



INTRODUCTION: DR. HERBST'S PERSONAL JOURNEY FUNCTIONAL MEDICINE IN PRIMARY CARE

Over the last nineteen years, I have worked as an employee in an insurance-based model and on my own in a cash-based model, and I am here to tell you that there are ways you can utilize true functional medicine without compromising your current work situation.

In this book, I promise to share with you a modality of practice that can look at root cause and optimize function with practical application. With this approach of functional primary care, you will restore your patient's hope, which understandably leads directly to active participation in health and improved patient outcomes and indirectly results in regaining your true sense of self. It has been the experience for myself and others, whom I have counseled in this practice style, that we can get patients better together.

As you traverse through my nine and a half-year health journey to recovery, you will better understand why I practice the way I do.

I was implementing functional medicine in pieces, before it was even in existence. Identifying how all my illnesses and diagnoses were similar and interconnected was truly my saving grace.

Now as a board-certified family physician who integrates functional medicine, in a style I termed functional primary care, I am pleased to say I am a successful business owner and mother. It's funny how life works. Here is my story.

It all started when I was eight years old. We moved to the country in Oklahoma. I'm talking living in a tent/well house and bathing in the creek kind of country. My father was building a log cabin. And every night's bedtime routine entailed what we called a "tick check," a bathtub soap from head to toe and a dry-off where I'd stand with arms open, like a starfish, while my sweet mother would check to see if we had any embedded ticks. The average was usually three per day.

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My sisters and I were very active children, all healthy, breastfed, and without any antibiotics. A well-balanced, yogurt-making, garden-growing family raised us. A few months into us living there in the backwoods, I started to have severe daily headaches, which persisted and became so frequent and routine that I began to count the days, hoping I would be able to enjoy the weekend and planning when I would be able to spend the night with my friends.

Knowing my pattern, I often remember thinking, 'Oh good, it's Thursday, so I won't have a headache Friday. I can spend the night with my friend and not have a headache.' Most nights, I would lay in bed, put a pillow over my head, and hold it as tight as I could until I fell asleep. At the same time, I also started having severe abdominal pain, often crying to my mom as I sat on the toilet, cramping with clammy sweats. I had a few bouts of pinworms because, yes, I played in the dirt and was barefoot most of the time.

As for my sleep, my mother says I've always been a light sleeper, even as a baby. However, I recall at that time always waking up around two or three in the morning and laying there awake and waiting for morning to come. I knew it was almost time to get up when I heard the ducks and the geese on the front porch, making their noise below my window.

My parents finally took me to the doctor for my headaches, and he said it was probably because I was "allergic to my stuffed animals." Sadly, this resulted in a purge of my furry-friendly fellows who sat on my shelves and bed. However, we found out it was not the source of my headaches. The constipation and severe abdominal pain were written off as "normal bowel habits with slow transit time." My family was tough. We didn't complain.

We didn't go to the doctor so because there was no answer and they were told that "this was normal," we all did our best to ignore my constant symptoms.

As proof my body was in a state of immune dysregulation, I had a few severe cases of strep throat and poison ivy during these two and half years. And so life persisted this way for the next couple years. When I was ten, we moved overseas, and my headaches seemed to dissipate. (We were no longer eating dairy from the farm. [Bummer, no more homemade butter.] We were eating predominately vegetables and fish.)

We were overseas for about six years. We returned to the United States in 1988. About this time, my menstrual cycle started, and the headaches increased in frequency and severity again. At school, I was eating typical American food, AKA the Standard American Diet (SAD), which consisted of dairy, candy, soda, and fried foods.

I continued to be a go-getter, type-A personality with good grades, student council, diving team, and any volunteer activity I could get my hands on.

During high school, my muscle pain became intense, and I seemed to have muscle strains regularly. My sleep continued to be an issue. I didn't sleep as a matter of fact. I found it difficult to fall and stay asleep. But I didn't know any better. I thought this was my new norm—just kept fighting and consuming a lot of aspirin, ibuprofen, and Tylenol. Bowel movements now were once a week.

