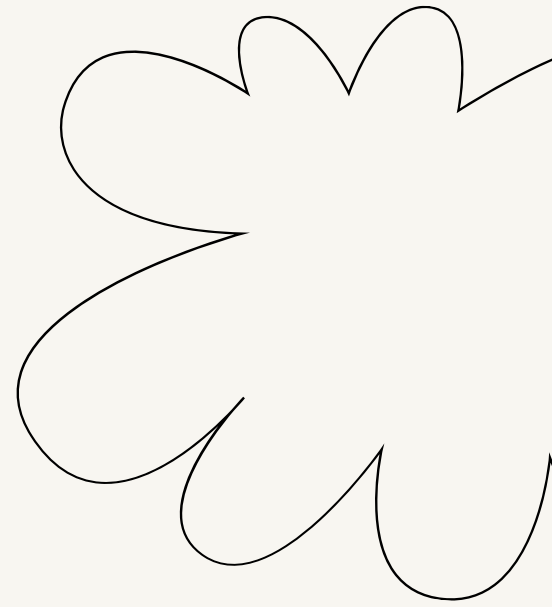


# Revitalize your health: the power of chiropractic

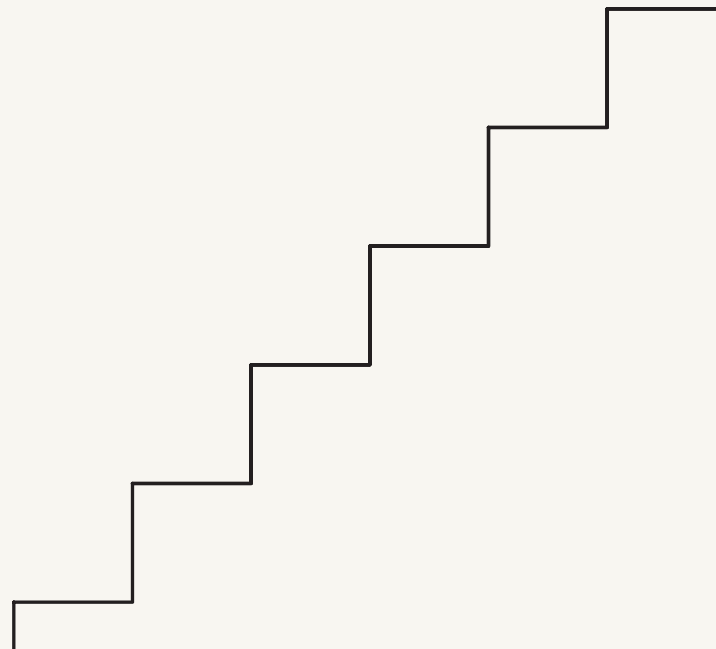


Dr Niccie Dearing RN, DC

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# Introduction

I grew up knowing I wanted to pursue a career in helping others, in particular helping people regain their health. As far back as I can remember this had been a passion of mine, so it is no wonder that I was led to a career in healthcare that started at the age of 17.

It was a modest start, I started working as a nurse's aide doing home care, which led me to work with children with special needs in a group home setting and eventually to nursing school. This career afforded me a wide range of experience from hospice to emergency room nursing.

In 2010 I was working as an emergency room charge nurse in a small community hospital. Part of my job required me to call the patients that were discharged the previous day; this was partly to check to see how they were feeling but more so to encourage them to give the hospital a “good rating” when the survey people called...this was a task that made me want to vomit.

The reason I loathed this aspect of my job had everything to do with *whom* I had to call. These follow-up calls excluded anyone that required hospital admission or transfer, leaving only the people who were “treated and streeted” so to speak.

While we regularly cared for people with legitimate issues like sprained ankles and illnesses it was common in this ER that people would be coming in looking for narcotics such as opioid painkillers or anti-anxiety medications like Xanax and Ativan.


Every time I had to make these calls; I recalled a previous conversation I had had with a physician I worked with in another ER a few years prior. I had noticed that we often discharged patients with prescriptions for medications like Percocet or Vicodin for a variety of complaints that ranged from sunburns to broken bones; it seemed ridiculous that the same treatment was the answer for such a wide variety of ailments. I asked him what determined how he treated the various complaints of pain in the patients he cared for, and he shared “We get paid for patient satisfaction, the easiest way to do that is to give them what they want.”

The result of indulging people's demands in exchange for patient satisfaction had resulted in what we called "med-seeking behaviors" (and eventually the opioid crisis we are all too familiar with). This ranged from crazy stories of people's houses getting raided and pills stolen to self-inflicted injuries to secure a prescription for a narcotic. Over time these patients became known to us; often we would see the result of their addiction when they came back seeking detox or worse yet, losing their battle and overdosing. This is when I decided I had enough of being part of the problem and started seeking ways to help people in a more holistic and natural way.

In my search for my new path, I was delighted to find that there was a chiropractic school in my area. Growing up my dad often visited our local chiropractor for his chronic back pain with great results. This seemed like the perfect option as my driving factor was to help people heal naturally without having to rely on narcotics such as opioids.


Like most people I have met I believed that chiropractic was only a means to treat pain. Once I got into the program and started to learn more, I realized that it was only the tip of the iceberg. The truth is, chiropractic is a means of taking control and improving your health naturally, not just managing pain.

