Konstantin Ronkin

HOW TO FIND THE RIGHT DOCTOR

And preserve your health, youth, and beautiful smile

by Konstantin Ronkin

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Boston, 2025

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ISBN 978-1-960533-84-5

Published by M•Graphics | Boston, MA
mgraphics.books@gmail.com
mgraphics-books.com

Book Design by Alexey Zinovyev © 2025
Cover Design by Pavel Kupriyanov © 2025

Printed in the U.S.A.

Dedicated to my teachers
and colleagues

The good doctor treats the disease,
the great doctor treats the patient who has the disease
Sir William Osler (1849–1919)

Twelve reasons to read this book (but you only need one)

The year was 1814, and the Napoleonic Wars were raging. The French commandant of the Soissons fortress surrendered it to the advancing Russian troops without firing a single shot. Furious, Napoleon summoned him to account for the disgrace.

"Why did my fortress capitulate without a fight?" he demanded.

The general threw up his hands. "Sire, we had twelve reasons for not firing. First, we had no gunpowder…"

No doubt the general's remaining eleven reasons were all compelling, but the first one — no gunpowder, no shots — was all the Emperor needed to hear.

If you ask, "Why should I read this book?" I could list 12 compelling reasons to sink your teeth into *How to Find the Right Doctor.* But I'll skip the sales pitch and focus on what matters most: if you aim to preserve health and a youthful sense of self

in body, mind, and appearance — regardless of how many candles top your birthday cake — this book is essential.

If you're surprised that a dentist wrote a book on general health and longevity, you're not alone. "Isn't your book just about teeth?" an experienced editor asked me before diving into the manuscript. Naturally, we cover teeth, but they're just the surface — your health and longevity run deeper, often tucked behind (and even between) those teeth.

When it comes to unlocking the secrets of staying healthy and youthful, we're accustomed to hearing from experts such as nutritionists, personal trainers, endocrinologists, cosmetologists, plastic surgeons, dermatologists, sleep specialists, functional medicine doctors, and — lately, a growing trend — biohackers. Yet, when you think of dentists, what typically comes to mind is their expertise in keeping teeth and gums healthy, correcting crooked bites, and crafting beautiful smiles with veneers[1]. And you'd be right — that's the core of what dentists are trained and licensed to do. But, we often overlook how much the mouth influences the whole body. Take the development and alignment of facial bones, like the jaw: they shape not just the smile's appeal and facial look, but also the body's overall health — and, ultimately, how long we thrive.

By the time you finish this book, you'll grasp dentistry's crucial role in slowing aging, sustaining health, and helping you look and feel youthful. I'll reveal how to find the right specialist so that when you first meet a doctor, you can determine if they're the right fit for *you*. Whether in a dentist's chair or any

[1] A veneer is a thin layer of porcelain or composite resin, custom-made to cover the front surface of a tooth.

doctor's office, you'll confidently determine if a treatment fits *your* needs. You'll deepen your health knowledge, sidestepping unnecessary — and often pricey — tests and procedures. Poor dental care can harm seemingly unrelated parts of your body. Through real-life cases, I'll show how mistakes and oversight have led to serious health issues, equipping you to avoid them. Medical errors can carry a steep cost — your awareness and choices as a patient can meaningfully lower that risk. Never underestimate your power!

Once you've mastered the essentials in this book, choosing the right medical specialist — a key to sustaining health and vitality — will feel far simpler. We all want to be youthful, look great, and stay sharp at any age. But even with ample gunpowder, a cannon needs a spark to fire — let me help you light yours!

Dear reader, this book is intended to educate
and empower you, but it should not be used
as a substitute for medical advice.
Trust *your* doctor — you'll know how to find one
with the help of this book!

We make people happy (even at 35,000 feet)

Traveling the world for a living isn't the first thing people associate with my profession— dentistry — but over the past two decades, I've balanced my work across five dental practices on three continents. While I spend most of my time in Boston,

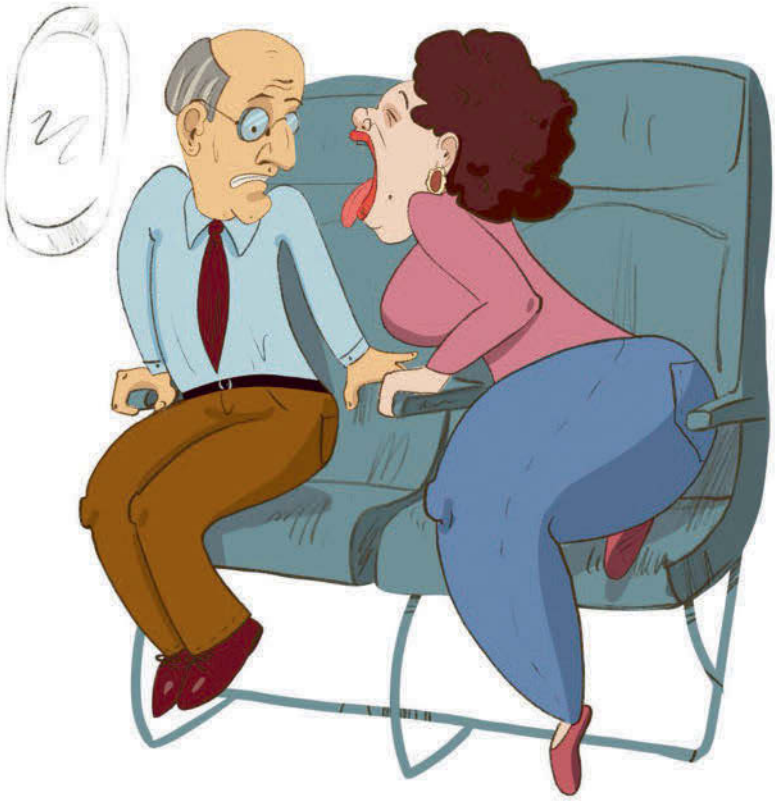

Figure 1: "Oh, you're a dentist? Great! Could you take a quick look? I've got some trouble with my rear."

