BrainWave Centre

Objective Measurement...
Confident Management

INFORMATION Sheet

ADHD and Neurofeedback

What is Attention De□cit Disorder?

ADHD is one of the most common psychiatric disorders of childhood and is caused by a neurochemical imbalance in the brain. ADHD occurs in 4-6% of children and 3-4% of adults, thus persisting into adulthood 60-70% of the time.

ADHD is independent of IQ level and socioeconomic status. ADHD is often accompanied by learning di culties and sometimes by severe behavioural disorders such as Oppositional Defiant Disorder and Autism.

ADHD is defined by elevated levels of inattentive and/or hyperactive and impulsive behaviours causing functional impairment in multiple settings i.e. school, home, and the workplace. Untreated ADHD has an increased risk of disrupted familial and peer relationships, antisocial behaviour, academic failure, poorer work prospects, drug addiction, depression and schizophrenia.

Proper diagnosis is imperative to the confident treatment and management of ADHD. Referral to the BrainWave Centre provides confident, objective diagnosis of ADHD.

e BrainWave Centre uses qEEGs (quantitative electro-encephalography), a painless, safe, and non-invasive test that registers, records and compares the patient's brain activity against a set of 'normal' values, based on over 24,000 patients tested over the last 11 years at our Westmead Centre.

e qEEG assessments are generally conducted in conjunction with a full psychological assessment for a comprehensive diagnosis.

Medication can be an e ective treatment option once a proper medically-based diagnosis is made. e dosage and the e ectiveness of the medication can also be monitored by follow-up qEEGs.

ere have been increasing concerns that the quick resorting to medication for children who have ADHD has led to an over-simplification of a complex condition, leading in turn to over-diagnosis, misdiagnosis and to over-medication. Parents have reservations about having young children on prescribed medication.

Adults also express concerns about the use of long term medication to treat their condition. Neurofeedback responds to community and parental concerns about the over-prescription and safety of ADHD medication.

What is Neurofeedback?

Neurofeedback is a new, safe, non- invasive, painless, drug-free technique that has proven to be very e ective in the treatment of ADHD and other associated behavioural conditions such as depression, anxiety, and stress. Neurofeedback therapy can be tailored to individual patient needs.

Neurofeedback is a computer-based technology which rewards the patient for changing their brainwave activity towards what is more characteristically "normal". Sensors are placed on the scalp and the patient's brainwaves (electrical activity) are registered and monitored by a neuro-therapist while the patient follows a display on the computer screen, similar to a video game. e therapy is best described as a brain exercise that over time, teaches the patient's brain improved skills of managing attention, hyperactivity or emotional state.

ADHD and Neurofeedback

Neurofeedback allows the patient to have better control over their own behaviour, automatically, just as these functions are automatic for those of us who do not have ADHD. With a more functional brain, the patient will exhibit their natural intellectual abilities, and measured IQ scores may very well increase significantly with training. It's like learning to ride a bike, it takes a little while but once you practice it and get good at it, you've learnt it for life.

If a child exhibits severe disruptive behaviour, this too will fall away as the neurofeedback sessions are administered.

Disturbed sleep, depression, anxiety and specific learning di culties such as dyslexia, poor visual and auditory memory can also be remediated by neurofeedback. Neurofeedback should be considered as part of a comprehensive program for addressing the needs of ADHD patients or for those with learning or behavioural problems. Even children and adults without specific diagnostic criteria can benefit from the therapy because EEGg training helps any brain to function better.

Neurofeedback has been shown to be at least as e ective as medication in treating all the types of ADHD. Gains made using neurofeedback can remain for years after training, with no negative side-e ects.

Because neurofeedback training extends over a period of time, any apparent side-e ects can be eliminated almost immediately. Few side-e ects have been reported or associated with this therapy.

Research has shown that the positive outcomes are lasting and still discernable 10 years after the treatment (Lubar 1995).

It could be said that neurofeedback treats the cause of the condition whereas medication treats the symptoms.

In a 1997 report to the US Dept. of Education, researchers discovered that children's reading scores continued to increase 16 months after treatment was complete even when normal development over this period is accounted for Russell & Carter,1997). Researchers have also found that 20 sessions of Neurofeedback have produced comparable improvements in attention and reduced impulsiveness when compared to taking Ritalin (Rossiter and LaVaque, 1995). is research was later confirmed by other published studies (Fuchs et al., 2003: Rossiter, 2005). At least one other study found that neurofeedback produced superior improvements to Ritalin.

e recent edition of the psychiatric journal Child and Adolescent Psychiatric Clinic of North America reported 'significant benefits for 70 to 80% of participants with an e ective size for neurofeedback equivalent to that of stimulant medication'. e authors recommended neurofeedback be considered by clinicians and parents as first line treatment for ADHD, when parents or patients prefer not to use medication and also as an option in cases when significant side e ects or insu cient improvement occurs with medication (Hirshberg, 2005).

Only about 15% of adults who su er from ADHD have been diagnosed and treated (Hallowell and Ratey, 2005). Given the seriousness of this condition and the havoc it creates for families and employers, a long-term solution directed at the cause of ADHD, not just the symptoms, makes a lot of sense.