I went on to college and was very active; however, my migraines continued to increase in intensity, especially significant, after I started on birth control. I really wanted to go to medical school, but I knew with the severe migraines and fatigue I was experiencing, it would not be possible.

INTRODUCTION: DR. HERBST'S PERSONAL JOURNEY

FUNCTIONAL MEDICINE IN PRIMARY CARE

Despite this, I was physically active, walking many miles a day to class and working out. My diet consisted of "healthy," so I thought, Pop Tarts because they had strawberry filling in them. (Sigh, I knew better, but I was trying to tell myself they were somewhat healthy.) I pushed through as much as I was able.

I wasn't eating anything nearly as healthy as my mother would cook at home. I was now on my own, living on Ramen noodles, canned tuna, microwave popcorn, and the occasional roast and potatoes I would make, along with added frequent treats of ice cream and milkshakes. I would buy apples on occasion and dip them in caramel, thinking this was healthy as well. It's a fruit after all!

I also continued to swim. I was in a chlorinated pool almost daily from the age of fifteen to twenty-one. As a lifeguard and swim instructor, I swam on a swim team and was a springboard diver. This is a possible environmental exposure with negative health effects.

I graduated college and moved to South Carolina. At that time, my identity was that of a no-quitting, I-can-do-anything, confident, take-care-of-others-before-yourself, rest-is-for-the-weak kind of person. I was pushing myself hard, working in the field of research and striving to maintain an image of health, strength, and beauty. I'd end most days with intense physical activity after work, usually riding bikes for hours with my soon-to-be husband. All the while, my body was telling me to slow down. Internally I remember thinking I was exhausted.

Soon after I moved to South Carolina, my appendix nearly ruptured, likely a result of years of constipation, and I ended up in the hospital with emergency surgery.

I naïvely thought this would help my bowel movements become more regular. Not!

Eventually I married and soon became pregnant. This was the best I've felt in my entire life. The last two trimesters of my pregnancy were amazing. I slept well, my pain was gone, and I had no migraines. Some speculate this was due to the higher levels of hormones. At the same time, I received news that my Pap smear had returned abnormal.

A well-meaning physician called me into the office and told me that I should terminate the pregnancy, as it was early. I had cancer cells, and the estrogen would likely exacerbate the cancerous growth. I had no idea what they were talking about since I wasn't in medicine at that time, and I was in a bit of shock. I naïvely ignored his advice and continued on with the pregnancy.

I had a beautiful, healthy baby girl. But as soon as I delivered her, my health crashed. Throughout the pregnancy, I had three biopsies taken, and the cancerous cells remained stable after a loop electrosurgical excision procedure (LEEP) procedure.

I was breast-feeding on demand and not sleeping. My hormone fluctuations were drastic, and my migraines were so intense that I was nonfunctional for the most part. My fatigue amplified. I could barely do anything. Then I developed a symptom that was even more inconvenient and devastating, vulvar vestibulitis. The mucosa of my vaginal lining and vulvar area became ulcerated. It was extremely painful to urinate, sex was unbearable, and I was not able to wear pants or open and close my legs without pain. This meant basic everyday activities like walking and urinating were excruciating. My body was falling apart.

The muscle pain I felt was intense and persisted for the next two years despite my many visits to specialists. All their recommendations were failing me.

I was also carrying the burden of guilt and failure. I felt guilty, as if I had failed my husband and everyone around me. I was no longer able to participate in physical activities, like bike riding and family hikes. Intimacy and intercourse was incredibly painful, which was discouraging for both of us. Here I was, newly married and a mess. I was becoming desperate. For almost two years, I tried anything and everything the doctors were suggesting. I was feeling as though I was a failure because I wasn't getting better.

Thankfully, my personality did not allow me to give up. My final visit with a renowned specialist for vulvar vestibulitis at the University of Michigan was the straw that broke this camel's back. This doctor had tried everything from medications to hormones and laser removal of the mucous membrane. And out of frustration, she said, "Maybe you would benefit from an antidepressant." She callously implied this was a mental condition and not a physical one. She handed me a prescription for a tricyclic antidepressant.

