you may see one dentist for dental cleanings and routine care but another dentist for dental fillings, sort of like how you go to a sporting goods store for outdoor gear and a grocery store for food. My goal in this guide is to assist you in developing your critical thinking skills within the realm of functional dentistry. I am not here to make decisions for you. My goal is for you to walk away empowered and in the driver's seat of your oral health, knowing which providers to enlist in your journey!



### **Now, please hear me loud and clear.**

You may not have a particular type of dentist that you need near you, such as a biomimetic dentist. This means you may need to travel to one (I have to drive 5 hours to the closest biomimetic dentist), or you can ask for special accommodations from a traditional dentist to get better care, which I will teach you in this guide. I will strive for a good-better-best menu of options within each chapter to make sure this is accessible to everyone. At the end of the day, we need more change worldwide in the field of dentistry. And YOU are part of the solution! The more educated patients are, the more dentists will be made aware of modern, functional approaches to dentistry. So take pride in that!!

And because I like you so much, I have included two bonus chapters to support you in your efforts, one on dental anxiety management and the other on how to afford functional dental care. Woohoo! You deserve it!

## **Traditional dentistry**

I speak boldly about the woes of conventional dentistry and do not hide my negative energy towards these practices. **HOWEVER**, do not misinterpret this as me accusing my dental colleagues of any ill will. The vast majority are doing the best they know how. Tradition is hard to break! (Cue Tevye from Fiddler on the Roof singing “tradition!” for my fellow aficionados of musicals).

I believe that dentists at large don't share a similar approach as mine to dentistry for two reasons:

01

The lack of modernization in the dental education system, which includes school and continuing education (specifically in the US). It is not an overgeneralization to say that dental schools in the US do not put sufficient emphasis on prevention and cures, compared to reactionary treatment (dental work like fillings or crowns). Even those dental treatments are not up to date at large. Therefore, most dentists are unaware of the incredible advancements in the field.

02

The insurance-driven model of dentistry has pushed many providers to focus on treating symptoms rather than the cause of disease because insurance does not cover prevention-focused dental care. (P.S. Insurance is just a lousy discount plan, but we will get to that later.)

So please know your dentist is doing their best. How cool is it that you are learning things in this guide that many dentists don't even know yet? You will be part of the reason the dental industry starts to shift. We receive DMs with success stories every day, such as this one! It is one of the most exciting parts of being an online oral health educator to learn that our followers and students are literally helping dentists re-evaluate what they are doing.



heatherashleywade

I brought myobrace as option to my dentist and now they're going to use it in their office!!

Reply



## Biological dentistry

Before we transition to the next chapter, I want to briefly go over **Biological dentistry**, and how it differs from traditional and Biomimetic dentistry. Biological is a sub-type of holistic dentistry that has an actual certifying body with requirements, such as being an ozone therapy provider. Biological dentists are generally very similar to other holistic, integrative, or functional dentists. They focus on prevention, education, root causes, and health-beneficial treatments such as silver-filling removal safety. However, there are a few pretty significant treatments fairly unique to this style of dentistry.

### Biological dentists advocate for:

- **O-zone treatment** for cavities and gum disease
- **Cavitation surgery**
- **Extraction** of all root canal-treated teeth

For these reasons, I do not identify as a biological dentist. See the index to learn why I do not advocate for the above treatments.

# How to study this guide

I highly recommend reading the entire guide at least once! But, if you need to jump ahead to a specific urgent symptom, please do so. My goal is to give you a holistic look at your oral health, which means you will need to understand a little about each of the symptoms discussed in this guide to get a complete picture of your oral health. As I mentioned earlier, I also included a comprehensive index of dental terms you may want to learn more about.

Are you excited?! I hope so!

When you are ready, let's dive in!



“

So thankful for your education and information! Because of the knowledge I've gained from your page, I had the best dental experience today. I've had a large amalgam filling in a molar for years and a side of my tooth cracked off around it the other day. Instead of just accepting it would now need more healthy tooth removed and a crown, I found a dentist who was willing to not only safely remove the amalgam filling but replace it and the tooth trauma with a beautiful onlay!! It was also the first pain-free dental procedure I've had in years and that's saying something from someone who has had multiple cavities and fillings every year for the past few years! I've also healed my mouth using your guide and am happy to report no cavities for the past 6mo after having multiple every year for the past 7 years!! Thank you isn't enough!!

”

Thank you for giving me peace in knowing I'm not crazy thinking there must be other options!



”

I feel so grateful to Dr. Clayton for his passion in finding root cause and solution! I am now going to dig deeper for me and my family's oral health - not just band-aid the problems.



”

Your page has seriously taught and educated me sooo much!! I have been to many dentists throughout my life and none of them have ever taught me any of the things your page has. Keep up the great work!



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C H A P T E R   T W O

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# How To Stop Getting Cavities 101

## CHAPTER TWO

# How To Stop Getting Cavities 101

### DEFINITION

Dental caries, also known as tooth decay or **cavities**, is a chronic infectious disease that occurs when bacteria in the mouth metabolize sugars and refined carbohydrates to produce acid. A cavity starts as a damaged area on the enamel layer of your tooth (the hard outside layer). From there it progresses into the dentin. If it continues, it will enter the pulp, which is when it starts to be symptomatic. A cavity is a result of the destruction and loss of minerals (calcium and phosphate) from a tooth.

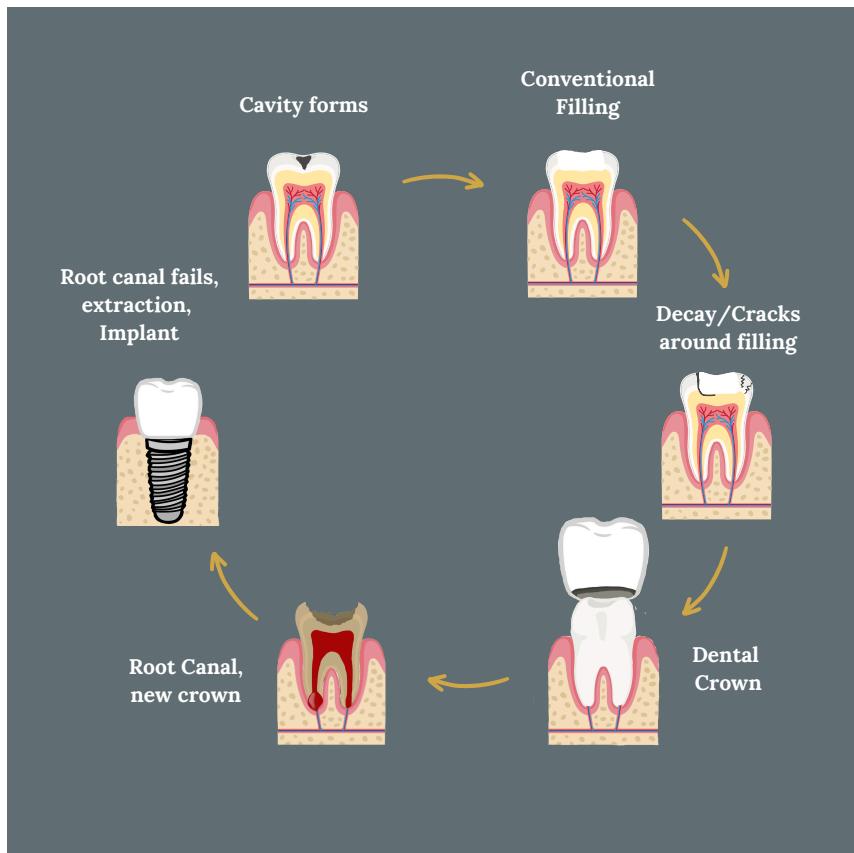
### STORY

A new patient, whom we will call Jenn, came to me distraught and in need of a second opinion. She explained that she had never struggled with cavities until three years ago, after which point she has had **root canal** treatments, **crowns**, and many, many fillings. At her wit's end, after receiving more bad news from her dentist, she came to me seeking answers. I reviewed her x-rays, and the treatment plan she brought and confirmed that she did, once again, need multiple fillings and crowns (**onlays** to me). She looked at me through teary eyes, and I knew her question before she could ask. "Why? What changed?" I began to explain what causes cavities, frequent acid challenges, changes in the biofilm, breakdown of enamel, etc. I then started to ask her caries screening questions, looking for answers for her. After a couple of minutes, I landed on the winning question. What do you prefer to drink during the day? And I got the answer I was looking for. "I like to drink water with minerals and electrolytes. I don't like drinking plain water." I asked her if she'd always drank this. Her response? "No." My next question was, "When did you start?" And you guessed it, she said three years ago. Grace had been sipping on water with added sugar, citric acid, and electrolytes for years, and the evidence of the ever-constant acidic oral environment was clearly visible. Many factors cause cavities, and each person can have a different tipping point, but this was Jenn's tipping point. The more than hourly disruption of her oral environment destabilized her oral system and wreaked havoc. It was devastating, but now she knows a significant risk factor to change. And fortunately, this is a curable condition.

## PROBLEM

# The consequences of getting cavities - The tooth death cycle

A cavity sets in motion what is called the “**Tooth-death-cycle**”, which explains how traditional dental restorations break down over time, leading to more and more dental work. If completed, this cycle could cost you up to \$9,000 per tooth. Biomimetic dentistry is designed to stop the cycle in its tracks (more on that in the next chapter), but equally important is getting to the root cause of why you are getting cavities.



### The traditional approach to solving this issue:

You have probably heard this a hundred times: **Brush, floss, use fluoride, and don't eat sugar.**

Maybe you have done all those things, but you are still getting cavities! You may know someone who does none of those things and has zero cavities! This obviously is not the full story (or even the correct one).

## SOLUTION

# My 7-Step Framework for a Cavity-Free Life

After hours and hours of research, collaborating with a cavities expert, and years of experience, I have created the 7-step Cavity-Free Framework. I've organized the seven steps into a pyramid. Each step builds off of the former, and each is equally important to becoming cavity-free! This framework explains all the factors contributing to cavities and how to address each. I teach this in-depth in my course, Confidently Cavity Free (yes, you also get live Q&A's with yours truly). But, I wanted to give you an introduction in this guide, give you some tips to get started right away, and help you know what providers you may enlist to support you.

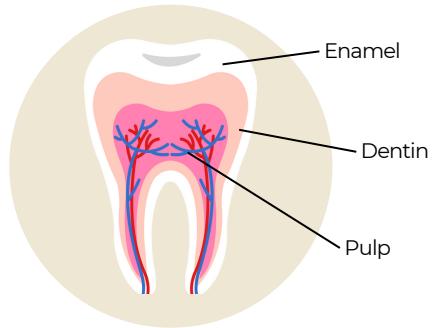
Many people will try to prioritize one step over another. For example, I get hundreds of DM's about what products to use. Don't get me wrong, that's super important! But on their own, products will not stop you from getting cavities. Everyone is different and has different needs! This framework is designed to help you identify what you need to do to have the most significant impact on not getting cavities.



## STEP 1: HOW CAVITIES FORM

The first step of the framework is laying the foundation. You have to understand what cavities are and how the disease works before you can stop it!

A cavity begins to form when the minerals in the enamel layer (or outer layer) begin to dissolve due to exposure to acid. This acid can be a byproduct of an unhealthy biofilm in the mouth or due to your diet and oral habits.



## STEP 2: REDUCE ACID & REBALANCE THE BIOFILM

The next step is to reduce acid and rebalance the Biofilm. These two are the real culprits of cavities. Repeat after me: "Sugar does not cause cavities, acid does!" This is a huge mental shift that you need to make. I'm sure so many of you have been told to cut out sugar to stop getting cavities. While sugar plays a role in the equation, acid is the true culprit pulling calcium out of your teeth.

Equally important as acid management is maintaining a healthy biofilm. The biofilm is a sticky layer of bacteria on your teeth, made up of both good and bad bacteria. When the bad bacteria overwhelm the good bacteria, they produce more acid, leading to more cavities!

## STEP 3: SUPERCHARGE YOUR SALIVA

Saliva is your body's natural maintenance system for preventing cavities. It helps prevent cavities and remineralize small cavities by depositing calcium back into the teeth. We want our saliva to work correctly!

### Two issues I see with saliva:

01

Not making enough of it: A dry mouth is a huge risk factor!! To solve that we need to encourage your body to make more saliva. *My #1 tip is to stay hydrated and sip water throughout the day, with nothing added.* You can also use a product like xylitol gum throughout the day to increase saliva production.

02

Your saliva may need more calcium in it: To solve this problem, you need to ensure that you are not systemically deficient and have enough calcium in your saliva. By far the best source of dietary bioavailable calcium is dairy. If you have an intolerance, try A2 dairy products. If you don't consume dairy at all, then dark leafy greens are a good source of calcium, but they are best absorbed into the body when the vegetable is cooked in animal fat.

## STEP 4: VITAMINS & MINERALS

Our teeth need different vitamins and minerals to fight off cavities. You probably guessed that calcium is a big player here, but there are actually four key nutrients essential to the health of your teeth: **calcium** and **vitamins, K2, D, and A**. I do not recommend blind supplementation. You will want to work with a functional medicine provider to address any deficiencies (see step 7).

## STEP 5: DIET

This is not the part where I tell you that you can no longer eat your favorite foods. I take a realistic approach to diet and cavities and recommend sustainable changes to decrease your risk of cavities.

*Here are three things to watch for:*

**01**

**Cariogenic Foods** - These are foods that increase your risk of cavities. Foods that are acidic, rich in carbohydrates, or extremely sticky need to be kept to meal times only.

**02**

**Cariostatic Foods** - These foods reduce your risk of cavities. These foods are rich in probiotics, fiber, and the key nutrients for tooth health.

**03**

**Frequency**—If you are struggling with cavities, consider eating only three meals a day and omitting snacks if possible to give your mouth a break. Oral rest is key to helping your mouth rebalance the biofilm, neutralize acid, and clear out food debris.

## STEP 6: PRODUCTS

Products are usually the first thing people jump to, but as you now know, there are more pieces to the puzzle! Effective products can make a huge difference though.

*Here are two of the products I recommend:*

**01**

**Elementa Tooth Gel and/or rinse** (GC Tooth Mousse is a second best option and internationally available), both of which are fluoride-free, have been tested for safety, and are research-proven. [Elementa linked here](#). *Pro tip: After this step, wait 30 minutes before eating or drinking.*

**02**

**Xylitol mints, gum, or candy** throughout the day help to decrease the harmful bacteria in your mouth and promote more saliva (6 grams daily). [My favorites linked here](#).

## STEP 7: FIND PROVIDERS TO SUPPORT YOU

Here are some providers that you may choose to help you in your cavity prevention journey. Please do not feel like you need to do all of these things. You can decide what you need the most and where to best invest your energy.

**01**

See a functional/holistic dentist who focuses more on diet, medications, saliva, and bacterial imbalance. There are several provider directories that you can consult.

- The American Academy for Oral and Systemic Health [here](#)
- Ask The Dentist [here](#)
- The Holistic Dental Association [here](#)
- The Functional Finder [here](#)
- International Academy of Oral Medicine & Toxicology [here](#)
- International Academy of Biological Dentistry & Medicine [here](#)

**02**

A Guided Biofilm Therapy (GBT) provider can help you establish a healthy biofilm in the mouth. See Chapter Six on Gum disease for more information).

**03**

A Functional Medicine Provider can help you address other health issues holistically that could be worsening your cavities problems, such as acid reflux, a thyroid condition, hormone imbalances, gut issues, and nutrient deficiencies. You can find a functional medicine provider by visiting:

- The Institute of Functional Medicine [here](#)
- Functional Medicine University [here](#)
- the Functional Finder [here](#)

**04**

An HTMA Provider (Hair Tissue Mineral Analysis) can offer incredible insights into the micronutrients that could be affecting your oral and overall health. These providers are rare, so it can be tricky to find one, but many providers work via telehealth, so you do not need one near you. You can visit [this website](#) to request an HTMA test from a lab. However, I always recommend you work with a provider to address any high or low levels found so you can balance them safely.

**05**

A Nutritionist - It is essential to consult a nutritionist if you have a vegan, vegetarian, or dairy-free diet, as many of the foods excluded are rich in key nutrients for tooth health. They can support you in your efforts to manage your vitamin and mineral levels.

**06**

An airway-focused dentist and myofunctional therapist treat mouth breathing, which dries out the mouth and increases your risk of cavities (see Chapter Four, Secrets of Airway Health for more information ).

## What to ask for from your dentist

Here are a few things you can ask for from your dentist to support your cavity-prevention journey:

→ **Increase your dental cleaning frequency.** If you are getting cavities, then your biofilm is likely imbalanced. A dental cleaning removes that biofilm and gives it a chance to reset. This is true even if you don't have visible signs of plaque and tartar. If you don't have a GBT provider near you, then you can ask your hygienist for a thorough pumice polishing to increase the removal of biofilm!

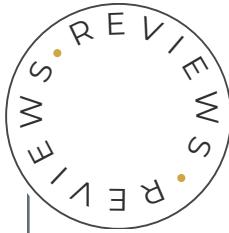
At your next cleaning, you could say, *"I get a lot of cavities. Can you please use a prophy cup and pumice during my cleaning to help remove the biofilm?"*

→ If you have a small cavity within the enamel (outer layer), **ask your dentist if they think you could try some strategies to remineralize it or stop it.** Then, come back in for an x-ray shortly to see if your strategies are working (I teach this in-depth in my course).

→ **Fluoride** is a medication that helps teeth become more resistant to cavities. If you are actively getting cavities, **consider electing an in-office fluoride varnish twice a year** (see index for more information on the benefits/risks of fluoride). This allows you to get the benefits of fluoride (making your teeth 10x more acid-resistant) without daily exposure to oral care products. This is a personal choice.

Oof! That was a lot! At the end of this chapter, you will find a place to take notes, write down action items, and list priorities.

As you can see, a lot goes into cavity prevention! That is why I designed an entire program called **Confidently Cavity Free** to support you through healing from this disease. Enrollment for the course is open from Oct 22-Oct 30, 2024. [Click here to enroll](#) or click [here](#) for the waitlist.



## CONFIDENTLY CAVITY FREE COURSE

“

I was terrified of dentists and lived in anxiety. I didn't know how to advocate for myself; I didn't know how to prevent cavities. I felt chained to the tooth decay cycle. I consider Confidently Cavity Free the best investment ever, the knowledge I gained is invaluable. I don't feel so lost anymore as I now have the tools necessary to take care of my dental health. I used to feel like I lived in darkness, a dental Mordor of sorts, blindly feeling for an exit from the tooth decay cycle. Thank you for destroying the ring of power (sorry for the silly comparison) Dr. Clayton and Eliza! On a serious note, Dr. Clayton and Eliza are very caring and attentive, you can tell they are very passionate about educating and empowering people to take control of their dental health. If you feel lost, unheard, exhausted fighting cavities and doctors (who don't listen to you 😊), I recommend this course 1000%

“

I have had root canals and crowns, and now I saved myself from crowns I didn't need and have kept my own healthy teeth. I'm 100% more confident in my knowledge after learning from you. You saved me from more tooth loss and I'm so grateful.



“

Confidently Cavity Free equipped me with a thorough understanding of cavity formation and prevention as well as tools for being proactive about my oral health! I learned questions to ask and ways to advocate for myself!



“

Your cavity prevention information has helped me so much! I used to snack a lot frequently since I work from home and sip on kombucha quite often during the day. So now I try to eat only during certain times to avoid my mouth being constantly in an acidic state. I always have xylitol mints after each meal or anything I eat. I only use Elementa tooth gel and rinse. I am also really mindful of anything acidic I eat and make sure I swish with water right after. I am also working on breathing through my nose, keeping my tongue up, and I am looking into myfunctional therapy. Thank you!



