

# Concussion Recovery Therapy

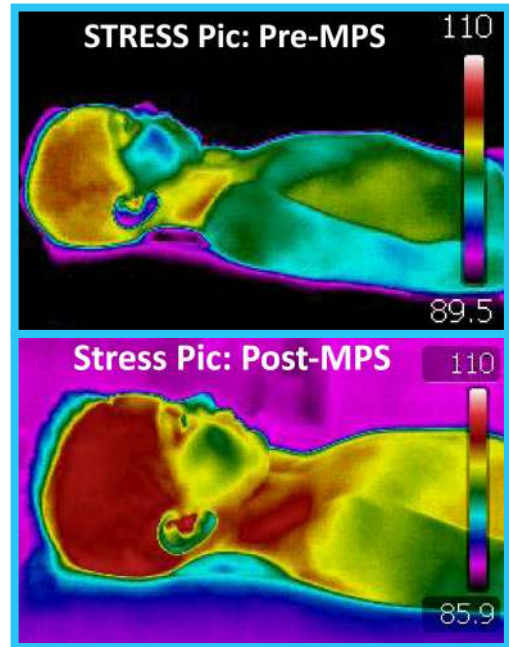
A Breakthrough in Brain Healing

# A Concussion Breakthrough

Concussion Recovery Therapy (CRT) is a breakthrough therapy for the treatment of concussions and brain injuries.

CRT methodologically applies trans-cranial microcurrent (tCMPS) to reduce CORTISOL, PCS Symptomology and improve cognitive functioning test scores (KD, ImPACT)

CRT stress reduction improves Headaches, dizziness, and brain fog, sleep duration and the patients emotional status.



Shoulder Release

## What is tCMPS?

tCMPS is the active trans-cranial application of concentrated microcurrent point stimulation (MPS) into cranial sutures, scars and key calming acupuncture points for sympathetic stress and cortisol reduction, pain management, and improvement in concussion functional outcomes.

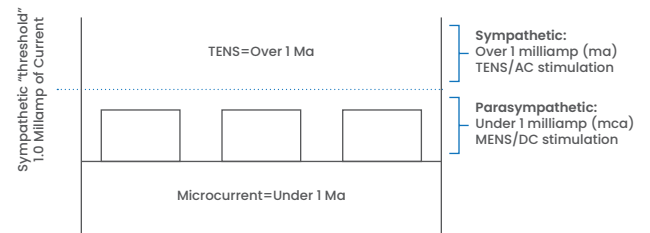
tCMPS is not a passive application, like tCDS (trans-Cranial Direct Stimulation) which is applied with pads or sponges. tCMPS is a learned skill that is instructed at MPS educational seminars.



# Why Microcurrent for Brain Healing?

Microcurrent has been clinically proven to closely approximate the body's naturally occurring cellular bio-electric currents.

Microcurrent (millionth of amp  $\leq 1\text{ma}$ ) has been scientifically proven to accelerate ATP, protein synthesis, metabolism, and regulation the autonomic nervous system, key actions for healing the brain and body.  
\* AC is man made, DC is found in nature.



Research supports currents above 1ma ( $\geq 1\text{ma}$  AC TENS and AC Electroacupuncture (EA), as inhibiting ATP, metabolism and increasing sympathetic stress. Note below stress response difference between AC and DC currents.



Modality	Stress
MPS (D/C)	-41%
Acupuncture	-3%
Massage	+10%
TENS (A/C)	+18%

## MPS - A Superior Microcurrent

Microcurrent Point Stimulation (MPS) was born out of Endorphin research of the 1970-80's. Research proved endorphins were only released using a low voltage, high power square wave, as these parameters optimally resonated with bodies nerve system & cells.

Today, that same stimulation is packaged for convenient application and delivering the most potent de-stressing stimulation on the market, for unparalleled concussion & brain health outcomes.



