

CHAPTER 2

THE TRIAD OF HEALTH

Let food be thy medicine.

—Hippocrates

Before coming to see me for answers to her chronic pain, Teresa, a thirty-nine-year-old music teacher, was traveling an hour and a half for appointments to an osteopathic physician who specialized in chronic musculoskeletal pain. She had first gone to see him seven years prior and kept returning because he was able to relieve some of the debilitating neck pain that had plagued her for over thirteen years. But she still suffered from shoulder pain, headache pain, and facial pain. She fought through the pain most days, but she was finding it increasingly difficult to get through the day.

At night, Teresa had trouble falling asleep. When she was finally able to doze off, she would spend the night grinding her teeth, tossing and turning, and waking repeatedly from sleep. She never felt refreshed in the morning, and most days she had to drag herself out of bed.

Before going to the osteopathic physician, she had been to multiple providers. Solutions they had given her included a mouth guard, physical therapy, steroid injections, muscle relaxers, Lyrica (for fibromyalgia and nerve pain), prolotherapy (regenerative injections), chiropractic, and a specific blood-type diet. Surgery had also been considered, and she had even been to the Mayo Clinic for an evaluation.

Still, she found no relief. That resulted in depression, for which she had been prescribed Prozac—but that only contributed toward negative side effects.

The symptoms she reported to me when she came in for her first appointment at my practice included a constant headache and tension at the base of her skull, pain in her upper back, soreness and stiffness in both shoulders, and limited movement in her neck. Both sides of her face hurt, whether at rest or while chewing, and she reported clenching her teeth for as long as she could remember. She also had extreme pain in front of her right ear. In summing up her

problems to me, she said simply, “I don’t feel alive.”

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VICTORY

Teresa’s victory was to eliminate her neck pain and get back to living her life.

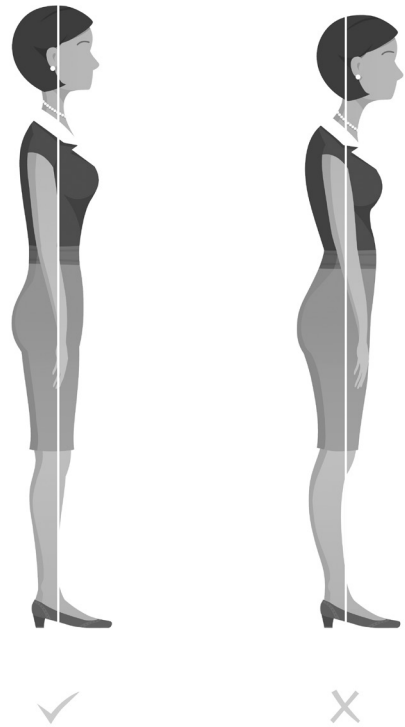
life. She did not want to be debilitated and defined by her pain, she wanted to live again.

We completed a workup on her that included photographs, 3-D imaging of the TM joints, and evaluation of her muscles and nervous system. The workup revealed some significant issues.

Part of Teresa's problem was that she had tongue-tie, where the tissue on the bottom side of her tongue was tethered to the floor of her mouth just behind her bottom front teeth. That kept her tongue from having adequate range of motion, and it pulled her head forward, which led to her neck problems.

The tongue attaches to the mandible, which attaches to the first three cervical vertebrae of the neck. If the tongue and mandible are pulled forward, then we commonly see forward head posture, causing pain in the neck and back of the head.

Teresa also suffered from TMD, which was causing extreme pain around her TM joints. In fact, she had so much inflammation in her TM joints that she was unable to open her mouth all the

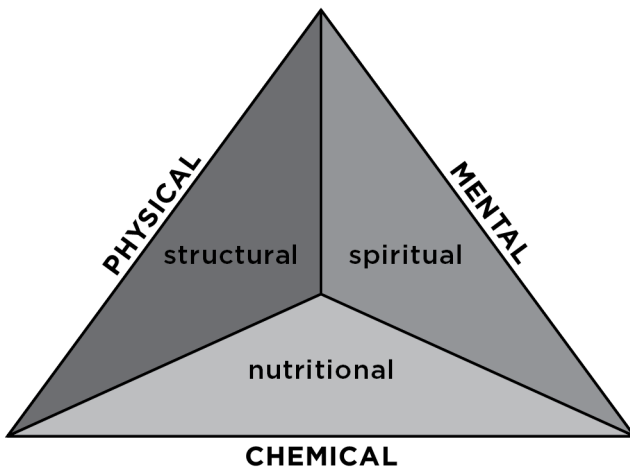


way or chew without pain. The tests also revealed that her nasal septum was severely deviated; the bone and cartilage down the center of her nose was crooked enough to block her nasal passages, making it difficult for her to breathe. Teresa was so accustomed to the way her nose worked that she didn't even realize the difficulty she was having breathing through it. We commonly see this and it makes sense—we don't know what we don't know. I often say to patients, if we've never seen without glasses we don't know our vision is that bad until we experience it through new lenses.

