

Low Energy Neurofeedback System (LENS)



What is LENS?

The Low Energy Neurofeedback System (LENS) is a specific kind of neurofeedback that operates much more rapidly than traditional neurofeedback. With the LENS, the client doesn't need to "do" anything, and there is nothing to learn.



The LENS is a unique and form of neurofeedback that produces its effects through feedback that involves a very tiny electromagnetic field, which has a field strength of 10^{18} watts/cm².

This feedback, which is only 1/400th the strength of the input we receive from simply holding a cell

phone to the ear, is delivered in 1-sec intervals down electrode wires while the patient remains motionless, usually with their eyes closed. This feedback is then adjusted to 16/sec to remain at a certain number of cycles per second faster than the dominant EEG frequency.

This system differs from other forms of biofeedback or neurofeedback in which patients receive visual or auditory information in real time about their own brain waves or autonomic functioning (e.g., heart rate, breathing, muscle tension) and learn through operant conditioning to control their own state. Sessions are usually short, and it has been shown that fewer sessions are required to achieve results.

The developer, Len Ochs, PhD deduced the brains had the ability to pick up these microscopic feedback signals and was able to self-regulate when it perceived that areas of the brain were not functioning optimally. Ochslabs now has many patients travel from around the world for sessions with the LENS machine.

What conditions can be treated by LENS?

Preliminary research and clinical experience have found that LENS rivals, and in some cases may surpass, more traditional forms of neurofeedback and has been used to successfully address developmental, neurological and psychiatric conditions with emotional, cognitive and motor symptoms. Thus, it is used beneficially in the following situations:

- Traumatic brain injury (TBI)

- Fibromyalgia
- Attention deficit disorder (ADD)
- Attention deficit hyperactivity disorder (ADHD)
- Anxiety
- Depression
- Insomnia
- Other conditions

What happens during a LENS session?

We welcome you to our clinic where we provide LENS sessions using our LENSware 3, LENS system.

Typically, a LENS session involves relaxing in the clinic's comfortable couch, having a little area of the scalp cleaned, and then a small electrode applied with electrode paste. The site for evaluation and feedback is chosen on the basis of a map generated during an assessment session.

A typical session with the LENS lasts 3-4 minutes which means it works well for people who cannot pay attention to a computer screen for long periods of time.

The EEG signal under the electrode is recorded for up to a few seconds and then the software "feeds back" a tiny signal of the frequencies recorded from this site; offset by a predetermined amount. One way to think of this is as a mirror analogy. The electrical frequencies the brain is generating at that spot are recorded and then "played back" to the brain with an offset.

What is the success rate?

It turns out that among the vast majority of clients the actual outcome exceeds prior expectations. A

number of studies have been conducted showing LENS to be helpful in TBI, ADHD, fibromyalgia and other conditions.

Are the results from LENS long-lasting?

When the problem being addressed is one of brain dysregulation, then the effects are long-lasting. Neurofeedback involves learning by the brain and because that brings order out of disorder, the brain will continue to use its new capabilities, and thus reinforce them.

Here is some more information about LENS:

<https://www.youtube.com/watch?v=kgMPV2eG64Q>

For TBI
<https://www.youtube.com/watch?v=2019wPOKHYU>

https://www.youtube.com/watch?v=hJ93_KkSuNo
- patients experience.

And you can find more research here

Ochs labs references
<https://www.site.ochslabs.com/lens-references>

More about Integrative Medicine

Here at the Brain Health and Biofeedback Clinic we offer you holistic care as we are an integrative medicine clinic. Integrative medicine consists of a combination of two approaches to health.

Firstly, a functional view of health in which we look at your lifestyle. While we know that diet, sleep, stress management and exercise are all critical for health, many of these areas are difficult to cover in

standard care as there often just isn't the time to address lifestyle factors. One solution would be referral to a nutritionist, a psychologist or mindfulness coach and a personal trainer to separately address these areas in a patient's life. Functional practices include a lifestyle assessment and plan.

At the Brain Health and Biofeedback Clinic we provide the latest technology in stress management assessment including capnometry, galvanic skin response and heart rate variability assessments. Personalised diet, sleep and exercise support is provided.

Added to this is a systems-based approach in which we look to understand the root cause of diseases or symptoms. The person is a whole and in an integrative medicine framework, we treat the person rather than the disease. The latest advances in medical science are supporting a move towards personalized medicine. New technological developments allow us for the first time to offer individualized testing if indicated when no progress is being made with simpler approaches. Genomics (genetic testing), metabolomics (testing of individual biochemistry such as methylation capacity), autonomies assessments (the balance between the "fight and flight" and "rest and digest" systems which is often an issue in chronic disease), and microbiome studies (to identify imbalances in gut organisms which impact our health) are all now possible. Combining this with a person's envirome (their environment including lifestyle) allows for the ability to look across systems to determine an underlying cause behind an individual person's presentation.

Integrative Medicine has gained popularity. Here at the clinic we believe that personalized medicine is without a doubt, the future model of medical care.

Your Practitioner



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The Brain Health and Biofeedback Clinic is here to partner with you on your wellness journey. We do this by offering a range of innovative technology, diagnostic tools, and a holistic view to those who are looking to address the root cause of their problem and supplement their experience within the traditional health structure. We are more than a clinic; we are a community who are here to empower you to reach your complete and full human potential, in wellness, happiness and health.