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**"The result of indulging people's demands in exchange for patient satisfaction had resulted in what we called "med-seeking behaviors" (and eventually the opioid crisis we are all too familiar with)"**

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## Stats and statistics

Before I dive into the benefits of chiropractic care let us talk about our current healthcare system.

According to the *Centers for Medicare and Medicaid*, in 2021 US healthcare spending increased 2.7% to reach a cost of 4.3 trillion dollars (about \$13,000 per person in the US).<sup>1</sup>

So, what do we get for this price tag? According to a 2023 article from *The Commonwealth Fund* the United States has the lowest life expectancy at birth, the highest death rates for avoidable or treatable conditions, the highest maternal and infant mortality, and among the highest suicide rates. If that was not enough the United States also has the highest rate of people with multiple chronic conditions and an obesity rate twice the OECD (Organization for Economic Co-operation and Development).<sup>2</sup>

According to a study published in a 2021 data brief from the *U.S. Department of Health and Human Services* approximately 60% of the population reported taking at least one prescription medication and 36% reported taking 3 or more prescription medications. It should be noted that this study was done on people who did not take their medications as prescribed due to cost and not being able to afford their medication.<sup>3</sup>

In a similar study done in 2013 by the Mayo Clinic that did not factor in non-compliance with taking medications due to cost, the numbers were quite different.

They found that 70% of people reported taking at least one prescription drug while over 50% of people reported taking 2 prescription medications and 20% reported taking 5 or more prescription medications with the most common medications being antibiotics, antidepressants, opioids, and cholesterol-lowering drugs.<sup>3,4</sup>

Given these facts, it is no wonder that people are now becoming frustrated with our current healthcare model. We are conditioned to believe that there is a pill for every problem, this is evidenced by the fact that 75% of all ad spending is done by pharmaceutical companies.<sup>5</sup>

The truth is we have more power over our health and well-being than we have been led to believe.

# Let's talk about stress

Hans Selye, the founder of the stress theory, explained that not all stress is bad.

*Eustress* is the term he used to refer to the stress in our life that is positive, healthy, and challenging. This is the type of stress we have when we are driven to complete a task, be physically active, or step outside our comfort zone like with public speaking.

He described the negative stress in our lives as *Distress*. This negative stress is the result of our body and mind not being able to cope with certain circumstances in our life and leaves us feeling fatigued, which will eventually lead to loss of health.

It is estimated that chronic stress is a risk factor for 75-90% of all illnesses and accounts for most visits to primary care physicians.

Chronic stress causes changes in our body that can lead to a variety of illnesses.<sup>6</sup> Examples include.

- Increase in catecholamines and suppressor T-cells can suppress the immune system leaving a person more susceptible to viral infection.
- Increases release of histamine which can lead to diarrhea, headaches, bloating, abdominal pain, allergy symptoms and broncho-constriction as with asthmatics.
- Alters insulin use in the body which can predispose a person to diabetes
- Alters the acid concentration in the stomach which can cause ulcers or ulcerative colitis
- Suppresses our natural killer cells which are involved with preventing the metastasis of cancer
- Increases incidence of increased cholesterol causing plaque buildup in the arteries
- Increased risk of developing mental health conditions including but not limited to depression and anxiety

Most people think of “stress” as only emotional stress however, stress comes in multiple forms that include physical and chemical as well as emotional.

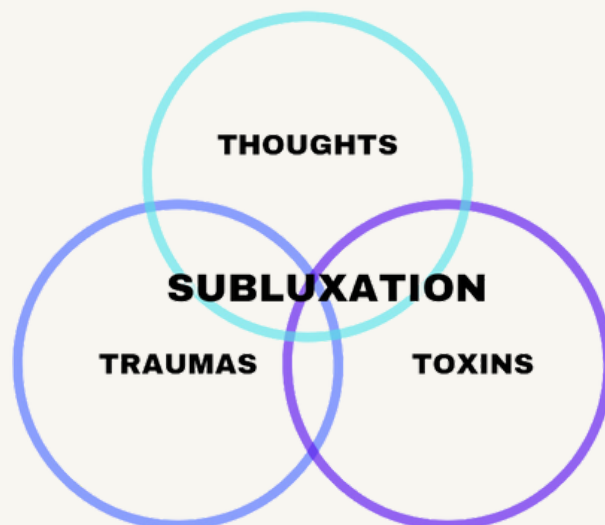
Physical stress is the result of adaptive demands placed on our bodies. This type of stress can be the result of injury or just the everyday stresses of daily life. Things like prolonged standing, sitting, and lifting as well as poor posture are all types of physical stress that our body must deal with on a regular basis.

Chemical stress is the result of our body attempting to adapt to the toxins that we put in our bodies. These toxins are either ingested or absorbed and include but are not limited to drugs (prescription and recreational) and food additives like artificial colors, flavors, and preservatives. Anything that has the potential to alter how the body functions biologically becomes a stressor for the nervous system.

Lastly, there is emotional stress; it is this type of stress that I believe has the biggest impact on our health and well-being overall. Emotional stress can lead to over-eating and inactivity, making it a hat trick type of stress as it draws both physical and chemical stress into its fold.

Regardless of the type of stress someone is experiencing the result is the same... dysregulation of the nervous system.

Our nervous system has the task of coordinating and controlling every other system of our body. During times of stress, our nervous system gives more attention and focuses on the systems of our body that are necessary for survival, we will elaborate more on this in a bit.