# HOW TO STOP GETTING CAVITIES

TO DO



## PRIORITIES

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CHAPTER THREE

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# Better Dental Work & No Crowns

## CHAPTER THREE

# Better Dental Work & No Crowns

### DEFINITION

**Biomimetic dentistry** is a branch of restorative dentistry that uses materials and techniques to repair damaged teeth while preserving their natural structure and function. Biomimetic dentists use restorations that mimic the appearance, strength, and function of natural teeth. The goal is to avoid damaging the tooth structure and to prevent bacteria from weakening it.



### STORY

I had a patient named Holly come to me after she had a crown placed by another dentist, and it failed... She saw on social media that I did not recommend dental crowns, and she wanted to see if there was another solution for her. She had been told her entire life that she had bad teeth and bad genetics. She believed it and accepted the fate that she would continue spending all her money at the dentist. Fillings, crowns, root canal treatments... she began to dread dental visits.

She finally felt hope after learning about biomimetic dentistry and true cavity prevention! I replaced her failed crown with a new one made of a material more similar to the natural tooth structure and repaired the tooth itself so it would function better with the crown and not have sensitivity. She has been so happy with the result and hasn't had any more issues with that tooth! This is the beauty of biomimetic dentistry.

## PROBLEM

The problems with traditional restorative dentistry (restorative is anything that replaces part of the tooth)

01

You know this first one, **too many dental crowns**. They are overdiagnosed and overprescribed. The better alternative for adult teeth is an **onlay**.

02

Traditional techniques **remove more tooth structure** than is necessary!

03

**Lack of gold-standard isolation during treatment.** It is impossible to do dental work with a good seal in a wet or humid environment! This can lead to early failure, perpetuating the **tooth-death-cycle**.

04

**Fillings are often placed too fast**, leading to the filling shrinking away from the tooth, creating microscopic gaps, which causes sensitivity and increases the risk of recurrent decay.

05

**Many popular dental materials don't move like tooth tissue** (yes, teeth move when you chew on them by absorbing pressure). Instead, dental materials are created out of convenience to the doctor. *Example: Arguably, the most common crown material, zirconia, is too hard, which can wear down the teeth that bite against it and overstress the crowned tooth.*

06

**Some dentists are still placing mercury fillings.** This is NOT GOOD. Over time, these fillings leak and cause other issues in the body (ahem, leaking mercury). They also severely weaken teeth, which can lead to the need for more invasive treatment.



Mercury fillings



Crowns



Traditional  
composite material

## SOLUTION

**Why Biomimetic Dentistry is better?** Check out this side by side comparison.

Traditional Dentistry	Biomimetic Dentistry
Removes more tooth structure	<b>Conserves as much tooth structure as possible</b> - restores teeth that would otherwise need a crown or extraction
Tooth is weakened	<b>Tooth is strengthened</b> by using materials that mimic natural tooth structure.
No bacterial seal (means recurrent decay)	<b>Seals the tooth from bacterial invasion</b> - Prevents additional decay from forming around existing dental work (stops the tooth-death cycle in its tracks!)
Higher chance of root canal treatment needed	<b>Minimizes root canal treatment by 99%</b>
Sensitivity is common (due to shrinking)	<b>Minimal to no sensitivity</b> (due to shrinking)
Materials are too hard	<b>Uses materials that flex and function like your actual tooth</b>
50% failure rate within 5 years	<b>97% success rate in 12 years (an counting)</b>
Quick procedure time	<b>Procedure takes more time</b> - fillings are placed slowly and methodically, leading to no shrinking and dramatically reducing or eliminating sensitivity from the beginning.
Perpetuates the tooth-death-cycle	<b>Stops the tooth death cycle</b> - Long-lasting restorations that prevent complications experienced with traditional approaches
Costs less initially, but costs more over your lifetime	Costs more initially, <b>but costs less over your lifetime</b>

[Here](#) is a technical explanation for dental professionals.

# Does my child need Biomimetic Dentistry?

This is the one exception. **Baby teeth, or primary teeth, do not need biomimetic dentistry.** Baby teeth will fall out, unlike the adult teeth that you need to keep for 80+ years. Traditional dental fillings and dental crowns are adequate place holders for baby teeth.

Biomimetic dentistry takes much more time and is much more technique sensitive, which is not conducive to doing dental work on children. For example, biomimetic dentistry requires a rubber dam and a completely dry environment, which is near impossible with a wiggly child.

If you have young kids, your priority should be making sure your child does not experience dental trauma, and that is less likely to occur if the dentist can finish treatment in a short amount of time.

In chapter 8, we go into dental trauma in more depth, but if it occurs during childhood, research shows that they are more likely to experience poor oral health going forward into adulthood.

Parents also ask me if they should put their child under general anesthesia for their dental work as recommended by their pediatric dentist. This is a very personal decision that you need to make based on your comfort level. However, please keep in mind that electing this may help prevent dental trauma, which is crucial to a lifetime of good oral health.

I don't treat baby teeth at my office, but when parents come to my practice asking for a second opinion on their child's treatment plan, here is what I want them to know:

1. Pending your child has deep cavities, dental crowns are okay on baby teeth and can survive longer than large fillings. **Pulpotomies** are always done with pediatric dental crowns.
2. The most important thing is to find a dentist that your child trusts so that they do not experience any dental trauma as a child.
3. If you don't feel good about your treatment plan, you can go get a second opinion from a pediatric dentist. Some pediatric dentists are more quick to crown than others.

Baby teeth are usually crowned with either a stainless steel crown or a ceramic crown. Either are fine.

On social media, I speak in black and white terms when it comes to dental crowns because that is the only way to get people to listen. It is not my intention to make parents worried about their child's treatment plan. Please do not hesitate to elect a dental crown for your child's baby tooth if they do, in fact, have a deep cavity.

# Dental Crowns FAQ's

**Q:** Are there any situations that would warrant a dental crown?

**A:** There are three situations that may actually need dental crowns. 1) Baby teeth with deep cavities (addressed on previous page), 2) genetic conditions that significantly weaken the teeth (such as amelogenesis imperfecta), and 3) significant decay that covers every surface of the tooth. If this is the case, you can still have a crown placed using better materials and bonding systems (or a non-retentive overlay by a biomimetic dentist).

**Q:** My dentist says I need a crown because I have a crack in my tooth, Is that true?

**A:** A biomimetic dentist can dissect the crack and restore the strength of the tooth using modern bonding techniques without placing a dental crown.

**Q:** Will my Insurance cover an onlay instead of a dental crown?

**A:** Sometimes. But remember, your Insurance will not completely cover the cost of a crown. Dental insurance works like a discount plan, it pays a percentage of treatment up to a fixed amount, after that amount, you are responsible for 100% of the costs. Wherever possible, elect the treatment that is best for your long term health rather than the one covered by Insurance. If you need help affording better dental care, please read chapter 9.

**Q:** I was told I would need a dental crown after a root canal treatment. Is that necessary?

**A:** In many cases, a biomimetic dentist can repair the tooth following a root canal treatment without placing a dental crown. For more on [root canal treatments](#), please see the glossary.

**Q:** What should I do if I want to change my smile for cosmetic reasons?

**A:** You can elect minimal prep ceramic veneers or composite veneers to save more of your original tooth structure.



Inlay



Onlay



Crown

# How to find a Biomimetic Dentist near you

## STEP ONE:

Visit [aobmd.org](http://aobmd.org) and look for a dentist near you. There are three levels of Biomimetic Dentists:

- **General Member**—This is a basic member who has not necessarily gone through biomimetic training. They could be using biomimetic principles or just being a member to access continuing education credits.
- **Accredited Member** - This is a great option and the most common. These members have been tested and confirmed to practice biomimetic dentistry.
- **Fellowship Member** - There are only a few biomimetic fellows, so you are pretty lucky if you have one in your area!
- \*\*\*Some biomimetic dentists may not be registered on this website, so I recommend also doing a simple Google search for a biomimetic dentist in your area. (Hint: biological and biomimetic are two very different things).

## STEP TWO:

Call that dentist and confirm the following:



*First, I want to clarify that you don't have to understand any of the jargon about materials and techniques below. Just ask the questions. If you get a yes, great! If it's a no, keep looking.*

**01**

### **“Does your doctor use immediate dentin sealing?”**

This is a technique that seals off the tooth from additional decay before building up the tooth with additional material. It also prevents sensitivity.

**02**

### **“Does your doctor use a rubber dam on every procedure?”**

A rubber dam is a thin square sheet of rubber (most are non-latex, but confirm with your doctor if you have a latex allergy) that separates the teeth being treated from the rest of the mouth. It ensures that there is no saliva, bacteria, and moisture contamination from the mouth during the procedure, and prevents you from tasting all the nasty materials we use to fix your teeth. A win, win!

**03**

### **“Does your doctor use Ribbond and a proper dentin replacement material such as Kuraray APX?”** (pronounced “cur-rah-ree”). This confirms they are using different materials to mimic each layer of your tooth.

04

### **“What bonding system do they use?”**

Excellent bonding is at the heart of biomimetic dentistry. The two gold standard, tried and tested biomimetic bonding systems are:

- Kuraray Clearfil SE protect
- Optibond FL
- If they are not using either of these bonding systems, then they are likely not practicing biomimetic dentistry (at least not by the book) since these are the two most tried and trusted systems.

A friendly reminder that you will likely need more than one dentist on your care team. Your biomimetic restorative dentist may not necessarily focus on prevention or other holistic solutions, so you may only visit them when you need dental work done.

## **What if you can’t see a Biomimetic Dentist?**

There are a few reasons you may not be able to see a biomimetic dentist, such as not having one near you, not being able to travel to the nearest one, or not being able to afford to go to one. Here are some accommodations you can ask for to secure the best possible outcomes when getting dental work from a traditional dentist.

01

### **Ask for a rubber dam to be placed, no matter what the procedure is.**

Just call and ask, “*Can I please have a rubber dam placed when I come for my fillings on Thursday?*” They should be more than happy to do this for you. EVERY dentist has been trained to use a rubber dam. This will improve outcomes by helping the tooth bond better to the dental work done. And don’t let them talk you into a different isolation device such as “Isovac” or “Isolight”; stay firm on the rubber dam request.

02

### **Ask for an onlay or overlay instead of a crown.**

Every dentist knows how to do these. They may discourage you from getting an onlay, saying they fall off or fail easily, but that may be because the dentist is not familiar with good materials and techniques, not because onlays themselves are bad. But even then, I’d personally choose to risk needing to replace a broken onlay or re-cementing an onlay that fell out rather than choose to have my tooth cut down for a crown.

03

### **If you are getting a crown or an onlay, ask the dentist for a material called e.max (or lithium disilicate) instead of zirconia.**

Zirconia is actually too hard, putting too much stress on the tooth. By opting for e.max or lithium disilicate, your dental work will flex and function more like your actual tooth, reducing failure risks. You will likely be discouraged from choosing this material for 1st molars and definitely 2nd molars, but be stubborn. Add “Can you just make sure it’s at least 2mm thick” in response to this discouragement. Again, do you want to risk breaking a crown or breaking a tooth?

**04**

**You can ask your dentist if they are willing to use a resin-based bonding cement instead of luting cement when attaching the onlay to the tooth,** which provides a stronger bond (this should be easy for your dentist to order in for your case). \*\*\*And ask for a rubber dam again when the onlay or crown is cemented to the tooth!

**05**

**If you are having an amalgam (silver) filling removed, ask that the doctor use a rubber dam and provide you with an oxygen mask** (the same device used for nitrous) to prevent the swallowing of the filling material and inhalation of mercury vapor found inside silver filings during the removal.



Unfortunately, it is hard to ask a regular dentist to modify their materials for fillings. This is why it is ideal to visit a biomimetic dentist whenever possible. Remember, you have the right to accept or deny any treatment that is offered. Without verbal acknowledgment from you, there is no consent.

## What if you already have a dental crown?

Don't freak out. You do not need to rush to the dentist and get it taken off. No kind of dentist can reverse the damage, but these helpful tips will give you hope of preserving the life of that tooth.

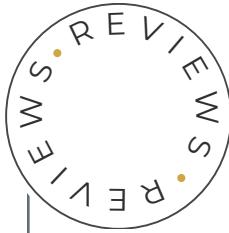
**01**

**If you already have a crown, ask your dentist to “check the margins” (where the crown meets the tooth) around your existing crown meticulously at each dental exam to look for any signs of decay.** Decay will not show up on an X-ray until it is really bad. So, this is the only real way to catch it before it becomes a much bigger problem. If they do find any early signs of decay, see if you can visit a biomimetic dentist to have it replaced so they can properly seal off the tooth when restoring it to prevent future dental work. But if not, then make the above requests when getting the crown replaced.

**02**

**Consider adding a water flosser to your routine to keep the margins of your crown free of bacteria and plaque.** Water flossers are a great addition to traditional string floss in your oral hygiene routine and are especially useful for maintaining healthy gums.





“

"Your account encouraged me to find the one biomimetic dentist in the Detroit metro area within 20 miles of my home! He's fantastic, and saved me from a root canal! Did a biomimetic onlay and told me if this was 4 years ago when he was still practicing traditional dentistry, it would've absolutely been a root canal treatment and a crown. THANK YOU!"

“

I'm just poppin in to say thank you. This week, I was able to work with a dentist (found through a site you recommended). We were able to fill a tooth that other dentists kept telling me could only be cured via extraction. AND it was not as invasive and terrifying as my previous experiences. Without the information you shared, I would still have a tooth breaking, or (worse) a gap in my molars. There is a newfound freedom and inner peace that words cannot express my gratitude. For the first time in my 35 years, I am actually excited for my own oral hygiene. A whole new outlook! Thank you.

“

So thankful for your education and information! Because of the knowledge I've gained from your page, I had the best dental experience today. I've had a large amalgam filling in a molar for years and a side of my tooth cracked off around it the other day. Instead of just accepting it would now need more healthy tooth removed and a crown, I found a dentist who was willing to not only safely remove the amalgam filling but replace it and the tooth trauma with a beautiful onlay!! It was also the first pain-free dental procedure I've had in years and that's saying something from someone who has had multiple cavities and fillings every year for the past few years! I've also healed my mouth using your guide and happy to report no cavities for the past 6mo after have multiple every year for the past 7 years!! Thank you isn't enough!!



# BETTER DENTAL WORK & NO CROWNS

## TO DO

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## PRIORITIES

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## NOTES

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C H A P T E R   F O U R

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# Secrets of Airway Health

## CHAPTER FOUR

# The Secrets of Airway Health

### DEFINITION

Airway medicine is on the rise as both providers and patients are increasingly seeking holistic solutions to their health concerns.

Airway medicine focuses on ensuring that individuals can breathe optimally through their noses both day and night, which has numerous benefits to the body. By focusing on these four pillars—tongue tone, tongue mobility, tongue space, and airway obstructions—airway medicine aims to help you sleep and breathe better. Starting this process early in life can lead to the best outcomes, making it easier to develop and maintain healthy breathing habits.

### STORY

Claire was a 12-year-old athlete who never felt rested or energized, even with 12 hours of sleep. After talking with her hygienist, who was also a myofunctional therapist, she and her parents learned that Claire was breathing through her mouth, had a narrow palate, and lacked tongue mobility which made it so she was not sleeping well. Her father's family had a history of sleep apnea so they wanted to do anything they could to help her avoid that down the road. She also had a lot of dental crowding, but the orthodontist had suggested they wait on braces since she still had some baby teeth so they hadn't done anything about it yet.

She began myofunctional therapy immediately to improve the strength and mobility of her tongue so that she could get her tongue to rest on the roof of her mouth. She began breathing through her nose during the day and started feeling better! She still needed more tongue mobility, so she moved forward with a tongue tie release from an airway-focused dentist. After it healed, she continued myofunctional therapy to prevent the tissue from reattaching and to continue developing correct oral habits.

Next, they requested **rapid palatal expansion** from an orthodontist even though she still had some baby teeth left, which worked beautifully to give her more tongue space and create room for all her teeth. Now she is in braces to align the teeth.

Claire is excelling in school and sports, breathing well, has enough space for her airway, feels well-rested, and feels happier. Her dad is so relieved that she will never have to deal with sleep apnea like he does.

*Story shared with permission.*

Myofunctional therapist - Sammie Nicolello of Breathe Well Myofunctional Therapy



1 - Before myofunctional therapy, 2 - After myofunctional therapy/before tongue release, 3 - post tongue release, 4 - post expansion and 18 myofunctional therapy sessions.

## SYMPTOMS

Review this list of symptoms and check any that apply to you.

### SYMPTOMS IN ADULTS:

Mouth breathing day or night
Chronic congestion or allergies/asthma
Snoring or loud breathing when asleep
Sleep apnea
Restless sleep/chronically tired
Grinding teeth
Clenching jaw
Anxiety/stress
Straining to keep lips closed
Large tonsils
Narrow palate
Easily doze off during certain activities (watching TV, passenger in a car, sitting and talking to someone, sitting inactive in a public space)

### ADDITIONAL SYMPTOMS IN CHILDREN:

Burping a lot after they eat
Constipation
Delayed speech or Inability to produce age appropriate sounds
Nightmares
Bedwetting
Picky Eating
Narrow palate
Behavioral challenges/Difficulty focusing

### TOTAL:

Did you check a few of the boxes above? If so, it's possible you could have an undiagnosed airway problem. Airway issues are very common in our modern world for a variety of reasons. My wife, Eliza, went her whole life without knowing she had an airway issue until I received training on airway health. She is devastated she didn't have this treated when she was younger, because it would have prevented so many issues for her. Now she is on her journey to sleep and breathe better.

## PROBLEM

### **Potential health consequences of airway problems:**

- Cavities and gingivitis (gum inflammation)
- Reduced oxygen intake, which can cause fatigue and brain fog
- Neck and back pain as well as bad posture
- Increased risk of diabetes, heart disease, Alzheimer's
- Increased risk of respiratory illness (i.e flu, colds, covid)
- Reduces the amount of nitric oxide in the body, which has many functions one of which is regulating blood pressure
- Facial deformities
- Decreased growth hormone = decreased efficiency in repairing the body during sleep
- Sleep Disordered Breathing or sleep apnea
- Contributes to a state of chronic elevated stress hormones and systemic inflammation

### **Benefits of proper nasal breathing:**

- It may help prevent and treat asthma.
- Lower blood pressure
- Athletic performance improvements
- Cognitive improvements
- Decreased systemic inflammation
- High-quality restorative sleep
- Increased growth hormone during sleep = increased recovery/healing of the body
- Filters air and is the first layer of protection for your immune system. This reduces your risk of developing illnesses such as colds, flu, allergies, hay fever, and asthma.
- Increases your oxygen uptake by 10–20% compared to mouth breathing.



- Improved mood and behavior
- Less stress
- Higher nitric oxide levels, which are responsible for many important functions in the body such as lowering blood pressure

The best time to treat airway issues is when children are young because the child's body is developing rapidly and responds well to changes.

