

Foreword to *Nutrition and the Autonomic Nervous System* by Nicholas J. Gonzalez, MD

by Linda L. Isaacs, MD

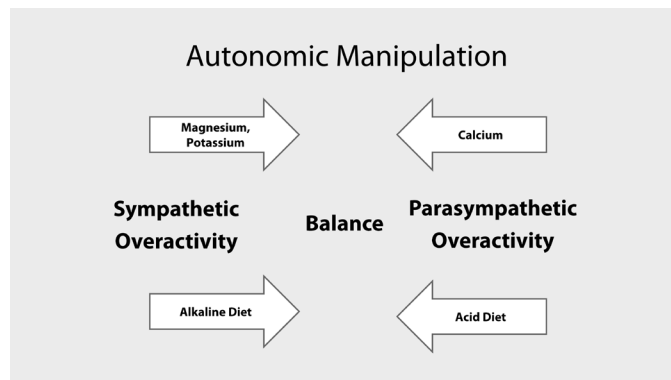
The author of this book, Dr. Nicholas Gonzalez, and I were professional colleagues for more than twenty-five years. During our long working relationship, I was always one of the first to read Nick's drafts, after he had done numerous rewrites himself. Reading this manuscript brought back memories of the first time I reviewed it, many years ago. Nick had not completed this work; he started it in the early 2000s but put it aside as other issues took priority.

Nick and I met when I was in medical school. He was the intern and I was the third-year medical student on an internal medicine team at Vanderbilt University Medical Center. He was already engaged in his study of the work of William Donald Kelley, DDS, the brilliant and eccentric orthodontist who had developed a nutritional method for treating cancer and other illnesses, using individualized protocols involving diet, nutritional supplements, and detoxification routines. Dr. Kelley believed that regulation of the autonomic nervous system explained how his methods worked.

The autonomic nervous system is in charge of the functions of our bodies that we do not consciously direct, such as digestion or heart rate. The autonomic system has two parts, the sympathetic and parasympathetic nervous systems, with different and frequently opposing actions. The sympathetic nervous system, the "fight-flight-freeze" system, is in charge of the stress response. Among other activities, it raises heart rate and blood pressure and slows digestion so that the body's resources can go toward dealing with immediate threats. The parasympathetic system is in charge of the "rest-digest" functions. It stimulates the digestive tract and all its accessory organs such as the pancreas, but it slows the heart and drops the blood pressure. In normal physiology, these two systems take turns depending on the need of the hour, the sympathetic system being active in times of stress and the parasympathetic system being dominant when repair is needed.

While all this is well known to any first- or second-year medical student, by the time most of us graduate and move on to our clinical work, we do not consider the functions of the autonomic nervous system on a day-to-day basis. But in Dr. Kelley's work, and subsequently in Nick's practice and my own, the autonomic nervous system is the core of the recommendations we make. As described in this book, Dr. Kelley empirically found that some patients did well on an alkalinizing, plant-based diet, with supplementation of magnesium and potassium, while other patients prospered on an acid-forming diet, high in protein and fat, with calcium supplementation. He then found in the work of Francis Pottenger, Sr., MD, the theoretical explanation for why this could be so.

Dr. Pottenger, in his book *Symptoms of Visceral Disease*, described how disease could be caused by autonomic imbalance.¹ Dr. Pottenger theorized that in some individuals, either the sympathetic or parasympathetic system was overly active, bringing about disease states that could be ameliorated if the overactive system was toned down. He found that the administration of magnesium would suppress the sympathetic system, potassium stimulated the parasympathetic system, and calcium stimulated the sympathetic system. Dr. Kelley, recognizing the same pattern that he himself had noted, realized that Dr. Pottenger's findings about autonomic physiology explained his own clinical observations. Dr. Kelley then synthesized all of this into the treatment program he utilized, stipulating that, based on the balance between the activity of the two halves of the autonomic nervous system, different types of people might have different dietary needs, respond differently to nutritional supplements, and even have different "normal" parameters for various blood tests.



At the time Nick met Dr. Kelley in 1981, Kelley had already put these premises together. During the next six years, as Nick reviewed Dr. Kelley's charts for the research project that would eventually be published as the book *One Man Alone*,² Nick was filled with questions for Dr. Kelley about how this theoretical model of autonomic balance worked in practice. He had questions not only about Kelley's patient files, but also about patients he was seeing in his orthodox medical training, for, during this same time period, Nick completed his third and fourth year of medical school, his medical internship, and an immunology fellowship.