## A "new" approach to healthcare

Let us start to dive into what is known as The Polyvagal Theory. While this concept is not new it really is not widely talked about either

The Polyvagal Theory is the work of Dr. Stephen Porges Ph.D. who is an American psychologist, professor of Psychology at the University of North Carolina at Chapel Hill, neuroscientist and author.

Back in the late 1960's Dr. Porges began studying heart rate variability (HRV) which is defined as the measurement of the interval between heartbeats and is recognized as a strong predictor of overall health. In his studies, he found that changes in people's behaviors and emotions followed shifts in their HRV measurements. (Don't worry, we will come back to HRV in just a little bit) He continued his work on this topic and in 1995 he introduced his polyvagal theory to the world.

His research shares that our nervous system, in particular our vagus nerve, has evolved over time to form two branches.

The older, more primitive branch is referred to as the dorsal vagal nerve, it is named such because of the location of its origin in the spinal cord (dorsal is an anatomical term meaning on the back of the body). The dorsal vagal nerve is involved in forming an adaptive response in our body during times of threat/danger.

The other, newer branch of the vagus nerve is referred to as the ventral vagal nerve (ventral is an anatomical term meaning the front of the body), this branch of the vagus nerve is responsible for the body's response during times of safety and social connection.

The polyvagal theory, which explains why we act as we do in response to stress, has 3 key elements: co-regulation, neuroception, and the autonomic hierarchy.

"Trauma compromises our ability to engage with others by replacing patterns of connection with patterns of protection."

-Stephen Porges Ph.D.



# Co-regulation

The first tenant of polyvagal theory we are going to look at is co-regulation. Co-regulation is the basis for all relationships between humans and I would dare to say all mammals as we have the same evolutionary changes to our nervous system.

Co-regulation is defined as a connection with a nurturing and reliable primary caregiver; this is a biological need for every human. It is through co-regulation that we learn how to manage the difficulties of life and will eventually develop the skill to self-regulate or calm ourselves down.

There is a multitude of studies that look at the consequences of lacking a consistent and reliable caregiver early in life and as we will see later it is quite common to see chronic health issues in those who have suffered from emotional and/or physical traumas.

# Neuroception

Have you ever walked into a room and just felt that something wasn't right? This feeling that we have all had at one time or another is our neuroception at work.

Our brain is constantly surveying the environment in and around our body to determine if we are safe or threatened; this is all done below the level of our awareness.

What is more, neuroception can be and is self-reinforcing, meaning if you feel safe you tend to find safety everywhere you look while you find more threats and dangers when you feel threatened.

Allow me to share a real-life example of this. When I was a kid, one of my favorite shows was *Unsolved Mysteries* with Robert Stack. Every show revolved around a variety of unsolved cases that ranged from missing persons to unsolved crimes and the host set the scene for each segment while talking in what I felt was a creepy voice while standing in the shadows.

The show aired in the evenings, so it was always good and dark by the time it was over. Without fail, after every episode, I would be convinced that someone was lurking in our yard or that the missing person who was just featured was hiding on my porch to scare me. While this was not true (and never the case) my belief that my safety was threatened inevitably always led me to hear a noise that would send me running.

There is a downside to the self-reinforcing aspect of neuroception and that is best described as *neuroceptive mismatches*. Mismatches occur when our brain misreads the environment around us and either determines we are safe when we are not and, like the example I gave, can also cause us to feel threatened and unsafe even when no real threat is present. The reason this is considered a “downside” is because our neuroception reinforces our autonomic state meaning our environment can determine how we feel and how our body functions if we do not consciously question if we are truly safe or threatened.

## Autonomic Hierarchy

Our autonomic nervous system is the part of our nervous system that controls the processes in our body that we don't have to give thought to; this includes but is not limited to our heart rate, blood pressure, immune system function, and so on.

Most everyone that has taken a high school biology class will remember the terms “fight or flight” and “rest and digest”, these refer to our sympathetic and parasympathetic nervous systems which are the divisions within the autonomic nervous system (ANS). When I was in chiropractic school we were taught “sympathetic (fight/flight) dominance was bad while parasympathetic (rest and digest) dominance was good, in fact, it was the goal we were hoping for. While this concept isn't wrong it is also very far from being right.

Polyvagal theory has elaborated on these terms to create what is called the autonomic hierarchy and it includes three distinct platforms: ventral vagal, sympathetic, and dorsal vagal complex.

The first platform we are going to discuss is ventral vagal. This platform can also be referred to as “freedom, friends and forage” as it describes our physiology when we are in a state of ease; connected to ourselves and others around us.

In the ventral vagal state, our nervous system can evenly regulate all systems of the body keeping us not only healthy but thriving as well. When ventral vagal is the predominant state, we feel empowered and connected to the world around us and our body can heal from within. It is important to note that this autonomic platform is only available to us when we feel safe in our environment.

The next two states present differently depending on if we feel threatened/triggered or safe. For the sake of simplicity let's look at them through a lens of feeling threatened first.

In the case of feeling threatened or unsafe, the next platform we move into is the sympathetic or “fight/flight” platform. Just like the term “fight/flight” indicates, when our brain determines a threat, it shifts gears and changes the regulation in our body, priming us to either stand our ground and fight or to run towards safety the best we can.