As a dentist, it was tempting to look only at Teresa's physical and structural issues above the neck. However, as with all patients, there are three integrated systems that must be considered: physical/structural, chemical/nutritional, mental/spiritual. These are known as the Triad of Health.

THE TRIAD: THREE SYSTEMS OF HEALTH

Helping a patient achieve their victory is about more than simply looking inside their mouth. Since in the human body everything is interrelated, all three systems in the Triad of Health must be healthy. When one system is unhealthy, the triad is compromised. But addressing all three systems gives the patient the best chance of having the ideal environment for healing and recovery.



With some patients, each system of the triad is evaluated and treated concurrently, which sometimes involves partner providers. When that happens, proper education from the provider to the patient is the key to helping the patient see their problem for what it truly is.

In Teresa's case, structurally, she had the problems of tongue-tie, a deviated septum, and TMD. Those components comprised the physical/structural issues on the triad that needed to be explained to her and then treated. Her depression and suffering from pain were considered mental/spiritual issues, comprising another point on the triad. During the evaluation, Teresa actually shed a few tears when it came to discussing her mental state in dealing with her pain and depression. That's a great thing: tears shed during an exam means the patient is opening up, and that always helps us get to the heart of the problem.

The third point of the triad, the chemical/nutritional system, is something that most, if not all, patients can benefit from. The words spoken by the father of medicine, Hippocrates—“Let food be thy medicine”—were never truer than they are today, in a world where eating healthy is a challenge.

The “Triad of Health” is a phrase used in medicine to outline the three necessary systems of health. Picture an equilateral triangle, with each side of the triangle representing one of the human systems. Again, these are physical/structural, chemical/nutritional, and mental/spiritual. An imbalance in any of these areas will result in chronic inflammation, which can ultimately lead to illness or disease.

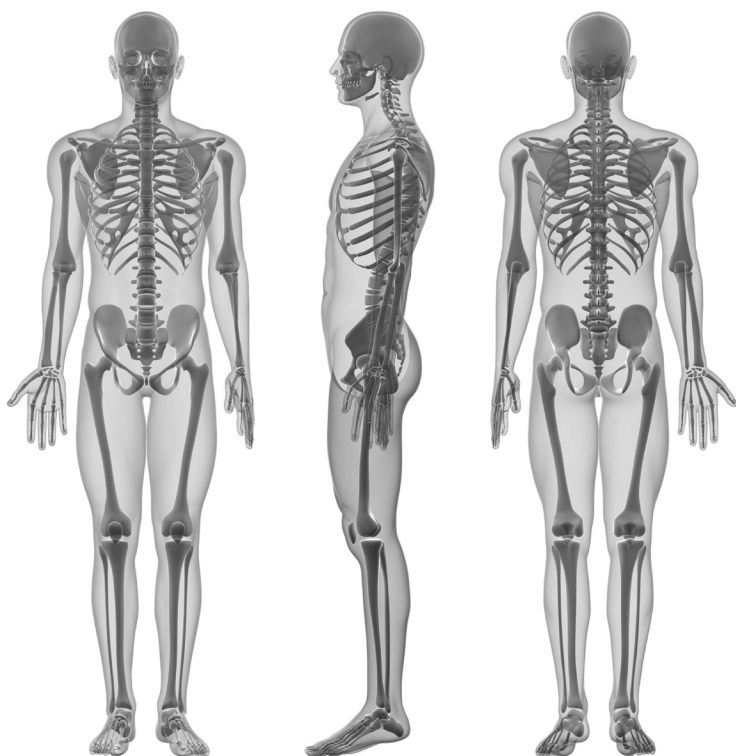
Inflammation is the precursor to all disease processes, although inflammation is not always a bad thing. The body needs inflammation to heal and recover from injuries, and that process happens day in and day out. It’s when the body has too much inflammation that it starts to cause pain and wreak havoc.

