

## What the medical and scientific community say about Neurofeedback

“ We are convinced that Neurofeedback is the most promising alternative therapy regimen in existence today. ”

Joseph Kandel, MD and David Sudderth, MD

“ The unparalleled abilities of the human mind arise not from neurons but from the coherence of brain waves. ”

Scientific American Mind – (June/July Issue, 2006)

“ When using Neurofeedback procedures with epileptic seizures, 82% of patients demonstrated seizure reductions. ”

Dr Barry Sterman, Department of Neurobiology and Behavioral Psychiatry, School of Medicine, UCLA Medical Center

“ Loss of memory, inability to recall, and confusion, are classic signs of problems with slow brainwaves. The Neurofeedback “Brain Brightening” process of reducing slow waves enhances cognitive processing. ”

Dr Jacques Duff in Clinical EEG and Neuroscience



Dr. Joseph Guan  
M.M.Ed., Ph.D.  
Clinical Director

Dr Joseph Guan holds a Bachelor and Master's degree in Music Education and a Ph.D in Education, majoring in the brain and learning strategies. He was a secondary school teacher for 12 years and served as vice-principal and principal of various schools for nine years.

He is a Master Practitioner in Neuro-Linguistic Programming, a certified Hypnotherapist and Neurotherapist with advanced training in Neurofeedback.

Dr Guan is a Founding Certification Instructor in Energy Psychology, an active member of the Scientific Advisory Board of Innovative Technologies on Energy Medicine (USA) and the Centre of Biofield of Sciences, UK. He has also been an international corporate trainer for 15 years, in areas such as stress management, creative thinking, team building, time management, speed reading, and learning strategies.

Currently, Dr Guan is the clinical director of Brain Enhancement Centre using Neurofeedback, Energy Psychology procedures, Allergy Detection and Elimination, Detoxification, Nutritional Support, Counseling and Coaching to optimize brain functioning and the emotional well-being of his clients.

BEC Asia has embarked on an expansion programme to set up neurofeedback centres throughout Asia. Please click on [www.becindonesia.com](http://www.becindonesia.com) to view our affiliate centres in Indonesia. We also have neurofeedback treatment and training at the Malacca College of Complementary Medicine, Malacca and Dr Yee Kok Wah Clinic at 49 Jalan Melaka Raya 13, Malacca. More centres will be opening up in Philippines and Malaysia in the near future



### Brain Enhancement Centre Pte Ltd

1 Sophia Road, Peace Centre, #04-10, Singapore 228149

Tel: (65) 6338 6010 Fax: (65) 6338 6078

Email: [enquiry@bec-eeg.com](mailto:enquiry@bec-eeg.com) Website: [www.bec-eeg.com](http://www.bec-eeg.com)

## Enhancing Your Brain



Living Fully



## What is Neurofeedback?

Neurofeedback is a process to optimize brain performance. Just as biofeedback machines supply doctors and health professionals with feedback from the body, neurofeedback provides neurotherapist with feedback from the brain in the form of various brainwave patterns.

Neurofeedback directly exercises the brain and rewards it with visual and auditory feedback. The neural networks where the electrodes are located becomes activated. With repeated neurofeedback sessions, these newly formed neural networks become more permanent and dysfunctional symptoms are steadily reduced.

Since the brain is the command and control centre of the whole body, good self-regulation enhances mental performance, emotional control and physiological stability.

### How does neurofeedback work?

Neurofeedback is a totally non-invasive procedure. Electrodes or sensors are placed on the scalp. The electrodes pick up the brainwave activity and relay this to the special amplifier (Atlantis 4x4), and the readout is then displayed on the computer screen. The therapist sets certain training criteria in the programme and if the brain fulfills these criteria, then the brain gets rewarded in the form of auditory and/or visual cues. Once the brain gets rewarded through auditory and/or visual feedback, there is a great tendency for the brain to move towards self-regulation thus resulting in optimal functioning. Neurofeedback utilizes highly specialized equipment to re-train the brain. The process normalizes brain wave patterns thus enhancing performance and correcting cognitive deficits.