Imagine if you will that on any given day the nervous system has 100 units of energy to use to regulate all the systems of the body. In a ventral vagal state, these units are evenly distributed across every system of the body. In the case of fight/flight (and later in the dorsal vagal complex) these energy units are sent disproportionately to the systems that will ensure our survival leaving “non-essential” systems like digestion, reproduction, and immune system to regulate themselves best they can.

In an ideal situation, our nervous system would react to a potential threat and after that threat passes, we would “shake it off” so to speak allowing our nervous system to return to a balanced, ventral vagal platform...however, this is rarely the case.

In the world we live in threats to our safety are everywhere, even worse, these threats can be real or perceived.

Here is an example of this in action that you may be able to relate to. Imagine you are making dinner and you realize you are missing a key ingredient to complete the meal. You fight traffic to get to the store and once you get there it seems there isn't a parking spot to be had. You grab a cart with a wonky wheel and set off to get what you need dodging all the people that are loitering in the aisles. You head to a self-checkout to pay for your items and that “lady in the box” keeps yelling at you for whatever reason she gets angry. Once you get home get back to the task of making dinner only to realize there was one more thing you needed from the store leaving you so frustrated you just want to scream.

While this “threat” isn't real (by that I mean aggravation does not constitute a life threat) our body has the same reaction to something like this as it would to a bear chasing you to the store while carrying a chainsaw ; in other words your brain cannot tell the difference between a real or perceived threat. What is worse is we, as humans, have a habit of running into another stressful situation before we get a chance to shake the last one off, this leaves us in a state of chronic stress.

Remember the analogy of your nervous system only getting 100 units of energy to spend on regulating all the systems of your body? When our brain determines a threat, regulation is sent to the systems that will keep us alive. Our blood vessels constrict and become narrow which drives up our blood pressure to keep the muscles primed and ready for action, our heart rate quickens to circulate all the oxygen-rich blood which is possible by our rapid breathing. Our body starts to create cholesterol in our blood so that in the event of injury we are less likely to bleed out. Our liver moves stored sugar back into the bloodstream to fuel our muscles and brain which leads to increased blood sugar. During times of threat our thinking process also shifts; the rational, logical thinking part of our brain, the pre-frontal cortex goes offline, and the more primitive, instinct-driven part of our brain takes charge. (Think about the last time you were really stressed out; would you have trusted yourself to make big decisions at that time??)

When we live in a state of constant stress without the opportunity to return to a ventral vagal state this dysregulation becomes the norm. It is no wonder that stress is listed as a risk factor for anywhere from 75-90% of diseases like high blood pressure, high cholesterol, diabetes, etc.

This chronic stress state is apparent in our emotions as well. Those who are operating off this sympathetic platform often experience feelings of “bad temper” and emotional outbursts, aggressive nature, expecting perfection from their selves and others, impulsive with decisions, assertive or bullying behavior, critical, feeling panic or anxiety, “workaholic” tendencies, obsessive/compulsive, constantly busy, worry about everything, overachiever, and over thinking just to name a few.



Signs of sympathetic dominance can include: "bad temper", impulsive, excessive worry, obsessive/compulsive tendencies

If this threat continues or if we decide that it is too big to “fight or flee” from, our nervous system then moves into the last platform called the dorsal vagal complex. This platform can also be referred to as “freeze or fawn” because in this stage our nervous system starts to “shut down” in the way that we retreat inwards and avoid others around us. While we experience the same type of dysregulation in the nervous system as we do with a sympathetic response our behaviors are much different and they include depression, brain fog and difficulty concentrating, feeling detached and withdrawn, difficulty in making decisions, feelings of isolation or a desire to hibernate and not deal with others, co-dependent, people pleasing, lack of boundaries and difficulty saying “no”, avoiding conflict, allowing others to make choices on your behalf and longing to fit in. 7



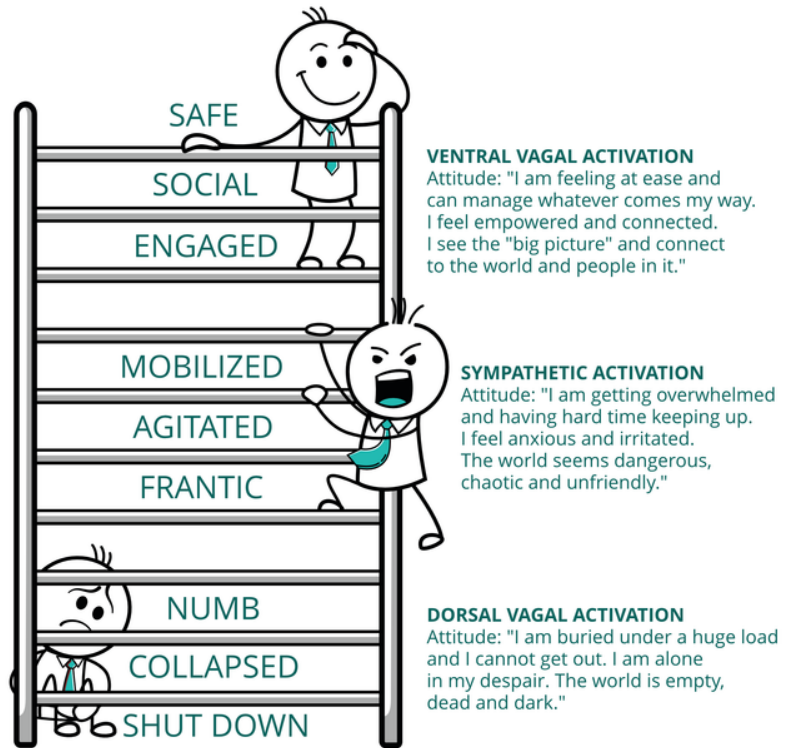
Signs of dorsal vagal dominance can include:  
depression, poor concentration, feeling detached or withdrawn

This is a good time to discuss what the traditional medical model refers to as “medically unexplained symptoms”. Medically unexplained symptoms are physical complaints that have no medical explanation and include but aren’t limited to things like fibromyalgia, irritable bowel syndrome, chronic fatigue, and migraines.

