Neurotransmitter Balancing, Implemented Properly: An Indispensable Clinical Tool
by Pam Machemehl Helmly, CN

Introduction

Identifying and treating neurotransmitter (NT) deficiencies and imbalances represent a vast new frontier in upgrading health care. It's only in the last five years that easy-to-use, accurate, and non-invasive tests for neurotransmitter deficiencies have become available. Yet, such tests are under-utilized, and many practitioners remain unfamiliar with NT treatment. Even though it's relatively new, a number of studies in this burgeoning field confirm its powerful effects.\(^1\)\(^2\)

A recent study of 78 Russian orphans (adopted into the US), conducted by Dr. Karyn Purvis at Texas Christian University, demonstrated treatment efficacy. The children had severe behavioral disorders, triggered in part by NT imbalances, which were identified through urine testing and addressed through supplementation. In the study, the children were divided into two groups. Immediately after initial testing, the treatment group received neurotransmitter support for two months. The control group was tested, but then waited two months before receiving the supplements.

After two months, the treatment group showed significant improvements in both their neurotransmitter test results and in certain tested behaviors including anxiety/depression, thought process, attention problems, and aggressive behavior. "These improvements suggest that amino acid therapy has promise as an intervention for behaviorally disordered children," the researchers concluded. The study findings have been published in the *Journal of Alternative and Complementary Medicine*. Dr. Purvis' research\(^3\) confirms what I've observed in my own work with over 4,200 clients in the last eight years: a significant part of a patient's emotional health is determined by his (or her) brain chemistry. Achieving psychological balance is just one of the countless health benefits attainable through addressing brain chemistry.

NT imbalances cause (and contribute to) an astonishingly wide range of ailments and symptoms, including depression, anxiety, ADD/ADHD, fatigue, lack of drive, restlessness, anxiety, sleep cycle disorders, migraine headaches, palpitations, immune system suppression, hormonal imbalance, focus issues, memory loss, poor coordination and motor skills, weight gain, food cravings, eating disorders, weight loss, addictions, and chronic pain. Many of these symptoms undermine a patient's ability to comply with health care regimens, making it crucial to address underlying NT issues early on. Yet many clinicians lack the know-how to do so successfully.

As one of the few clinicians with a full-time practice devoted exclusively to this specialty, I've been active in this field since its infancy. I founded my Texas-based online company, Neurogistics, to meet the needs of both clinicians and patients. For testing, we rely on labs that utilize the authentic German assays supported by normative data to ensure accurate results and optimum ranges. Moreover, all protocols we generate are based on an extensive logic I developed and individually fine-tune for each patient to insure that nothing is missed, and our scientific team reviews every protocol.

Neurotransmitter Depletions in Brief

Neurotransmitters are brain chemicals that communicate information throughout the brain and body, relaying signals between neurons. Functioning in dynamic balance are two kinds of neurotransmitters: the excitatory (such as norepinephrine), which stimulate, and the inhibitory (such as serotonin), which calm the brain to balance mood. When the excitatory
neurotransmitters are overactive, the inhibitory become depleted. By signaling the sympathetic and parasympathetic nervous systems, NTs act to regulate cardiac function, breathing, and digestion, along with mood, sleep, concentration, and even weight. When out-of-balance, they can trigger many diverse symptoms, and that's why treating them offers the single most significant improvement in overall patient care. Scientists have estimated that as many as 86% of Americans may experience suboptimal neurotransmitter levels. Stress, poor diet, neurotoxins, genetic predisposition, age, drug use (prescription and recreational), and alcohol and caffeine intake can significantly deplete neurotransmitters levels.

**Defining a New Approach**

When it comes to balancing brain chemistry, treatment must be based on an accurate analysis rather than guesswork. For example, some practitioners routinely address weight loss and carbohydrate addiction with glutamine supplementation. But without knowing an individual's precise glutamate levels, this can be risky. Glutamine can convert to glutamate, and exacerbate symptoms such as anxiety, restlessness, and sleep cycle issues. Without NT testing and a comprehensive approach, it's easy to make mistakes.