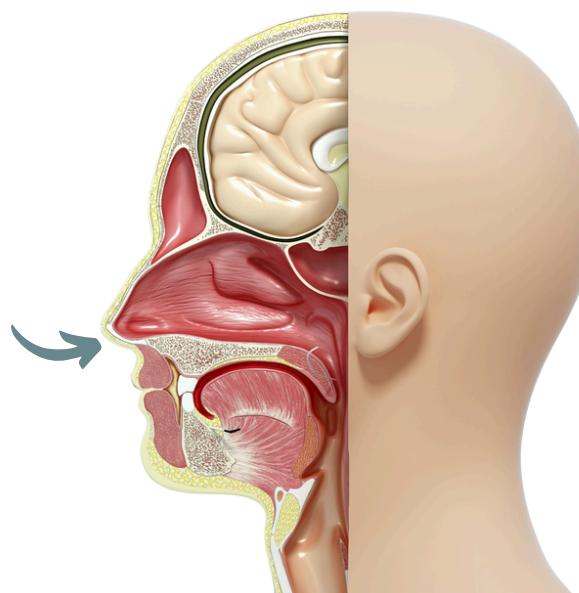
**Here are some benefits of treating airway issues while children are young:**

- Promotes proper growth and development of the jaws in children
- Reduces the risk of needing orthodontic treatment in the future
- The release of more growth hormones during sleep
- Lower incidence of ADHD, better performance in school, and less behavioral challenges

## SOLUTION

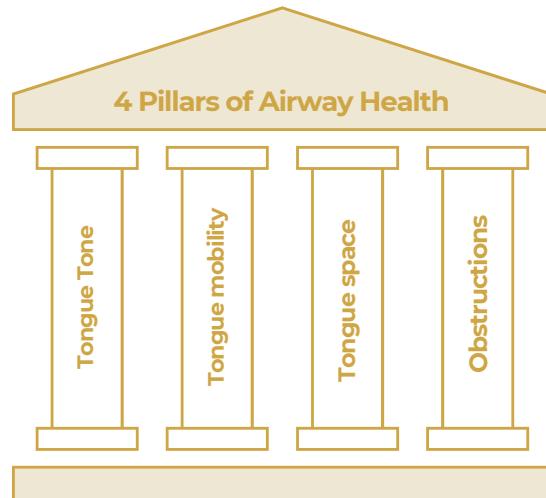
# Introduction to Airway health

The goal of airway medicine is to get a person breathing through their nose day and night. The tongue is the on-off switch for nasal breathing! When your tongue rests on the roof of the mouth, it signals to your body to breathe through the nose. When your tongue rests on the floor of the mouth, your body is more likely to default to mouth breathing. This is particularly the case at night because you lose awareness of tongue posture and whether your lips are closed or not.



The goal of airway medicine is to improve tongue tone, tongue mobility, tongue space, and address airway obstructions so you can sleep and breathe better. The earlier we begin this process, the better!

Let's figure out how to solve this holistically.



## How to solve airway issues

I have created a flow chart (located at the end of this chapter) to help explain how to solve airway issues because there are so many moving parts depending on what issues you are experiencing.

The first thing you want to do if you suspect you have an airway issue is to visit a **myofunctional therapist** or an airway-focused dentist to be evaluated for proper tongue tone, tongue space, tongue mobility, and airway obstructions. Your treatment plan will look different based on what symptoms you are experiencing and what risk factors you have.

Below is a description of multiple airway-related issues, as well as how to resolve these issues with your airway team. Many of these solutions will involve multi-disciplinary treatment plans (need to collaborate with multiple providers). This is truly a multidimensional health problem that is best resolved when providers work together for the good of the patient. You can take [this form](#) to your provider to help identify where you may need improvement.

### Address Tongue Tone

Tongue tone refers to how strong the tongue is. It needs to be strong enough to rest on the roof of the mouth both day and night. A myofunctional therapist helps to resolve this issue by giving you exercises to do at home that strengthen the muscles of the tongue, cheek, and face.



## Address Tongue Space

Tongue space refers to the amount of space there is on the roof of the mouth for the tongue. The tongue should not push against the teeth in the front or on the sides, one way to tell if you do not have enough space is if you have a "wavy" tongue (see image).

You will need to partner with an airway-focused dentist and/or an orthodontist to resolve this issue. In extreme cases, an oral-maxillofacial surgeon may be needed.



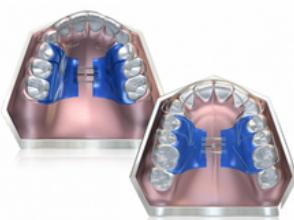
Wavy Tongue

One way to help promote jaw development at home is by using a **Myomunchee**, a device that uses the chewing motion to naturally encourage the jaws to expand. There is a Myomunchee for every age and anyone can order one of these online, but it would be most beneficial if used in conjunction with myofunctional therapy and possibly other interventions explained below. The Myomunchee for 6-18-month-olds is the only one that must be ordered through a myofunctional therapist or airway-focused dentist.



## Airway-Focused Dentist

The younger the child the greater the capacity for growth, which in an airway context translates to increased expansion of the jaws. How much expansion you ask? Well, at least enough space for the tongue and aligned teeth. Your airway-focused dentist can use various tools to achieve the desired outcome such as a myofunctional orthodontic or pre-orthodontic device such as **Myobrace**. There are a few other products on the market that are similar to Myobrace such as **Tooth Pillow** and **Healthy Start**, but Myobrace is the original, has the most research, and is the one I utilize in my office. **Tooth Pillow** is a great option if you do not have a Myobrace or Healthy Start provider near you and need to do virtual consults. There are also a few early expansion devices (replacements for a traditional rapid palatal expander) that can be used in conjunction with the Myobrace system such as an **ALF appliance**, the **Bent Wire System**, or **Biobloc**.



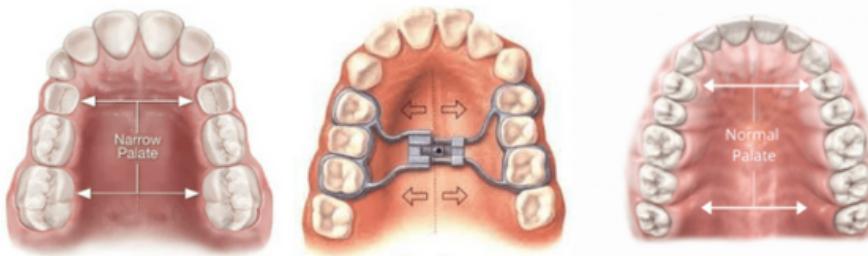
## Orthodontist

For older kids ages 7-12, expansion via a **Rapid Palate Expander** is a great option to create more space for the tongue and teeth. Most orthodontists want to wait until age seven when the permanent molars have erupted, so they can attach the expander to the molars. But I think we would see amazing results if orthodontists were willing to place expanders at a younger age. The palate fuses around age 12, so after that age, expansion is minimal. An expander can still be used after the palate fuses but the gains in width will be from tipping the teeth outwards, not from physical expansion of the jaw. More aggressive expansion of a fused palate without surgery is unstable, unpredictable, and unnecessary.



## Oral and Maxillofacial Surgeon

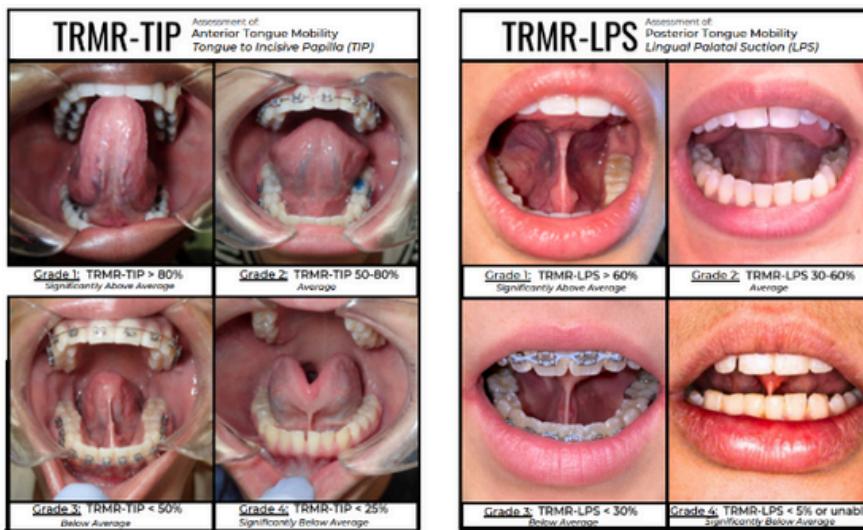
The best option for expansion in adults is a surgery called “surgically assisted rapid palatal expansion”, also known as **SARPE**. It is a technique that combines orthognathic surgery (jaw surgery) with orthodontic treatment to widen the upper jaw. It is designed to correct problems such as crossbite, severe dental crowding of the upper arch, and severe airway issues such as sleep apnea. SARPE is used for adults with fully developed facial bones or for moderate to severe cases. This is an invasive surgery that most do not elect until they have explored all their other options.



### Address Tongue Mobility

Tongue mobility refers to the flexibility and the range of motion of the tongue. Ideally, the tongue can comfortably reach the roof of the mouth without compensation. Compensation is when the floor of the mouth lifts up in order for the tongue to reach the roof of the mouth. You can test this by placing your index finger under your tongue on the floor of your mouth and then try lifting the tongue up. Can you get much mobility?

If you do not have enough tongue mobility, you would benefit from myofunctional therapy to increase flexibility. A tongue tie (now called a “mid-tongue restriction”) is when the tissue connecting the tongue to the floor of the mouth is short or tight. You can have a grade 2, grade 3, or grade 4 tongue tie.



Does every tongue tie need to be released (cut)? Absolutely not! This surgery should not be considered until the patient has diligently completed a minimum of 6 weeks of myofunctional therapy combined with bodywork from a provider such as a craniosacral therapist, physical therapist, chiropractor, etc.

At that point, a tongue tie release may be recommended to gain the additional mobility needed for ideal function. The above therapies must be continued for at least another six weeks following the surgery.

## Address Airway Obstructions

An airway obstruction refers to any obstruction in the nose or the mouth that prevents you from breathing properly. This includes conditions such as chronic congestion or variations in anatomy such as a deviated septum, small nasal passage, or enlarged **tonsils** and **adenoids**. All of these restrict the size of the airway in one area or another and, therefore restrict the flow of air into and out of the lungs. There is only so much space available!

**01**

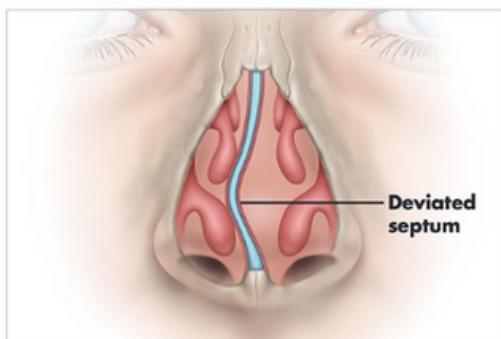
### Chronic Congestion:

Visit an allergist to diagnose the cause of your congestion. If it is allergy-related, take steps to address the allergy so that you can reduce your congestion. Gentle nasal sprays and nasal rinses are useful tools to relieve congestion. Addressing common allergens in the home, such as dust and dander, is also important.

**02**

### Solutions for Small Nasal Passage:

Part of your airway journey will include having a 3D x-ray taken (also called a CBCT) to evaluate the size of the nasal passages. Most dentists can provide this type of x-ray image. If you have a nasal passage obstruction, such as a severely deviated septum, then a surgical procedure called **septoplasty** could be considered to remove the obstruction.



**Hint:** This is one reason we want to encourage jaw expansion in young kids. The roof of the mouth is also the floor of the nose. A wide palate leads to a larger airway passage.

**03**

### Solutions for Enlarged Tonsils:

Just because tonsils are enlarged doesn't mean they have to be removed. An evaluation needs to be made of all risk factors to determine whether or not removing the tonsils should be considered. A myofunctional therapist, an airway-focused dentist, or an ENT are professionals who can perform the assessment, communicate findings, and inform you of and recommend treatment options. If removal of the tonsils (tonsillectomy) is recommended, it will likely be one of these three options below. Of the three methods, coblation is what I would elect for myself or a family member.

- **Laser Tonsil Ablation:** This is a great option if your tonsils are slightly enlarged, but not so enlarged that you would need a tonsillectomy. In the procedure, an airway-focused and laser-trained dentist uses a laser to reduce the tonsil size as much as possible by vaporizing the outer surface of the tonsils.
- **Coblation Tonsillectomy:** Almost all ENTs who recommend a tonsillectomy will want to remove your tonsils and **adenoids**, but this is not necessary! A great alternative is to remove only some of the tonsil tissue. Dr. Zaghi has a groundbreaking procedure called Coblation Tonsillectomy. This is when a surgeon precisely removes targeted tonsil tissue while preserving the nearby healthy tissue. You can watch a video about it [here](#). Unfortunately, there is no provider directory for ENTs who perform Coblation Tonsillectomies, so you will need to google "Coblation Tonsillectomy in (location)." You will probably need to travel if you want this procedure.

- **Traditional Tonsillectomy:** If you are not close to anyone performing Coblation Tonsillectomy, a traditional tonsillectomy is still a good alternative if your tonsils are blocking your airway. [Click here](#) to check out an amazing resource by Dr. Zaghi to read through before meeting with an ENT to discuss a tonsillectomy.

## A quick note on Airway-related grinding

If your tongue cannot stay resting against the roof of your mouth when sleeping due to tongue tone, tongue space, or tongue mobility, it is more likely to fall towards the back of the mouth into the airway space which reduces and can even block your airway. This can result in snoring, sleep apnea, and night-time grinding.

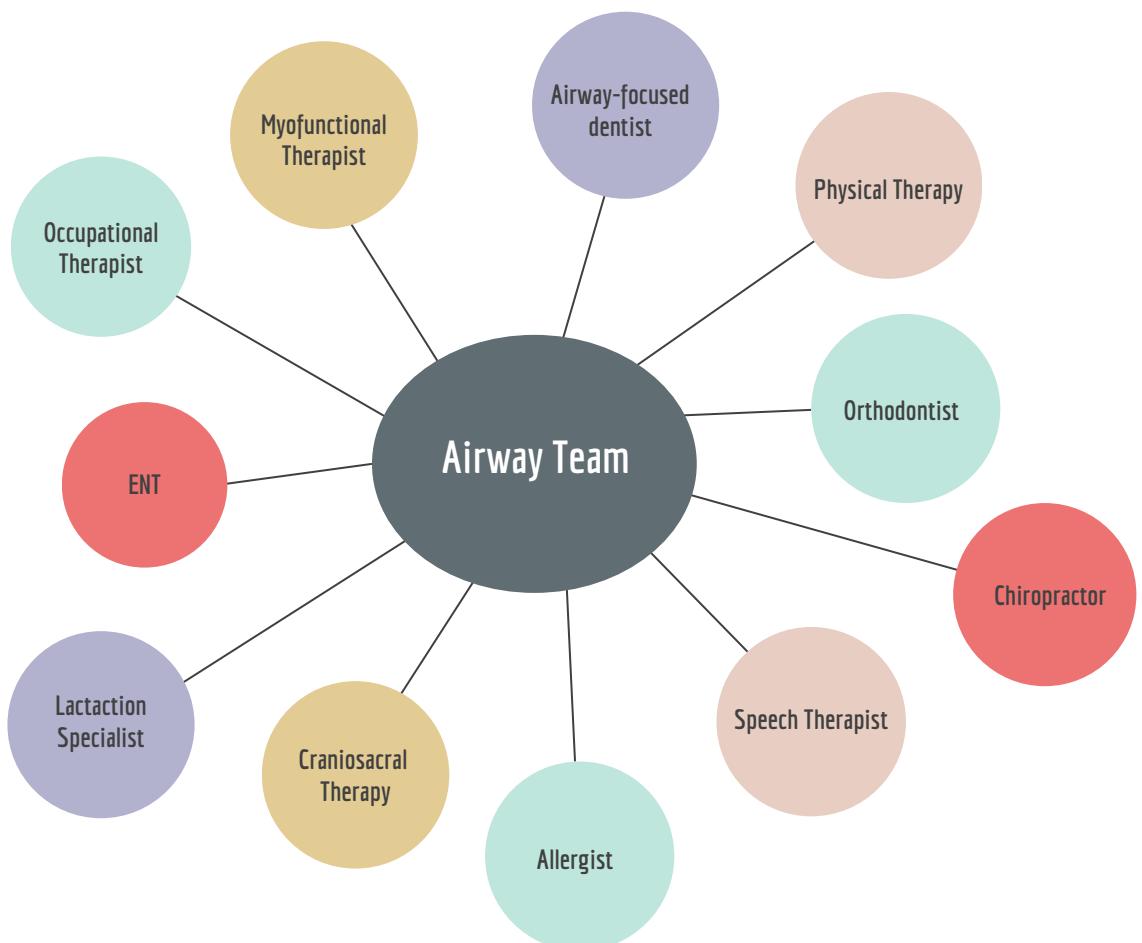
Airway-related grinding occurs when the body pushes the lower jaw forward during sleep, causing the front teeth to wear against each other, to pull the tongue away from the throat. It is not hard to tell the difference between airway-related grinding and stress grinding of the teeth. Airway-related grinding appears as tooth wear on just the front teeth caused by the lower jaw sliding forward over and over. Stress-related grinding (most often occurs during sleep) appears as tooth wear on all of the teeth that touch when the jaw is moved side to side.

So, if your teeth slide easily against each other and line up when moving the jaw forward, the tooth wear is likely airway-related grinding. This is not normal! It is your body's compensation to keep itself alive while you are sleeping. A mouthguard will not solve this problem. Instead, you need to work with an airway team to improve tongue tone, tongue mobility, and tongue space so you stop grinding your teeth at night.



## Team of Providers you may need

In a perfect functional medicine world, all the providers you would need for airway health would work collaboratively to treat you. The myofunctional therapist often plays this role, acting as the quarterback or team captain on your airway health journey. Unfortunately, this is not as common in the standard medical field to work collaboratively as a team of diverse care providers. To help you understand the variety of professionals who work well on this team, we have created the list below of the providers you may see and how they can help you. We also created a flow chart so that you can visualize when each care provider would be needed.



### Myofunctional Therapist

I believe myofunctional therapists are the first line of defense when it comes to airway health and can help guide you in knowing what specialists you may need on your team. They create and work with you through an individualized program to retrain your orofacial muscles and improve function. It is the most effective, least invasive intervention for improving airway health. It's like physical therapy but focused on retraining your mouth and all the muscles associated with it to work as they're supposed to so you can breathe and swallow correctly. You can find a directory of myofunctional therapists [here](#).



### Airway-Focused Dentist

An airway-focused dentist is another provider who can assist in diagnosing risk factors and symptoms of not breathing well and guide you to other specialists who would be beneficial to work with. These dentists will focus on your bite pattern and arrangement of teeth, the anatomy of the jaws, the back of the throat, and the nose, and may also be trained to perform procedures for lip ties, buccal ties, etc. If you do not have one, you can take [this form](#) to your dentist to get started on your journey.

**There is no comprehensive directory of airway-centric dentists, but the resources below will help you find one.:**

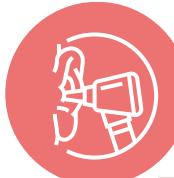
- [Airway Circle](#)
- [Airway Health Integration](#)
- [The Breathe Institute](#)
- If you do NOT have an airway-focused dentist near you, print off this form and take it to your next dental visit. Any dentist or hygienist can fill this out. This form provides useful information you can then take to a myofunctional therapist to begin your journey.
- An airway-focused dentist should include other providers when doing tongue tie releases such as myofunctional therapists, occupational therapists, **craniosacral therapists**, and lactation consultants. If they are not, keep looking.
- You also want to confirm that they are using a Co2 laser for tongue tie releases and suturing the wound rather than leaving it open. [Here is another resource](#) for finding a dentist near you using a Co2 Laser.
- You want to confirm they take a conservative approach.
- You may also consider asking them where they got their training. Two of the best in the industry to learn from are Dr. Zhagi and Dr. Baxter.