The pain experienced from conditions like these, and others is real and can be debilitating; it is estimated that 15-30% of all visits to primary care doctors are for management of medically unexplained symptoms.

According to an article titled *Explaining Medically Unexplained Symptoms* “Clinicians have developed a range of strategies for deflecting the threat to medical competence posed by medically unexplained symptoms. Generally, these involve shifting the blame from the limits of medicine to some characteristic of the patient.” The article goes on to say, “pain is as much the product of spinal cord mechanisms and central nervous system activity that may be associated with emotional distress or social conflict as it is the consequence of actual injury or tissue damage”, in other words dysregulation in your nervous system can cause pain and effect your health.

## AUTONOMIC NERVOUS SYSTEM AS A LADDER



Adapted from *The Polyvagal Theory in Therapy* by Deb Dana

Let's get back to the hierarchy of the polyvagal theory. There are a few things that are critically important to point out. The first is everyone, and I mean everyone, can and does move between these platforms on a regular basis. The second is, the sympathetic and dorsal vagal platforms aren't always a bad place to be.

Remember we briefly discussed that these states also exist when our nervous system is at ease? Dr. Porges acknowledges that we have blended states; these occur when we are in a state of sympathetic or dorsal vagal activation while feeling safe. Examples of "safe" sympathetic would include playing sports, dancing, and being intimate with a partner. Basically, anything that gets your heart pumping that isn't related to distress or threat.

Safety during the dorsal vagal state is seen when we can be still and safe at the same time as with things like meditation, sleep, cuddling, and relaxation.

The last point I would like to make is despite the ability to move freely between platforms the reality is we all tend to spend most of our time in either sympathetic or dorsal vagal. The reason for this.... stress. The stresses and storms in your life and to a bigger degree how you have been conditioned to deal with those stresses have everything to do with how we handle what is thrown our way.

There is a story I like to share when I do health talks to illustrate this point, perhaps you have heard it. As the story goes a young girl was watching her mom cook a ham. The girl's mother cut the ends off the ham before placing it in a roasting pan and placing it in the oven and the young girl asked, "Why do you do that?". The mother replied, "That is how my mother taught me, I'm not really sure why, you should call your grandmother." So, the young girl called her grandmother and got the same answer and was advised to call her great-grandmother. She then called her great-grandmother and repeated her question. Her great-grandmother chuckled and shared "Our first home had a small oven, and a full ham wouldn't fit so I had to cut the ends off, I haven't had to do that in years since I got a bigger one!"

Just like the mother and grandmother in this story, we often respond to stress in the way that generations prior to us taught us to. Sometimes this way of responding can be helpful and beneficial to us, other times, like in the ham story, it causes more harm than good.

"Once you start approaching your body with curiosity rather than with fear, everything shifts."

-Bessel van der Kolk

Another factor that I believe impacts how we deal with what life throws our way comes from the work of Caroline Myss. Caroline Myss is, in my opinion, a brilliant author and teacher. One of the topics that she teaches deals with archetypal patterns.

Archetypes are described as personal patterns of power that are universal to all humans. A simple way to describe archetypes would be "people watching". She explains that our ability to size people up in a glance and determine "That person is a natural mother" or "That guy is a nerd" are both examples of archetypal labeling since no explanation is needed to clarify what makes one a good mother or a nerd...it is simply just known.

This work isn't new, in her book *Sacred Contracts*, she credits the study of archetypal patterns to Carl Jung and as far back as Plato. The study of archetypes is a topic for another day but there is one thing I feel is important to share and that is what she calls our *Universal Archetypes*.



Caroline has shared in her books as well as many YouTube videos that she feels that there are 4 universal archetypes on which our self-esteem is built. The universal archetype I feel most influences how we deal with stress is the wounded child.



Caroline has a YouTube series titled The Power of Archetypes and each week she takes a deep dive into the characteristics of that archetype. Please allow me to summarize her video on the wounded child.

She shares that there are two factors that lead to the wounded child archetype. The first is the fact that it wasn't until the latter half of the 20th century that people started to realize that we all have both emotional and psychological needs. It was also around this same time that it became acceptable to seek help in trying to have those needs met.

The second factor that she suggests contributed to the formation of our wounded child is the introduction of television in the home. She shares that she used to watch shows like *Donna Reed* and *My Three Sons* and noted how they idealized the modern family. She goes on to say how these shows and others of this time often led to people starting to measure their lives against this model of a "perfect family" which often left them feeling disappointed and hurt because, as I'm sure everyone has heard before "no one is perfect".