The common aspect that all the systems of the triad share is that they affect the nervous system. The nervous system is king. It dictates function throughout the body, and anytime it is insulted, injured, or affected, there are negative consequences. For that reason, the nervous system guides treatment. The systems in the triad are continually evaluated throughout treatment to see whether inflammation is being created and how that is affecting the nervous system. Controlling inflammation is the primary factor in the prevention

of disease, and it's vital to reversing the disease process once it is present.

Some patients have specific preexisting conditions that naturally come with chronic inflammation. Certain diseases like rheumatoid arthritis, multiple sclerosis, irritable bowel syndrome, fibromyalgia, and Lyme disease must be revealed up front or discovered during the evaluation in order to better manage their treatment.

To get a better understanding of the triad, let's look at the three systems individually.



The Physical/Structural System

Humans must have a healthy physical body. For that, staying active is essential. The body must move in order to keep working well. Some experts say that at minimum, good physical health means breaking a sweat at least once a day. Some say take ten thousand steps a day. Just move—that's the key. It's important to use the body and stress the muscles enough that they're constantly building and repairing, building and repairing.

At my practice, we focus on the physical health of the TM joint and associated structures. When we talk about the physical health of most of our patients, that's the area we are evaluating.

The TM joint is interesting. It's the only joint in the body that is a bilateral diarthrodial joint, meaning that it is on both sides of the mandible and moves in several directions. Even more interesting is that the TM joints are composed of the temporal bone and the mandible, making up two joint complexes on either side of the face. Unlike other joints in the body—the knees, elbows, shoulders—the mandible as one bone connects to both joints. The right and left TM joints are connected by that one bone, the mandible, and they cannot move independently of each other.

Although the TM joints are located in the face, their health is crucial to the entire body. Any discrepancy in the joint typically causes problems not only within the joint but also in other parts of the body. The TM joints are vital for eating, breathing, and speaking—basically all things required

for survival. The moment these joints become affected by inflammation, they can cause a whole host of issues. That's what was happening with Teresa and what happens with many people, as you'll see with other patient stories that I'll share.

Physical/structural health looks at the body's symmetry. Dysfunction or asymmetry in one area of the body tends to cause the body to compensate in another area. That happens because the brain cares more about survival than it does about pain. If needed, the brain will even ignore the pain and discomfort in order to keep us alive and moving. That's how someone can break a foot running out of a burning building and keep on running to get out of harm's way. It's also how people can go a long time with a chronic ailment. In spite of pain and discomfort, the brain will keep the body going in survival mode.

That survival mode, known as the sympathetic, or "fight-or-flight" state, is one of two states that the nervous system can be in. The other state is known as the parasympathetic, or "rest-and-digest" state. These terms are based on the idea that in primitive times, when humans weren't hunting or gathering food for survival, their bodies were in a parasympathetic state—resting and digesting—rejuvenating. But when in need of food or fuel, or in a fearful situation (real or perceived), their bodies reverted to survival mode—the fight-or-flight, or sympathetic state. In the sympathetic state, the heart starts racing, pupils dilate, metabolism increases,

and all efforts are geared toward survival. This acute stress response leaves the patient in a state of hyperarousal.

The human body can actually go weeks without food and days without water. But it can only go minutes without air. When something obstructs the airway, the brain kicks into survival mode and the body automatically realigns its upright position to allow the lungs to breathe maximally. That's why our patient evaluation looks intently at breathing, especially the structure of the airway and the position of the body.

In addition to Teresa's tongue-tie, which caused her to position her head forward, part of the reason her neck hurt was that she couldn't breathe through her nose. Without realizing it, she was thrusting her head forward in order to breathe better, which added to the stress on her neck. That was compounded by painful TM joints and maxillary and mandibular muscles in spasm. In fact, Teresa was a little surprised that her stiff neck was not addressed first in her evaluation; no one had ever made the connection between her breathing and her neck before let alone her tongue tie which she didn't know existed. But her situation is typical of what happens with most patients who come in experiencing pain. Their brain, in survival mode, has caused some area of the body to behave in a way it is not accustomed to. As my mentor Dr. Olmos always reminds his students: "Remember, in a chronic pain situation, the site of the pain and the symptom is rarely, if ever, the origin of the problem." In Teresa's case, her obstructed airway had caused her body

to shift to an unnatural position; it had compensated to keep her breathing.

That's why the evaluation focuses on the injury the patient's brain fears most. Even if the TM joint hurts, it may not be the cause of the patient's problems. That's why looking at the physical/structural health is a head-to-toe evaluation, and why treatment can involve a team of referral partners whose expertise lies in other areas of the body.