With over 200 plus neurotransmitters, individual exacerbations to the 200th power can occur. Neither the symptom picture nor the individual numbers alone can tell you exactly how to restore balance. What's more, the relationship and ratios between the neurotransmitter levels is key — not just the levels themselves. Assessing and treating the overall picture is not "plug and play." Successful NT treatment has four cornerstones:

1. Proper urine testing with values based on accurate normative data
2. Symptom picture and patient history
3. Customized protocols based on the two cornerstones above and guided by clinical expertise
4. Targeted supplementation

Evaluation and treatments based on only one cornerstone would at best be incomplete or imprecise and, at worst, potentially harmful, as can be seen from the following case:

**Case #1**

At age 86, Tom, a retired engineer, had sleep disturbances, waking every couple of hours throughout the night. Though impressively independent and highly functional for a man his age, he also reported that his memory was slipping a bit. Had I relied solely upon a checklist to determine Tom's protocol, I could have easily been mislead by his symptoms and might have treated the wrong neurotransmitters or under-dosed him. His test results revealed that extremely low levels of norepinephrine (and serotonin) were causing his sleeplessness. If I used a checklist without these test results, I might have treated serotonin and dopamine only — which would have delayed improvement. As a result, he might well have discontinued treatment. Instead, with the lab results pointing to low norepinephrine as the causative factor, I first treated his serotonin levels and then, later, added excitatory support. Soon after, his sleep began to improve. Today, Tom sleeps through the night without waking and reports that his memory has also improved dramatically.

Mastering the art of accurately synthesizing and interpreting NT results takes years, and there's no substitute for clinical experience. While some companies and laboratories offer a dozen or more standing protocols for use with certain ranges of test results, in my opinion, these don't accurately capture that complexity. To date, lab personnel do not have any clinical experience to draw from when they create protocols. That's why clinicians should not fully rely upon lab report protocols, although in the absence of proper training, many do. The Neurogistics Brain Wellness Program was created as a service to clinicians to fill this gap.

**Testing**

I'm well able to evaluate the merits of different testing options, since over an eight-year period, I've seen over 8,500 results from varied testing modalities. In my view, the 24-hour urine testing was of limited use. When NT testing and evaluation were first developed by some of the luminaries in Neurotransmitter Science, I was fortunate to enter this new field, and work and learn from these pioneers.

Urinary neurotransmitter testing provided the first non-invasive and accurate guide to brain chemistry. In a recent *Townsend Letter* article (October 2006), Julia Ross critiques urine testing as inaccurate. It's certainly true that it took a few years to determine sound reference ranges, but given the rapid evolution in this field, it's a mistake to dismiss the current state-of-the-art testing based on poor results of the past. In recent years, urinary testing has provided a reliable basis for treatment. Today, there are over 500,000 cases collected by three labs that document the validity of both the testing method and corresponding treatment.

In her article, Ross also claims that a symptom checklist alone is more reliable, but I strongly disagree. Prior to the advent of urine testing, like the early pioneers in this field, I utilized a checklist for symptoms. But no matter how good the checklist, it wasn't sufficiently accurate to alleviate my patients' symptoms. Although, today, I use a questionnaire to help screen for appropriate tests, as well as to monitor treatment results, there's no point in "guessing" which neurotransmitters require balancing when you can know with scientific certainty. Moreover, an incomplete picture can lead to inaccurate treatment, as in the following case:

**Case #2**

Claire, a young professional in her mid-thirties presented with high anxiety and carbohydrate cravings. Based on a checklist alone, I might have assumed I should give her GABA and perhaps glutamine. Yet the test results revealed a serotonin deficiency, while the patient's GABA level was fine. Why risk creating
more glutamate (as can occur with glutamine supplementation) when serotonin was the major culprit? Elevated glutamate can increase anxiety, and in this case, Claire would not have experienced long-term resolution from treating GABA. However, Claire enjoyed full resolution of symptoms with serotonin support.