These factors together made the way for the wounded child to come forward. Of course, there are other ways we become wounded in childhood and that has everything to do with the fact that generations before us also had wounds and it was only at this time that it was becoming acceptable to talk about them. The fact of the matter is traumatized parents often traumatize their children. In the words of the late Louise Hay “They [our parents] were doing the best they could”. This is a hard pill to swallow but it is and can be liberating when you accept this as fact because the truth is it applies to every one of us; we are all just doing our best at any given time (unless of course you’re not but trust me, you will feel it in your soul when you know you can do better than what you are doing)

So to summarize, how you respond to stresses in your life isn’t always something that is in your immediate control; the truth is how you cope with stress and even how you view the world isn’t your fault, but it is your responsibility to determine if it is best serving you and if not it is up to you and only you to find a better way.

## Taking control of your health

So, you may be wondering by this point “Where does chiropractic fit into this story?”. I am so glad you asked!

As I mentioned in the beginning, my knowledge of chiropractic care prior to becoming a chiropractor was that it was a great way to deal with pain but that was about it. In fact, the last visit I had with the chiropractor in the small town where I grew up was when I was about 4 months pregnant with my daughter. It was after that visit that he let me know he “couldn’t see me” until I had delivered, and I obliged. Little did I know at that time (and him either apparently) was that regular chiropractic care would have been a great benefit to me throughout my pregnancy and for my daughter starting at birth.

There are two distinct ways that regular chiropractic care benefits your health. The first and most obvious is it helps with the structural aspect of your body, your bones and joints.

**"We may not be responsible for the world that created our minds, but we can take responsibility for the mind with which we create our world."**

**-Gabor Mate**

Allow me to share another story from my life that illustrates this point quite well. A few years back we moved to a home that had a tree in the front yard that had some gnarly roots on it. I would do my best to navigate around them and one day I wasn't paying attention and I hit one head on which slightly bent the blade on the mower. I asked my husband if he could replace it for me. He said he would but between a busy schedule and forgetting it didn't happen that year.

Truth be told, the mower worked absolutely fine, it knocked a little bit, but it wasn't enough to be concerned about until the next year when noticed the rattling had caused the bolts that held the motor to the mower deck in place to break one by one. Eventually it got to the point where it was difficult to start because the motor was hanging on by a bolt; it was then that we learned a valuable lesson. Our minor bent blade, something that would have taken a little bit of money and a little bit of time had become a bigger problem that included buying a new mower, assembling a new mower, and finding a resting spot for the hunk of junk we could no longer use.

I see this same scenario on a regular basis when it comes to how we treat our bodies. When the bones of our spine (or any joint in our body really) aren't moving properly it is like the bent blade in the mower. A misalignment in your spine, what we call a subluxation, often goes unnoticed and will not cause you too much grief. Over time, just like the mower, this improper or lack of movement in the spine causes wear and tear in the joints, not only in your spine but in the rest of your body as well. The result is a diagnosis of arthritis, degenerative joint disease (DJD), and/or degenerative disc disease (DDD). Over time this will alter how the joints above and below the area of arthritis and degeneration move as they attempt to adapt to the further lack of movement caused by the changes due to arthritis/degeneration—this is how arthritis “spreads”.

The result of ignoring these improper movements is a life of chronic pain, surgery, or both, and just like replacing the mower, this option is a bit pricier and takes more time. I would be remiss if I didn't also mention that, unlike the mower analogy, you can't replace the body you have with a new and improved one, you only have what you have been blessed with to work with.

**"Many of us take better care of our automobiles than we do our own bodies... yet the auto has replaceable parts."**

**-BJ Palmer**

The other way that chiropractic helps to improve your health is by improving how the nervous system functions. When I was in chiropractic school, we learned what is referred to as the “foot on a hose” analogy. We were taught that when the bones of your spine become misaligned/subluxated the movement out of their proper alignment causes pressure on the nerve and everything that this “pinched nerve” supplies will suffer as a result. It is from this line of thought that the Meric chart was born.

You may have seen the Meric chart (if you have ever been in my office, you have seen it, I may have even given you a copy to take home). The Meric chart is a picture of the bones of your spine and at each level, it lists what organs that spinal nerve supplies and the potential health problems that could arise if left “pinched”.

Again, while this line of thinking is not completely wrong, it does not tell the entire story either. For this let’s go back to the polyvagal theory.

Remember, we discussed how the stresses of life have an impact on your nervous system. These same stresses will have an impact on how your body moves which will in turn impact your nervous system function.

As we previously discussed, physical stress is the result of the demands we put on our body so it is easy to see how this type of stress can cause subluxations and improper movements not only in our spine but in our entire body. The other two types of stress we discussed, chemical and emotional, can also have an impact on our physical body as well.

Chemical stress impacts other systems like the digestive and nervous systems more than it does the structure and bones. I would argue the digestive system suffers as some of what we ingest does not exist naturally in our food; additives and artificial colors, sweeteners, and preservatives are all chemicals that our digestive system must determine what can be used and what needs to be excreted. Certain things we ingest, namely drugs and alcohol, impact our brain and how it functions, this is why it is strongly advised not to drive or operate heavy machinery with some prescription drugs and alcohol. While I cannot back this up with any hard facts I am going to go out on a limb and say that chemical stress impacts the bones and joints by being a precursor to physical stress in the way of injuries because of the chemical ingestion or by a sedentary lifestyle that often accompanies a poor diet.

