



New approach to Treating Trauma

A new form of intervention based on the brain's physiology is showing dramatic results with children, young people and adults who have suffered from torture and trauma.

Known as neurofeedback, its use at the Service for the Treatment and Rehabilitation of Torture and Trauma Survivors (STARTTS) is the first time the emerging form of therapy has been undertaken with refugee populations.

It works by training certain areas of the brain

Neurofeedback teaches us how to alter the electrical patterns in our brain so that we can say, teach ourselves to relax during stressful situations

to work more effectively. Neurofeedback achieves this by using a computer program that gives the brain positive feedback when it produces brain-wave patterns that help it to function more successfully. Because we want more positive feedback, we continue to produce the patterns which are giving us that feedback.

Medication alters the chemical balance in our brain temporarily. In contrast, neurofeedback teaches us how to alter the electrical patterns in our brain so that we can say, teach ourselves to relax during stressful situations. Because neurofeedback shows our brain how it can produce these patterns by itself, eventually the changes can be produced without the aid of the program.

The program is being piloted with a group of nine children. While the sample size is small, initial results show improvement in 90% of cases. More than half of the children showed either extreme or high levels of improvement.

The number of adults undergoing the intervention is even smaller, but one long-term client, with STARTTS for more than 10 years, demonstrates just how effective neurofeedback can be. The pace of change since he commenced neurofeedback is far outpacing the improvement when he was receiving counselling alone.

While neurofeedback is showing fantastic results,

its principal practitioner at STARTTS, Mirjana Askovic, acknowledges that much more needs to be done before we can definitively say it's an effective form of therapy with refugees.

"It's hard to separate whether the changes can be attributed to neurofeedback alone. Clients that are undergoing neurofeedback also undergo other forms of therapy, such as counselling or physiotherapy," Ms Askovic said.

"It's likely that it's a complex interaction of the various interventions that is producing the results.

"I'm very confident that neurofeedback works, but we need to use it with a larger sample group and we need to account for different factors.

"For example, when a child has a supportive family that is functioning well, neurofeedback appears to be much more successful."

Neurofeedback is based on the idea that some psychological problems, such as post-traumatic stress disorder, are related to physical changes in the brain. Prolonged exposure to trauma has been proven to affect areas of the brain

called the amygdalae, hippocampus and medial prefrontal cortex. Working both independently and collectively, these areas are responsible for controlling our emotions, fear reactions, learning, memory and stress management.

Many multiple-trauma survivors have overactive amygdalae. The automatic fight responses that the amygdalae helps our bodies prepare for become too ready to act. This helps explain why people who have suffered trauma are easily startled, suffer from panic attacks and are quick to become aggressive.

The hippocampus helps the amygdalae remember certain situations that created fear. People with long-term exposure to severe stress have been shown to have reduced activity in the hippocampus area of the brain. This can lead to problems in coping with the memories of torture and trauma as well as making it hard to learn.

Torture and trauma survivors are likely to have an overactive prefrontal cortex. When functioning normally, it's responsible for calming us down when a fearful situation ends. When it's overactive, it perpetuates fearful responses to situations that are not frightening. This helps us understand why when a survivor is in a situation that reminds them of a time when they were terrified they react as

if they were there.

Neurofeedback trains all of these parts of the brain to work as they did prior to the traumatic experiences. An experienced counsellor attaches electrodes from a sophisticated computer program to the participant's head. They then helps the participant go into a deeply relaxed state, called alpha state.

The program gives the participant information about their brainwaves, in the form of visual images and sounds. The images come in the form of a computer game that participants are playing. In other words, the participant's brainwaves are controlling the computer game.

On another computer screen the counsellor is viewing a number of graphs, showing how different areas of the brain are reacting.

The person is encouraged to obtain certain sounds and images from the program. Those sounds and images only flow when the person's brain waves are working "normally".

"In the first group of sessions we aim to help decrease anxiety and improve concentration, memory and sleep problems," Ms Askovic said.

"Once this is complete, we work with clients directly on their torture and trauma issues.

"The aim of this second group of sessions is for the participant

to access their painful memories without reliving them. They can then learn to gain control of those memories.

"In the deeply relaxed state we use in neurofeedback, our clients become aware of how they deal with unconscious memories.

"By becoming aware of how those memories are triggered, they can learn to produce a different response in the brain to those memories.

"We're helping them to regain control of their lives."

Want to learn more?

On 26 June, STARTTS is hosting a one day seminar on trauma and recovery at the Masonic Centre, Sydney. Entitled The Integration of Neurofeedback and Psychotherapy, it will be presented by internationally acclaimed psychotherapist, Ms Sebern Fisher.

She will use the seminar to help clinicians deepen their understanding of trauma and the complex relationship between the brain and the mind. She'll also explain the benefits neurofeedback affords psychotherapy.

The cost of the seminar is \$200 including meals and materials. For more information or to register telephone **(02) 9794 1900.**