I regularly see patients in my clinics in Moscow and St. Petersburg, Russia; Yerevan, Armenia; and Dubai, UAE. Add to this worldwide lecturing, conferences, and teaching, and you begin to understand my life. Needless to say, I've earned my frequent flyer status — but along with the miles, I've also gained a first-hand look at how attitudes toward dentistry vary across cultures. Perceptions of oral health, expectations of and from dentists, and notions of a "perfect smile" vary across countries, although

the parallels can be striking as well. In this book, I'll take you on a journey through those perspectives — insights that may help you find the right dentist for *you*. But for now, boarding time!

"Welcome aboard, Dr. Ronkin! Thanks for flying with us again," the flight attendant greeted me as I boarded my flight from Boston Logan Airport to Frankfurt. I must be a regular by now! It's slightly unsettling when airline staff recognize you by name — a clear signal you're flying too often. I'm starting to feel like George Clooney's character in *Up in the Air* — a man who practically lived on planes. Still, I have no complaints — my patients are waiting for me. And, as you'll soon see, not just in my clinics.

Every so often, I chat with my seatmates on a flight, and sure enough, the "What do you do?" question pops up. I used to say — not without pride, though often with instant regret — that I'm a dentist. From there, the conversation would follow one of two paths: they'd share a funny (or grisly) dentist tale, leaving me to nod and feign interest, or they'd flash their teeth and ask me to inspect a trouble spot. In these cases, my in-flight entertainment turned into an impromptu consultation.

"You're a dentist? Great! Can you take a look? Something odd's happening with my *rear*…" That's what my seatmate on a British Airways flight once blurted. (At first, I wondered if she meant a dentist or a proctologist.) Then she flung her mouth open and pointed at a cracked molar! "Lucky these planes have seat dividers," I thought. Otherwise, I might not have gotten away with just a consultation — I would have had to start the treatment right there at 35,000 feet.

From that moment, I stopped identifying myself as a dentist. When asked what I do, I now say — mysteriously but honestly — "I make people happy." It might sound too bold or even a bit sentimental, but it's how I feel, and I stand by it. Sure, a trip to the dentist isn't most people's idea of happiness, but many colleagues share stories with uplifting outcomes, like the one my son and I witnessed years ago.

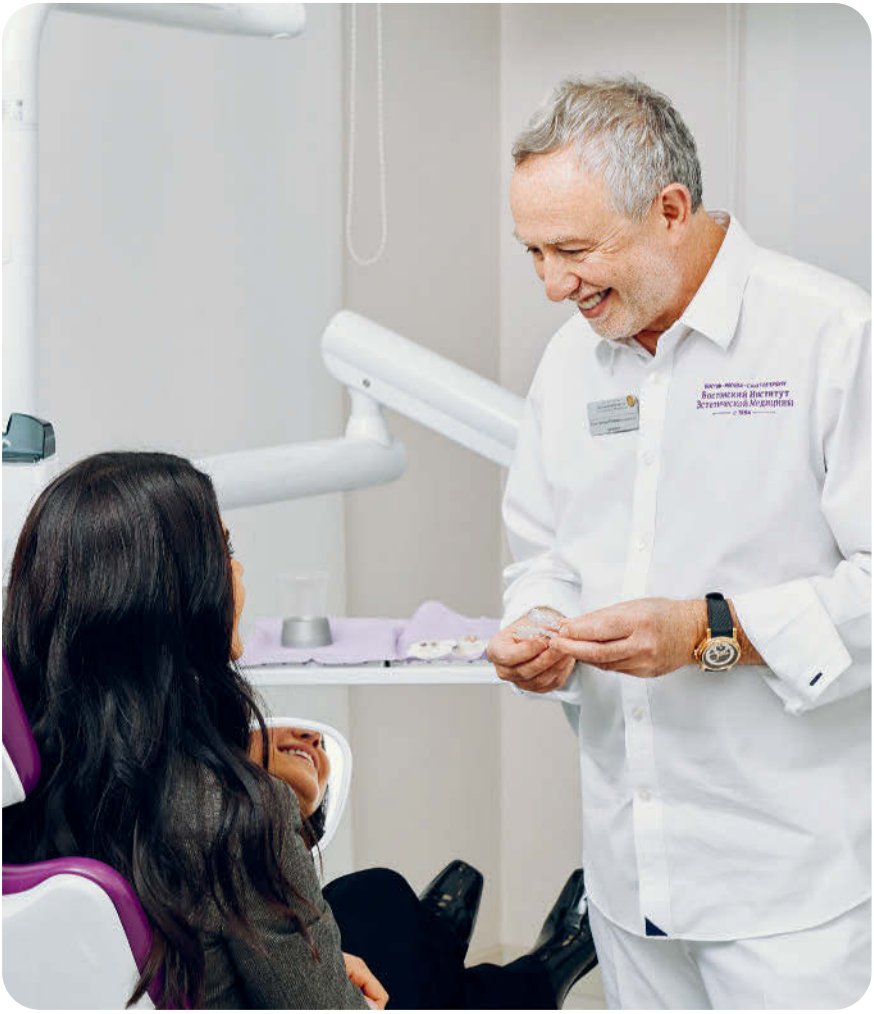

Photo 2. We make people happy

From the age of 12, my son spent time in our Boston office, assisting with small tasks as he could. One day, he saw something that steered him toward dentistry. We were wrapping up a complex veneer case. The patient had arrived with badly damaged teeth, a noticeable loss of height in the lower third of her face, chronic headaches, neck pain, and constant jaw joint clicking. After nearly five months of treatment to restore her joint function and prep her teeth for veneers, we were securing the final one. My son handed her the mirror — the biggest responsibility we gave him then. She gazed at her reflection for a full five minutes, seemingly stunned. Then, suddenly, she broke into heavy sobs. I glanced at my son. His face was locked in dismay, eyes wide with alarm, as if he might tear up too. "What did we mess up?" I wondered. After about ten minutes, she pulled herself together. "I'm so happy! I can smile now," she said, before wrapping us in a grateful hug.

That was 17 years ago. She still visits my office twice a year, always with a radiant smile and an ever-bright spirit. As for my son, I didn't realize how much that moment had shaped him — until I read about it years later in his college admissions essay.