Lastly emotional stress can also impact our body and how it moves. Have you ever seen a dog that was getting scolded, they instinctively tuck their tail and bow their head. We do something very similar. Look around next time you are out and about, you will most likely see several people with rounded shoulders and a forward head posture. Often, this forward posture will cause the hips to adapt in a way that puts stress on our lower back; this is a necessity to keep our entire body from falling forward.

All three of these types of stresses can impact nervous system function because, as we previously discussed, any type of stress whether it is physical, chemical, or emotional will impact how well our nervous system is able to regulate the other systems.

## Benefits of Regular Care

Proprioception is the word that describes your brain being able to determine where your body is in space. The muscles in your body, in particular the small muscles closest to your spine and skull are what are responsive for sending proprioceptive information to your brain. When segments of your spine are not moving properly these muscles are not able to move and stretch properly; this can distort the communication between your brain and your body.

Our brain craves predictability and can often allow us to do things on autopilot (consider the fact that you can make it around your house in the dark at night without falling over things). When our spinal segments aren't moving properly this can cause background noise in the brain which can keep it from receiving adequate information forcing it to fill in the blanks the best it can. This too can become a stress for the brain. Consider the frustration you would have trying to watch a movie when the cable keeps cutting off or trying to play a video game that has a glitch, you can do it, but it isn't as easy or as pleasant.

Regular chiropractic care removes subluxations/misalignments and restores proper movement in your spine, this can improve communication between your brain, your body, and the environment. It is a lot like rebooting a computer.

Regular adjustments also change your prefrontal cortex. This is the part of your brain that is responsible for executive functions like planning and completing tasks, decision making, memory, problem solving, controlling our behavioral/mental health, as well as playing a key role in how we feel pain. Your prefrontal cortex is the part of your brain that makes you who you are.

If that wasn't enough your prefrontal cortex is what also controls your autonomic nervous system, remember that is the part of the nervous system that controls all the things we need to survive but don't have to think about; this includes but is not limited to: controlling our body chemistry, controlling how the immune system functions, how your cardiovascular system is regulated, and how well you are able to digest food.

Chiropractic care has been shown to change how the prefrontal cortex works and this has everything to do with the proximity of the vagus nerve to the bones in our upper neck. When our upper cervical (neck) vertebra are subluxated this can have a negative influence on the tone of the vagus nerve which can in turn cause dysregulation in our body.

After many years of research, it is now known beyond a doubt that spinal function impacts and changes brain function. Scientists refer to these changes as neuroplastic changes. Neuroplastic changes happen all the time in our brain as our brain is continuously adapting to our ever-changing environment.

So, you may be wondering how would you know if you had a subluxation? Often you don't know because our bodies are brilliant and are constantly adapting to keep us upright and moving in gravity.

While I can't speak to how all chiropractic offices assess those they serve for subluxations and the effects those misalignments have on the body I can share with you how it is done at my office.

After discussing your relevant history of your health and current concerns I will take a deeper look at how your body has been affected by poor movement in your spine.

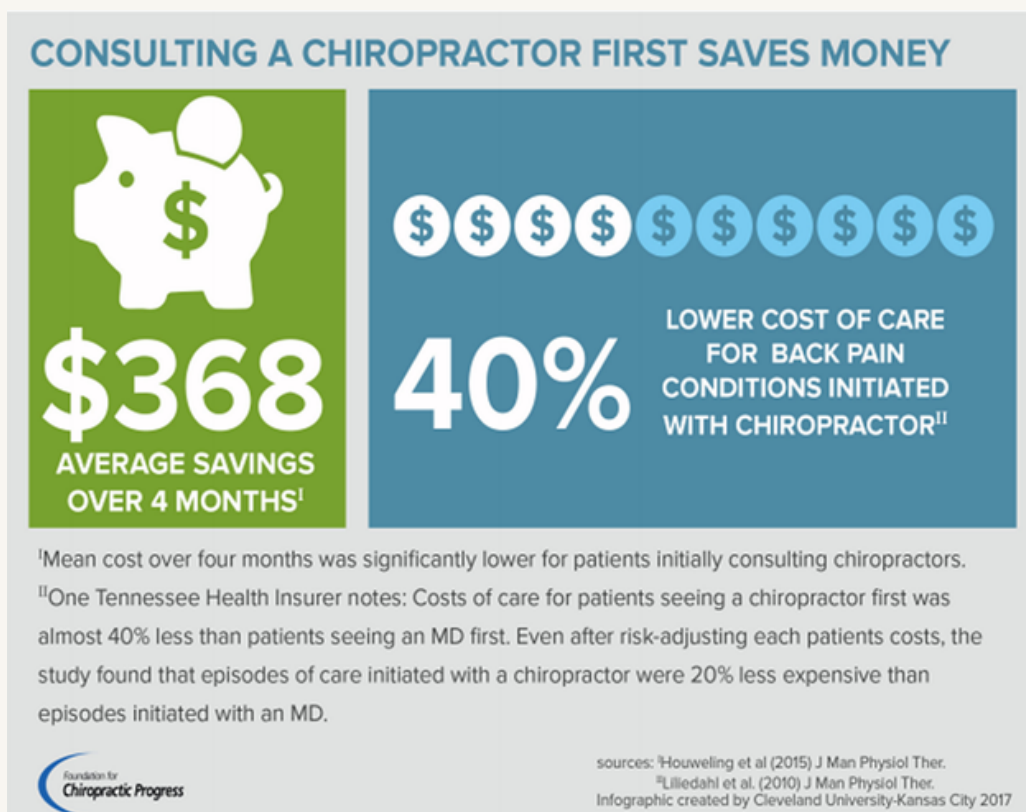
This is done through a series of balance tests meant to measure your proprioception (your brains awareness of how the body is moving) as well as a more sophisticated computer analysis that looks at how the spine is moving, how that movement is impacting the function of the attached muscles and your heart rate variability or HRV.