The Chemical/Nutritional System

In Hippocrates's day, medicine involved food, herbs, spices, and natural products of the earth. When people got sick, they would change their diet and alter their environment to promote healing. They knew that the body would heal if put in the right conditions.

Creating that healing environment for patients means having the inflammation needed to heal, but not so much inflammation that it's causing destruction. For instance, when a patient is trying to heal, they need a healthy environment. A person who has a terrible diet and who smokes and drinks alcohol to excess certainly won't heal as quickly as someone who has a healthy diet and avoids smoking and alcohol. It's like the foot analogy I mentioned in the last chapter: If a person gets a cut on their foot and then walks barefoot through mud and doesn't clean the cut afterward, it's less likely to heal than if they wash it and keep it clean and isolated.

Food can produce inflammation that can wreak havoc in the body. Just as taking a dose of Advil can decrease inflammation, a teaspoon of sugar can increase inflammation. That teaspoon of sugar may not be labeled “inflammatory,” but like much of the food available today, it can make a significant difference in how a person feels.

In this age of processed foods and additives and other inflammatory ingredients (such as sugar), it is a challenge to fuel the body with high-quality natural food—a good mix of fruits, vegetables, and proteins. Put it this way: If you bought a high-performance vehicle—a Mercedes, for instance—would you fill it with premium or low-graded fuel? You’d want to use premium gas on such a sophisticated machine. Well, your body is much more sophisticated, and it needs the best fuel to keep running efficiently. If you google the work of Dr. Robert Lustig, a pediatric endocrinologist, you will learn an enormous amount about how what we eat affects our livelihood and well-being. That topic is a book in and of itself.

Another aspect of the chemical/nutritional system is getting adequate sleep. Sleep is essential for the brain to rest, heal, and recover from the day’s activities. An amazing number of chemical processes happen in the body and bloodstream during sleep, basically resetting the body. It’s important to create an environment that allows for seven to nine hours of sleep each night so that the body and brain can heal and be ready for the next day. Children require much more sleep than this as they are growing and developing.

Good sleep relies, in part, on the nutrition a person gets throughout the day. Guiding a patient's nutrition during treatment can involve working with a specialist, such as a nurse practitioner, nutritionist, dietitian, or wellness coach to evaluate diet deficiencies and what's needed to correct those. We offer these services as part of treatment and have relationships with many providers in the community to ensure that we can help get our patients what they need.

AGE	RECOMMENDED	NOT RECOMMENDED
Newborns <i>0-3 months</i>	14-17 hours	Less than 11 hours More than 19 hours
Infants <i>4-11 months</i>	12-15 hours	Less than 10 hours More than 18 hours
Toddlers <i>1-2 years</i>	11-14 hours	Less than 9 hours More than 16 hours
Preschoolers <i>3-5 years</i>	10-13 hours	Less than 8 hours More than 14 hours
School-Aged Children <i>6-13 years</i>	9-11 hours	Less than 7 hours More than 12 hours
Teenagers <i>14-17 years</i>	8-10 hours	Less than 7 hours More than 11 hours
Young Adults <i>18-25 years</i>	7-9 hours	Less than 6 hours More than 11 hours

The Mental/Spiritual System

The mental/spiritual system in the triad is about the patient's overall mental stability and happiness in life. Often, patients are simply worn down by the chronic physical/structural problems, sleep problems, and overall health issues they are experiencing. It's common to see patients who are dealing with anxiety, frustration, and depression.

Good healing relies in part on a patient being in good spirits and mentally fit. That starts by letting the patient know that it's understandable that they're in poor spirits. In fact, when I see a patient dealing with so much chronic pain, I give them permission to have those feelings—I'd probably be in poor spirits, too, if I were dealing with the same issues for so long.

Part of every provider's role is to instill hope. Dr. Mark Cantieri, a doctor I look up to, a friend and world-renowned osteopathic physician, once said to me, "Hope is the one thing that every provider can give his or her patient—don't ever take that away from a patient." It takes effort to heal from temporomandibular joint disorders (TMD) and sleep breathing disorders (SBD). Once a patient understands the reasons for their problems and realizes that there are potential solutions, some of them immediately begin to feel better—even before treatment begins. That's because hope is a powerful virtue; on its own, it can actually start the therapeutic process.

When needed, a patient may be referred to a psychologist or psychiatrist for a bit of added help and to ensure that

the mental/spiritual system is being effectively addressed. We refer patients to these providers when the initial evaluation reveals emotional, physical, verbal, and/or sexual abuse, as these are not our areas of expertise but can play a huge part in a patient's overall well-being.