Moments like these highlight a simple truth: by restoring and maintaining teeth, reviving natural smiles, easing pain, preventing serious issues, and enhancing the quality of life, we dentists have the honor of bringing real happiness to people. The stronger we are as medical professionals, the more joy we spread.

This points to the primary standard for selecting your doctor: a genuine commitment to your happiness and well-being backed by top-tier expertise and care. Naturally, many factors shape the happiness a doctor can deliver — and we'll explore some of them in this book.

* * *

And by the way, I never completely stepped away from my 35,000-foot office. I still offer consultations at cruising altitude — just in a slightly different way. So, if you're leafing through an international airline's in-flight magazine and see my name, congrats — you've stumbled on your free dental advice!

Chapter 1.
If Only I Had Known…

If I had a dollar for every time a patient said, "If only I had known…"

"If only I had known not to let the orthodontist pull my son's healthy teeth at 12 just because it was an available option."

Or,

"If only I had known that snoring wasn't merely an irritating sound keeping the house awake — it was a clue to something serious."

Many people are unaware of the health issues that certain choices can trigger. Take a routine tooth extraction, for instance — it might cause daily headaches, jaw clicking, or sleep troubles. Did you know that? Most patients didn't either!

In fact, snoring can signal a serious condition that endangers your health — and even your life! (I'm not trying to alarm you into reading on — you'll see why soon enough.)

Whenever I catch a patient's surprised expression, I can't help but mirror their thoughts, saying to myself: "If only you'd known which doctor to trust with your family's health and longevity!"

Today, information is at our fingertips. You can consult Dr. Google about any health concern (who hasn't looked up their symptoms?) and get an instant reply. Whether it's trustworthy

is another question. Now, there are ChatGPT-like platforms that go beyond symptom analysis to deliver a virtual doctor's visit so lifelike it outshines Dr. Google — no waiting room needed. Posting health worries on social media is also in vogue, with friends and strangers offering advice fast — right where you are. (Isn't it odd that while healthcare guards patient privacy fiercely, people happily crowdsource diagnoses online?) Across the vast web, advice abounds — often clashing wildly. The true hurdle isn't just sifting truth from nonsense but pinpointing which facts matter to *you*.

Despite all the factors beyond our control, we must strive to take charge of our health when possible. Many people fully rely on their doctors, but that's not always wise. Most specialists focus tightly on their field, often viewing health through a limited scope. You can't expect your doctor to have all the answers — and that's okay. Reflect on specialization in your own profession — medicine operates much the same way.

Just recently, after assessing my symptoms, my primary care doctor sent me to a cardiologist focused on arrhythmias. Although highly skilled in his area, he soon realized that my case required an even more specialized expert. So, I was referred to his colleague, a vascular cardiologist. Every branch of medicine has its subspecialties, with a dedicated specialist for nearly every possible health issue.

It's the same with dentistry! Some dentists are deeply knowledgeable about teeth but less familiar with broader health aspects. Some occlusion specialists may lack insight into joint dysfunction, while periodontists, who focus on gum disease, might miss the links between breathing patterns and

facial development. Although all are skilled in their respective domains, they often focus on the condition rather than the patient. These experts can be ideal for specific issues, but only after *your* doctor has assessed you holistically and confirmed their skills match your needs. I draw on the wisdom of William Osler[2], often referred to as the father of modern medicine, whose words serve as the epigraph for this book. More than a century later, his insight remains valid: "The good doctor treats the disease; the great doctor treats the patient who has the disease." A great doctor recognizes the body's interconnectedness — one problem may stem from or spark another, and true healing comes from tackling the full picture. I bring this approach to dentistry, and it should guide your dentist as well.

Consider this scenario: You have a persistent headache that's been bothering you for a while. It sits right in your temples, a constant nuisance. Maybe it comes and goes once or twice a week, or maybe it lasts for six days straight. An unrelenting discomfort that has plagued you for months.

Who would you see? Your family doctor? A neurologist? Maybe even a neurosurgeon? Or a temporal lobe headache specialist — who knows, maybe they exist these days. Or perhaps a psychotherapist? After all, stress can be a major trigger for migraines. And why not a meteorologist? Your head always seems to hurt when the weather changes.

[2] Sir William Osler (1849–1919) was a Canadian physician and professor who played a pivotal role in establishing Johns Hopkins Hospital and School of Medicine as a leading center for medical education and patient care. His emphasis on treating the whole person, not just the disease, remains a cornerstone of healthcare philosophy worldwide.

Meanwhile, over 60% of tension headaches are related to muscle hyperactivity in the head and neck — often caused by jaw misalignment and malocclusion.

Scan the QR code to watch a video about the connection between malocclusion and headache.

Yet, most people spend years bouncing from doctor to doctor, never considering a visit to a dentist or orthodontist. Even in a good dental clinic, though, the right diagnosis isn't guaranteed — not all dentists are experts in headaches.

If this statistic doesn't sway you, nothing will: over the past 15 years, 68% of patients at our clinics had already consulted several specialists — 7 out of 10! — with no success[3]. Some arrive with stacks of medical records, treatment plans, and test results. Many carry a heap of dental appliances and dentures that didn't work as hoped. Others present aesthetic restorations that, for various reasons, fell short of their expectations. Surprisingly, for many, these letdowns don't tie to treatment costs. The idea that "more expensive means better" just doesn't hold here.

So, what's the issue? Are there truly so many careless dentists out there?

More often than not, the real culprit is an inaccurate diagnosis.

[3] Ronkin, Konstantin. 2019. *Clinical rationale for the use of transcutaneous electrical nerve stimulation in the comprehensive rehabilitation of patients with partial tooth loss and symptoms of temporomandibular joint dysfunction*. Doctoral dissertation.

Photo 3. She was beaming with a dazzling, natural-looking, wide smile with her newly fitted veneers.

Take, for instance, a young woman from Paris — let's call her Helen — who recently received stunning veneers on all her upper teeth and arrived with a natural and dazzling smile (Photo 3).

The veneers were flawless, both aesthetically and functionally — our French colleagues had done stellar work. Helen loved her new smile. She stopped by our clinic while passing through Moscow to reattach a veneer that had popped off her front tooth (her words: it had "bounced off"). It turned out that this wasn't the first time a veneer had detached. Hmm… were our French colleagues not so great after all? Our dentists reattached it with precision, double-checking every step to ensure a flawless ce-

mentation. You might wonder if French cement was of inferior quality. Our trainees initially thought so as well.