As we mentioned before, HRV is a widely accepted predictor of future health outcomes and can indicate what platform on the autonomic hierarchy you are presently operating from.

These tests provide invaluable information that allows me to have a clear understanding of how your body is presently functioning. I use this information along with your health goals to develop a plan of care specific to you and your needs. We then repeat these tests every 12 visits to map our progress and adjust the plan as needed.

## What is this going to cost me?

That is a fair question for sure. According to a 2016 study by the *Journal of Manipulative and Physiological Therapeutics* researchers reviewed nine years of claims data from an insurance scheme in North Carolina that included about 660,000 people (about half the population of Hawaii) and over 6 million back and neck pain claims. They considered things like the patient's age, gender, and health history, and then looked at how much each claim cost based on whether the care provider was a medical doctor, physical therapist, or a chiropractor. They also looked at the cost of the claim to see if all they did was offer the patients advice, hoping that they would just get better by themselves and not need any healthcare.<sup>13,14</sup>





What they found in these studies was that the claims for the patients who were seen by a chiropractor cost significantly less than the patients managed by another healthcare provider. In fact, by the final year of this 9-year study the cost of a claim was from 2 to 5 times more expensive when a chiropractor was not one of the care providers. And the claims managed by a chiropractor cost even less than the claims for patients who were given advice alone, because those people ended up taking more time off work than the people who saw a chiropractor.

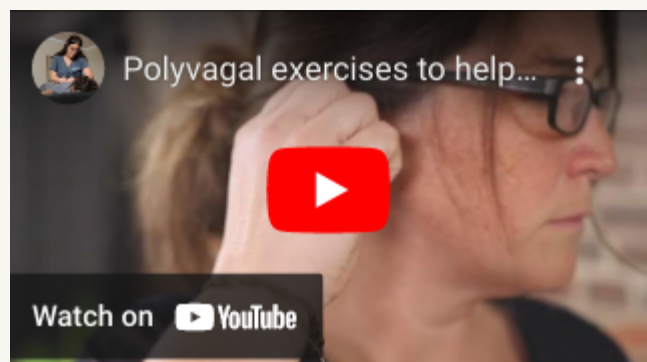
In other words, chiropractic is a cost-effective option when looking to relieve pain. While the research is still out, I would argue that it can also be considered an economical way to improve your overall health and well-being as well.

## What else can I do?

So happy you asked! While chiropractic has a direct impact on your vagus nerve and can quickly influence vagal tone thus improving how your nervous system functions there are also several other things that you can do to influence your vagus nerve.

Things like singing and humming help to influence the vagus nerve by impacting other cranial nerves that work alongside the vagus. Activities such as yoga, exercise and meditation can also be helpful in dialing down the stress response in our body.

There are also several “polyvagal exercises” that can be done to help improve the tone of the vagus nerve which in turn dials down your stress response; I have included some examples for you to try. There is no need to do them all, just pick a few that you like.



However, because chiropractic has such an impact on how your nervous system functions, I would strongly urge you to find a polyvagal informed chiropractor in your area to work with you to manage your health.

You can look for someone in your area by clicking this link:

<https://www.pranafound.com/polyvagal->

Lastly, it is important to note how vitally important your mental health is to your overall health and wellbeing. As it was mentioned previously, your past family experiences and trauma set the stage for how you cope with the stresses and storms of life. Trauma comes in a variety of forms and no two people deal with things the same way. While chiropractic can and does help improve your mental health there are times when more care is needed. In this case I would urge to to find a therapist or counselor who is polyvagal informed.

## In conclusion

We live in a stressful world and now more than ever we must be vigilant with our health and not just rely on pills and surgery to keep us going.

I urge you to find a chiropractor to work with to help you on your journey to better health!



Chiropractic is not designed  
to make you instantly  
**feel** better.

Chiropractic is designed  
to make you instantly  
**heal** better!





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## About the Author

After working as a registered nurse for over 14 years, Dr. Niccie had become frustrated with the traditional healthcare model. She felt that the majority of the care offered was merely treating symptoms with a variety of medications rather than treating the root cause of the problem. She yearned for a more holistic way to help people achieve their best health possible and she found chiropractic to be the clear choice. Dr. Niccie herself had been under chiropractic care her entire life but never really appreciated the full benefit of principled chiropractic care until she entered the profession herself.

Dr. Niccie is a 2015 Magna Cum Laude graduate of Sherman College. Upon graduation, she was awarded the Milton W. Garfunkel award which is the highest award given at graduation for best exemplifying a love of the profession, an understanding of the philosophy, willingness to share, and service to the college and community.

Dr. Niccie is a native of Buffalo, NY but has been blessed to call South Carolina her home since 2006.

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