I left the office crying and frustrated, though I realize she was partially correct. There was possibly an element of depression but definitely a large bit of hopelessness. After that visit, when my husband picked me up, I kept saying through snots, snorts, and tears, "My vagina is not depressed!"

Admittedly, I did have postpartum depression for twelve weeks after delivery, but not at the time of this appointment. I did not agree with her diagnosis or recommended treatment because once the postpartum depression resolved, all my other symptoms persisted.

INTRODUCTION: DR. HERBST'S PERSONAL JOURNEY

FUNCTIONAL MEDICINE IN PRIMARY CARE

There I was, sitting in the car with my kind, young, new spouse looking at me as if I had truly gone mad. When the tears flowed down, my left brain kicked in. I asked my husband to drop me off at the medical library for a few hours, and I started researching.

I scrapped all my diagnoses, like fibromyalgia. (What the heck was that anyway? No one even knew about it. The neurologist who suggested that diagnosis was ahead of his time). I also scrapped vulvar vestibulitis, migraines, IBS, and insomnia. I decided to look for commonalities, overlapping symptoms. As I sat there, the only thing I knew for sure was I was once healthy and progressively since I was eight years old, my health deteriorated. Something was wrong, and these diagnoses were a sign of that! This started me on my new journey.

In my hours at the library, I stumbled upon a researcher, Dr. Solomon, from Colorado, who was researching and treating vulvar vestibulitis by using two supplements, calcium citrate and N-acetyl glucosamine, in conjunction with a low-oxalate diet. Following his recommendations, I embarked on a new diet and a few supplements. At the time, surprisingly within about two weeks, I was noticing some improvement in my vaginal pain. This was more improvement than I had had in two years. This was the boost I needed. It was a sliver of hope.

Though intercourse remained painful, I used numbing cream, and this resulted in the conception of our second child.

This pregnancy, however, I was very aware of what I was eating. My vaginal pain was improving. However, my fatigue and generalized muscle pain were extreme, except again in the last two trimesters of my pregnancy. By this time, I realized the high levels of progesterone in the latter two thirds of pregnancy was anti-inflammatory, likely part of the reason I felt so well. Later in my studies, I learned it is also very sedating, which is why I was sleeping better.

The answer seemed so simple to me, as I was naïve to the complexities of the endocrine system. I thought I had symptoms of low progesterone; thus, I thought replacing progesterone would be the answer. Like many physicians and patients, I was thinking linear. In other words, I thought I could just take high-dose progesterone after delivery and continue feeling well.

However, after I birthed my second child, my health again deteriorated. I was humbled. The high-dose progesterone prescribed by my OB/GYN did not work. The fatigue and generalized muscle pain were so severe that I recall having to pick and choose my activities during the day. Migraines were frequent. Triptans were not working and easily triggered by fatigue.

At one point, regular activities of daily living were exhausting. If I did more than one household chore, I was guaranteed to be in bed at least for the next twenty-four hours. What had my life become? Lack of sleep and the stress of life was not helping, but there had to be more. I was happy to be a mom, and I looked forward to our family life. I knew this was not postpartum depression. I was happy, but just exhausted.

I was done. I was exhausted and wanted so badly to feel vibrant again. My primary care physician (PCP) decided it was because I was a new mom and the vaginal pain and migraines were hormonal. A neurologist diagnosed it as chronic fatigue, but my PCP remarked that it was not a true diagnosis. I was again confused and alone. I decided once again to fight. I knew I improved a bit with dietary changes and journaling, so I drastically changed my diet in an attempt to reduce inflammation.²

I cut out sugar, dairy, and meat, and I saved my money for a juicer. I began reading more and more, actually copious volumes of books, which led to an online naturopathic course. I knew there was something to this natural approach because slowly I was getting better. All the while, I was persistently seeking the treatment, that is, still linear thinking.

¹Rotational probiotics means consuming different strains by taking one supplement with several strains for two to four weeks and then changing the species for the next two to four weeks and so on.