As we parted, I urged Helen to get a CT[4] scan of her head. From experience, I knew her veneer issues weren't about materials or technique — nor the French dentist's skill. It was something else.

Helen shrugged off my advice — her Moscow stay was short and packed before heading back to her adored Paris, Paris, Paris. Yet, fate brought her back. Days later, she returned with another veneer lost, this time from a different front tooth. We persuaded her for a full exam and imaging. Using digital tools, we checked how her upper and lower teeth aligned — everything was spot-on. Chewing and speaking functions were normal. Clinical exams and X-rays revealed no abnormalities. What next? A narrowly focused dentist might have stopped there.

However, something beyond standard dentistry stood out: her CT scan revealed an upper airway that was significantly narrower than normal — just over 3 mm wide at the tongue level, compared to the normal 11 mm (Photo 4). There it was — the root of her veneer troubles: a constricted airway! By day, Helen's body adjusted to her breathing issues, masking symptoms like teeth grinding. At night, though, relaxed tongue and throat muscles shrank her airway further. Her jaw muscles instinctively pushed her lower jaw forward to open it, causing her lower front teeth to grind against the upper ones, which wrecked her veneers in the process. Breathing trumps teeth — even gorgeous, expertly crafted ones.

[4] Computer tomography (CT) is a diagnostic method that utilizes non-invasive, layer-by-layer examination of tissues and internal organs using X-ray radiation.

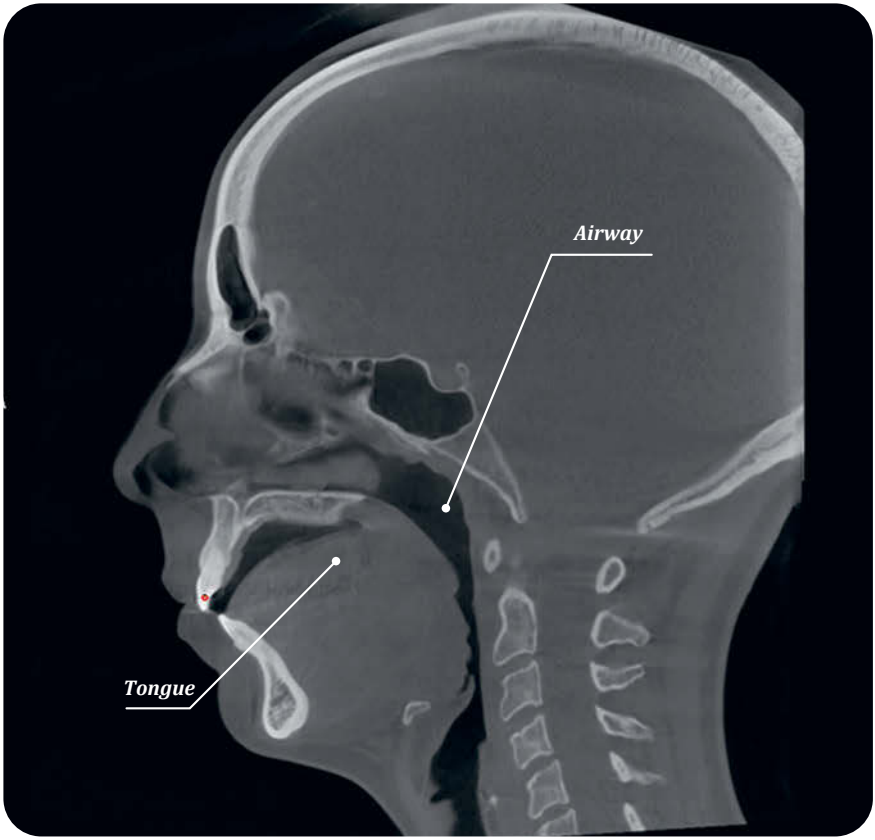

Photo 4. Airway narrowing

Photos of Helen's natural teeth before the veneers confirmed it: her front teeth were half worn, the wear matching the jaw shift I'd described.

This story has a happy ending. We found the optimal position for Helen's lower jaw, ensuring her airway remained sufficiently open while maintaining her muscle balance to prevent nighttime teeth grinding. Additional prosthetic work was performed on her lower molars to stabilize her jaw position correctly. We left her upper veneers untouched — and never had to reglue

them. Helen still lives in Paris, continues to see her excellent — but narrow-specialized — dentist, and has been free of these problems for over seven years.

You might already have questions: "These are gripping stories, and I'm glad for your lucky patients across three continents and mid-flight, Dr. Ronkin. But what do *I* do if I don't know what's causing my issue? How do I find the right doctor who gets what *I* need?"

Be patient, my dear patient — the answers to these questions will unfold as you move through this book. The more you understand your health and how your body functions, the simpler your search becomes. That's why I've poured 40 years of experience helping patients like you into these pages, alongside the essentials of human health that I continually refine through a lifetime of learning.

Chapter 2. Neuromuscular Dentistry: A Full-Spectrum Approach to Dental Health

Dear reader, here's a heads-up — you'll run into some technical terms in this chapter and beyond. There's no avoiding them — if I'm to unpack how our bodies function and how doctors spot and fix health issues, they're essential. But fear not! If we can make a dental visit painless, I can keep this learning smooth, too — no anesthesia needed!

Let's start with the concept of neuromuscular dentistry. This branch of dentistry focuses on the overall health of the dento-mandibular system — the jaw, teeth, and muscles — during treatment. Simply put, it's not just about fixing a tooth; it's about recognizing that each tooth is part of a larger system within the body and should not be treated in isolation.

The concept is not new. As early as the 1930s, Russian doctors and researchers Katz[5], Rubinov[6], and others applied the principles of neuromuscular dentistry in scientific studies and patient treatment. (As a student at the First Leningrad Medical School

[5] Azary Katz (1883–1952), Head of the Department of Prosthetic Dentistry at the Leningrad Medical Dental Institute, founder of preventive orthodontics.

