

## CHAPTER ONE

# Why This Book Was Written

In 2006, a sixty-two-year-old man walked into Dr. Neustadt's clinic, Montana Integrative Medicine, ([www.montanaim.com](http://www.montanaim.com)) in Bozeman, Montana. This gentleman, Steve Pieczenik, MD, PhD, ([www.stevepieczenik.com](http://www.stevepieczenik.com)) was complaining of shortness of breath, tightness in his chest, and an inability to exercise or walk long distances. Three months prior, Dr. Pieczenik was tested by a cardiologist and then a pulmonologist. The cardiologist found nothing wrong with his heart. The pulmonologist found a 22% deficit in oxygen intake and blood perfusion (decreased blood oxygen content). Neither of these physicians understood why this deficit was occurring, but both agreed that the bronchi in Dr. Pieczenik's lungs were constricting due to unspecified allergies. Dr. Pieczenik, however, had no history of any allergies. The solution offered, even though the doctors could not determine the underlying cause, was to prescribe steroids and an inhaler. This approach only treated his symptoms.

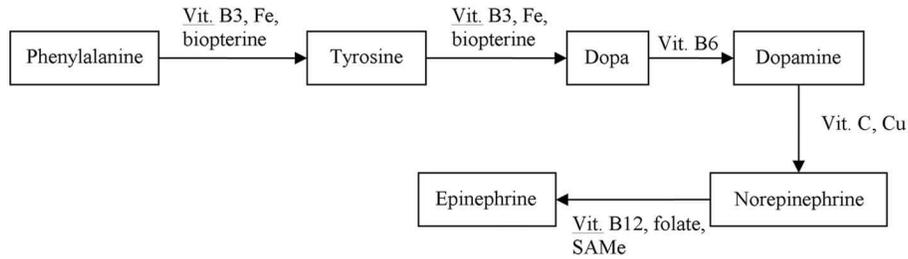
Since steroids and inhalers have been the most common therapy for these symptoms for many years, Dr. Pieczenik asked his doctors, "How come the treatment of exertion asthma has not changed in forty years?" Dr. Pieczenik, who is a medical doctor himself, was educated at Cornell University Medical School, Harvard Medical College, and MIT, and was a board examiner in psychiatry and neurology. Dr. Pieczenik did not accept the answers he was given because he felt that neither doctor understood the underlying causes of the problem. His diagnosis was relegated to the wastebasket of medicine—"the chronic, we-don't-really-understand-why catchall diagnosis." So, in turn, the catchall treatment was to prescribe steroids, which are handed out as though they are candy. Nevertheless, Dr. Pieczenik tried the steroids and inhaler and found them totally ineffectual, as he had expected. In fact, when he took the steroids, they kept him awake for more than seventy-two hours, a documented

side effect of these drugs. Unfortunately, his physicians neglected to tell him of this side effect.

Dr. Pieczenik had no further medical solutions other than to search for a new paradigm in health, which he had done in other fields such as psychiatry (i.e., integrating political science and psychiatry). Dr. Pieczenik realized medicine had no solution to this particular problem and many other chronic diseases. He was fully aware that most diseases were merely treated with medications that decreased symptoms but did nothing to address the underlying causes. Also, as Dr. Pieczenik experienced with the steroids, many medications have dangerous side effects. He found that the practice of medicine had not really changed in over forty years, despite what was considered intensive research in genomics and molecular biology. By and large, from his point of view, medicine had reached a major impasse and had failed repeatedly.

By chance, Dr. Pieczenik met Dr. Neustadt, a naturopathic physician with a specialization in nutritional biochemistry, a couple of years earlier at Sweet Pea Festival, an annual summer arts and food festival in Bozeman. At that time, Dr. Pieczenik mentioned to Dr. Neustadt that he had a breathing difficulty that had not existed earlier in his life, and Dr. Neustadt casually said that Dr. Pieczenik probably had a decrease in epinephrine production. Epinephrine is a chemical in the body that, among other things, helps to dilate the lungs so people can breathe. Still skeptical of Dr. Neustadt's explanation, Dr. Pieczenik continued to endure his condition until one day he made an appointment with Dr. Neustadt and agreed to a comprehensive biochemical evaluation. His work-up included a standard medical evaluation with a physical examination, but Dr. Neustadt also ordered a series of blood and urine tests to analyze more than four hundred variables of biochemical function.

When the results came back, they showed that Dr. Pieczenik indeed had low epinephrine, and the specific reason was low copper amounts in his body. The simple explanation is that in order to produce epinephrine, we all need a combination of the raw materials required for it, which are amino acids, vitamins, and minerals. Specifically, the pathway for the production of epinephrine (see figure 1.1) requires the amino acid phenylalanine from diet, vitamin B3 (niacin), iron, bipterene, vitamin B6 (pyridoxine), vitamin C, copper, vitamin B12, and S-adenosyl methionine (SAMe). Additionally, since biochemistry is a web of interactions—and individual vitamins, minerals, and amino acids have multiple functions in the body—many other symptoms are associated with low levels of epinephrine and the other amino acids in this pathway (see table 1.1).