Early in our relationship, Nick told me that one of the best things about these principles of autonomic imbalance was that they helped make sense of many of the bits and pieces that would float past in the medical and nutritional literature. As an example, researchers have found that breast cancer patients





prescribed beta-blockers for reasons other than breast cancer, such as hypertension or heart disease do better than patients who were not prescribed this medication.³ In Kelley's model, breast cancer patients have an overactive sympathetic nervous system, and beta-blockers specifically block the beta-adrenergic receptor of the sympathetic nervous system, helping bring these patients' metabolisms closer to balance.

In another study, administration of calcium supplements slightly raised the risk of heart attacks.⁴ Later analyses, pooling the results of many studies, suggested that there was no such increased risk.⁵ Calcium, as a stimulator of the sympathetic nervous system, could well be an instigator of heart attacks if given in large doses to patients whose sympathetic nervous systems are already too active. In the Kelley model, patients with overactive parasympathetic nervous systems need and thrive on high doses of calcium supplements, while patients with overactive sympathetic systems need very little. The patients in the study showing increased risk might well have been made up mostly of those with overactive sympathetic systems. Larger analyses, pooling data from many studies with patients of a variety of metabolic types, would show no risk.

In contrast to Kelley, Nick, and myself, others in the integrative nutritional world state that everyone should be on the same diet, which might be anywhere from vegan to low-carb—usually the diet that the prescribing practitioners feel best eating for themselves. With our methods, I will find myself recommending for some patients a diet with less animal protein than works for me, and for others a diet with much, much more. Two of my patients, who were included in our article in *Alternative Therapies in Health and Medicine*,⁶ illustrate this point. One, with pancreatic cancer, was told to eat a near-vegetarian diet; the other, with lymphoma, was told to eat large amounts of animal protein. Both patients are alive and well today, nearly ten years since the publication of this article. Each continues to eat the prescribed diet with relish. The vast majority of the time, patients feel well with the recommendations we give.

However, in some cases, patients will modify things not because they feel unwell, but because they have read something that contradicts our advice. As an example, a few months after Nick's death, I saw one of his patients, a parasympathetic-dominant patient with a low-grade lymphoma of the skin. His disease had improved at first, but it then stabilized with a small patch of disease remaining. As most clinicians know, with a change of physicians sometimes new information comes forward. I routinely ask whether patients are having any trouble tolerating their supplements.

He said no, rather tentatively, and paused. Then he said, "Well, I'm not actually taking the calcium supplements that Dr. Gonzalez told me to take. I read that calcium needs to be balanced with magnesium, so I've been taking a product with extra magnesium." The extra magnesium was making his system too alkaline and suppressing his weak sympathetic system,

keeping his parasympathetic system relatively overactive and preventing the protocol from bringing his system into balance. The advice he found about balancing calcium with magnesium is valid for people with other metabolic types, but not for him. From my point of view, his modification of his protocol was preventing progress against his disease.

Another example involves a patient whose sympathetic system was overactive. Such patients are accustomed to having the quick responses of a metabolism that is on red alert all day long, ready to react and react quickly. Sympathetic dominants are usually very busy people, rushing through their day checking things off their to-do list. Their nervous system is accustomed to this frenetic activity, and when they begin a treatment protocol that is designed to tone down the sympathetic system, they may feel somewhat lethargic, contemplative for the first time in years, possibly depressed as they sense some unpleasant realities in their lives that were previously ignored in a sea of busyness. If they relax and allow their nervous systems to readjust, they can learn to appreciate this state and even find that they become more effective: they listen to others more carefully, they plan more thoughtfully, and they spend less energy pointlessly.

But some patients resist this process. A long-time patient of Nick's illustrates this principle. She would call periodically, reporting mild lack of energy. He would remind her of the goal of toning down her sympathetic nervous system. She would then start reading the nutritional literature or going to other practitioners, looking for a solution for her low energy, and start some herb or supplement that would make her feel better by stimulating her sympathetic system. A few months later, she would call Nick because of a deterioration in her medical condition. He would then find out what she had started this time, explain why it was counterproductive, and tell her to stop it. Her condition would then improve, until the next time she decided to find out why she did not have the energy to complete her extensive to-do list. This cycle repeated for years.

Another, sadder story involves a patient of mine, who also had an overactive sympathetic system along with a metastatic carcinoma in his abdomen that he and I could feel on exam. After receiving his protocol from me, he had not followed it completely, and his disease was dramatically worse when he returned for his six-month checkup, with a mass in his abdomen the size of a cantaloupe. I pointed out that he would never know if it would work for him if he did not follow through 100 percent; he then called a few months later to report that he had taken my words to heart and that his tumor had markedly reduced in size. When I spoke with him a few months later, he had continued to improve, but he did report some low-grade fatigue and depression. I explained that the diet and supplements were designed to tone down the sympathetic system and that this could create these symptoms. I counseled him to be patient.