[6] Iosif Rubinov (1907–1967), Professor, Doctor of Medical Sciences, Head of the Department of Prosthetic Dentistry at the I. P. Pavlov Leningrad Medical Institute studied the neuro-reflex coordination of the masticatory system.

in the 1970s and 1980s, I learned this approach from my professors, who had studied under the pioneers of neuromuscular dentistry — which, I suppose, is also a subtle way of revealing my age.) However, it wasn't until the 1960s that this approach truly gained momentum, evolving into a comprehensive system and gradually becoming the standard of care in modern dentistry — thanks to the efforts of American dentist Dr. Bernard Jankelson (1902–1987), rightly regarded as the father of neuromuscular dentistry.

But why are we discussing this at all? What does neuromuscular dentistry have to do with choosing the *right* doctor? Actually, a lot. But let's take it step by step.

While neuromuscular dentistry isn't a standalone specialty like endodontics[7] or orthodontics[8], it follows principles that set it apart from conventional dentistry.

Principle 1: Accounting for the Body's Physiological State

As I stated above, neuromuscular dentistry considers the physiological state of multiple body systems, aiming to normalize the jaw position and bite while accounting for not only anatomical structures but also the functional health of the muscles, airway, and central nervous system.

[7] Endodontics is a branch of dentistry that focuses on the diagnosis, treatment, and prevention of diseases affecting the endodontium, including the pulp — the tissue that fills the tooth's inner cavity — and the dentin, the mineralized hard tissue that forms the tooth's main structure.

[8] Orthodontics is a branch of dentistry that focuses on the study of the causes, diagnosis, prevention, and treatment of dental and jaw abnormalities.

The bite or occlusion[9] is formed by combining two key components: firstly, the relationship and development of the jaws and, secondly, the alignment of the teeth. Both are equally important.

You may not remember the first time you saw a picture of the Leaning Tower of Pisa, but I bet your reaction went something like this: It's cool, but how could they mess it up so badly? Who was responsible for laying those floors and columns? A fair question! But, of course, your curiosity led you to dig deeper, and you soon discovered that it wasn't the stonemasons who made the mistake. The floors and columns weren't just beautiful; they were structurally perfect. The real problem lay beneath them, hidden from view — the foundation was built on soft, unstable ground, and as it sank unevenly, the whole tower began to lean. And just like that, an architectural mishap became one of the most famous buildings in the world.

You already sense what the Leaning Tower of Pisa represents in our story.

In our Leaning Tower of Pisa metaphor, the foundation is the jaws, and the columns are the teeth. No matter how perfectly aligned the teeth are, if they sit on an unstable foundation— misaligned jaws — the whole structure is compromised. For a proper bite, everything must be built from the ground up, starting with a perfectly stable and level foundation: the jaws.

The alignment of the jaws often deviates from normal due to improper growth and development of the skeletal structure, particularly the bones of the skull, as well as acquired bone deformities over time. Jaw misalignments can also be caused

[9] Occlusion is the relationship between the dental arches when the upper and lower teeth are in maximum contact and fully closed.

by poor posture, breathing irregularities, and other problems. We'll explore these issues in more detail in the following chapters, but for now, let's agree on one key point: over time, the position of the lower jaw can shift away from its ideal alignment — just like the foundation of the Leaning Tower of Pisa. According to the World Health Organization, between 39% and 93% of children and adults worldwide have some form of malocclusion, depending on the region.

The lower jaw, as a mobile part of the dental system, can be displaced from its ideal position in six different directions. These misalignments can be almost invisible to the naked eye, measured in fractions of a millimeter or degrees. However, because the jaw is the foundation, even the smallest misalignment can cause secondary problems within the dental system. One example is bruxism — teeth grinding — which can cause excessive tooth wear over time.

In addition, a misaligned lower jaw can cause jaw joint pain, headaches, neck pain, and other unpleasant symptoms.

Think about it — how often do you get headaches? And where exactly does it hurt? I wouldn't be surprised if most people said they get a headache at least once a week. But how many try to solve the problem? More often than not, people tend to think, "Oh well, it doesn't happen that often, and it'll go away on its own — why go to the doctor?" Indeed, no one fixes the roof until it starts raining — and by then, the damage has already spread to the interior.

What if I told you that your headaches are easily preventable in 87% — yes, eighty-seven percent! — of cases? That's because

they're often just tension headaches caused by a misaligned jaw. Have I got your attention?

So, we've established that a misaligned lower jaw can be linked to various pathological processes not only within the dental system but also in other parts of the body. That's why, when it comes to dental treatment, the first priority is to restore the lower jaw to its proper position.

But how do we determine the correct position of the lower jaw? Traditionally, doctors solve this problem by relying on anatomical indicators. For example, they look for the "ideal" position of the lower jaw's condyle in the joint, assessing it through X-rays or specific indices. The problem, however, is that in most patients, the anatomical structures used to determine jaw position are either inherently atypical or have changed over time due to various factors. As a result, relying solely on these structures often leads to errors.

In other words, this traditional approach overlooks the physiological state of the dental system and the body as a whole. Imagine a cardiologist assessing the heart's function solely based on its anatomical position and the placement of the coronary arteries without considering a whole range of physiological indicators determined by an electrocardiogram or a stress test. Perhaps that would have been considered medicine a hundred years ago — but certainly not today!

Utilizing physiological indicators of muscle function

Doctors who take a comprehensive neuromuscular approach to determining optimal jaw position consider not only anatomi-

cal but also physiological indicators that reflect muscle condition, breathing, and central nervous system function. When the lower jaw is in the correct position, the masticatory (chewing) muscles maintain a balanced and minimal resting tone, which can be measured by electromyography[10]. Additionally, these muscles respond instantly to any change in jaw position or occlusion — even the slightest deviation from optimal alignment triggers an increase in muscle tone.

Imagine you have a filling that's slightly higher than the original surface of your tooth. When your jaws come together, this small bump becomes the first point of contact between your upper and lower teeth. This isn't the way the body is designed to work — ideally, all teeth should meet at the same time. To compensate for this imbalance, your body will instinctively try to adapt so that you don't even notice the discomfort. Your chewing muscles will subtly shift your lower jaw to "bypass" this premature contact, taking on extra strain. The frequency and amplitude of the muscle contractions will change, increasing their workload. In such cases, electromyography can detect these subtle changes and show how much stress is being placed on the muscles — and how much damage this less-than-surgically precise filling can cause.

