

# How long has neurofeedback been around?

Neurofeedback has its origins back in the 1960's when two different researchers, Dr. Joe Kamiya and Dr. Barry Sterman, began to explore phenomena associated with brainwaves. Their work began within a few years of each other, though they were in different parts of the United States and were essentially doing unrelated work.

## The 1960's

During the 1960's Dr. Joe Kamiya at the University of Chicago was studying consciousness by attempting to elicit "alpha wave" activity in the brain. This is the type of wave the brain emits at a calm resting state. He found that some individuals could learn to identify when their brain was producing alpha waves and increase their production. They found the process to be relaxing. Using a simple reward system, and with his subjects' cooperation, he conducted the first ever EEG biofeedback training.

Meanwhile, also during the 1960's Dr. Barry Sterman of UCLA and the Veteran's Administration Hospital in Sepulveda, California was studying brain activity during sleep. His subjects were cats, and he recognized that brain activity at a certain rate of speed was associated with relaxation in the cats.

He experimented with rewarding the cats each time their brains would function at the speed associated with the relaxed state, and found that the cats responded by becoming more relaxed in general.

Shortly after those findings he was contacted by NASA to research a problem with astronauts who were exposed to a particular rocket fuel. They had headaches, nausea, hyperventilation, hallucinations, and seizures. While performing experiments with this fuel (also on cats) Sterman found that the cats who had been rewarded for the brain activity in the relaxed state were resistant to seizures that often resulted from exposure to the rocket fuel.

## The 1970's

Sterman became interested in the seizure resistance of those cats and began to experiment with humans who suffered from epilepsy. He found that 60% of the people with whom he worked reduced their seizure level by 20-100%, and that the positive results tended to endure. This was quite an exciting finding! By now, the calendar had crept to 1972. Sterman has continued his research and has since produced over 150 research papers on the results of EEG biofeedback.

Dr. Joel Lubar of the University of Tennessee heard of Sterman's work and replicated it. He also had an interest in attention deficit disorders and wondered if the relaxing effects of EEG biofeedback would extend to hyperactive children. He did research on this and likewise got positive results. Neurofeedback became a new form of treatment for ADHD.

## 1980's and Since

Meanwhile, at the Menninger Clinic Dr. Eugene Penniston, a psychologist, became interested in exploring the effects of training individuals with addictions with the new brainwave training methods to see if it was helpful for them. He worked toward a deeper level of relaxation than Dr. Sterman had, and found that it was helpful for recovering addicts. He went on to experiment with the effects of neurofeedback on war veterans who suffered from Posttraumatic Stress Disorder (PTSD). He obtained positive results for a significant number of the individuals when working at the interface between alpha and theta (even slower) wavelengths.

Research has continued and previous findings have been reproduced and found to be solid. Sue and Sigfried Othmer, with whom I took my initial training, have done quite a bit of clinical work with a wide range of clients and are currently known for their contributions to the field. They had a son, Brian, who had a severe seizure disorder, and their work to improve his life led them to neurofeedback when it was in its infancy. You can learn about them at The Brian Othmer Foundation and the EEG Institute.

Interestingly, in recent years neurofeedback has also proven useful for improving already above-average athletic performance by helping athletes with "peak performance" training.

At the present time the neurofeedback movement has spread internationally and is being recognized widely in the media. The medical community is also responding, and numerous physicians are either becoming trained as practitioners in neurofeedback or referring their patients for neurofeedback treatment. Research has increased and new methods and protocols are discovered with amazing speed.

## More Information

For more information on neurofeedback's origins you might want to read [A Symphony in the Brain](#) by Jim Robbins, mentioned above.