About six months later, he called and asked, “Do the enzymes ever stop working?” His cancer had resurged with a vengeance; the mass had regrown, and he had developed fluid in his abdomen, putting pressure on his stomach and making adherence to his protocol challenging. On further questioning, I learned that a few months earlier he had visited his family physician and reported his symptoms of fatigue and mild depression. His physician then prescribed Adderall, a potent sympathetic stimulant, and the patient opted to proceed without checking with me. On this medication, not surprisingly his fatigue and depression resolved—and his disease exploded.

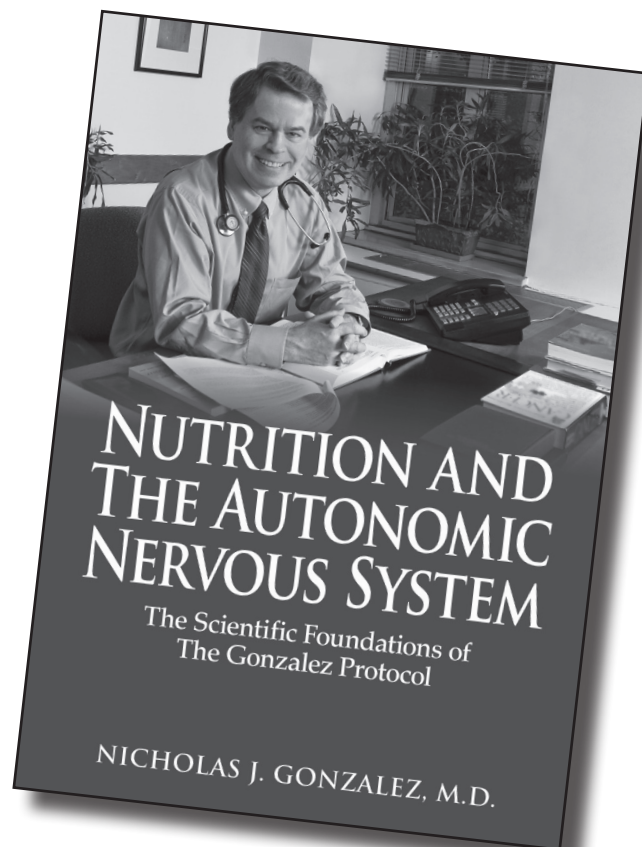
Balanced patients, those whose sympathetic and parasympathetic systems are equally or nearly equally active, need only to have this balance maintained with their nutritional supplements. The diets for balanced patients have a great deal of flexibility; such patients will at times crave red meat and other acid-forming foods, and at other times desire only salads, citrus, and other more alkalizing foods. I saw one such patient recently, a long-term patient of Nick’s who is a health professional. She reported that she did indeed have shifts in her food preferences, with days of eating meat followed by days of eating leafy greens.

She then told me enthusiastically about a meditation program that she had begun. I started to feel a little nervous as she spoke. Some forms of meditation have been shown to stimulate the parasympathetic nervous system,⁷ which could cause a balanced patient to shift into parasympathetic dominance. Dr. Kelley once told me that meditation was bad for people with an overactive parasympathetic system, and that such patients should instead consider watching action movies or playing video games to stimulate the underactive sympathetic system.

As I started to express my reservations, she said, “Oh, I don’t meditate every day. There are some days that it just doesn’t seem like the right thing to do.” I then told her that it would be interesting to see if her preferences about meditation correlated with her food choices, and asked her to keep track of that going forward. She said, “I can already answer that. The days I want to meditate, I don’t want red meat. The days that meditation doesn’t feel right, I want to eat a steak.”

After many years on her protocol, she was able to recognize how her metabolism was functioning on any given day and adjust both her diet and her activities to bring her system into balance, almost instinctively. On days when her sympathetic system was a trifle overactive, she would meditate and eat more lightly; on days when her parasympathetic system was overactive, she would eat more animal protein and skip the meditation.

The principles detailed in this book, when used correctly, can be a powerful tool to improve health and well-being. As with any kind of medical knowledge, these principles are best learned in an apprenticeship or internship setting, such as Nick had with Dr. Kelley, and as I had with Nick. The prevailing mindset of the medical world, whether using pharmaceuticals,



diet, or nutritional supplements, is biased toward a “one size fits all” model that takes some time and training to unlearn.

Drs. Pottenger, Gellhorn, and Kelley used their observational skills and clinical acumen to create medical theories that deserve wider recognition than they have received. I hope that the publication of this book will help speed the day when their work becomes part of standard medical treatment.

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Linda L. Isaacs, MD
36 E. 36th Street, Suite 1A
New York, New York 10016
www.drilindai.com
212-213-3337