Laboratory results reveal the precise levels and ratios of the range of neurotransmitters. Those can't be derived or quantified from a checklist. In this, neurotransmitter treatment is just like other testing procedures. I would never use a questionnaire to identify a pathogenic bacteria, parasite, or Candida. Instead, I would run a comprehensive diagnostic stool analysis. I would feel remiss in my duty if I did not use the best analytical tools available at any given time, and currently, for NT, the best non-invasive method is urinalysis.

**Added Benefits of Testing**

In my opinion, it’s not enough to merely identify a deficiency. Test results allow you to quantify a given excretion level. Without that number, you might sub-therapeutically dose a patient and fail to alleviate the symptoms. Conversely, giving too high a dosage can also produce problems. For example, Attention Deficit Hyperactivity Disorder (ADHD) teens with drug and/or alcohol problems may have severe serotonin deficiencies. While it’s sometimes advisable to put them on a high dosage to bring back their levels, it’s important to retest to assure that the levels don’t return too quickly. If that were to happen, they could very well flood serotonin receptor sites and experience the same depression and anxiety with which they initially presented. Testing allows you to appropriately adjust treatment. Quantifying levels also indicates when to expect improvement so that patients persist with treatment until they get results.

My many Type A clients (such as professional athletes) undertake NT treatment to optimize their brains and their response to stress. Companies rely on our services to improve overall job performance. What’s more, testing can reveal incipient problems. I often see executives at the top of their game, just humming, with test results revealing serotonin at a low of 42. If they later experience a major stress, they may find it hard to recuperate. Detecting the problem and treating it early present a significant preventative.

With women patients, I often find that after optimizing brain function, they can lower their hormone supplementation to physiological dosages (about 18 mg in the case of progesterone, for example), rather than having to utilize the higher prescription dosages. Why overload yourself with hormones (whether bio-identical or equine), which the body must metabolize to excrete and carry a cancer risk, when through NT balancing, you can use a physiologic dose for its hormonal benefits?

Finally, appropriate supplementation is the fifth cornerstone of successful treatment. The supplements we offer target imbalances, while performing the following:

- omitting co-factors that interact unfavorably with other practitioner-recommended supplements,
- eliminating ingredients potentially problematic for certain health issues (like autism),
- avoiding improper combinations of inhibitory and excitatory offered too early in treatment, and
- providing ingredient levels appropriate for certain ages or conditions.

**Balancing Neurotransmitters for Family Health**

Treating a whole family for neurotransmitter imbalances can improve the relationships and quality of family life. It's fascinating to me how frequently testing reveals that family members share similar neurotransmitter imbalances, although individual symptoms and treatment needs differ.

**Case #3**

When all three members of the Lester family came to me, they were crying out for help, "We are a high-intensity, stressed-out family," Mike, the father, (aged 45) bluntly told me. He had a low libido, while Barbara, the mother, (aged 43) was significantly overweight. Gabe, their son, (aged 13) was defiant, irritable, and unfocused, with behavioral problems experienced at home and in school. Family members were argumentative and irritable with frequent high-decibel explosions.

Testing revealed that all three family members had elevated norepinephrine levels, indicating adrenal stress, which fueled anger and impulsivity. Mom's carbohydrate cravings were due to low serotonin levels, while Dad and Gabe had almost identically low dopamine levels. For Dad, low dopamine impacted his libido, while for Gabe, it resulted in ADD.

Restoring her serotonin levels helped Mom reduce her carb cravings, and lose weight. Dopamine support (with L-tyrosine) helped Dad's libido return. Following treatment with 5HTP, phosphatidyl serine, L-theanine and later L-tyrosine, Gabe's increased serotonin and reduced norepinephrine levels stabilized his mood, significantly improving his behavior and focus. Even his grades improved. Finally, reducing excitatory neurotransmitter levels for all family members reduced reactivity, impulsivity, and anger. The yelling and screaming stopped.