²A diet high in processed foods, grain-fed meats, and high-sugar foods has shown to be a cause of increased oxidative stress/free radicals.

Bee Ling Tan, Mohd Esa Norhaizan and, and Winnie-Pui-Pui Liew, "Nutrients and Oxidative Stress: Friend or Foe?" *Oxid Med Cell Longev* (2018), doi: 10.1155/2018/9719584.

Frederick D. Provenza,^{1*} Scott L. Kronberg,² and Pablo Gregorini,³ "Is Grassfed Meat and Dairy Better for Human and Environmental Health?" *Front Nutr* 6 (2019): 26, doi: 10.3389/fnut.2019.00026.

INTRODUCTION: DR. HERBST'S PERSONAL JOURNEY

FUNCTIONAL MEDICINE IN PRIMARY CARE

It may sound like I was full of energy, but I was very conscious of my energy... or lack thereof. If I pushed too much, I would land in bed for a day or so to recover with a few days of severe muscle and joint pain.

I was so desperate that I was trying most anything and everything. One of my most diligent focuses was on gut health and nutrient support. I found rotational probiotics¹ was best for me. Some of the herbs I consumed were broad-spectrum antimicrobial. So it is very possible that I was stimulating an immune reaction for a possible viral burden. Who knows?

I had no testing done as I was self-treating with nutrition and I found no physician willing to help or listen to my theories. However, I am 100 percent certain, at the end of those months, I made a step in the right direction. I had a marked improvement in my health. Even now, I continue to appreciate the complexity of the human body and its dynamic interaction with our environment.

Ultimately, I believe that juicing turned my health path around for the better. I started juicing from the beginning, right after I had my ultimate breakdown. It is my theory that the readily available vitamins and minerals and enzymes in the vegetable drinks were easily assimilated and absorbed, replacing nutrients my body needed to repair.

We eventually moved to get close to family, and by this time I had studied integrative/alternative medicine for approximately three and a half years, including an online naturopathic certification through Trinity Natural Health College. I understood lifestyle was key. Each time I offered some advice or suggestions for people, I heard the same comment over and over, "You should make this a business."

So I did just that: part-time lifestyle counselor and full-time mommy. It was 1999. My health had improved so much that I was ready to give back.

One of the most significant healing episodes for myself was during this time when I was able to participate in a homeopathic psychology³ course. I volunteered because I thought I had no emotional baggage. My family life was amazingly well without any trauma and abuse. My left brain, a research-oriented personality, was doubting this whole philosophy of medicine. There I was, pompously sitting in front of a hundred people while a British psychologist asked me, "Of what are you most afraid?"

Humbly, I may not understand the exact mechanism of action of homeopathy; nor am I an expert in this field. But I know in my heart the process I went through that day was incredibly healing. I was afraid of failure. I was afraid of disappointing people I loved. This fear played a huge role in my day-to-day choices, and my internalization of that manifested itself in many ways physically, I believe.

As a result, after many tears and amazing professional support in that room, this too became a part of my healing journey. I realized then that emotional components to disease exist. Over the years as an osteopathic physician, I have often seen this to be the only etiology of a person's presentation.

By now, it had been four years. I was not 100 percent, but I was sleeping regularly, my bowel movements were getting more regular, and my headaches were only on day one of my menses. I was feeling fantastic! My business flourished. My lifestyle counseling practice was successful. I was able to help my clients change their eating habits and focus on more self-care.

³ Homeopathic psychology philosophy: Symptoms, including psychological ones, are presumed to be ways that the body-mind is trying to adapt to and deal creatively with various internal and external stresses. Psychotherapeutic techniques tend to elicit the patient's symptoms in a controlled manner in order to heal the patient. Such is the case in cognitive, behavioral, and psychoanalytic treatments. In his article, Davidson discusses other points such as the self-healing principle, the micro-dose effect, disappearance of the symptoms in reverse order of their appearance, and diagnosis by pattern recognition of the symptoms (Davidson 1994).