## Orthodontist

An orthodontist can provide treatment to increase the width of the upper jaw non-surgically (specific to kids) via expansion devices to create sufficient space for the tongue to rest on the roof of the mouth and for the teeth to all fit into the jaws.

If you are an adult and are considering surgical expansion of the upper jaw, an orthodontist will work with you and your surgeon to move the teeth to where they need to be before and after the surgery.



## ENT

An ENT performs surgery procedures to increase the size of the airway which include tonsillectomies, repairing deviated septums, increasing the size of the nasal passage, and sinus surgeries.



## Craniosacral Therapist

Craniosacral therapy is a gentle massaging technique used before and after tongue tie-release surgery to help manage pain and stress. It does this by helping to release tension and restriction around your body's connective tissue network, called the fascia. When looking for a craniosacral therapist near you, ask for someone who understands the importance of tongue tie release for tension, posture, and growth. This is also a great bodywork option to pursue in addition to myofunctional therapy.



## Physical Therapist

They can help with posture and optimal breathing by teaching their patients breathing exercises to improve deep and abdominal breathing. Also a great option for the general release of tension in the body to assist with the success of myofunctional therapy and tongue tie releases.



## Occupational Therapist

Occupational therapists can provide oral motor therapy to maximize a child's function with available lip and tongue range of motion; however, depending on how much the restriction is impacting function, the baby or child may hit a "plateau" in progress without revision.



## Chiropractor

A chiropractor may help improve breathing mechanics, with a combination of breathing exercises and spinal adjustments.



## Lactation Consultant

Lactation consultants are usually the first people to diagnose tongue/lip/buccal restrictions in infants and can help parents build a team of providers. Sometimes, this just includes craniosacral therapists and chiropractors. But if a tongue release procedure is needed, then it is imperative to continue using a lactation consultant after the procedure to make sure the child is getting enough milk and to help retrain sucking patterns.



## Speech Therapist

Also known as a Speech Language Pathologist, SLPs work to prevent, assess, diagnose, and treat communication and swallowing disorders for clients across the lifespan. They can help patients with tongue tone, tongue mobility, and tongue thrusts as it relates to speech issues.

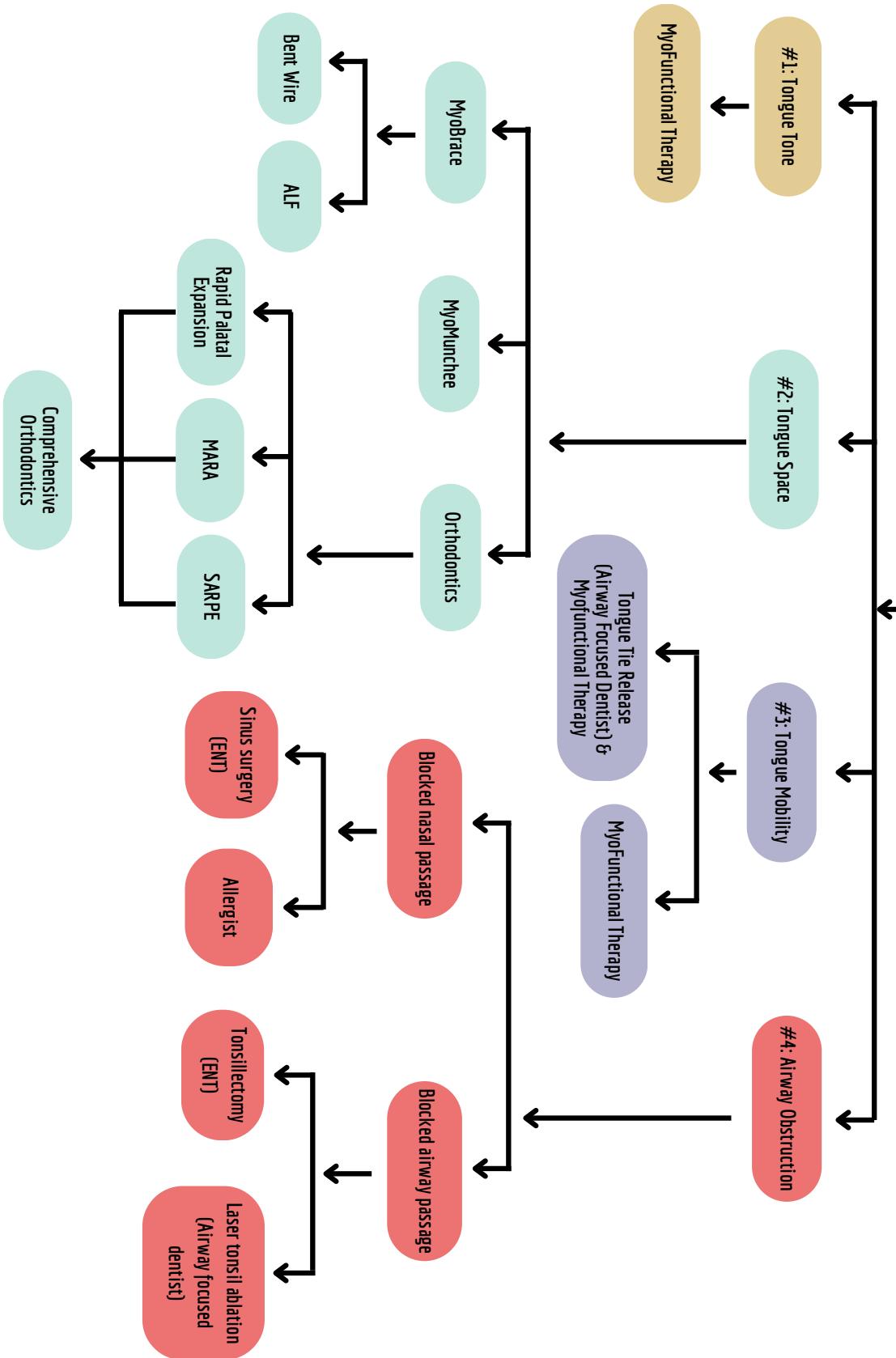


## Allergist

If you are chronically congested, then you will not be able to breathe well through your nose. You may need to see an allergist to assess the cause of the congestion and make a plan to manage any allergens that may be making your symptoms worse.

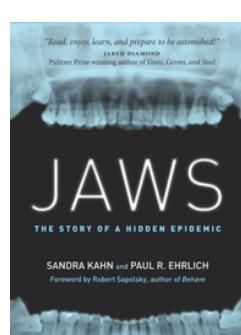
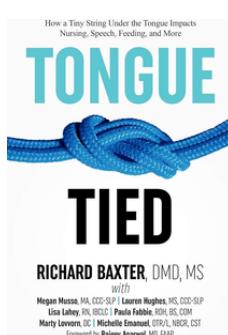
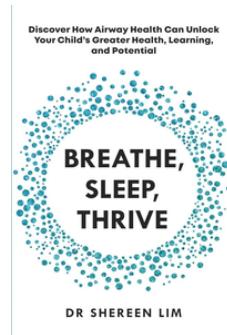
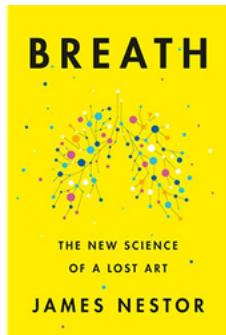
## Myofunctional Therapist/Airway-Focused Dentist

determines if you have a problem(s) with:



# What can you do to get started right now?

- **Clear out the nose!** Use nasal spray every morning and night to ensure nasal passageways are clear so you can breathe through your nose. You may also consider doing a sinus rinse once a week or more frequently when you are congested.
- **Change your sheets and vacuum weekly** to help manage dust and dander, which can cause congestion. Avoid having any animals near your face.
- **Get an air filtration machine for your home!** Especially your bedroom.
- **Use a nasal dilator** to encourage nasal breathing at night or during exercise.
- You can also **use Breathe Right strips** to help open your nose and breathe in air more easily while exercising.
- **I love to keep Boom Boom Nasal Inhaler sticks** in my bag and car to wake up my nose and enhance my breathing.
- **Use a myonozzle when drinking** to help you learn to swallow correctly and improve your tongue tone.
- **Use mouth tape when sleeping or exercising** to promote nasal breathing. However, this is not advised if you have an airway obstruction, such as being unable to breathe through your nose during the day or have a history of snoring at night (which means your airway is obstructing). Please consult with your provider first before using mouth tape!
- I mentioned this before, but **the Myomunchee is something you can purchase on your own to help encourage jaw development.** I recommend that you do this under the direction of a myofunctional therapist for maximum benefit!
- **Read educational books!** Below are some of our favorites, click on the image to take you to a link to purchase.





“ A sleep test showed my son had sleep apnea. We just finished expansion with an airway-focused dentist and did myofunctional therapy! It has fixed ALL of his issues and I can't say enough to try to address the issue while the child is young.

“ I wish airway medicine was a thing when I was a kid. If I get to have kids, I will do all I can to help them have proper jaw development to prevent issues. So underrated and so important!”

“ Thank you for sharing all your knowledge and wanting to help people! My daughter is currently going to a holistic dentist to improve her airway. She was so impressed that I knew a lot of the information already that she shared. She was so excited that a dentist on Instagram was helping people that she asked for your information.

I have been in the cycle of Caries disease for years. I finally feel hope that I don't have to go to the dentist and expect to hear I have cavities. I have been able to help my children so that they aren't part of the cycle!

“ Both of my sons wear a myobrace and their sleep has improved tremendously!

“ I am so grateful I get to set my kids up for success. If I would have had this care when I was young, it would have changed my life.

# SECRETS OF AIRWAY HEALTH

## TO DO

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- 
- 
- 

## PRIORITIES

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## NOTES

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C H A P T E R   F I V E

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# Clenching, Grinding, and Jaw Pain

# Clenching, grinding, and jaw pain, help!

## STORY

A new patient came to my dental office with a complaint of significant pain in her upper left jaw as well as general pain in both jaws. She had difficulty chewing, opening her mouth wide, and talking for a long period of time. She was exhausted, miserable, and desperate for solutions and could not tell where the pain was coming from.

This was not her first exam for this ailment. Another doctor told her that he had found nothing out of the ordinary and that the teeth looked fine, but he recommended a root canal treatment because there was one tooth in the upper left jaw that the patient said was more sensitive than the others. But that was the extent of it. During my exam, it didn't take me long to confirm that her problem was definitely not an individual tooth problem that would be resolved with a root canal treatment.

Her bite was all sorts of crazy! Her teeth were not coming together correctly, and she was only hitting on a few of the back teeth. This can cause A LOT of pain, which proved true in this case. This pain is too often mistaken as an individual tooth problem rather than a "teeth" problem.

What was my diagnosis? Occlusal disease. What did I do? Thanks to a little device I use in my office called a Kois Deprogrammer, I was able to identify the exact cause of the occlusal disease, treat it, and BAM! Her pain went away. This is the magic of functional dentistry.



## SYMPTOMS

Review this list of symptoms and check any that apply to you.

	Does your jaw joint ever have pain, sounds (popping/cracking), or experience limited opening or locking?
	Do your teeth feel like they don't fit together properly?
	Do you have trouble finding your bite, or need to squeeze, tap your teeth together, or shift your jaw to make them fit together?
	Do you avoid eating hard crunchy foods like carrots, nuts, baguettes, etc?
	In the past 5 years, have your teeth changed (become shorter, thinner, or worn) or has your bite changed?
	Are your teeth becoming more crooked, crowded, or overlapped?
	Do you place your tongue between your teeth or close your teeth against your tongue?
	Do you chew ice, bite your nails, or use your teeth to hold objects?
	Do you have problems with sleep (i.e., restlessness or teeth grinding), or do you wake up with a headache or an awareness of your sleep?
	Do you wear or have you worn a bite appliance? (night guard)

**TOTAL:**

If you checked a few of those boxes, you could be experiencing what is called "Occlusal Disease". Occlusion is the fancy word for the bite or how your teeth come together. Occlusal Disease is a classification for bite problems that includes conditions in which the teeth do not fit together correctly when the jaw joints are in a stable position.

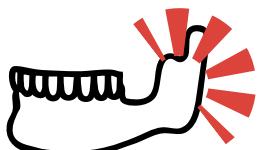
There is quite a variety of classifications under this umbrella, but that is not important for you to know. What is important to know is that when the bite is not correct, it can cause jaw muscle pain, radiating or referred pain to the head and neck, gum recession, notching of the teeth at the gum line, reduced chewing and speaking function, and premature wear of the teeth including flattening, chipping and shortening of the teeth.

## PROBLEM

# TMD (TMJ) vs Occlusal Disease

Occlusal disease is NOT to be confused with Temporomandibular Joint Disorder (TMD), which people often refer to by the common misnomer TMJ. While occlusal disease can lead to problems with the jaw joint, TMD is not something I am going to address in detail, as this is not my particular area of expertise. If you are experiencing jaw joint pain (the joint is located in front of the ears), such as painful popping or the jaw getting stuck open or closed, then please perform a Google search for a provider in your area that specializes in treating TMD. Dentists trained in treating TMD are not difficult to find, so you will likely find a provider in your community or a neighboring one. Your treatment will likely be multidisciplinary and include specialists such as physical therapists, chiropractors, or oral-facial pain specialists.

In short, here is the difference.



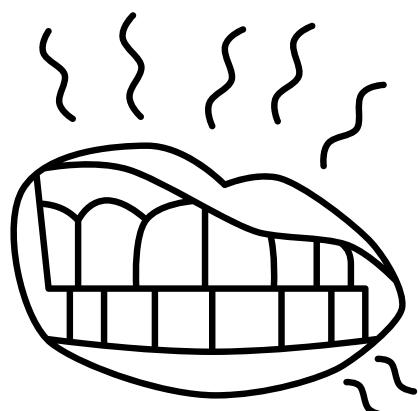
**TMD** = Pain and inflammation in the jaw joint



**Occlusal disease** = an unstable bite that can cause pain to in the chewing muscles, head and neck, and jaw joint

# Overdiagnosis of clenching and grinding

If someone is experiencing grinding, clenching, or jaw pain, a frequent prescription for the issue is a night guard. Did you know that it is estimated that approximately 8% of people who are diagnosed with traditional nighttime grinding actually have nocturnal bruxism (clenching or grinding while asleep). The other 92% have an undiagnosed occlusal disease, such as grinding due to airway constriction. Remember that some grinding is the result of an undiagnosed airway issue (See airway chapter). If the grinding is the result of an airway issue, then only the front teeth will be worn down, whereas regular grinding is a side-to-side motion that grinds down the molars or the back teeth.



## SOLUTION

# A Functional approach to treating occlusal disease

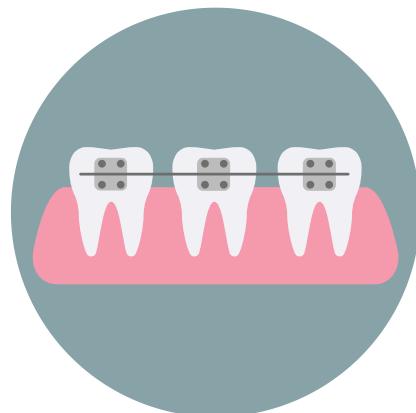
To resolve the cause of the occlusal disease, the end goal is for the jaw to be able to rest in the most stable position and for the teeth to come together like a match made in heaven. How do we determine the most stable position for your jaw? I use a nifty little device called the Kois Deprogrammer. Basically, it allows me to see the difference between where the jaw sits now and where the jaw needs to be by looking at the difference in the bite.



**Disclaimer:** The Kois deprogrammer is the method I am familiar with. Other devices and schools of thought exist that have their own workflow of diagnosing and treating occlusal disease. Some of USA based programs in addition to Kois are Spear and Pankey institutes

## A quick note on Orthodontics

Unfortunately, finding an orthodontist with a functional approach to occlusion may be difficult. They may move the teeth into a cosmetically appropriate place, but the palate could be left narrow without room for the tongue and the bite with disturbances, which long term leads to tooth wear, increased risk of airway obstruction, and jaw pain. Many of my patients who have occlusal disease first experienced an onset of symptoms after finishing orthodontic treatment.



Here is a golden question you can ask a potential orthodontist you are interviewing.  
**What do you do to ensure the final bite will put the jaw joints in the most stable position so that the teeth do not interfere with each other?**



# A Functional approach to treating occlusal disease

To find a dentist offering the Kois Deprogrammer, visit the [Kois Provider Alumni Lookup](#) and see if there is a Kois-trained dentist near you. To get into this directory, a dentist must complete every Kois Center class, which takes years and years to do. So, it is possible that a dentist near you may have completed a portion of the curriculum at the Kois Center and be able to offer you a Kois Deprogrammer treatment, even if they are not listed in the directory. I am not on this registry because I have only attended the courses at the Kois Center that feel most useful to me in my practice (the ones focused on prevention and root causes).

If you find a dentist that you align with near you, just call and ask them if their doctor offers the “Kois Deprogrammer” at their office. Many doctors include in their website graphics and lists of professional organizations and training programs they have attended or are members of. It is likely a doctor who has completed a portion of the Kois curriculum will advertise this on their website.

“

A few years ago, I was told I had a cavity, and then another, and then another, and then a root canal on an improperly filled cavity. At every appointment, I would ask what I could do to prevent the cavities, but kept getting told “not much” since I brushed, flossed, and had dental appointments regularly. By the time the root canal had been performed and all the cavities filled, I started experiencing tooth and jaw pain. When I mentioned it, I was told that I would get used to it.

I had trouble accepting that “it was just genetics” and I would need to get cavities filled every other appointment for the rest of my life, so I started to research other options. That led me to Dr. Clayton, his dental practice, and education on cavities. At my first appointment, he did a holistic assessment and found contributing factors to the cause of my frequent cavities. I have not had any since treatment. He also assessed my jaw and bite and found that my bite was out of alignment.

Dr. Clayton pays attention to the latest tech available in dentistry, and really cool architectural scans of my jaw and bite to fit me for a dental deprogrammer that allowed him to assess the natural position of my jaw. After wearing it for a few weeks, he made a couple of tiny adjustments to the cavity filling and tooth structure work that had been done by previous dentists. When he had me relax my jaw and test my bite, I immediately burst into tears. TWO years!! I spent TWO whole years believing that the constant pain and jaw tension were permanent! The pressure relief for my jaw and my head was instantaneous. I am so grateful for the cavity education and holistic care approach Dr. Clayton takes with his patients. I won’t be seeing anyone else!

-Penélope



# CLENCHING, GRINDING, AND JAW PAIN

## TO DO

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## PRIORITIES

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## NOTES

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C H A P T E R   S I X

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# Gingivitis & Gum Disease

## CHAPTER SIX

# Gum Disease

### DEFINITION

**Gum disease (Periodontal disease)**—Periodontal disease is inflammation and infection of the gums and bone that supports teeth. It can result from poor hygiene, severe nutrient deficiencies, chronic tobacco use, chronic stress, and teeth grinding, among other things. Some people are more prone to this type of infection due to genetics and family history. Symptoms may include bad breath, loose teeth, bleeding, swollen gums, gum recession, and bad taste.

**Gingivitis (Gum inflammation)** - Gingivitis is the earliest stage of gum disease. It happens when plaque and bacteria build up on your teeth and cause infection. Common symptoms include red, swollen, bleeding gums.

### STORY

I evaluated a patient the other day who reported that her gums were generally red and inflamed despite brushing and flossing daily. As I was reviewing her paperwork, I saw that she had a thyroid condition and had been undergoing hormone tests, among others, to diagnose other suspected medical concerns.



During the exam, I observed that her gums looked a lot like those of women who experience pregnancy-induced gingivitis. I asked her if she had recently checked her estrogen levels. She said, "I actually just found out I have estrogen dominance from my other provider!" Bingo. Her chronically high levels of estrogen had been causing the inflammation.