Once we have measured certain parameters, we can improve them. In our example, by carefully smoothing down the bump on the restoration so that all the teeth meet evenly, we can restore optimal conditions for muscle function. Now, the muscles no longer have to compensate with extra effort, their physiolog-

[10] Electromyography (EMG) is a diagnostic method used to assess the functional state of skeletal muscles and peripheral nerve endings by measuring their electrical activity.

ical parameters immediately return to normal, and the position and movement of the lower jaw become balanced again.

Utilizing physiological indicators of breathing

The neuromuscular approach uses a similar method to assess a patient's breathing. Often, due to underdeveloped jaws, malocclusion, or changes in the oral cavity caused by wear or loss of teeth, the airways become narrowed at the level of the oropharynx[11], behind the tongue. As a result, during sleep, when the muscles relax, the airways can narrow further — or even close completely — causing breathing interruptions. If these interruptions occur frequently throughout the night, they can severely disrupt key physiological functions of the respiratory, endocrine, and cardiovascular systems. By conducting the appropriate assessments, we can measure how these systems are affected and implement dental treatments that help to reduce the number of breathing interruptions during sleep. This, in turn, supports improved lung function, heart health, and overall systemic balance.

I recently completed orthodontic treatment for a 52-year-old patient who had an average of 28 apnea[12] incidents per hour of sleep. But, of course, that's not what brought her to our clinic in the first place. She was worried about her "crooked teeth." Her

[11] Oropharynx is the middle part of the throat, located behind the mouth, including the back of the tongue, tonsils, and soft palate.

[12] Apnea is a temporary cessation of breathing. Sleep apnea is a specific type characterized by the interruption of pulmonary ventilation during sleep for more than 10 seconds.

narrow jaw didn't leave enough room for all of her teeth to fit in the dental arch — they were crowded together, overlapping each other, so much so that it might have appeared that they were two rows instead of one. Over time, this crowding had worsened, causing not only aesthetic concerns but also functional discomfort and difficulty chewing.

The patient also brought to our attention frequent morning headaches and daytime tiredness. Further examination, including X-rays, revealed that her airway was significantly narrowed — only 4 mm wide instead of the expected 10 mm. Other signs pointed to a more complex problem than just a malocclusion. Suspecting sleep apnea, we referred her for a polysomnographic[13] study, which objectively assesses her respiratory and cardiovascular function during sleep. The results confirmed our concerns: she was diagnosed with moderate obstructive sleep apnea.

At this point, straightening her teeth was no longer the first problem to address. We were faced with a much more serious condition that affected her entire body. This realization completely changed our treatment strategy. Instead of following the traditional orthodontic approach — removing "extra" healthy teeth to make room for straightening the remaining ones — we took a different route by expanding her jaw as much as possible for her age. This allowed us to create the space necessary for proper alignment without sacrificing healthy teeth. To achieve this, we used a light wire technique for eight months to gradually expand

[13] Polysomnography is a comprehensive assessment of a person's physiological parameters during sleep, including video recording.

the jaw. Once the expansion was complete, we switched to clear aligners[14] to straighten the teeth in the newly created space.

This treatment not only preserved all of the patient's teeth and created a straight, beautiful smile but also increased the volume of her oral cavity. With more space, her tongue naturally shifted forward and upward, widening her airway. A follow-up polysomnographic study confirmed the results — all physiological indicators had returned to normal, and her obstructive sleep apnea was in stable remission.

By analyzing the physiological indicators of breathing, we were able not only to make an accurate diagnosis of the patient's dental defects but also to identify a serious condition that was affecting her general health. As a result, we were able to choose the right treatment strategy and successfully resolve all the problems. Follow-up examinations confirmed the long-term effectiveness of the treatment.

Utilizing physiological indicators of central nervous system function

The third physiological criterion used in the neuromuscular approach is the assessment of the central nervous system (CNS)[15] functions.

The muscles that move the lower jaw are controlled by the CNS. Electrical impulses travel through neural connections

[14] Aligners are clear, lightweight, rigid polymer tooth caps.

[15] The central nervous system is the primary part of the nervous system consisting of neurons, their extensions, and supportive glial cells — specialized cells of nervous tissue.

at different frequencies depending on the state of the body. When we must make split-second decisions and react quickly, nerve impulses reach a high frequency of 23–38 Hz, known as high-beta frequency. This is how our brains work when we are in danger. Imagine a crocodile suddenly jumping from under the water at you. Your survival depends on how quickly your brain processes the situation and transmits impulses from the CNS to your leg muscles (because, realistically, your hands won't save you this time). In this survival mode, the nervous system goes into overdrive, firing signals at maximum speed and frequency.

In everyday life, our nervous systems don't have to work at such high speeds (fortunately, even Floridians don't have to outrun crocodiles too often). But for much of the day, we're constantly moving and processing information — walking, gesturing, and typing (yes, texting is work, and for many, it's as essential as breathing). All of this requires a relatively high frequency of impulse transmission, between 13 and 30 Hz, known as the beta frequency of brain activity.

When we enter a calm but alert state — lying on the beach or watching other people work (arguably one of the most relaxing pastimes) — the transmission frequency slows down significantly, reaching 8–12 Hz. This is known as the alpha frequency. During sleep, the brain slows down even further to 4–7 Hz — this is the theta frequency. Finally, in deep, dreamless sleep, it drops to 0.5–3 Hz, known as the delta frequency.

As an attentive reader, you've likely figured out by now that finding the optimal position of the lower jaw requires restoring muscle balance, relaxing the muscles, and normalizing the length of the muscle fibers. Once the muscles are restored, they naturally guide the lower jaw into a state of physiological rest — this

serves as the starting point for determining its ideal position. By identifying the exact position of the lower jaw at rest, a dentist trained in the neuromuscular approach can accurately determine and record its physiological position to create an optimal bite. But what does the central nervous system have to do with it?

