

## **DISCLAIMER**

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The information contained herein includes both psychological and non psychological interventions. The delivery of psychological services requires a medical referral whilst non psychological services do not.

Each person is an individual and has a unique psychological profile, biochemistry, developmental and social history. As such, advice will not be given over the internet and recommendations and interventions within this website cannot be taken as a substitute for a thorough medical or allied health professional assessment or diagnosis.

# EDS - EEG (Electroencephalographic) Driven Stimulation

## Article QUICK LINKS :

[Introduction](#) / [Benefits of EDS for Head Injury clients](#) / [Summary](#) / [Further Reading Suggestions](#)

## INTRODUCTION

EDS (EEG Driven Stimulation) is a form of brain wave biofeedback ([EEG biofeedback](#)). It is similar in application to conventional brain wave (EEG) biofeedback, in that an individual's brain waves are measured and translated into feedback that is seen and/or heard by the person. As it has been found that the neuron is sensitive to changes in magnetic fields these are also used.

EDS is different from conventional EEG biofeedback in a number of ways, however:

1. The feedback presented to the person is in the form of lights and / or magnetic field that pulsate at the same frequency as the strongest brain wave produced by that individual. These lights are very bright, and rest inside goggles that the person wears over the eyes.
2. Unlike traditional biofeedback, EDS is a passive process and the person does not have to try to understand or consciously interact with the feedback, or learn how to regulate his or her own brain waves. Without the need to take time to learn how to control one's own brain waves, the process of change begins immediately.
3. Unlike traditional biofeedback, the changes appear to come about more rapidly. This form of feedback is especially suited to chronic or long standing conditions, head injury, clients suffering from post-traumatic stress, clients suffering from depression, and from stroke, and are more significant to clients and their families.

## **BENEFITS OF EDS FOR HEAD INJURY CLIENTS:**

1. Decreased feelings of irritability
2. Decreased feelings of anger
3. Decreased feelings of fatigue
4. Decreased feelings of anxiety
5. Decreased feelings of depression
6. Improved sleep
7. More energy
8. Improved concentration and attention, formerly interfered with by affective activity
9. Improved memory, formerly interfered with by affective activity

Tangible, palpable, visible improvements are typically noted within 3 to 6 sessions in the majority of cases.

Electroencephalographic-driven stimulation (EDS) is a behavioural tool to influence brain electrical and hence chemical activity without medication and appears to stimulate the brain toward its natural homeostasis.

Self regulation is thus learned much more easily without attempting to fight chemical pathology with words (talk therapy).

EDS can be used in a variety of ways to ameliorate clinical conditions which require specific interventions.

Clinical experience demonstrates that symptomatology improves more rapidly when:

1. the symptoms are disrupted by alternations in leading direction (which means influencing the brain to alternately produce slightly faster and slower EEG activity),
2. desensitization occurs to higher intensity stimulation as well as a broadened frequency spectrum of frequency stimulation, and
3. there is a history of high functioning prior to trauma.

These observations have led EDS practitioners to view long lasting dysfunctions, ones refractory to behavioural interventions and other rehabilitation techniques, as possible neurochemical impairments, and specifically rigidification of neurochemical response systems.

It may be that social and physical trauma evoke such a flood of neurochemical activity in the brain that the brain secretes more inhibitory neurotransmitters to protect itself against seizure. In doing so, the protective inhibition also leads to loss of function. It may further be that these inhibitory neurotransmitters do not

dissipate easily, or that their production mechanism does not reset itself. The disruptive effects of the EDS stimulation prompt their discharge and allow the brain its normal homeostatic functioning.

It has been widely observed that rigidity of response sets (i.e. "stuck" in a particular brain wave frequency or pattern) accompany most pathology, and leave individual "stuck" in their pathology. The alternating push-pull of the photic driving may be responsible for inducing more functional flexibility.

## **SUMMARY**

EDS is a tool used to produce relatively rapid resolution of difficult emotional reactions, whether the reactions appear to have been induced by physical or social trauma.

In our clinic, the three EDS systems we utilise to great effect are the [FLEXYX Neurotherapy System](#), [LENS \(Low Energy Neurofeedback System\)](#) and [Roshi](#).

EDS is a combination of procedures that have been used and researched. The combination of EEG as a guide to the disentrainment stimulus, while not new, has been used infrequently and as a combination is not well researched. The phenomena seen during the use of EDS is indistinguishable in form to that seen doing EEG biofeedback, hypnosis, or even other psychotherapies, except in speed of effect. The pace of the progress using EDS can be much faster than with EEG feedback alone. EDS is particularly useful when a client is either refractory to psychotherapy or the pace of psychotherapy seems inordinately slow, and has been functioning well prior to trauma.

This is a very powerful tool, and requires a high degree of skill, experience, and sensitivity as a therapist.

## **FURTHER READING SUGGESTIONS**

- Neurofeedback - EEG Biofeedback - a Drug-Free Strategy for ADHD, Learning Disorders and Other Conditions
- Post Concussive Syndrome / Head Injury
- Flexyx™ Neurotherapy System
- Low Energy Neurofeedback System (LENS)
- Roshi

**For more information or to make an appointment please contact us on (02) 9637 9998 during business hours.**