**Figure 1.1. Pathway for the production of epinephrine, which is required for proper breathing. Abbreviations: Cu = copper, B3 = niacin, B6 = pyridoxine, Fe = iron, SAMe = S-adenosyl methionine, Vit. C = vitamin C.**

In addition to the low copper, which directly explained his poor breathing, Dr. Pieczenik had low levels of some B-vitamins and had been getting too much zinc. What astonished Dr. Pieczenik was that he had been taking well-known brands of dietary supplements, including GNC, Nature’s Way, Centrum, and Kirkland. The formulas he was taking, however, contained nutrient doses that were too low. They also contained nutrients in forms that were essentially not absorbable. For example, his dietary supplements contained magnesium as magnesium oxide. People can only absorb about 2% of this form of magnesium. It is so poorly absorbed that it is used clinically in higher dosages as a laxative for constipation. So if a dietary supplement contains one hundred milligrams of magnesium as magnesium oxide, people taking the dietary supplement are really only absorbing about two milligrams of magnesium. The same holds true for zinc and copper in their oxide forms, which he was taking.

**Table 1.1. Low amino acids and their symptoms<sup>2-6</sup>**

Low	Symptoms
Tyrosine	Brain fog Fatigue Feeling frequently cold Increased cholesterol Weight gain
Dopamine	Depression Seizures

Epinephrine	Allergies Anorexia Apathy Asthma and exertion-onset breathing difficulties Chronic pain Fatigue/malaise Inability to cope Myocardial infarction (heart attack) Reduced libido Restless sleep Risk of autoimmune disease Risk of inflammatory conditions Unable to perform routine tasks Weakness
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Moreover, the tests also identified that he had a major fungal infection in the bowels in the same location that his mother had cancer, from which she died. Similarly, he also had elevated insulin, a hormone required for proper utilization of blood sugar, which indicated a risk of developing diabetes. This was a complete surprise again to Dr. Pieczenik since his fasting blood sugar level, which is the standard medical test for diabetes screening, had always been normal. Additionally, it turned out that several members of his family had developed mature-onset diabetes, which meant Dr. Pieczenik was at a higher risk of developing it simply due to his family history.

In other words, here was a well-known, board-certified physician who had received the most sophisticated conventional medical evaluations in the country and was still unable to discover the underlying problems putting him at risk for diabetes, heart attack, cancer, and premature death. As a typical board examiner, he asked himself, “What was wrong with the patient? What conditions could result in his shortness of breath other than a heart condition and mature-onset asthma secondary to an allergen?” After mulling over the problem, he felt that he was lacking the correct paradigm to sufficiently diagnose his own problem and answer his own questions.

For Dr. Neustadt, this was a simple textbook case because of his extensive experience in biochemical medicine. Dr. Neustadt understood that all symptoms are manifestations of biochemical dysfunction. That is, if a person was not sick last year, or yesterday, and today he or she is sick, then something has changed in his or her biochemistry. By testing a person’s biochemistry, the

problematic pathways may be identified and corrected using nutritional medicine. When the pathways are corrected, health is promoted and a cure is possible.

Dr. Neustadt prescribed diet and nutrients to correct Dr. Pieczenik's biochemical abnormalities. Dr. Pieczenik's copper level was corrected, and all of his breathing difficulties resolved within two weeks. He was prescribed a proper nutritional and exercise program to help him lose weight and decrease his high insulin and risk of diabetes, while the fungal infection in his bowels was treated to decrease his colorectal cancer risk. Upon follow-up testing, all of his parameters were normal. But even more immediately important to him than his laboratory values was the fact that he could breathe again. In fact, Dr. Pieczenik was able to live through Montana's raging fires and the poor air quality during the summer of 2006 without any breathing difficulties. Normally, he would have evacuated to the East Coast.

Dr. Pieczenik realized through his own experience that this new concept in medicine must reach a larger audience. This compelled him to create another company, on top of the thirty other successful companies that he had already founded, to unify his expertise with Dr. Neustadt's unique approach to diagnosing and treating diseases. In the summer of 2006, Drs. Pieczenik and Neustadt founded Nutritional Biochemistry, Inc., (NBI) and NBI Testing and Consulting Corporation. These companies focus on the testing and analysis of clinically relevant biochemical pathways and the treatment of abnormal pathways using medical nutrition. Through a combination of blood and urine samples, more than four hundred biochemical parameters can be evaluated and corrected so as to promote a person's health instead of simply treating symptoms.

The authors wrote this book in response to the extensive requests by people who had been helped by Montana Integrative Medicine, NBI, and NBI Testing and Consulting Corporation. They asked Drs. Neustadt and Pieczenik to write a book so that they could share this information with their friends, families, and colleagues. Doctors (medical, naturopathic, chiropractic, osteopathic) all over the world have contacted Drs. Pieczenik and Neustadt asking how they can implement this powerful approach in their practices. In the winter of 2007, Drs. Pieczenik and Neustadt began writing this book, and they decided to self-publish it so it could be in readers' hands in the shortest amount of time. Without trying to be overly dramatic, they felt that every moment that passed without publishing this knowledge, another person was misdiagnosed and mistreated, with sometimes fatal consequences.

It is their sincere hope that this book begins a medical revolution in which diseases are evaluated properly, with causes identified and treated, and stops

the tendency to throw more and more drugs at ever-worsening symptoms, a corrupt healthcare model that the pharmaceutical companies have a vested interest in creating and maintaining.

Drs. Neustadt and Pieczenik wish readers an enjoyable introduction to this new way of looking at their own bodies. Please do not worry if some of the concepts initially seem complicated. The basic premise, as stated above, is that all disease is biochemical, and correcting the underlying biochemistry promotes health. If people only understand this one concept, then they have grasped the entire essence of this book.

Both doctors hope that this information helps you or someone you love to improve their health.