

Brain Mapping and Neurofeedback Training: Reboot Your Old Brain as a New Improved Brain?

By Simon Yu, MD

Can you reboot and reprogram your old brain as a new improved brain? The new neuroscience of brain mapping and neurofeedback training has been successfully used to treat ADD/ADHD, addiction, anxiety, autism spectrum disorder, bipolar disorder, brain fog, chronic pain, depression, epilepsy, insomnia and sleep disorders, learning disabilities, memory loss, and even post-traumatic stress (PTSD) and traumatic brain injury (TBI). Especially when conventional medical interventions and psychotherapy have failed, neurofeedback can be an effective adjunct treatment. Some athletes and business executive also employ brain mapping and neurofeedback to achieve peak performance.

What is brain mapping and neurofeedback, and why I am bringing it up now? Many of my patients suffer from brain fog after chemotherapy, chronic infection, or chemical, heavy metal or mold toxicity. Even after I treat them for their underlying problems, many of them still have lingering foggy brains, with anxiety/depression, memory loss, insomnia, etc. I have been attending many brain mapping and neurofeedback trainings, as I am curious to learn whether neurofeedback therapy may help them.

I have been using neurofeedback quietly for the last two years to assess if it does what it claims. I chose a young boy with substantial autistic behavior as a pro bono case. I had already been treating him for heavy metals, parasites, fungal and environmental toxins for many years. He had improved greatly, but plateaued and still had significant autistic behavior. We started on brain mapping. Well over 100 neurofeedback therapy sessions later, his mom is seeing marked improvement. He is doing better in school, is more verbally expressive, and will graduate from a special high school program next year. The usual recommended trainings are 30-40 sessions.

I now feel comfortable telling people about neurofeedback, called Quantitative Electroencephalography (qEEG or QEEG), also referred to as “brain mapping.” Neurofeedback training has been a lesser-known part of neuroscience and psychiatry for the last 50 years. Because of earlier limitations, it has not been widely accepted in mainstream academic neuroscience and in practice, and because of the complexity of brain itself. With advancements in computing power and intelligent software over the last 25 years, QEEG can now map out precisely the region of underactive or overactive brain activity, and bring it into balance with neurofeedback training.

QEEG can be a game changer by focusing on improving the brain’s cognitive functions and capacity for self-regulation, achieving flexible and appropriate brain states, normalizing brain connectivity, addressing functionality, and providing long-lasting changes, according to Dr. Tom Collura, PhD, of [BrainMaster Technologies](#), by using the most advanced computer technology and neuroscience.

QEEG brain mapping and neurofeedback training provides a separate, independent variable in neuroscience for measuring the delta, theta, alpha, beta and gamma brain waves. It can predict the probability of the location of brain asymmetry and dysfunction based on a large database of the normal population. Neurofeedback training is like a noninvasive brain exercise program based on the qEEG brain map. You watch a specially selected movie for the brain as if you are going to the gym for lifting weights. It is like going through an exercise program to improve the strength, muscle mass, speed, agility, and overall performance of the body. You are exercising to strengthen your brain-building power while sitting in a comfortable chair, wired and watching a selected movie or game program.

Recently, I had a dinner meeting with Dr. Andrew Hill, PhD in Cognitive Neuroscience from UCLA, a leading research neuroscientist on attention and cognition in the field of EEG and qEEG. He teaches gerontology, psychology, and neuroscience at UCLA and is a founder of [Peak Brain Institute](#) in California that recently added a branch in St. Louis. His philosophy of neurofeedback training is like going to the gym and getting coaching for the brain, unlike psychotherapy. His special interest areas are athletes and business executives for peak performance, and children with ADD/ADHD.

Why am I bringing up Dr. Andrew Hill and the Peak Brain Institute? Brain mapping and neurofeedback is a new upcoming neuroscience. We need to inform the public what is available besides medications or psychotherapy for many troubling conditions mentioned earlier. Personally, I am also interested in integrating qEEG brain mapping and acupuncture meridian assessment. Understanding the brain by studying the ancient acupuncture meridian system concurrently with modern neuroscience driven by supercomputing to measure qEEG may unwrap the mystery of the brain and its signaling, interconnectivity, and interactions.

Prevention and Healing Clinic has two brain map systems, the [Clear Mind System](#) and [BrainMaster Technologies](#). BrainMaster's QEEG brain mapping has the capability for standardized low-resolution electromagnetic tomography (sLORETA) imaging and computes over 6,000 voxels - a value on a grid in 3-dimensional space - or blocks of computer-enhanced brain images and brain frequency activities. Dr. Kate Hackman, DO is our physician supervising our brain mapping and neurofeedback studies and services. Barbara Shoykhet, RN is our clinical supervisor and coordinator, and Randall Schilling is our QEEG technician.

As a new program, I am interested in applying QEEG brain mapping as part of my initial medical evaluation to track and monitor my therapy and patient progression in conjunction with acupuncture meridian assessment. There will be an introductory special rate of \$125 for two brain mappings by Clear Mind and BrainMaster (which usually cost \$700-\$1,000) on the first visit and six months later for the first 50 people. If you do not have any significant medical problems, there are about eight other practitioners who are doing brain mapping/neurofeedback in the St. Louis metro area to check out.

Prevention and Healing, Inc. is a medically oriented clinic and also conducts clinical research. Any neurologists, cognitive neuroscientists, psychiatrists, or psychologists who are interested in research, or any patients who are interested in brain mapping and neurofeedback therapy, please contact Dr. Kate Hackman, Barbara Shoykhet, RN or Randall Schilling at 314-432-7802.

Dr. Simon Yu, M.D. is a Board Certified Internist. He practices Internal Medicine with an emphasis on Integrative Medicine to use the best each has to offer. For more articles and information about integrative medicine, patient success stories, and Dr. Yu's health book, [Accidental Cure: Extraordinary Medicine for Extraordinary Patients](#), visit his website at www.PreventionAndHealing.com or call Prevention and Healing, Inc., 314-432-7802. You can also attend a free monthly presentation and discussion by Dr. Yu on Integrative Medicine at his office on the second Tuesday each month at 6:30 pm. Call to verify the date. Seating is limited, arrive early.



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