INTRODUCTION: DR. HERBST'S PERSONAL JOURNEY

FUNCTIONAL MEDICINE IN PRIMARY CARE

In 2001, I decided I wanted to go to medical school. I sold my business and went to medical school in 2003. This is where my lifestyle training played a huge role. In the following chapters, I will share lifestyle practices I was able to uphold in the four years of medical school that helped me maintain my health. My routine was not limited to but consisted of juicing, sauna, and healthy eating habits.

My journey continued through residency, as I had a pretty significant flare of a rare autoimmune disorder. (I now realize this autoimmune disorder was what presented as vulvar vestibulitis many years before.) The diagnosis in 2009, verified by multiple biopsies, was severe erosive oral lichen planus, a rare immune disorder that attacks mucous membranes, joints, and skin.

2009 was my last year of medical training. I was elected chief resident and working many hours. I had very irregular sleep patterns because we were doing night shifts and frequent calls. I developed ulcerated and severe sores in my mouth. I was unable to smile at the end of the day because my mouth was so swollen and painful. On top of the pain, I was not able to eat. Everything, even water, burned my mouth. My tongue was raw. My joints hurt. I had strange itchy rashes on my legs, arms, and back. I lost weight rapidly, a total of eighteen pounds.

As if I needed more stress, at this same time, we had a huge flood, and we had the house repaired with big commercial fans and replacement of Sheetrock. The contractors discovered black mold in the bathroom wall, which was also torn out and remediated. Though now, I know this was not properly done.

FAST FACT:
For some susceptible individuals, mycotoxin exposure is life threatening. For others, it can be a noxious stimuli for the immune system.⁴

For my erosive lichen planus, the specialists informed me there was no cure. I was offered steroids and a new biologic infusion that was so expensive that my PCP suggested we take out a second mortgage to cover the cost. The cost was one consideration, but this time of year was the height of cold and flu season, and I was working at the Children's Hospital. One of the risks of this medication is progressive multifocal leukoencephalopathy (PML), most often a fatal attack on the brain secondary to a common virus. That didn't sound appealing to me.

I did the only thing I knew to do, go back to the basics. With supported gut health, I did the best I could with immune modulation. (I studied the disease process and which immune pathway was most involved.) I replaced nutrients and went heavy on the antioxidants. (Now I know why I did so well with glutathione supplementation. It has to do with my genetics. I will explain this in detail later.) I also did the best I could at removing and reducing my exposure to environmental toxicities and made my mental and spiritual well-being a priority.

And now in 2019, I can happily say I have been in full remission for ten years.

I am not taking any routine prescription medications. I have had three small flares in the last nine years. I made it through business start-ups and job changes. I even made it through a year of hell. I discovered infidelity and endured the resulting divorce without a major setback. So there it is, my journey. I am glad you hung in there with me.

As you know, I did many things to get well, some not found in science and others strongly supported in prominent scientific literature. I do not know if there is one particular thing I did that was really the big turnkey; however, I will say all of it cumulatively served a purpose. I understand that everyone's body is different. We are complex unique creatures who thus require a unique approach to our health challenges.

To translate my life lessons into advice for you, the first, and in my opinion, the most important is diet, as you heard above. If I had to pick a second life-changing treatment, I would emphatically say deep breathing, quiet time, and honoring the body's needs. From a biochemical standpoint, the improvements in my internal health resulted from bowel health improvements, genetic support for biotransformation (detoxification), and restoration of immune balance.

In the following chapters, I will dive into the science behind such transformative treatments and give tools for clinical implementation. With clear approaches, you can tailor your treatments to the individual and watch as the systems work together to achieve homeostasis with proper support.

⁴ Winnie-Pui-Pui Liew and Sabran Mohd-Redzwan, "Mycotoxin: Its Impact on Gut Health and Microbiota," *Front Cell Infect Microbiol* 8(2018): 60, doi: 10.3389/fcimb.2018.00060 PMID: 29535978.

FUNCTIONAL MEDICINE IN PRIMARY CARE

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