Functional dentistry is not staying fixated on the oral cavity to uncover the causes of disease but rather looking at the person as a whole to understand what could be playing into their dental symptoms.

## SYMPTOMS

Review this list of symptoms and check any that apply to you.

### SYMPTOMS:

	Do your gums bleed sometimes or are they ever uncomfortable when brushing or flossing?
	Have you ever noticed an unpleasant taste, or odor, in your mouth?
	Are your gums swollen or puffy gums?
	Have you ever had any teeth become loose on their own (without injury), or feel them move when chewing?
	Have you ever been treated for gum disease, had scaling and root planing, or been told you have lost bone around teeth?
	Do your gums bleed when you floss or brush?
	Is there anyone with a history of periodontal disease in your family?
	Have you experienced gum recession, or can you see more of the roots of your teeth?

### TOTAL:

## PROBLEM

# Why it matters

Gum disease is caused by an overgrowth of disease-causing bacteria that live on the teeth and gums. They are always present, but when they become overgrown, they produce toxins that slowly destroy the bones and gums that hold the teeth in the jaw.

First, the toxins dissolve the connection between the gums and the teeth, the pocket of gum tissue where popcorn hulls get annoyingly stuck, and the space you floss. These pockets or spaces are usually only 1-3mm deep. When diseased, the pocket gets deeper as the bacteria destroy the bone around the teeth. These pockets are 4 or 5 mm on the mild end and can be 10-12mm in severe disease. As the disease progresses, the pockets between the teeth and gums deepen, allowing more bacteria to accumulate and more bone and gum tissue to be destroyed. In extreme cases, bone loss and gum recession can result in tooth loss.

But gum disease isn't just about losing teeth. The bacteria that causes this nasty disease can enter into the bloodstream through bleeding inflamed gum tissue and then travel around the body via the bloodstream. You better believe this affects other body systems, such as increasing the risk for heart disease, Alzheimer's, and stroke, to name a few. As I like to say, we as oral health specialists, treat inflammation and disease, NOT **CALCULUS**. Yes, it is nice to have shiny, smooth-feeling teeth, but it is even better not to have nasty bacteria casually walk into your bloodstream daily. Even if your gums only bleed occasionally and "don't hurt," it is still classified as gum inflammation and should not be happening. There is SO MUCH about dentistry and the oral health system that needs to change! Phew, I could rant about this all day.

## How Gum Disease is normally treated

Typical treatment protocols include more frequent and thorough dental cleanings. If a patient has deep pockets (5+ mm), then it is standard for the patient to be treated with a deep cleaning (technically known as "scaling and root planing" or SRP). The hygienist and dentist will also encourage you to brush and floss more vigilantly at home and, in some cases prescribe a mouth rinse (if this rinse is blue, packaged in a blue bottle, and called Peridex or Chlorhexidine, DO NOT USE IT). Brushing and flossing more is a great and necessary place to start, but you may see limited improvement without addressing a few more things.



## A Functional approach to healing Gum Disease

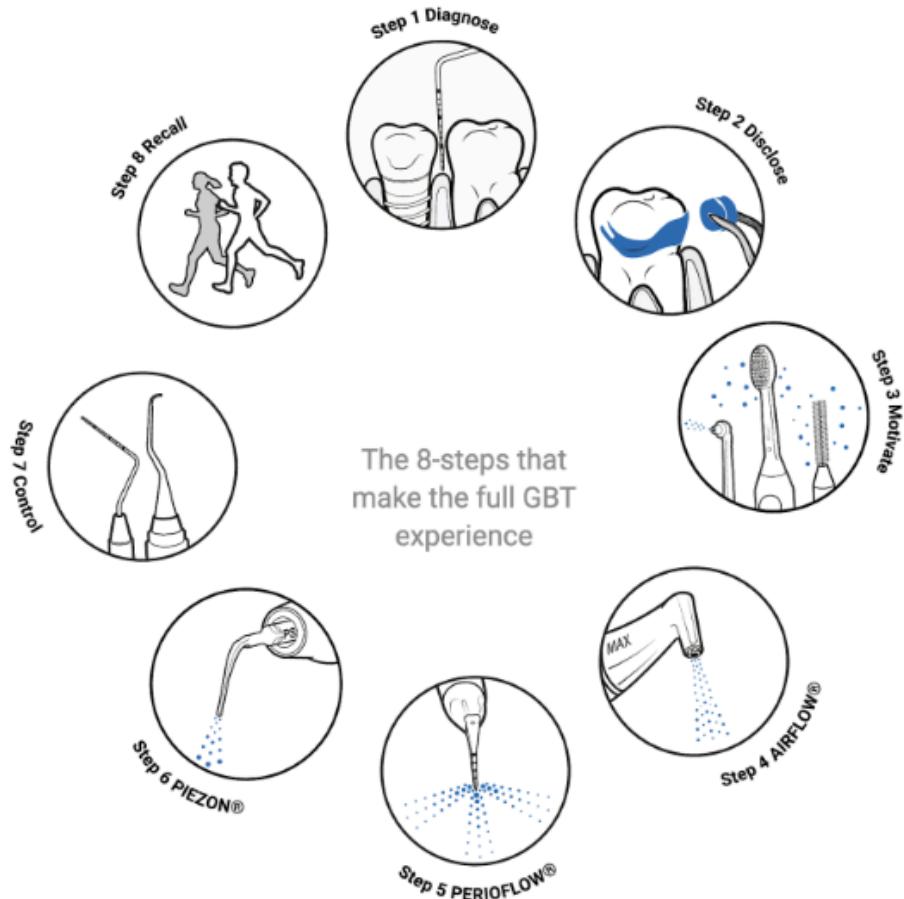
The best way to treat this is a combination of in-office treatments, saliva testing to identify the pathogens causing the disease, custom products to use at home based on your results, addressing risk factors that increase gum inflammation, and finally, excellent home hygiene techniques.

### In-Office Treatments

A normal cleaning uses ultrasonic cleaners, which are the high-pitched instruments used with water that sometimes send a little electric shock of a feeling on sensitive teeth. And, of course, the hand scalers (or scrapers) to manually remove the plaque and tartar. The combination of these two is still good, but GBT is much more effective.

We use a therapy called Guided Biofilm Therapy (GBT) instead of conventional methods. GBT uses air, water, and erythritol powder spray to gently remove plaque, tartar (the hard stuff stuck on your teeth), and bacteria from your teeth. It uses a disclosing agent to identify where the biofilm build-up is, and then the airflow uses erythritol to kill off the pathogens.

What I LOVE about GBT is that it also removes bacteria from the gum tissue, and has attachments that are used to get down into deep gum pockets. This is 100% unique compared to conventional therapies. GBT is much more thorough in general and less technique-sensitive, which means better, consistent, long-term results.



In step two, the hygienist uses a disclosing liquid that turns the biofilm purple. Take a look at the picture below, can you see all the purple along the gumlines?! Based on what color the plaque is (pink, blue, or purple), you know how long it has been there and how unhealthy it is. The bacteria is where the inflammation is coming from!

Guided biofilm therapy is much more effective at removing the biofilm than traditional dental cleanings. I'm not lying when I say that my teeth have never felt more clean after a GBT cleaning!



If you are struggling with gum disease, I would definitely encourage you to see if there is a GBT provider near you. Although GBT is very common in Europe, there are not many providers in the U.S.

→ You can find a GBT provider by going to the website [switchtobgt.com](http://switchtobgt.com).

“

I once avoided the dentist for 10 years after a horrible experience. This was the best dental experience I have ever had. Kind caring staff that were so gentle with my mouth. I'll go to the dentist now. The machine they have to clean your teeth is more gentle than a water pick. I wish every place could be like this.



“

Absolutely amazing and healing experience for my children. They were so good with them, very gentle and thorough. I learned a lot to help my children at home and they have the best cleaning machine that doesn't even require scraping. It was such an amazing experience for my kids and I'm so happy we found our family dental office.



## Saliva Testing and custom product recommendations

Saliva testing should be the gold standard for every oral health care provider. These simple and powerful tests identify high-risk bacteria in the mouth that cause inflammation and gum disease and provide insight into cavity risk. The data from this test gives us a non-biased, objective way to treat disease in the mouth. Remember, these bad bacteria are associated with 57 systemic diseases such as heart disease, Alzheimer's, and diabetes! We want to prevent this!

After your provider receives your test results, they will recommend products and treatments to treat the bacteria in your mouth. Some of those products are for short-term use. I recommend two saliva testing companies: the Simply Perio test and the Oral DNA Labs test.

### Where to get a saliva test

**Simply Perio** Is the test that I use, but it does not have a provider directory yet, but oral DNA does have a [provider directory](#). Kois-trained dentists may offer a form of saliva testing, as it is part of the curriculum at the Kois Training Center. You can find a Kois Trained Dentist [here](#).

There are a few at-home tests that bypass the guidance of a dental provider, and I do not recommend these if you have the option of seeing someone in person. If you don't have access to saliva testing through a provider, consider an at-home test such as Bristle.

## Risk Factors that increase Gum Inflammation

Many lifestyle modifications can be made to reduce the severity of gum inflammation. There are also things you can address holistically that will decrease gum inflammation, such as hormone imbalances, as identified in the story above.

- **Poor oral hygiene techniques** leads to plaque and bacteria settling deep into the gum tissues where they ultimately will not be reachable by floss or toothbrush.
- **Certain medications**, such as Phenytoin (an anti-seizure medication) and calcium-channel blockers used for lowering blood pressure, can cause drug-induced gingival overgrowth. This overgrowth can trap bacteria and plaque, which can lead to gum inflammation.
- **Medications that cause dry mouth**, create the perfect environment for bad bacteria to thrive.
- **Stress** - Stress hormones like cortisol can increase inflammation in the body, which can also increase the risk of gum disease.
- **Pregnancy-induced gingivitis** is caused by hormonal changes, particularly increases in estrogen and progesterone, that make gums more vulnerable to plaque buildup.
- **Any hormone changes** - puberty, menstruation, pregnancy, hormone replacement therapy, menopause, or the use of oral contraceptives
- **Smoking**
- **Chewing tobacco**
- **Diabetes**
- **Drug use**



Seeing a primary care provider, such as a functional medicine practitioner, to address issues like hormone changes, stress, diabetes, and medication side effects, will be key for some people to heal from gum disease, as a collaborative approach to care yields the best results.

## Home Hygiene Techniques & What you can do at home right now

Having excellent home hygiene prevents the bacteria and plaque that cause gum disease from burrowing deep into the gum tissue. Here is what I recommend to patients who are experiencing any sort of gum inflammation:

**01**

**Use an electric toothbrush with extra-soft bristles and brush morning and night** (ultra-sonic or oscillating; click [here](#) for my favorites). If you struggle with chronic dry mouth, I recommend adding an afternoon brushing habit.

**02**

**Angle the toothbrush at a 45-degree angle** towards the gum tissue and gently follow the contours of the teeth and gum line to remove plaque build-up at the gum line.

**03**

**Replace your toothbrush head every 3 months**

**04**

**Floss twice daily with string floss and then follow it up with a water flosser.** Water flossers can help access deep pockets to keep the gum tissue clean as you heal.



General Use



Periodontal



Orthodontics



Implants



Implant Supported Dentures

**05**

**Use effective products.** I recommend using Elementa nanosilver mouth rinse because it is gentle on the oral microbiome and has been shown in clinical testing to effectively reduce gum inflammation.

Also, many saliva testing systems make recommendations based on the bacteria results. Please do your best to work with a dentist familiar with product recommendations based on saliva testing, and remember that oral care products and supplements should be used with care.

For example, if you have a specific pattern of bacteria levels in your mouth, a rinse like CloSYS or treatment with Ozone can encourage the bacteria to mutate and become harder to kill, which is totally counterproductive. **Please remember that this is NOT medical advice, and you should consult your provider before making any changes to your oral hygiene regimen.**

PLEASE do not use products with chlorhexidine (an antiseptic), because it has been shown in the research to delay wound healing.

# GINGIVITIS & GUM DISEASE

## TO DO

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## PRIORITIES

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## NOTES

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C H A P T E R   S E V E N

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# Gum Recession

## CHAPTER SEVEN

# Gum Recession

### DEFINITION

**Gum recession** is a type of gum disease that occurs when gum tissue pulls away from your teeth, exposing the roots. This can make your teeth more susceptible to cavities, tooth decay, and bacteria. Gum recession can also cause your teeth to become more sensitive when you eat or brush them. In extreme cases, it can result in tooth loss.

### STORY

Sadly, this story is my own. I had multiple years of orthodontic treatment. First a palate expander, then the first round of braces, followed 2 years later by a second round of braces, and then Invisalign treatment as an adult. All this moving of teeth combined with my naturally thin jaw bone and thin gum tissue has led to a lot of gum recession, the worst of which was the tongue side of my lower front teeth. There was hardly any gum tissue remaining. Sad face. What made it worse was my tendency towards what I call therapeutic brushing, which is brushing for too long and with an aggression similar to scrubbing the stain out of tile grout.

If you want a visual of what it looks like when I brush my teeth, just watch how movie or TV show characters brush their teeth. It makes me want to reach through the screen and take the toothbrush out of their clenched fists! No wonder we all have gum recession!

Anyhow, I had been over-brushing for years before I saw the light in dental school. The final round of Invisalign a couple of years ago finished me off, and I faced the reality that I needed a gum graft on the back of my lower front teeth to fix it. I didn't know about the **pinhole technique** (don't worry, I'll go over this soon) so I elected a graft from the roof of my mouth and it fortunately accomplished the goal. Without the graft, I would have continued to lose bone and tissue on the back of those teeth.



This chapter is more focused on prevention and addressing risk factors to STOP them, because after gum recession occurs, you cannot reverse it without some form of surgery.

Review this list of symptoms and check any that apply to you.

#### SYMPTOMS:

	Have you been told you have any gum recession at a dental cleaning?
	Can you see the roots of your teeth?
	Are your teeth more sensitive?
	Do you have black triangles visible between your teeth?

#### TOTAL:

#### PROBLEM

## What causes gum recession?

- Orthodontic trauma
- Toothbrush trauma
- **Occlusal disease**
- Grinding (**bruxism**)
- Gingivitis/Gum disease
- Oral ties (lip or tongue ties)
- Lip or tongue piercings
- Dental crown, when trapping bacteria
- Trauma or injury to your gum tissue

"It is estimated that 23% of adults in the US have one or more tooth surfaces with  $\geq 3$  mm gingival recession" (Chan, 2015).

#### Orthodontic Trauma

The purpose of orthodontic treatment is to move teeth, of course, which requires the jaw bone around the teeth to literally dissolve as the teeth are moved through the jaw. Sometimes the bone does not fully reform. Your gum tissue follows your bone, so if you lose bone, then you also lose gum tissue.

Before electing orthodontic treatment, it is wise to have a 3D x-ray taken (aka CBCT image) to evaluate your bone health and thickness. If you have thin jaw bone, you are at a higher risk of bone loss and gum recession. Bone loss can also occur when teeth are moved too quickly. Find an orthodontist who is conservative in their approach in order to preserve the health of your bones and gums. It is wise to have X-rays taken a couple of months after beginning orthodontic treatment to ensure your teeth roots are not getting shorter, another possible side effect (root resorption).

**Here are some questions to ask a provider before beginning orthodontic treatment:**

- “I am worried about gum recession as a result of orthodontic work. Can you tell me what steps you take to help prevent this?”
- I am worried about root resorption (shortened roots) from orthodontic trauma. Can you tell me how you screen for this?

## Toothbrush Trauma

Brushing too aggressively, for too long, or with a hard-bristled toothbrush can also lead to gum recession. Say “no” to therapeutic toothbrushing and “yes” to a therapist! And yes, it will save you money and emotional stress down the road, so you can thank me later. It is important to use proper brushing techniques so that you are not “stress brushing” your gums away. NEVER USE a medium or hard-bristled toothbrush. NEVER. (unless you are scrubbing your bathtub or tile grout). Use soft toothbrush bristles only on your teeth!

I recommend an electric toothbrush, preferably a spin brush (round head), because they are effective and efficient and designed to do all the work. No scrubbing. Period. Let the electric toothbrush do most of the work for you by gently following the contours of your teeth, angling it up slightly towards your gums to clean where bacteria like to hide. It is also important to floss gently. Do not aggressively snap the floss down between your teeth. This aggravates the gum tissue. Instead, use a back-and-forth and sea-saw motion to gently wiggle the floss down between the teeth and then hug the sides of each tooth when flossing.



## Occlusal Disease

Occlusal disease is when the teeth do not come together properly, which puts unnecessary stress on the teeth and jaw bones. This added stress can lead to bone loss around the teeth and, consequently, gum recession. The gums follow the bone! Occlusal disease can also lead to clenching and grinding, which, again, puts too much stress on the teeth. Please refer to chapter 4 for more on occlusal disease.

## Grinding (bruxism)

As you learned in chapters 4, grinding can be result from an undiagnosed airway issue, occlusal disease, or true **bruxism** (which is only the case for about 8% of people diagnosed with grinding). Unfortunately, true bruxism has no real solution as it is a neurological issue.

Some helpful tips are to first wear a nightguard every night to minimize damage to the teeth and distribute the force evenly. I recommend having one custom made by a dentist. Learning to calm your nervous system with meditation, relaxing nighttime rituals, herbal remedies and supplements, etc could all be helpful in preparing your brain to sleep in peace. As mentioned above, grinding leads to gum recession because of the excessive stress concentrated at the junction of the tooth and the jaw bone. This stress causes bone loss and gum recession. Please refer to chapter 3 for more on resolving airway-related grinding and chapter 4 for occlusal disease.



## Gingivitis/Gum Disease

In chapter 5, you learned why gum inflammation leads to gum recession. In order to stop the gum recession from progressing, you need to treat the source of the gum inflammation. Then, the gum recession will also cease.

## Oral Ties

The three types of oral ties are tongue ties, lip ties, and **buccal ties**. The tie is simply referring to the thin tissue that extends between the lip or tongue and the adjacent surface. For example, look in the mirror and lift up your tongue. If you see a thin light pink/white band of tissue that stretches tight when your tongue is lifted, that is a tongue tie.

If these ties are extremely tight and very thick on the gum tissue, they can pull on the gum tissue, and over time, this can lead to gum recession. You will know if gum recession is related to an oral tie because the gum recession will be unique to one area. For example, significant gum recession at the base of a tongue tie behind the lower central incisors. Please refer to chapter 3 to learn more about resolving oral ties with a functional approach.



## SOLUTION

# Replacing missing gum tissue

Unfortunately, no product or supplement will magically regrow your gum tissue. All the treatments so far require some sort of surgery.

The most common option for replacing missing gum tissue is a gum graft surgery from a periodontist. The gum graft is either taken from the roof of the mouth or a cadaver and placed over the exposed tooth roots (photo). Recovery usually takes 1-2 weeks. Gum grafts with your own tissue are more successful than cadaver grafts.

My favorite option for repairing gum recession is pinhole gum graft surgery. This technique is not as common but appears to be a less invasive, more modern, and natural approach to treating gum recession. This Pinhole Surgical Technique ([video to watch](#)) is a minimally invasive surgery to repair gum recession without scalpels, sutures, or gum grafting. It's also known as the Chao Pinhole® Surgical Technique or Pinhole Gum Rejuvenation™. During the procedure, a dentist uses a special needle-like tool to create small pinholes in the gum tissue.

Then, they use specialized instruments to loosen and reposition the gum tissue over the exposed areas of the teeth. Collagen strips may also be placed to help hold the tissue in place and speed up healing. One study showed overall root coverage of 96.7% after 6-month follow-up with minimal complications (Reddy, 2017).