## What Conditions can be Helped?

- Anxiety-depression spectrum
- Attention deficit
- Autism
- Brain injury and strokes
- Depression
- Delayed speech
- Dementia
- Distractibility
- Dyslexia
- Headaches
- Hyperactivity
- Impulsivity
- Lack of focus and concentration
- Learning Disabilities
- Mathematical Disabilities
- Obsessive Compulsive Disorders
- Parkinson
- Reading difficulties
- Sleep Disorder
- Tinnitus

### It can also be used:

- to improve auditory and visual processing
- to enhance language comprehension
- as a memory booster
- to achieve peak performance
- to reduce stress

## Who have benefited from Neurofeedback?

- NASA astronauts
- PGA Golfers
- Fortune 500 CEOs
- People with cognitive deficits
- Superbowl football players
- Olympic athletes
- Professional soccer teams
- Students who want to improve academic performance

## Our Methodologies

Our clinic utilizes the latest technology from Brainmaster Technologies. The newly acquired equipment is the Discovery 24-channel EEG and DC amplifier. This machine is the latest evolution of the technology used in the 2E and 2EA (Atlantis) series of EEG biofeedback devices.

### 24 Channel Discovery Amplifier

Today, the world of neurofeedback is undergoing a transformative period with many new approaches and procedures for practitioners. Among one of the most effective, powerful and most innovative procedures is Z-Score Training. The Z Score DDL provides in real time, a total of 72 real-time values for 2 channels and 248 real-time values for 4 channels computed on a continuous basis, by the ANI Z DDL software. These calculations are performed more than 30 times per second, and provide data useful for training, as well as for assessing the current condition of the trainee, via their normative EEG scores on any of the 72 or 248 components. With this new Discovery machine, we are able to do now full QEEGs at Brain Enhancement Centre and also do the new 19 channel z score training for the whole head.



## What is the most important thing about live Z score training?

The most important thing about live Z score training is that it is scientific. It is based upon published research and a well-documented normative database. It uses concepts that have been proven in clinical research to lead to beneficial outcomes. It eliminates guesswork, and reduces the risk of over - or under-training key parameters including coherence, phase, and asymmetry. Z score training with 4 channels can address the whole head, and normalize activation, relaxation, concentration, focus, connectivity, control, and communication. Z score training can provide a complex task that addresses whole brain function in a single protocol.

### HEG device to promote blood flow

We also have the HEG (hemo-encephalo-graphy) device to measure brain function by measuring the blood flow in the brain. It is a new form of brain training that is showing great promise. Brain blood flow is voluntary and can be trained using neurofeedback procedures. Active areas of the brain are marked by high oxygen density and higher than normal temperature. The blood carries the fuel for the brain: oxygen and glucose. When an area of the brain is more active, it has increased blood supply as the capillaries in the area are dilated. With continued use, more capillaries and more synaptic connections between neurons are built in that area. When we increase blood flow, that area of the brain is able to do its job better and with greater efficiency. HEG training is very effective in the treatment of brain injury, autism, epilepsy, stroke, depression, schizophrenia, and ADD/ADHD.



### Alpha / Theta Training for Peak Performance

Alpha/theta training involves placing electrodes on the parietal lobe. With eyes closed, the client listens to a reward in the form of sound for the alpha and theta frequencies. These frequencies are best known for their relaxation and creative qualities. Studies have indicated that the alpha/theta training results in significant increases in abstract-thinking, physiological stability, conscientiousness, boldness, imaginativeness, and self-control. It is common to use this protocol for addiction disorders, anxiety, meditation enhancement, peak performance training and stress reduction. The alpha/theta protocol takes the client to a very specific frequency range -- 4 to 12 hertz - through which emotionally painful events are easily accessed and resolved.



### Slow Cortical Potential Neurofeedback Training

Slow cortical potentials (SCPs) are potential shifts of the cerebral cortex below 1 - 2 hertz. This special ultra low frequency neurofeedback training is very effective in the treatment of ADHD, autism, headaches and other cognitive deficits.