After three months, Barbara Lester reported back to me that, "We're no longer overwhelmed by stress. This is the best thing that ever happened to us. Pam, you helped save my family."

With our comprehensive approach, neither practitioners nor patients need ever be on their own. Via clear instructions, supplements, and prompts about when to transition and re-test, patients can become more self-assured. Practitioners are trained and are always in the loop, able to adjust their patients' care and address any problems.

"After using the Neurogistics Brain Wellness Program with my clients, I now view Neurotransmitter Balancing as a foundational requirement for most individuals seeking to improve their health and well-being. My
practitioner group relies on this program for successful patient outcomes," says William L. Wolcott, recognized worldwide as a leading authority in Metabolic Typing.

"Running two multi-functional clinics for twenty-five years, I'd long considered brain chemistry a missing link in integrative health care. In the last year, since I incorporated NT treatment, my patients have finally received treatment for key health problems that have troubled them for years. The results are fantastic, and in some instances, nothing short of miraculous. I've seen undiagnosed bipolars' experience mood stabilization for the first time in their lives." John Franzi, DC, Metabolic Typing Advisor, Australia.

Based on my experience and successful outcomes with even difficult cases, I have no doubt that NT balancing works. However, to achieve optimal results, it must be properly implemented. I offer these following guidelines for obtaining a comprehensive approach and ensuring that your patients reap the benefits of Neurotransmitter Balancing:

• Determine actual NT levels via an objective measurement; I'm one of 3,500 US practitioners who consider Neurotransmitter Urinanalysis the best non-invasive test currently available.

• Beware of simple checklists/questionnaires to replace analytical testing, as they only reveal a partial and often inaccurate view of the brain chemistry.

Don't settle for anything less than

• precisely customized protocols incorporating complete patient history and NT test results,

• solid clinical experience backing all recommendations,

• supplementation based on clinically derived protocols, and

• patient follow-up to ensure compliance and success.

Neurogistics also offers training and support to practitioners worldwide who want to integrate this modality into their practice, making it easier to achieve successful outcomes while learning and growing with this expanding field of treatment. Patients are also welcomed to access our services through our website program.

For more information, please visit: www.Neurogistics.com or call (Practitioner) Toll-free: 877-801-8076 (Patient) Toll-free: 888-257-9068

Pam Machemehl Helmly, CN, is a graduate of Texas A&M University with a degree in Scientific Nutrition. She has worked in the health care industry since 1981. In 1997, she began to specialize in NT balancing working with industry pioneers. Since 2005, serving as Chief Science Officer of Neurogistics, Pam has been a leader in the field of changing the brain to improve mood, focus, enhance sports performance, and aid in the treatment of eating disorders.

Neurogistics was founded by Pam Machemehl Helmly, CN, and marketing and business expert, Carla Roberts, Neurogistics offers a comprehensive NT balancing program. Our turnkey service includes a synthesis of objective Neurotransmitters testing results, along with subjective self-reports via a proprietary logic with results customized and reviewed by a clinical team. We provide diagnostics, treatment protocols, practitioner reports, patient reports, prompts to retest, and supplements to encourage compliance, follow-through, troubleshooting, and ongoing maintenance.

Notes

I'm depressed...
I'm anxious. I'm overweight. I'm tired. I can't sleep. I can't focus.

...You hear this from patients everyday!

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The Only Comprehensive Turn-Key Service for Practitioners

• Neurotransmitter urinanalysis testing
  • Individualized protocols by experienced clinical specialist
  • Unique patient reports: customized & detailed
  • Targeted proprietary supplements
  • Product shipping direct to patients
  • Managed patient retention program
  • Extensive practitioner support
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