Chao Pinhole Technique



Takeaway: Focus your efforts on preventing gum recession or stopping the cause of gum recession, as all of the options for repairing it are a form of surgery.

“

No more gum recession anymore thanks to you and your team at Restoration Dentistry! Thank you!" - Tony



# GUM RECEDITION

## TO DO

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## PRIORITIES

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## NOTES

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CHAPTER EIGHT

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# Dental Anxiety Toolkit

## CHAPTER EIGHT

# Dental Anxiety Toolkit

### SYMPTOMS

Review this list of symptoms and check any that apply to you.

SYMPTOMS:	
	I had a traumatic dental experience
	I feel out of control when I am in the dental chair
	I have not been to the dentist in a long time
	I feel nervous I will be judged for my oral hygiene
	I do not like shots
	My teeth are very sensitive
	I have trouble getting numb
	I don't like the sounds of the instruments (scraping, drill)
	I have difficulty listening and remembering what I hear in the dental chair
	I have difficulty trusting dentists and other team members
	I don't like to be left alone in a treatment room
TOTAL:	

### PROBLEM

Dental anxiety is extremely common. "Dental anxiety, or dental fear, is estimated to affect approximately 36% of the population, with a further 12% suffering from extreme dental fear. This anxiety can have serious repercussions in terms of an individual's oral health, and it is considered to be a significant barrier to dental attendance [2] resulting in poor attendance.

This is known as dental avoidance and can lead to poor oral health or the necessity for specialist dental care [3]. High dental anxiety has also been shown to influence the quality of life, with low oral health-related quality of life associated with high dental anxiety...Half of those who were dentally anxious reported that their dental fear started in childhood." (Beaton, 2013).

**Here are some reasons you may experience dental anxiety:**

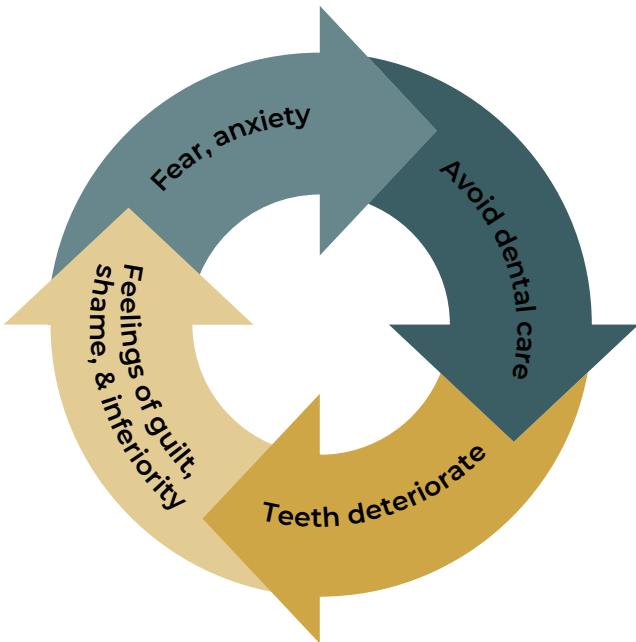
- Inherent vulnerability to anxiety disorders
- A previous traumatic dental experience such as not being fully numb for a procedure, dental pain as a result of a procedure, or not giving consent before treatment was done to you.
- A history of any invasive dental treatment during your lifetime such as a tooth extraction.
- Sexual assault victims are 2.5x more likely to experience dental anxiety (Beaton, 2013).
- Having a close family member with dental anxiety can increase your risk of dental anxiety due to learned behaviors. I.e.
- The portrayal of dentists in the media is generally negative, in fact, "individuals with high dental fear and anxiety were almost two and a half times more likely, compared to the rest of their sample, to have heard about or seen frightening stories about dental treatment in the media" (Beaton, 2013).
- Feeling worried you are being judged for the state of your oral health. This could also be tied to a time you felt shamed by a provider in the past.
- The mouth is one of the most vulnerable and sensitive parts of the body, so it feels scary to trust someone to be in that personal space.

## Why is it important to address dental anxiety?

Dental anxiety is very distressing to the patient and can lead them to neglect their oral health, which affects their overall health. This is described as the vicious cycle of dental anxiety. Oral health can increase symptoms of oral health (Berggen, 2004).

Current research suggests not only a connection between gut dysbiosis (unhealthy diversity of gut bacteria) and feelings of anxiety and depression but that the health of the bacteria in the mouth is also an influential factor.





This is called the gut microbiota-oral-brain axis. Theories are emerging as a result of these studies that saliva testing could aid in the diagnosis and treatment of anxiety and depression. (Fangzhi Lou, Shihong Luo, Huiqing Long et al, 2023)

So yes, improving the health of your mouth could potentially decrease your anxiety based on what we are learning from these studies. (Li Chun'e , Chen Yujing , Wen Yan , Jia Yumeng , Cheng Shiqiang , Liu Li , Zhang Huijie , Pan Chuyu , Zhang Jingxi , Zhang Zhen , Yang Xuena , Meng Peilin , Yao Yao , Zhang Feng. 2022).

## Seek help from professionals

Depending on the severity of your dental anxiety, it may be necessary to seek support from a therapist. This is especially helpful if you had a traumatic dental experience in the past that you need support healing from. Until you can acknowledge, work through, and heal from traumatic experiences it will continue to be quite difficult to manage dental anxiety and anxiety at large. You can do this! Consider using the resource [Psychology Today](#) to find a therapist near you who specializes in anxiety, depression, and trauma.

## How to ask for support at the dentist's office

We want you to know that there are comfort measures for you to help you decrease your dental anxiety, regardless of your level of anxiety or where you are on your journey to healing. Begin by communicating with your dentist or a supportive team member that you experience dental anxiety and ask if they can note this in your chart so the clinical team is aware. Let them know how much you appreciate their help. Remember that you are the patient as well as the paying customer. If you receive pushback for your request for reasonable accommodations, it may be best to find a different dental office that will happily support you.

Next, let's discuss some accommodations you can request in the office. Don't forget to ask a clinical team member to note these on your dental chart so that regardless of who is caring for you from one appointment to the next, they will know what you prefer and how to support you.



**Below is a list of various in-office accommodations you could ask to reduce your dental anxiety:**

- 01** **Extra appointment time** so you are able to emotionally prepare for treatment once you are in the treatment room.
- 02** **A private treatment room if the office has one.**
- 03** **Fewer people in and out of the treatment room.** Say no to allowing a person to “shadow” the clinical team during treatment. or ask if they have
- 04** **Nitrous oxide sedation during your appointment.** This is a gentle sedation method that is easily reversible making it immediately safe to drive after the appointment. Many offices offer this. It will not make you feel out of control or not yourself.
- 05** **Ask for entertainment options,** such as whether they have TVs in the treatment rooms or the ability to play music from the rest of the office.
- 06** **Pre-appointment oral sedation.** A sedation medication, such as Valium or Zantac, is prescribed and taken the night before and an hour before treatment. This is stronger at reducing anxiety than nitrous. However, this medication does cause temporary impairment, making it necessary to have a friend or family member bring you to the appointment and back home.

Using a combination of anxiety-mitigating accommodations such as the ones above can significantly reduce your dental anxiety and lower or eliminate the barrier to receiving the oral health care you need.

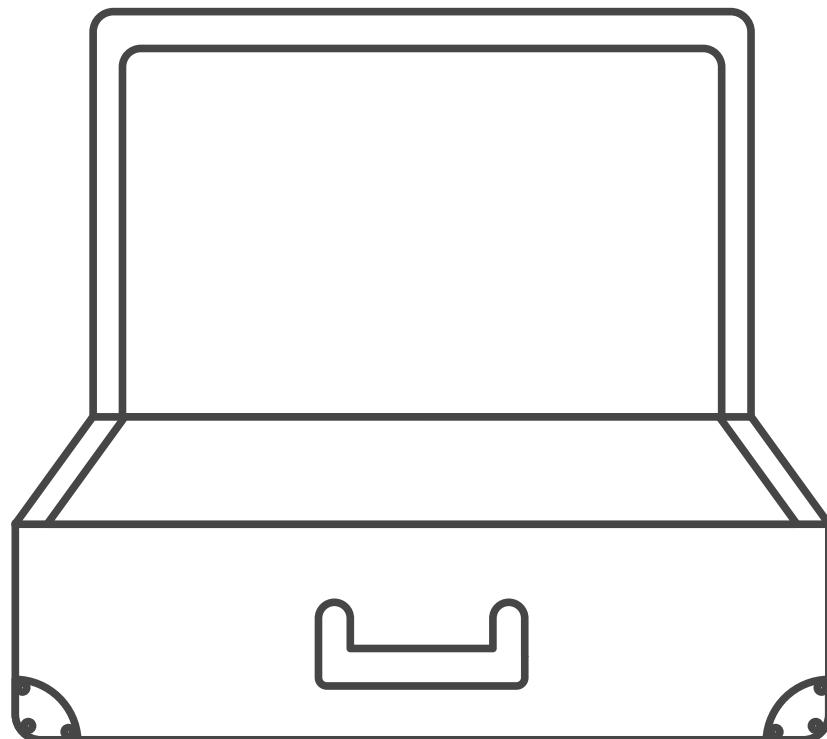
## Tools to manage dental anxiety

Think about what helps you feel calm when you are stressed at home or work. Maybe you listen to a particular music artist, practice breathwork, or play with a fidget or stress ball. Once you have identified what already works for you, think about how you can adapt them for your dental visit. Do you struggle to identify what works best to calm you when you feel anxious? Let us help you! Below is a list of ideas and items you could use during or bring to your appointment.



- Noise-canceling headphones or earbuds (to reduce the sound of the dental equipment and tools)
- Calming music playlist or brain-engaging podcast
- Guided breathing meditation to listen to
- Weighted blanket or a favorite cozy blanket
- Fidget to play with during the appointment
- Identify a comfort show you could watch if they have a ceiling-mounted TV
- Comforting voice memo to listen to from a person who is significant and grounding in your life.
- Schedule something for self-care following your appointment, such as a facial or massage.

**List the strategies you plan to use inside your dental anxiety toolkit below.**



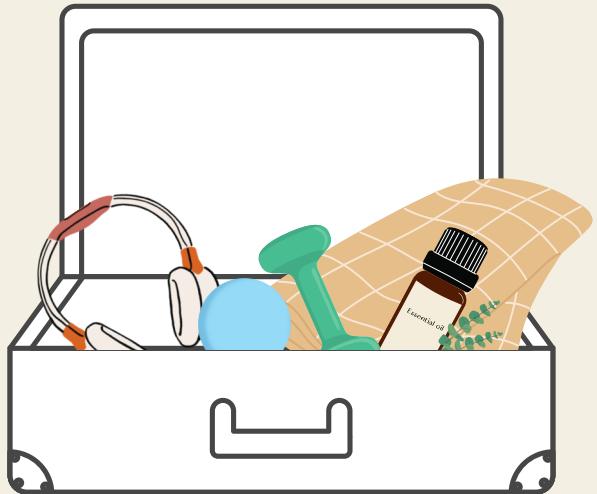
## STORY

### **Example scenario of how to manage dental anxiety:**

Sarah had a traumatic experience at the dentist when she was 6 years old. Now, she experiences feelings of dread as she anticipates dental appointments. She finally decides to book an appointment with a therapist to help her heal from her traumatic dental experience. After several months of working together, she feels ready for a dental exam. She calls to book an appointment and asks the office coordinator to inform the dental team that she struggles with dental anxiety and would appreciate extra patience and care during her visit.

She decided to book the appointment early in the morning. The following week before the appointment, she goes to the gym to move her body and release stress. Afterward, she sits in her car with her eyes closed and does a guided meditation on YouTube to help her relax. She smells her favorite calming essential oil.

Now, she felt ready to drive to her appointment. She repeated the affirmation, "I am safe," calmly and confidently while driving. Sarah brought her weighted blanket, squishy ball, and noise-canceling headphones into the office.



After she was seated for her appointment, she reminded them that she experiences dental anxiety and would appreciate extra time and patience during the procedure and asked that they explain each step during the treatment to help her feel in control. She settled into the treatment chair under her weighted blanket, put on her noise-canceling headphones, got out her squishy ball, and cued up her favorite relaxing music. Thanks to her therapist, her team's patience and extra care, and her dental anxiety toolkit, she was able to navigate the entire visit with more ease.

Sarah especially appreciated the support and comfort of the dental assistant who took care of her during the appointment, so at checkout, she requested that this specific assistant always work with the doctor during her future appointments.



Many people who struggle with dental anxiety feel hopeless. Like going to the dentist will always be awful. I hope that after reviewing this chapter, you will feel that it is possible to feel relief from dental anxiety when you take the above precautions and find a provider that is willing to make accommodations to support you. If you have asked for help and still don't feel supported by your dentist, it may be time to look for another provider.

“ This has been the best dental experience I've had in 35 years. I've always had dental anxiety but never felt that after getting to meet the Doctor and Staff at Restoration Dental. I've avoided the dentist because of my anxiety and that always made me feel judged and self-conscious. I never felt more at ease or welcome and will definitely never miss a dental exam again. Dr. Clayton and staff saved my smile! Thank you! ”



# DENTAL ANXIETY

## TO DO

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## PRIORITIES

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## NOTES

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C H A P T E R   N I N E

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# How To Afford Better Dental Care

## CHAPTER EIGHT

# How to Afford Functional Oral Health

We surveyed our audience about multiple topics and found that **36% of people who want functional/holistic dentistry find the cost to be the biggest barrier.** People mentioned that their ideal dentist doesn't take insurance or that they are not in a position to pay higher fees out of pocket. I hear you! Financial considerations are a crucial factor when deciding whether to pursue a new style of dentistry.

Functional Dentistry usually costs more initially but ultimately saves you money over the course of your lifetime because you don't continue to dump money into treating symptoms alone. Prioritizing your oral health saves you on both dental and medical costs throughout your life. If you are in the position to do so, investing in functional dentistry will change your life.

In this chapter, I will review the options you have to make functional dentistry more affordable, the pros and cons of dental insurance, and alternative options. I will also review how to prioritize your treatment plan so you can invest in what makes the biggest difference first.

## The Pros & Cons of Dental Insurance

First, let's expose dental insurance for what it actually is: a discount plan. It is not insurance at all. Let me explain.

Medical insurance plans have out-of-pocket maximums to cap the amount a patient pays in a year. In this sense, it insures you against worst-case scenarios. Dental insurance, on the other hand, will pay, on average, up to \$1,500. Once you reach that amount, you are responsible for paying 100% of the costs. Does that make sense? Dental insurance is *discounting* your cost of care, not *insuring* you against anything or paying for what you actually need. And there may be procedures you need or want that insurance doesn't even pay for, such as veneers and orthodontic treatment (braces or clear aligners).



Now that we have established that reality let me share the pros and cons of dental insurance.

## PROS

01

Most dental insurance plans cover 100% of dental cleanings, x-rays, and exams at participating offices.

02

They usually cover 70-80% of the cost of fillings and dental extractions and 50% of crowns (and onlays and inlays if you are lucky), implants, and root canal treatments until you hit your maximum (around \$1,500).

03

It provides a predictable way to budget for dental expenses, with known premiums and coverage details.

04

Your employer may pay for a portion of your dental insurance for you.

## CONS

01

**You are responsible for all costs after you hit your annual maximum.** This changes based on your dental insurance plan, but a max of \$1500 appears to still be the most common amount. Do you know that the maximum for dental benefits was \$1000 in the 60's and 70's? Can you believe that?!

02

**Not all procedures are fully covered,** and some are not covered at all.

03

For individuals needing significant dental work, **the limited annual maximums will not provide sufficient coverage, leading to high long-term costs.**

04

**Limited payout can lead to emotional discouragement and influence you to select treatment options based on price alone,** over electing the treatment that is best for your long-term health and will save you money over your life. It is easy to have a mindset of "I will just stretch out my treatment and get only what insurance will pay for each year." This will keep you in the loop of reactive care, ultimately leading to more problems if your oral condition is moderately or severely compromised. For example, let's imagine your bite is unstable; you're clenching your teeth, and as a result, you are breaking your existing dental work and wearing your teeth down. Well, if you focus on one tooth at a time instead of fixing your bite and all your teeth at once, you will not resolve your problem and are at risk of having increasingly severe consequences over the long term.

05

**Certain procedures like onlays, cosmetic procedures, orthodontics, and implants are frequently not covered.**

**06**

**Each dental insurance plan has a list of providers “in-network” (and the preferred provider terminology DOES NOT mean that the insurance company has vetted and selected the best providers).** If you want to trust your care with a doctor who is “out of network,” you will most likely receive very poor reimbursements from your dental insurance company and sometimes no payment at all.

**07**

**Working with an out-of-network provider leads to a lot of hoop-jumping if the dental office does not submit claims on your behalf.** If you want to use your dental insurance, you will have to work with them to estimate coverage, submit claims and documentation, follow up to get your payment, and tolerate the fact that they may cover a service at x%, but they don’t tell you that it is a percentage of their “allowable amount.” For example. Say your dental cleaning appointment costs you \$150, and your insurance covers 100% of cleanings. Well, they cover 100% of their allowable amount, which is an arbitrary number, and this allowable amount could be \$25. So you would receive 100% of this amount, a whopping \$25. All while dealing with a company whose ultimate goal is to pay out as little as possible.

**08**

**Dental insurance companies only pay their in-network dentists a percentage of the procedure cost.** For example, the dentist may charge \$150 as their normal fee for a dental cleaning, but for in-network patients, they can only charge the insurance-dictated fees, which are always significantly lower. That fee for the same cleaning could likely be \$80. By participating in insurance, you are continuing to support these “for-profit” dental insurance companies instead of your local businesses and their families.

**09**

**Because dentists aren’t fairly compensated by dental insurance companies, they try to work faster to pay all their bills, preventing them from taking time to focus more on prevention and root causes.** Dentists have zero incentive to focus on preventative care and adopt modern standards such as biomimetic dentistry, which takes much longer to perform because they cannot afford to provide dental care.

If you can’t tell, I do not like dental insurance! In my opinion, dental insurance is the biggest reason dentistry has not evolved into a more prevention-focused care model paired with modern minimally invasive treatment. Dental insurance is a for-profit business with the goal of reimbursing as little as possible. In 2022 alone, Delta Dental Insurance Company’s net assets were \$2.4 billion. The CEO of the company is paid between \$5-15 million a year.



Dental insurance is not worth it for most people who are ready to take a functional approach to oral health, as their insurance will not cover minimally invasive prevention-focused services such as saliva testing and treatment, a Kois deprogrammer, or, in many cases, an onlay (a conservative alternative to a crown).

If you just want to go to a regular dentist and get a regular cleaning every 6 months, then sure, dental insurance could be beneficial for you. But I have a feeling you do not align with sticking with the traditional model simply because you are reading this guide!

## Other Options

If you decide not to use dental insurance, what other options are available to make your care more affordable?



### In-Office Payment Plans

Select offices may provide their own in-office payment plans that allow you to split up the cost of treatment.



### In-Office Membership Plans

Patients pay a monthly or annual fee that covers a set of services and reduces the fees for other services such as fillings and onlays.



### Third-Party Financing

Third-party financing companies such as Care Credit, Alphaeon, and Cherry make it easier for you to get the treatments you need by allowing you to pay for them over a period of 12-36 months interest-free. We have found that many people shy away from these plans because they do a credit check, but it is a great option for larger treatment plans. My favorite plan is Alphaeon. They have higher acceptance rates, are easy to work with, and give extended 0% financing options. Be sure to pay it off before the period ends, or you will be charged a very large interest fee.



