Cranial Electrotherapy Stimulation (CES) is an FDA-cleared treatment for anxiety, depression and insomnia. Using precisely tuned, subtle electrical impulses, CES stimulates specific parts of the brain to revert to normal production of neurotransmitters. The result is properly balanced brain chemistry and the reduction of elimination of symptoms.  

The electric currents used in CES are similar to those naturally produced in the brain; they are safe and often not even felt by our clients.

The use of CES for addiction was pioneered by Dr. Margaret Patterson, beginning in Hong Kong in the 1970's. By the late 1970's, Dr. Patterson had perfected her techniques and was treating addiction with great success. She developed a following among professional musicians, and her success stories include Pete Townshend, Boy George, Eric Clapton, and Keith Richards among others.  

In modern use, a variety of devices are commercially available for the treatment of depression, anxiety and insomnia, and a large number of high-quality research studies have been published. Meta-analysis of CES studies shows the following results:

Meta Analysis of CES Treatment Effectiveness

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1 Smith RB. Cranial Electrotherapy Stimulation: Its First Fifty Years, Plus Three. Monograph 2006
Depression
A meta-analysis of 18 published studies on depression treatment reveals that the lowest effectiveness recorded in any study was 25%, and the highest was 80%. The mean (average) of the studies recorded an effectiveness rate of 46% for depression. These statistics are good, but fail to tell the whole story. A comparison with anti-depressant medication is even more impressive.

Trials of the six market-leading antidepressants reveal a mean placebo contribution-to-effect size of 79%. In other words, 79% of the effect of taking an antidepressant medication is due to the placebo effect, and only 21% can be shown to be due to the medication itself.

On the other hand, the same study showed a mean placebo contribution-to-effect size of just 37% for CES. In other words, 63% of the effect of CES stimulation on depression can be shown to be due to the treatment itself, and not placebo.

Simply stated, this research shows CES treatment for depression is approximately two to six times more effective than antidepressant medication, and has virtually no side effects.5

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Anxiety
Anxiety disorders are the most common mental illness in the US, and include Generalized Anxiety, Phobias, Panic Disorder, Obsessive-compulsive disorder, and Post-traumatic Stress Disorder (PTSD). Anxiety disorders affect 18% of US adults and 25% of adolescents.

Meta analysis of 38 anxiety research studies shows a minimum CES effectiveness of 34%, and a maximum of 87%. The mean (average) effectiveness is 58%. Further, a study of significant patient response shows that a high percentage of patients experience significant improvement with CES in most anxiety-family disorders (see following chart.)

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**CES Treatment Outcomes for Anxiety Disorders**

<table>
<thead>
<tr>
<th>Disorder</th>
<th>% of Patients Reporting Significant Improvement (&gt;25%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panic Disorder</td>
<td>42</td>
</tr>
<tr>
<td>OCD</td>
<td>100</td>
</tr>
<tr>
<td>Bipolar</td>
<td>88</td>
</tr>
<tr>
<td>PTSD</td>
<td>71</td>
</tr>
<tr>
<td>ADHD</td>
<td>81</td>
</tr>
<tr>
<td>Phobias</td>
<td>60</td>
</tr>
</tbody>
</table>

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Addiction
CES has been shown effective in a variety of studies and case reports for treatment of addictions of many types. In fact, it has been suggested by at least one expert in the field that standard addiction treatment facilities do not use CES because it is too effective and limits their ability to make money on repeat treatment. A meta-analysis of 15 published studies on addiction treatment reveals that the lowest effectiveness recorded in any study was 35%, and the highest was 79%. The mean (average) of the studies recorded an effectiveness rate of 60% for addiction.\(^8\)

Of 86 published studies on CES use in drug withdrawal, 78 show positive outcomes for CES. (91%)

Two representative studies will be highlighted here. In the first, heroin addicts undergoing methadone treatment were provided CES, as were control groups receiving placebo and sham CES. The results are shown below\(^9\) in Figure 1:

\(^8\) Smith, Op. Cit.

In another study, cocaine addicts were provided CES treatment and compared to controls undergoing traditional treatment. As shown in Figure 2, 100% of the CES group completed detox, completed treatment, and did not relapse in 8 months\textsuperscript{10}.

**Figure 2.** CES Cocaine Addiction Study. This graph shows 100% of the CES treated group, but not the control group, completed treatment and avoided recidivism.

**Summary**

Cranial Electrotherapy Stimulation is a powerful tool in the treatment of neurological disorders, including anxiety-family disorders, depression, addiction, and even cognitive disorders. Well over 100 research studies have been published on this treatment method, with nearly universal positive results.

The combination of CES with the other synergistic treatments offered at Theta Wellness Centers provides truly remarkable results in these otherwise difficult-to-treat problems.

\textsuperscript{10} Kirsch, Addictions, Op. Cit.