Restoring muscle balance without addressing the CNS is nearly impossible. If the brain continues to send strong signals to the muscles, they cannot fully relax. However, under normal conditions, the CNS adapts quickly. The moment you enter a quiet, dimly lit room with soft music playing and close your eyes, the frequency of CNS impulses quickly slows down to alpha waves — as it should. It is very different when you experience anxiety or even fear — something that, for some reason, often happens in the dentist's office. No matter how hard you try to calm down, your nerve impulses remain at a high frequency. (We dentists honestly don't understand why, but we forgive you in advance — so go on, relax!) The same applies to psychosomatic disorders. In the first case, we can help to slow down the impulse frequency of the nervous system — "calming it down" — using non-drug neuroacoustic therapy, for example. But in the second case, where deeper psychological factors are involved, professional help is essential.

Therefore, even such a basic assessment of CNS function plays a crucial role in successful treatment. Until recently, electroencephalography[16] was considered a complex and expensive procedure. Today, thanks to modern equipment, this method of diagnosing the physiological state of the CNS has become widely accessible.

[16] Electroencephalography is a test that records brain activity using small sensors placed on the scalp to detect electrical signals.

Of course, I am not suggesting that you only see a dentist who follows the neuromuscular approach. Your dentist may use other methods and belong to other schools of occlusion. However, one thing is clear: when determining the physiological position of the lower jaw and optimal occlusion, a dentist must consider not only anatomical criteria but also objective physiological indicators of the dental system — most importantly, the condition of the muscles, the respiratory system, and the CNS. When choosing a dentist, you have every right to ask if these diagnostic methods are part of their practice.

Principle 2: A Comprehensive, Multidisciplinary Approach

Another key principle of neuromuscular dentistry is a holistic approach. We do not treat isolated conditions — be it joint disease, malocclusion, decay, or tooth loss. We look at the body as a whole and treat the patient as an integrated system in which all these problems are interrelated. As my friend, the Canadian doctor Curtis Westersund, says: "In my more than 40 years of practicing dentistry, I have never seen just a head with an oral cavity walk into my office while the rest of the body remains in the waiting room. No, the head and body are inseparable — otherwise, a dentist won't be much help — and the oral cavity is inextricably linked to the whole organism. The impact of oral health on the body — and vice versa — only underscores the importance of a comprehensive approach".

I have already demonstrated how a retruded lower jaw can lead to airway constriction, which can result in sleep apnea. Sleep apnea, in turn, is closely linked to cardiovascular and en-

docrine disease and, consequently, to reduced life expectancy. Another example is poor posture caused by flat feet or leg length discrepancies, which can lead to compensatory misalignment of the pelvic bones, hip joints, and general curvature of the spine — ultimately resulting in a backward displacement of the lower jaw with all the consequences described above.

In a comprehensive approach, having a professional team of specialists in different fields is a must, but just as important is having a doctor with broad knowledge and enough experience to see the bigger picture and understand how the problem relates to the overall condition of the body. Most doctors treat the conditions for which they are trained, and they do it well. But they are often like the proverbial hammer that sees everything as a nail — and you, dear reader, deserve better than to be that nail. This kind of thinking is the exact opposite of a holistic approach to treatment.

The clinic you choose — *your* clinic — should have its version of doctor Gregory House from the medical TV drama *Doctor House* — a diagnostician *par excellence* (preferably without the theatrics). He doesn't need to handle your entire treatment personally but be able to make the right diagnosis, prescribe the necessary tests, develop an optimal treatment plan, and refer you to the right specialists.

➤ *Scan the QR code to watch a video and discover what sets modern dental consultations apart.*

Your “Doctor House” is constantly improving their skills, attending various courses, and collecting certificates and diplomas, which are proudly displayed in the office. Don’t dismiss these diplomas as mere decoration. Take a closer look at the specialties they represent and the institutions where your doctor received their training. But remember, a medical degree isn’t just a license to practice — it’s a lifelong commitment to continuing education. The knowledge and skills gained at medical school alone are insufficient to provide modern, high-quality care. That is why *your* doctors must invest a significant amount of time, effort, and resources to acquire these skills, master new technologies, and navigate the complexities of modern medicine. *Your* doctors invest in advanced, often very expensive equipment and then dedicate their “free time” outside of patient visits to mastering these technological marvels — all so they can provide you with the best care possible.

The good news is that you don’t have to rush to a prestigious hospital in New York, Boston, Cleveland, or any other healthcare destination to get the medical care you deserve. Excellent medical care is available in every state in the US, as well as in many other countries. But don’t expect to find the best clinic or doctor simply by trusting Google’s top search results (watch out for the “sponsored” tags!). The right doctor for you is out there, but finding them might take some effort. And that, after all, is why you’re reading this book.

Principle 3: Precision Through Objective Diagnostics

Finally, a key feature of neuromuscular dentistry is its commitment to objective diagnosis using modern technology. The days when dentists relied solely on visual assessment are long gone — at least in neuromuscular dentistry. The old-school, mechanical approach to dentistry worked when doctors treated only "what hurt" — teeth. As a result, despite the rapid advances in healthcare over the past few generations, dentistry has remained remarkably unchanged for a long time.

I recall the 1980s when, after graduating from the First Leningrad Medical Institute, I was assigned to work in the Siberian city of Novosibirsk. (Yes, dear reader, you heard me right: A "young specialist," Dr. Ronkin, was literally sent to Siberia.) But my responsibilities weren't limited to this big, modern city. I often had to travel to rural areas to provide dental care, and it was there that I truly understood the meaning of the phrase "time stood still."

One such place, a remote village — its name has long since faded from my memory — was only accessible by land in winter when the marshes froze over. In summer, the only way in was by helicopter. The clinic where I was to work consisted of a single doctor's office, in the far corner of which stood a piece of equipment that, at first glance, looked more like a historical artifact than a functional dental unit — a foot-powered drill. I immediately thought of my grandmother's 19th-century Singer sewing machine, operated by a foot pedal. With a mix of trepidation for antiquity (when you're barely 20, anything over 50 seems

ancient) and sheer horror (I'd only seen these drills in aged black-and-white photographs, and now I had to use one!), I approached it cautiously. Although I knew it had no motor, my instinct was to look for a switch. To my astonishment, the antique device was in perfect working order — they built things to last in the good old days! This meant that I no longer had an excuse to cancel appointments. And so, I had a moment of reckoning — if my grandmother, well into her old age, could sew beautifully on a foot-operated machine, surely, I would manage a drill of the same design! And guess what? I did! Still, I sincerely hope this machine has eventually found its way into a museum — where it truly belongs.