## Open a Credit Card with 0% APR

You can open a credit card with a 12+ month time period in which there is 0% APR and use it to pay for your dental treatment on the card, allowing you to carry a balance month to month without being charged interest. Remember to keep your balance below 30% as much as possible. The Chase Freedom Unlimited credit card is an example that gives you 15 months interest-free. [Here are some other options.](#)



## Pre-Payment Discount

Ask your office if they offer pre-payment discounts. By paying at the time of scheduling, you may be eligible for a total discount on your care.



## Cash Discount

Ask if you can pay via cash or check so that your office avoids credit card fees. They will usually give you a 3% discount for doing so, which helps with bigger treatment plans.



## FSA and HSA

Flexible Spending Accounts (FSA) and Health Savings Accounts (HSA): These are tax-advantaged savings accounts that allow you to set aside money pre-tax to pay for qualified medical expenses. HSAs are available to self-employed individuals, but FSAs are not. The individual employee owns the HSA and can carry it to different employers, while a health FSA is not portable and is associated with the employer. You can use FSA or HSA funds to pay for dental expenses with pre-tax dollars, reducing the overall cost.



## Dental Discount Plan

See if your dentist participates in dental discount plans. These are similar to insurance, where each discount plan has a list of participating providers who provide discounts for their care. If your dentist participates in a dental discount plan, consider enrolling, as it can provide significant discounts on various dental services for a yearly fee. [Here is an example.](#)



## Get Second Opinions

Get a second opinion on expensive treatments to explore all possible options and ensure the recommended procedure is necessary and offered at a reasonable price point. If not, you may be able to negotiate a better price.



## Medical Expense Tax Deduction

Track your dental expenses and check if you qualify to deduct medical expenses on your tax return. Expenses that exceed 7.5% of your adjusted gross income can be deducted if you itemize.

# Prioritizing your dental treatment

After reading this guide, you may be thinking, “How am I going to afford everything that I need to address?” Please do not feel like you need to do everything right now! You have a roadmap of what to do to solve your dental problems, and now, I am going to review when to do it. Depending on your oral health concerns, this could take many years to get through. Be patient and know that every step on your functional dentistry journey makes a BIG difference in your oral and overall health!

Please consult your dentist about your individual treatment plan, as each person’s needs are unique and may not follow this exact flow. You’ll want to address urgent issues first and schedule less critical procedures over time to spread out the costs.

**Here is the general order of priority for oral health:**

- Emergencies and Pain Management
- Periodontal Treatments
- Airway Health
- Occlusal and Orthodontic Treatments
- Restorative Treatments
- Preventive Care
- Functional Restorations
- Cosmetic Procedures

**The first thing you need to do** is take care of emergencies such as **abscessed** teeth, severe decay, or infection. Then, you want to address any inflamed gum tissue because your gums are a direct pathway to the rest of your body and affect your systemic health. Once your gums look healthier, you can begin to work on urgent restorative needs, such as fillings and onlays (no more crowns).

Ideally, you want to be focusing on other prevention efforts at each point in your journey. But if you haven't already, **this would be the point at which you would need to focus on more targeted prevention efforts** like regular dental cleanings, exams, and other treatments to help you maintain your oral health. Investing in preventive care allows you to avoid more costly treatments down the line. Regular cleanings and check-ups can help catch problems early.

At this point, gum health is looking good! You have taken care of any dental work, and you are up to date on your preventive care. **Now it's time to focus on functional restorations such as implants or bridges.**

**Next is airway health!** You will be able to address mouth breathing and airway-related clenching and grinding and start to sleep and breathe better. This could include myofunctional therapy, a tongue release, orthodontics, or other specialists. Not breathing through your nose and not breathing well at night will negatively impact your systemic health both now and in the long term.

**Now, it's time to address any occlusal disease or orthodontic needs** to make sure your teeth are aligned properly if there are functional concerns. Establishing a healthy and balanced bite increases the long-term success of restorative treatment and gum health. Please note, that it is essential to focus on your airway health if you have any issues there before pursuing orthodontic treatment.

**Last, cosmetic procedures!** If there is something about your smile that you don't love, this would be the time to focus on that, whether that is cosmetic orthodontic work, minimal prep veneers, or in-office whitening. Unfortunately, many people treat this as their top priority when they have other, much more pressing needs, such as inflamed gum tissue.

# Conclusion

Embarking on your functional dentistry journey can feel overwhelming, especially with the many voices and opinions in the field. This guide was designed to cut through the confusion and provide you with clear, actionable steps to address the root causes of oral health problems. While you might not be able to visit us at Restoration Dentistry, this guide will empower you to advocate for your oral health no matter where you live.

This roadmap introduced you to the fundamentals of functional dentistry, including the oral-systemic connection, cavities, gum disease, gum recession, airway issues, occlusal disease, and biomimetic dentistry. It equipped you with the knowledge to take control of your oral health. You are walking away with actionable steps to get started in each area and resources to delve deeper into specific topics of interest.

You learned how to find the right professionals near you and advocate for your needs, even with traditional dentistry. Our goal for this guide is to make you feel empowered and educated, ready to take immediate steps towards better oral health and build a supportive team around you.

Please continue to reference this roadmap throughout your functional dentistry journey, based on what step you are on in your journey.

Send us a DM or shoot us an email and let us know what success you have! We love hearing from you. Thank you for investing in yourself and paving the way for a new future in dentistry.

We are excited to support you on this journey towards a healthier, more informed approach to oral health.



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I N D E X

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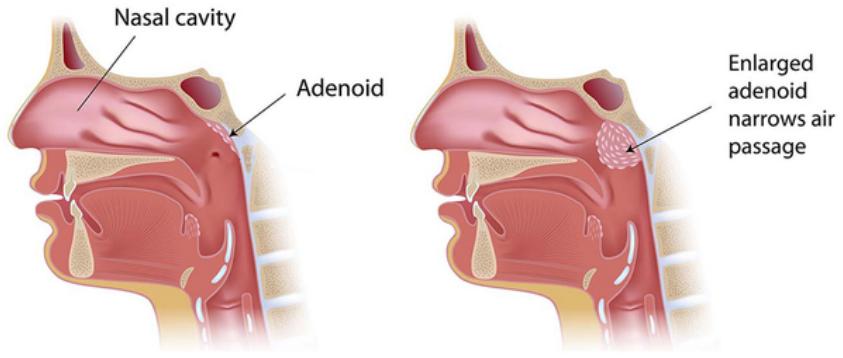
# Glossary and Index of Dental Terms

# Functional Dentistry Glossary & Index

## Terms explained

**Abscess** - A tooth abscess is an area of infection around the root of a dead infected tooth typically contained within the bone. In rare cases, the tooth abscess can spread to other areas of the face and cause serious health complications. The abscess can occur in different areas near the tooth for various reasons. A periodontal abscess occurs deep within the pocket of the gum tissue. This can spread deep towards the root of the tooth and dissolve the bone around the neighboring tooth.

**Adenoids** - Adenoids are lymphoid tissue high up in the throat where the nasal passage ends and the throat begins and above where the tonsils are located. Like tonsils, adenoids help keep the body healthy by trapping harmful bacteria and viruses that we breathe in.



**Amalgam** - Dental amalgam or “silver fillings” is a filling material made up of a mixture of metals, including mercury, and used by dentists to repair cavities in teeth that are difficult to prevent contamination from the saliva during the procedure, which would cause a bonded filling to fail. These are rarely placed now.

**ALF Appliance** - Acronym for Advanced Lightwire Functional Appliance, is an appliance used for aligning teeth, correcting the bite, and expanding the palate using gentle force. The removable device is a wire shaped to the upper jaw and is virtually invisible when wearing and can be worn with a Myobrace. You can find a provider directory [here](#). Please confirm the provider has taken an ALF course. You can learn more about this in chapter 4.



**Biobloc** - This is a removable early expansion device to correct severe overbites and narrow jaws. It cannot be worn with a Myobrace.



**Biomimetic Dentist** - Biomimetic dentistry is known as the art and science of restoring damaged teeth with advanced bonding techniques, using materials that mimic the properties of natural teeth—strength, appearance, and function.

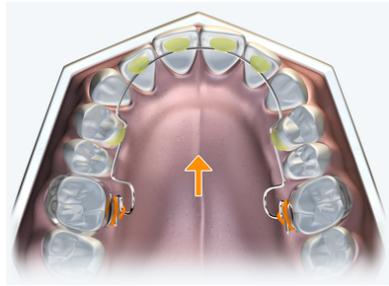
**Biological Dentist** - Biological dentistry is a sub-type of holistic dentistry that has a certifying body with requirements, such as being an ozone therapy provider. In general, biological dentists are similar to other holistic, integrative, or functional dentists

**Bitewing X-rays** - Bitewing X-rays are a common type of dental X-ray that show the upper and lower back teeth in a single image. They are most helpful to check for cavities and bone levels around the teeth. The radiation from a single image is comparable to the radiation you get from consuming a banana.



**Bent Wire System (BWS)** - The Farrell Bent Wire System was developed to be used in conjunction with the myobrace. This fixed device consists of two bands that cement to the molars and has a wire that attaches to the brackets and follows the contour of the inside surfaces of the upper teeth. The wire is bonded to the front teeth.

The wire shape is adjusted during the process and encourages simultaneous upper jaw expansion and habit correction. The highlight of this device is that it allows for myofunctional therapy to continue along with the use of Myobrace. in conjunction with arch development. The ALF device is the original removable early expansion device, and in my opinion, shows more promise. You can learn more about this in chapter 4.



**Bleaching** - In dentistry, bleaching is a chemical process that utilizes hydrogen peroxide or carbamide peroxide to whiten teeth beyond their natural color. This is the only process by which you can brighten the entire tooth. Whitening products without the above ingredients only remove surface stains with abrasive ingredients to achieve “whiter teeth”.

**Bridge** - A dental bridge is used to replace a tooth (or teeth) with a fixed or permanent restoration. It consists of a crown on each tooth adjacent to the areas where teeth will be replaced and replacement pontic teeth that extend to the gums and are suspended between the crowns. I only recommend this if a dental implant is not possible for the patient. A biomimetic dentist can be more conservative in the approach to preserve more tooth structure.



**Bruxism** - Also known as teeth grinding, is a condition that causes people to unconsciously clench, grind, or gnash their teeth while awake or asleep. See chapter 5 for more on grinding.

**Buccal Tie** - A buccal tie, also known as a cheek tie, is a restrictive band of connective tissue that attaches the inside of the cheek to the gum tissue on the side of the dental arch. Tight buccal ties can affect people throughout their lives by contributing to a range of issues, including breastfeeding, speech, eating, oral hygiene, and proper lip seal. See chapter 4.

**Calculus** - Also known as tartar, is hardened dental plaque that forms on teeth, both above and below the gum line.

**Caries Disease** - Caries is the scientific word for cavities. Caries Disease is the most common non-communicable disease in the world, and guess what? It is curable!

**Cavitation Surgery** - Cavitations are considered areas in the jaw bones that do not contain dense bone, specifically where teeth have been removed. The theory behind cavitation surgery is that the socket following an extraction doesn't heal properly due to a combination of infection and poor blood flow. The surgery involves removing the gum tissue from the area, cutting into the bone and removing bone from the area of concern, cleaning the area with ozone, placing a bone graft usually mixed with the patient's own stem cells and proteins taken from the blood before the surgery, and placing the gum tissue back over the area and stitching it closed. A few things to consider about this surgery. Any area that does not appear dense in a 3D x-ray may be indiscriminately diagnosed as necrotic or diseased bone that needs to be removed, regardless of an absence of symptoms or further testing before surgery. The surgery is aggressive and carries with it, by nature, the risk of serious complications such as bone infection, damaging surrounding structures, and failure of the bone graft. Therefore, please be cautious about providers that diagnose this treatment for every patient.

**Ceramic** - An inorganic and non-metal material that is commonly used in dentistry for crowns, onlays, and now implants.

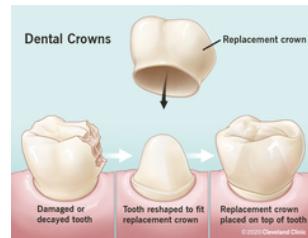
**Cone Beam X-ray (CBCT Image)** - an advanced X-ray that allows clinicians to take a 3D image of the lower part of the face and upper part of the neck to visualize the hard tissue (bones) to plan surgeries, look for disease, evaluate teeth, measure bone density, among other applications. While it does show some of the large soft tissue structures of the region, such as the tonsils and tongue, it is not typically used for diagnosing disease of soft tissue.



**Coblation Tonsillectomy** - This is an alternative technique to a tonsillectomy performed with a scalpel or with electrocautery (the worst), where surgeons can precisely remove part of the tonsil tissue by dissolving the tonsils at the molecular level. This allows for the surgeon to, if the tissue is healthy enough, leave a portion of the tonsil tissue to serve its intended function. Coblation tonsillectomy has significantly lower intraoperative bleeding, takes less time than a traditional tonsillectomy, and has less postoperative pain.

**Craniosacral therapist** - This is a gentle massaging technique that can be used before and after tongue tie release surgery to help manage pain and stress. It does this by helping to release tension and restriction around your body's connective tissue network called the fascia. When looking for a craniosacral therapist near you, ask for someone who understands the importance of tongue tie release for tension, posture, and growth. See chapter 4 for more.

**Crown** - A dental crown is a tooth-shaped cap to restore weak, broken, or decayed teeth. It covers the entire visible portion of the patient's tooth, meaning dentists will remove enough enamel to fit a crown over the top of a tooth before bonding it in place. See Chapter 3 for more FAQ's,



**Deep sedation** - A type of sedation administered intravenously (IV), where a patient remains conscious throughout the procedure, but is in a "twilight" sleep" and will generally not be aware of the procedure, experience loss of protective reflexes, and will not remember the procedure. This type of sedation is "a drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully\*\* following repeated or painful stimulation. The ability to independently maintain ventilatory function may be impaired. Patients may require assistance in maintaining a patent airway, and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained." (Definition from American Society of Anesthesiologists)

**Fluoride** - Fluoride is a mineral naturally present in soil, water, air, and many foods, it is also a common ingredient in oral care products. Fascinatingly the body also produces small amounts of fluoride in the saliva. It is known for being used in dentistry to strengthen teeth in an effort to prevent or stop caries disease because fluoride integrates into tooth enamel and makes them 10x more resistant to acid (which is the true cause of cavities). The debate over fluoride and water fluoridation has been happening since the 1940s but has recently become mainstream. The research does not support the use of water fluoridation to prevent cavities and cities across the nation should stop fluoridating the water supply.

Considering the risk of frequent fluoride exposure, I recommend daily products without fluoride (like Elementa and GC Tooth Mousse). But, if someone is at a very high risk of cavities, I recommend considering an in-office fluoride varnish treatment twice per year, as it is more effective than daily products, as the science shows that it helps lower the risk of caries. This is a personal decision that should be respected.

**Frenectomy** - A surgical procedure that removes or loosens the frenulum, which is the tissue attachment that is responsible for tongue ties, lip ties, or buccal ties. See chapter 4.

**General Anesthesia** - This is the deepest form of sedation administered intravenously, where patients are fully unconscious throughout the procedure, lose all protective reflexes, and are intubated because they cannot keep their airway open. The effects are longer lasting and may take up to 45 minutes to wake up after the IV catheter is removed, and 24 hours for the effects to completely wear off. This means that you will need to have someone drive you home after a procedure using General anesthesia.

Dentists may also recommend this as an option for children who need extensive treatment (crowns, multiple cavities, etc.), have dental anxiety, have a hard time sitting still, and therefore would be a safety threat to themselves if conscious during a procedure and would likely experience trauma. The trauma portion has to be considered seriously when deciding whether or not to have your child under general anesthesia because dental trauma could impact their lifetime of oral health.

**Removable appliance therapy** - Myobrace, Healthy Start, and Tooth Pillow are similar pre-orthodontic treatments that use a series of removable appliances to help children's jaws develop properly. It is different from traditional braces because it stimulates facial bone and jaw growth instead of repositioning teeth. This creates more room in the mouth for the teeth and tongue to function properly. Length of treatment depends on the child's age, the severity of dental issues, and how well they follow the treatment plan, but typically last 1-2 years. The device is usually worn for one to two hours during the day and overnight while sleeping. They're flexible and help to retrain muscles and breathing patterns. Treatment also includes daily myofunctional exercises and is most effective for children ages 3 to 15. Results will be limited and poor if myofunctional therapy does not accompany this appliance therapy. See chapter 4 for more information.



Toothpillow

**Hydroxyapatite** - is a form of calcium apatite (also known as calcium phosphate), and is a naturally occurring mineral that makes up our bones and teeth. It makes up over 90% of the foundation of your tooth's enamel and 60% of your bones. It is a popular ingredient in "natural" or "holistic" oral care products proclaimed to remineralize teeth.

Hydroxyapatite (HA) is not typically a harmful ingredient except needle-shaped HA which can be dangerous because studies have shown that this shape will pierce and stay stored in human tissues. Many toothpaste companies using HA buy from the company FluidNova in Japan which makes safe rod-shaped HA. It seems like a good idea, I agree, to bathe the teeth in HA because that is what teeth are made of. The tooth is made up of hydroxyapatite, it cannot by design truly incorporate into the molecular structure of teeth due to its large size. The saliva provides the teeth with what they need for remineralization, bioavailable calcium, and phosphate independent of each other. Hydroxyapatite can fill demineralized areas of a tooth but will not be fully incorporated into the tooth's molecular structure.

**Impacted tooth** - is a tooth that's stuck in gum tissue or bone and can't erupt properly. This can happen for a number of reasons such as not enough space or overcrowding, incorrect angle, or obstruction (another tooth blocking the tooth from erupting). Wisdom teeth are the most common type of impacted teeth, but the canines are the other commonly impacted teeth.



**Dental Implants** - are artificial tooth roots that are surgically placed into the jawbone to replace missing or damaged teeth. They are made up of three parts: a metal or ceramic implant post that goes into the bone, a prosthetic tooth called a crown, and an abutment which is the connection between the implant and the tooth crown. Dental Implants are the best option for replacing a missing tooth.



There are ceramic and titanium Implants. Titanium implants are well-studied and have a greater body of evidence for their long-term results. Ceramic implants are new within the last 10 years and do not have the same level of research. However, the current research about ceramic implants is promising. The pros for titanium is their ductile nature, meaning they are very unlikely to ever fracture, whereas ceramic implants are very strong but brittle by nature and more likely to fracture. However, ceramic implants have been shown so far not to stimulate any kind of inflammation in the bone, whereas research does support that if any amount of titanium comes off the implant and settles in the bone that micro chronic inflammation can result. The risk of this occurring is very low. If you are worried about titanium, you can seek out allergy testing to confirm your body will not have issues as a result of getting a titanium implant.

Ceramic implants are not great solutions for the replacement of large molars, as the combination of the position of the implant above the bone combined with a lack of connecting options (crown to implant) can cause food traps underneath

**Jawbone Osteonecrosis** - This is a rare but serious condition that occurs when bone cells in the jaw die due to loss of blood flow. This can expose bone fragments in the mouth, which may look like broken teeth and can poke through the gums.

**Kois Deprogrammer** - This is a device that helps dentists locate the patient's optimal jaw position. It is a removable, plastic appliance that covers the hard palate and creates a single point of contact between the front teeth. When your teeth cannot come together all the way, then the jaw gradually begins to relax into the most stable and ideal position. A patient may be asked to wear the Deprogrammer for one week to one month so that enough time elapses for old muscle memory to be erased. The dentist will know this has occurred when the patient can reproduce, without guidance, the same point of contact as when wearing the Deprogrammer.