Obviously, the mental/spiritual system can be especially sensitive for patients, so being respectful of their situation is key. Still, this system is a necessary part of the triad, and it is crucial that it be addressed to ensure victory. Fixing the physical/structural system alone won't ensure victory, nor will focusing solely on the chemical/nutritional system. For healing—and a victory—to occur, the patient must have a sound body, mind, and spirit.

TERESA'S VICTORY

As stated, all three systems in the triad must be evaluated to determine the primary problem before a treatment plan is created. Although Teresa had consulted with very good practitioners, her problems had been treated in the wrong order. Since her primary physical problem turned out to be her breathing—her nose was obstructed and her tongue was tied down—those physical and structural components had to be addressed before she could see progress toward her victory. After all, nothing trumps breathing!

Once her nasal obstruction was conservatively addressed by an ENT, and her tongue-tie was released with a mild laser procedure, Teresa's breathing was restored and she experi-

enced a cascade of improvement. After that, her jaw pain and facial pain were corrected using intraoral orthotics, appliances that specifically position the maxilla and mandible in a neurologically orthopedically stable position to allow for healing. These are very different from splints, which are static appliances that simply cover the teeth in a non-positioned manner.

On her mandibular teeth, Teresa wore a daytime appliance for twelve weeks to heal her joints. During that same time frame, she wore a different orthotic at nighttime to help facilitate proper breathing through her nose and to keep her airway from collapsing while she slept. Her TM joints were treated like they had a stress fracture or a bad sprain. They were held in an orthopedically stable position to allow them to heal and inflammation to subside.

The orthotic also helped her head become upright on her spine, relieving her neck pain. Research conducted in 2005 by Dr. Olmos explains that treatment of TM joint dysfunction will upright the head posture by 4.43 inches on average for patients like Teresa, while improving the orthopedic stability of the TM joint.³ It is fortunate that Teresa never pursued neck surgery, which was recommended by a previous provider, because that wouldn't have resolved the issue since her neck wasn't the primary problem. We proved this by resolving her neck pain without touching her neck—it

3 Olmos, Steven, et al., "The Effect of Condyle Fossa Relationships on Head Posture," *The Journal of Craniomandibular Practice* 23, no. 1 (January 2005): 48–52.

sounds crazy at first, but makes total sense when you understand the entire picture.

Dietary changes were also part of Teresa's treatment plan to ensure that inflammation was reduced from the start. With some patients, inflammation must be reduced before they can begin to see other providers for treatment. Reducing inflammation can allow the body's immune system to regain functionality, which can help the patient's own body heal some of the issues they are experiencing. Eliminating inflammatory foods from the diet is one of the quickest ways to begin that process.

In addition to the physical/structural and chemical/nutritional issues that Teresa was dealing with, her treatment included visiting with a psychologist to deal with the mental aspects of what she had been going through for thirteen years. For instance, she had shared with us that, with previous treatments, she would wake up in the morning some days and tell her husband, "This is the day they're going to tell me they can't help me anymore, so just be prepared when I get home." Her fear and dread weren't because her pain was particularly worse that day. It was because she felt that hope would be taken away and she might have to live with her pain. That's the power of hope and its role in healing. This is what Dr. Cantieri was educating me about early on.

Teresa's treatment required help from multiple providers. At one point, there was a brief hurdle that had her concerned that we were going to "break up" with her. But we found an additional provider to help her overcome that hurdle.

After living with chronic and increasing pain for thirteen years without any solution, it took a village to help Teresa be completely pain-free. The bulk of her issues were resolved in only four months; it was worth every minute for Teresa. “I am pain free for the first time in nearly thirteen years and loving life, just enjoying being able to do whatever I want to do,” she said.

Her advice to other people in pain and without answers? “You need to just do it,” she said. “You have absolutely nothing to lose in coming in and getting a consult and seeing what can be done for you, because it can be life changing.”

Teresa’s video testimonial and hundreds of others are on our website at www.tmjsleep-indiana.com/testimonials.

As I’ve mentioned, getting to the root of the problem means looking in depth at the patient’s medical history. Often, helping patients overcome chronic pain is like peeling away the layers of an onion, with each layer helping to manage all the components of care on their road to victory. Like you saw with Teresa, there were many steps leading her back to a path of increased overall wellness—and the longer you put it off or continue chronically treating your chronic pain, the longer it takes for you to get to the source of your problems and start healing ... for good.

In the next chapter, I’ll talk about what it means to treat patients’ issues layer after layer.