Over the past three decades, dentistry has been transformed by scientific and technological advances and continues to evolve at a breathtaking pace. It now routinely deals with complex medical problems such as underdeveloped jaw structures, temporomandibular joint[17] dysfunction, obstructive sleep apnea, and other conditions.

Modern diagnosis and treatment are based on precise measurements of everything from the size and proportions of teeth to muscle tone, respiratory function, and even brain activity.

Precision diagnostics and treatment require a wide range of sophisticated equipment. A truly modern dental practice — if it dares to call itself that — resembles something out of a spaceship, equipped with computers, lasers, microscopes, intraoral cameras, diagnostic systems, and even robotic assistants.

[17] The temporomandibular joint, or, simply, jaw joint, is the joint that connects the lower jaw (mandible) to the skull, allowing the movements necessary for chewing, speaking, and opening the mouth.

You may not always see this high-tech arsenal in the treatment room — it's often housed in specialized areas — but if it's missing altogether, chances are you're not getting truly modern dental care, no matter how skilled your dentist is.

Of course, not every dentist can have the latest diagnostic and treatment equipment in their office. As we've discussed, dentistry is advancing at an incredible rate, and even the best clinics can't possibly incorporate every new piece of technology. Expect your dentist to refer you to a specialized diagnostic center for certain tests — this would be a good sign. What should raise concern, however, is when essential tests are skipped altogether. If you have jaw pain or clicking and your doctor hasn't referred you for a cone beam computed tomography (CBCT)[18] or an MRI[19] but jumps right into a long-term treatment plan — well, that's a red flag.

◂ *Scan the QR code to watch a video on what CBCT is and why it's indispensable in modern dentistry.*

Several years ago, a woman came to us with a jaw joint (temporomandibular joint or TMJ) complaint. She had pain in her left TMJ and the left side of her neck. She also had other symptoms and signs consistent with TMJ dysfunction (TMD). However, one detail didn't quite fit the typical picture of TMJ — her pain got

[18] Cone beam computed tomography (CBCT) is an X-ray imaging technique used primarily for diagnostic purposes in the head, jaw, and face.

[19] Magnetic resonance imaging (MRI) is a medical imaging technique that uses strong magnets and radio waves to create detailed pictures of the inside of the body, including organs, tissues, and bones.

worse when she turned her head. She brought a CBCT scan taken the day before. Remarkably, the scan revealed that her TMJs appeared normal, with no obvious problems detected in her teeth or surrounding tissues. However, in one particular projection of the scan, we noticed an unusual bony formation under her left lower jaw — something that shouldn't be there. It turned out to be a calcified ligament. Normally, such calcifications don't cause discomfort, but in her case, the structure was nearly seven centimeters (2 ¾ inches) long! This explained her pain. Imagine if we had proceeded with a treatment for TMD — it would have been completely ineffective because she didn't actually have a joint disorder.

That's why detailed and precise diagnostics using modern technology are the key to an accurate diagnosis — without which successful treatment is impossible.

Thus, adhering to the principles of neuromuscular dentistry — considering the body's overall physiological state, applying a comprehensive multidisciplinary approach to diagnosis and treatment, and employing an array of precise and objective diagnostic methods — is the key to success.

Let's be clear — neuromuscular dentistry is a powerful approach, but it is not the only school of thought in dentistry. Nevertheless, the application of the basic principles listed above remains essential.

* * *

Before we move on to the next topic, let's solidify our understanding of neuromuscular dentistry by revisiting our Leaning Tower of Pisa parable from a few pages ago. As you now know, the tower didn't lean because the builders laid the floors badly,

but because the foundation itself was unstable and began to sink. The leaning became alarmingly noticeable soon after construction began, prompting the Pisans to try to fix it. As the masons added new floors, they subtly adjusted them to counteract the tilt, trying to compensate for the lean. And for the grand finale — 200 years after construction began — they crowned the tower with an elegant bell chamber. To reduce the tilt, they moved the belfry slightly in the opposite direction, hoping to create a visual correction. Looking closely, you can see the misalignment between the main tower and the bell chamber.

Of course, none of these efforts solved the problem (much to the good fortune of the Pisa Tourist Board). The Tower continued its slow descent until, in our lifetime, engineers finally tackled the real problem: the foundation. They stabilized it and even reduced the inclination from 5.5 to just under 4 degrees. Of course, they didn't make it perfectly straight — if they had, the five million visitors to Pisa each year might not bother coming.

Remembering that in our analogy, the foundation is the jaw, and the floors are the teeth, I trust you see where this is going. Your dentist needs to identify the true source of your malocclusion, and if it stems from jaw misalignment, the correction should begin at the "foundation," not the "upper floors." Otherwise, you might end up with a smile as charmingly off-kilter as Pisa's famous landmark. But unlike the Leaning Tower, no one will be lining up to admire a crooked bite.

Contents

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In an age of specialized medicine, doctors often follow this principle: We treat what we know. Cardiologists focus on the heart, neurologists deal with the nervous system, and dentists—like the rest—treat teeth. This may work for "simple" problems, but sometimes what seems simple is only the beginning of a far more complex story.

What if we saw the mouth as part of a single, interconnected system, extending far beyond the jaws into your entire body? What if, instead of merely fixing dental symptoms, we searched for their root causes, often located elsewhere in the body? And what if problems in seemingly unrelated parts of the body originated in the mouth? This brings us to the core idea of this book: The right doctor should not address dental problems in isolation but treat you as a whole person.

How to Find the Right Doctor will change the way you think about dentistry and answer questions such as:

- How might dental issues be linked to chronic headaches?
- Could your snoring be a sign of a serious health problem?
- Can a misaligned jaw shorten your life?
- What can anti-aging dentistry do to help you look and feel younger?

But most importantly, you'll learn how to choose the right doctor—the decision that will lead to a healthier, longer, and happier life.

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ISBN 978-1-960533-84-5
90000 >
9 781960 533845