After the most stable jaw position is identified, then the bite (or occlusion) is addressed. This may include building a few teeth up to make the teeth fit together well or more comprehensive. See chapter 5 for more Information.

**Laser Tonsil Ablation** - is a minimally invasive procedure that uses a laser to reduce the size of the tonsils by vaporizing the outer surface. It is a great option if the tonsils are slightly enlarged, but not so enlarged that you would need a tonsillectomy. See chapter 4 for more Information.

**Lip seal** - refers to whether or not the lips stay closed whenever you are not speaking or eating. If you cannot easily close the lips all the way, you may have lip incompetence, which leads to mentalis strain (activation of a muscle underneath the lower lip). A myofunctional therapist can help to strengthen the facial muscles in order to keep the lips closed with ease at rest. Treating other underlying issues like jaw misalignment, a narrow palate, and a low resting tongue posture could resolve the lip incompetence. Lip and buccal ties could prevent the lips from having the mobility they need to close properly. See chapter 4 for more Information.

**Lip Incompetence** - refers to the condition characterized by an inability to easily hold the lips together while at rest. Also known as mentalis strain, is discussed more in chapter 4.

**Lip Tie** - A lip tie, also known as a superior labial frenulum, is a condition where the upper lip's skin is too tightly attached to the gums, making it difficult for a baby to move their lip. This can prevent the baby from latching onto the nipple while breastfeeding, which can lead to other issues down the road. It can also prevent someone from achieving a proper lip seal, which promotes nasal breathing. More info in chapter 4.

**MARA** - is a fixed orthodontic appliance used to help correct an overbite, by moving the patient's lower jaw forward so that the top and bottom teeth will meet. More info in chapter 4.



**Minimal Sedation** - A type of sedation using nitrous oxide or "laughing gas". Patients remain awake and alert throughout the procedure but relaxed enough to feel comfortable and less anxious. It is safe for use on both children and adults, and the effects wear off within 5-10 minutes after the mask or the nosepiece is removed.

**Malocclusion** - or a "bad bite" is when your upper and lower teeth don't align when you close your mouth. Malocclusion is one of the most common dental problems and can prevent you from chewing correctly, has a greater impact on teeth, puts strain on the muscles surrounding the face and neck, makes it harder to maintain good oral hygiene (increasing risk for tooth decay and gum disease), and severe malocclusion can lead to breathing problems.

Malocclusion can be treated with orthodontics, restorative treatment, bite adjustments, and in extreme cases, surgery. More information can be found in chapter 5.

**Myobrace** - is a pre-orthodontic treatment that uses a series of removable appliances to help children's jaws develop properly. It is different from traditional braces because it stimulates facial bone and jaw growth instead of repositioning teeth. This creates more room in the mouth for the teeth and tongue to function properly. Here is a video to learn more. You can view the before and after results [here](#).

Myobrace treatment length depends on the child's age, the severity of dental issues, and how well they stick to the treatment plan but can vary from several months to a few years. The Myobrace is usually worn for one to two hours a day and overnight while sleeping. They're flexible and help to retrain muscles and breathing patterns. Treatment also includes daily myofunctional exercises and is most effective for children ages 3 to 15. You can learn more about this in chapter 4.

**Myofunctional Therapy** - is a non-invasive, simple exercise program that helps with dysfunction relating to the muscles of the face, mouth, and most importantly the tongue. It can help children or adults who have difficulty with speaking, chewing, swallowing, breathing, snoring, and obstructive sleep apnea. Myofunctional therapy is safe and relatively inexpensive and can be a great alternative to other more disruptive treatments such as CPAP or surgery. More info in chapter 4.

Myofunctional therapists are also one of the first lines of defense when it comes to functional airway health and can help guide you to know what specialist you may need on your team. You can find a directory of myofunctional therapists [here](#). More In chapter 4.

**Onlay** - is a custom-made dental prosthetic that is designed to mimic the natural function and structure of a tooth's biting area (occlusal surface). Unlike a crown, the goal of an onlay is to preserve as much healthy tooth tissue as possible. Learn more about this procedure In chapter 3.



**Occlusion** - is the contact between the upper and lower teeth when you close your mouth. Dysfunction of your bite or teeth alignment is called malocclusions. See chapter 5.

**Occlusal Disease** - is a destructive process that can occur when teeth are misaligned, causing repetitive stress on the teeth, jaw muscles, and jaw joint. It is one of the most common and undiagnosed dental disorders and can be a major contributor to tooth loss and poor health. See chapter 5 for more Information.

**Orthognathic surgery** - also known as jaw surgery or corrective jaw surgery, is a procedure that realigns the upper and lower jaws to correct imbalances and improve their function. More on this In chapter 4.

**Ozone Treatment** - Ozone treatment uses unstable oxygen molecules to react with and kill bacteria in the mouth. This is HUGE in the holistic dental world, in fact, some academies of biological dentists require members to be trained in ozone therapy and require them to employ the therapy in their office as an obligation.

Do I recommend Ozone therapy? Short answer, no. Ozone therapy lacks the clinical research needed to better understand its uses, benefits, and risks. Research is also showing that Ozone may not be as effective as we thought it was. In addition, in-office treatment of Ozone every couple of months is not going to be as effective as alternative, daily home care regimens such as the use of a simple and stable oxidizer to target many of the same bacteria that Ozone is used to target.

Is it harmful? The short answer is also no, but then you have to ask yourself if it is worth the steep price point. I don't think so. Especially when you can take the money you saved from Ozone and put it towards treatments with more research behind them.

**PA's - or Periapical** is a type of x-ray. PAs are taken when your dentist needs a good look at the entirety of the tooth and the jawbone around the root, and is most likely used when a patient is presenting with a specific area of concern, such as impacted teeth, tooth pain, screening for abscesses, and changes in the bone.



**Pinhole Surgical Technique for gingival regrowth** - is a minimally invasive surgery to repair gum recession without scalpels, sutures, or gum grafting. It's also known as the Chao Pinhole® Surgical Technique or Pinhole Gum RejuvenationTM. During the procedure, a dentist uses a special needle-like tool to create small pinholes in the gum tissue.



Then, they use specialized instruments to loosen and reposition the gum tissue over the exposed areas of the teeth. Collagen strips may also be placed to help hold the tissue in place and speed up healing. One study showed overall root coverage of 96.7% after 6-month follow-up with minimal complications (Reddy, 2017). More on this In chapter 7.

**Pulpotomy** - Is a a dental procedure that removes the pulp from a baby tooth's crown (visible part of the tooth) to prevent the tooth from becoming Infected due to a deep cavity. It Is different than a root canal treatment in an adult because it leaves the nerves in the roots of the tooth intact. Anytime a baby tooth needs a crown, a pulpotomy Is also performed. Literally, "pulpotomy" translates to "to cut the pulp." It Is much better for a child to receive a pulpotomy and a dental crown rather than have a tooth extacted, which causes more significant Issues. More on pediatric dental care In chapter 3.

**Rapid Palatal Expansion** - is used to correct narrow jaw width, crowding, and crossbite. People of any age can have a palate expander, but it is most effective for children whose jawbones are still forming and developing. For this reason, the ideal time to begin therapy with an RPE is when a child is 7 or 8 years old. It usually takes 2-3 months to achieve expansion but could be longer based on the child's age and how his/her body responds to the therapy.

When RPE is used for adults the outcome of expansion is typically tipping of the upper teeth, which can cause terrible malocclusion. Adults considering palatal expansion must account for the need to invest in comprehensive orthodontics to maintain a balanced occlusion. More Info In chapter 4.



**Root Canal Treatments** - Are they safe? The current body of evidence shows that root canal treatment does not cause the body harm, as long as they are completed correctly, which in my opinion ONLY an endodontist (root canal specialist) should ever perform this invasive procedure. On the other side, can a failed root canal treatment with chronic inflammation or infection be a contributing factor to systemic disease? ABSOLUTELY! Just as chronic infection and inflammation in any part of the body would be detrimental to the overall health of the body.

Sensible right? But both sides of the story must be presented. And I feel it is my duty to educate you so that you can truly make an informed decision. Many people are choosing to extract teeth and do not consider modern root canal treatment because they have only been presented with the data from failed treatment and infected teeth, but never are they presented with research about successfully healed, non-inflamed, non-infected root canal-treated teeth. (Niazi, S. A., & Bakhsh, A. (2022)

I only recommend endodontic treatment with Gentle Wave technology which is significantly more effective at cleaning out the canals of the tooth (Coaguila-Llerena, H., Gaeta, E., & Faria, G. 2022). The treated tooth must later be confirmed to have healed properly via a 3D X-ray in which the density of the bone can be measured around the root of the tooth. A healed tooth without inflammation will allow bone to grow back around the root. A blood test for inflammatory factors such as interleukins could be considered to assess the inflammatory state of the body, which should be low if the body is generally healthy and the tooth has healed.

I recommend 3D X-rays to every new patient I evaluate who has a root-canal-treated tooth to confirm they do not have silent infections around those teeth, which are more likely to occur if the procedure was not performed by a specialist and with old technology.

The documentary "Root Cause" which started the movement to extract any and all root canal-treated teeth was based on research from the 1920s and '30s as well as the personal anecdotes of a handful of individuals who stated causatory relationships between root canal-treated teeth and their cancer or other systemic diseases (the reason it was removed from streaming platforms).

It is important to be extremely wary whenever a person or group of people uses causatory language without evidence based research that takes into account all the risk factors at play, has a large sample size, employs non-biased research methods, was not incentivized by a third party or financial gain, etc. For example, saying "I had a root canal treatment and then contracted cancer and became very ill, therefore it was caused by the root canal treatment" is not sensible. That person's total medical, social, family, genetic histories must be taken into account. Did the person smoke tobacco chronically and drink alcohol? Does this person have a family history of cancer and other systemic diseases? What does their diet consist of? Do they have any inflammatory diseases such as arthritis, diabetes, autoimmune diseases? Can you see my point?

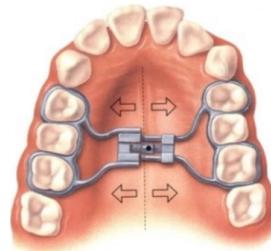
In conclusion, I hope the bits above helped you to feel more educated about both sides of the argument and better equipped to make your own decision out of a place of logic and knowledge rather than fear.

**Sealants** - these are preventive restorations placed in the deep grooves of molars and premolars of a high caries-risk population. They are minimally invasive and do not require the removal of teeth like traditional fillings. There is a risk of the sealant not bonding completely if the tooth gets wet during the procedure (more common with children), which can lead to gaps in the sealant where bacteria can get in and cause cavities under the sealant. I only recommend sealants for my highest risk patients and do not suggest every child get them for this reason. If a child or adult does *not* have a problem with getting cavities then sealants are not indicated.



**Septoplasty** - Also known as septal surgery, is a corrective surgical procedure that straightens a deviated nasal septum (wall made of bone and cartilage that separates the two nostrils). It is a common procedure performed by ENTs or plastic surgeons. It's usually performed when a deviated septum is causing significant airway obstruction. See chapter 4.

**Surgical Assisted Rapid Palatal Expansion (SARPE)** - This is the best expansion option for adults with fully developed facial bones to treat moderate to severe cases of narrow palates, crowding, and overbite. It is an invasive surgery that most do not elect until they have explored all other options. This is most useful for treating sleep-disordered breathing such as obstructive sleep apnea. See chapter 4.

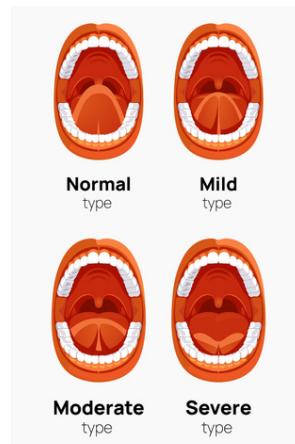


**SMART Mercury Removal** - A technique used to safely remove mercury (amalgam) fillings that involves specific protocols to ensure that neither the patient or the dentist are at risk of mercury exposure. You at least want to make sure your dentist is using a rubber dam, high powered suction, and offers you a nitrous oxide mask to wear.

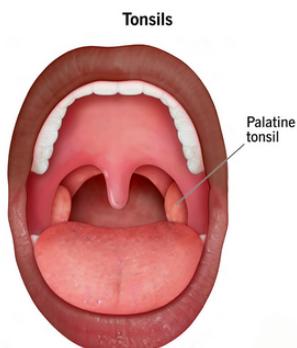
**Tongue Mobility** - refers to the flexibility and the range of motion of the tongue. Ideally, the tongue can comfortably reach the roof of the mouth without compensation from the floor of the mouth. Compensation is when the floor of the mouth lifts up in order for the tongue to reach the roof of the mouth. See chapter 3 for more on this.

**Tongue Tone** - refers to how strong the tongue is. It needs to be strong enough to rest on the roof of the mouth day and night. A myofunctional therapist helps to resolve this issue.

**Tongue Tie** - A short, tight band of tissue tethers the tongue to the floor of the mouth. It can affect how you eat and speak. It can interfere with breastfeeding. It also reduces tongue mobility, which is key to proper nasal breathing. See chapter 4 for more Information.



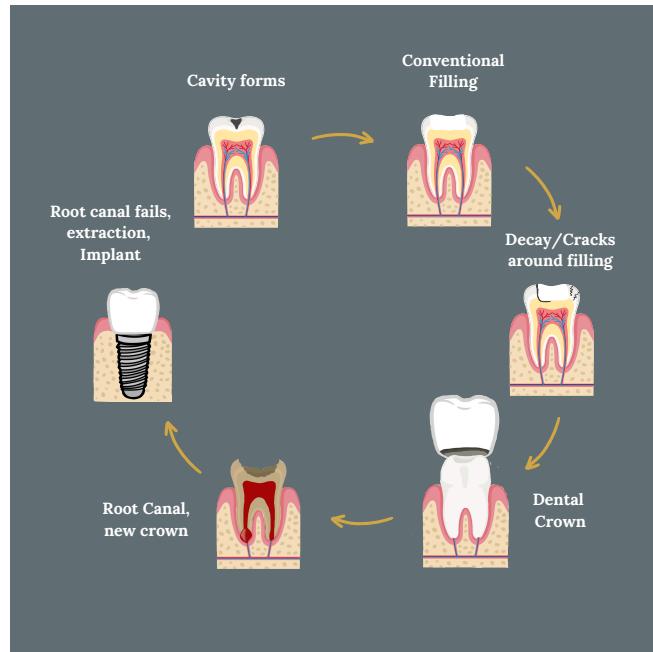
**Tongue Space** - refers to the amount of space there is on the roof of the mouth for the tongue. The tongue should not be pressing up against the teeth in the front or on the sides of the palate. You will need to partner with an airway-focused dentist and/or an orthodontist to resolve this issue.



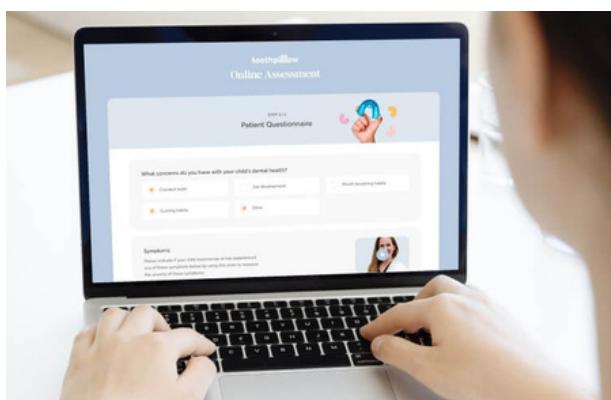
**Tonsils** - are pillars or small spheres of lymphoid tissue on either side of the throat where the soft palate ends and immediately to the side of the uvula. The tonsils play a key role in our immune systems, and act as a front-line defense by filtering out germs that enter through your nose or mouth to protect the rest of your body from infection. See chapter 4 for more Information on this.

**Tonsillectomy** - A surgical procedure to remove the tonsils, usually recommended for recurring episodes of tonsillitis, chronic inflammation, or airway obstruction. It is customary to be recommended by ENTs to remove both your tonsils and adenoids, but this may not be necessary! A great alternative is to remove only some of the tonsil tissue if there is sufficient healthy tissue to leave behind for function. Dr. Soroush Zaghi in Los Angeles offers this procedure. He is one of the major leaders in airway health and research. See chapter 4.

**Tooth Death Cycle** - is a cycle set in motion when you get a cavity. It explains how traditional dental restorations break down over time, leading to more and more dental work. Biomimetic dentistry is designed to stop the cycle in its tracks, meaning it repairs the tooth in a way that prevents you from continuing to go down this cycle, which costs you thousands over your lifetime. Equally important is getting to the root cause of why you are getting cavities. See chapter 3.



**Toothpillow** - is another pre-orthodontic treatment that uses a series of removable appliances to help children's jaws develop properly. It is great for those who do not have an airway focused dentist near them because it is done virtually. It is different from traditional braces because it stimulates facial bone and jaw growth instead of repositioning teeth. This creates more room in the mouth for the teeth and tongue to function properly. Length of treatment depends on the child's age, the severity of dental issues, and how well they stick to the treatment plan but can vary from several months to a few years. The Toothpillow device is usually worn for one to two hours a day and overnight while sleeping. They're flexible and help to retrain muscles and breathing patterns. Treatment also includes daily myofunctional exercises and is most effective for children ages 3 to 15.



This is the Toothpillow protocol. First, fill out an online assessment. Second, meet a doctor virtually. Third, get a customized treatment plan with whatever devices are needed to be shipped to you. This is a great option for those who are rural and might have a hard time finding an airway-focused dentist near them. See chapter 4 for more on this.

**Whitening** - What Is the safest way to whiten your teeth? The best way to whiten your teeth from home is using a product with hydrogen peroxide. Try to find one that has a neutral pH (or alkaline). My favorites are Opalescence or Opal (same company). The Crest Whitening Strips are also effective. You may experience more sensitivity after whitening. Elementa Tooth Gel and GC Tooth Mousse both help with sensitivity. Products like Lumineux have no research to support their effectiveness.

**Wisdom tooth removal** - is a surgical procedure to take out one or more wisdom teeth. These are four permanent molars located in the very back of the upper and lower jaw, and are the last teeth to erupt, usually in your late teens or early 20s.

Some wisdom teeth can erupt without causing any issues, but others can be problematic and will need to be removed. Wisdom teeth that don't grow in properly can become impacted, or trapped in your gums/jawbone. This can lead to cysts, gum tissue inflammation, localized gum disease, damage to other teeth, sinus issues, jaw pain, difficulty opening the mouth, misaligned teeth, and excessive stress on the jaw muscles and joints.



Consult with your dentist and oral surgeon as whether or not you need to have your wisdom teeth removed.

# THANK YOU!

I wanted to thank you for investing so much time and energy into this guide.

I am so proud of you for making oral wellness a priority in your life! Good luck and keep me posted on your success.

I love getting DM's on Instagram sharing your wins with me, big or small!

P.S. The original download link in your email will always be the most up-to-date version of this guide.

A handwritten signature in black ink, appearing to read "CD Clayton II".

Dr. Craig D. Clayton II, DMD

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Seek Professional Guidance. It is crucial to consult with your dentist, qualified dental professional or other healthcare professional, including without limitation a dietitian, before implementing any dental practices, treatments, protocols, dietary changes, or use of supplements. Individual factors such as existing dental or medical conditions, allergies, or medications may affect the suitability or safety of implementing the information or suggestions provided. You are advised to consult with a dentist, healthcare professional or registered dietitian to evaluate the appropriateness of the information and/or suggestions based on your specific needs.

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