## Science: Concussion Recovery

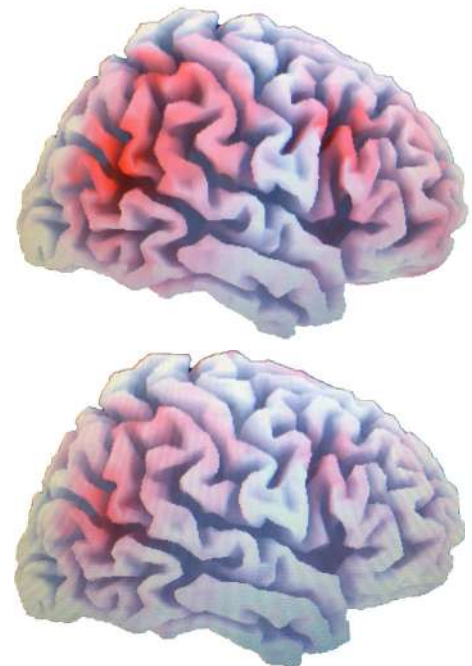
It is widely accepted in science that imbalances of the sympathetic and parasympathetic branches of the autonomic nervous system (ANS) are directly linked to wide variety of pain and diseases. Stress or persistent tone of the sympathetic system is directly related to ongoing PCS symptomology and decreased neuroplasticity.

### **Cortisol (stress) linked in science to Brain Health:**

- Decreased neuroplasticity (Sale 2008), Brain aging (Landfield 1978)
- Refractory TBI and post concussion syndrome, (Condor 2014)
- Hippocampus atrophy and memory (Tatmir 2014),
- Impaired cognitive performance (Lupien 1994)

tCMPS reduces cortisol & stress to help heal concussions & BRAIN injuries.

## EEG Proves tCMPS Reduces STRESS



**Pre-Post tCMPS EEG:**  
Recorded and analyzed using  
Neuroguide Q20 EEG with LORETA capability

## Published Stress Research

### Detailed Autonomic Nervous System Analysis of Microcurrent Point Stimulation Applied to Battlefield Acupuncture Protocol.

(MedAcu) MPS significantly improved STRESS and Nervous System Regulation

Marker	Norm	Pre	Post	% Change	95% CI
HRV	>780ms	1577.38	2239.75	+42%	P=0.037
Stress	<180ms	145.88	106.75	-27%	P=0.042
Vagal Tone	>220ms	412.35	643.25	+56%	P=0.029
Exercise Tolerance	>40ms	43.38	52.88	+22%	P=0.017
Cardiac	>40vs	44.9	66.41	+48%	P=0.008
Diabetic Insulin	<33ms <sup>2</sup>	25.38	16.13	-36%	P=0.32

## Published Concussion Research

### DC Electroacupuncture Effects on Scars and Sutures of a Patient with Post-concussion Pain (MedAcu)

MPS reduced STRESS, eliminating PCS Symptoms, Tremors and Headaches

VAS Pain Scale	Pre tCMPS	Post tCMPS	% Change
Headaches	7/10	0/10	+100%
Top head pain	10/10	0/10	+100%
Tight/restricted neck	Tight	Loose/No restrictions	+100%
Sympathetic stress	152ms	120ms	-21%
HRV	497ms	951ms	+91%
Exercise Tolerance (VO <sub>2</sub> max)	32ms	37ms	+15.5%

## More Concussion Research

### Transcranial Microcurrent Point Stimulation Reduces Cortisol levels Improving Cognitive Functioning and Post Concussion Symptomology

MPS reduced Cortisol STRESS, reducing PCS Symptoms,  
improving cognitive functioning, and Neuroplasticity

#### tCMPS Applied to Concussion Patients: Descriptive Statistics

	N=	Minimum	Maximum	Mean	Standard Deviation	% Change	Confidence Interval
Years Suffering	29	.30	16.00	3.9224	3.85597		
Cortisol - Pre	29	.3500	3.9800	1.450690	.8902685		
Cortisol - Post	29	.3000	2.0500	.767586	.4230726	-46%	P=0.000
Symptom - Pre	29	19	119	72.59	23.060		
Symptom - Post	29	0	86	39.41	22.224	46%	P=0.000
CFI - Pre	29	-.3000	.5900	.148621	.1884282		
CFI - Post	29	-.1400	.5000	.218621	.1635482	+47%	P=0.0015
ReacT - Pre	29	.5700	1.7800	.902069	.2679736		
ReacT - Post	29	.5600	1.5500	.835517	.2481300	-7%	P=0.001
KD -Pre	27	42.5000	220.7000	78.5000	36.4183		
KD - Post	27	41.6	130.5	66.707	25.1488	-15%	P=0.012

***“Altered sympathetic balance of the ANS  
is a critical factor in refractory post  
concussive syndrome (PCS) recovery.”***

# Learning to Treat Concussions

Concussion Recovery Therapy (CRT) is the world's first scientifically documented breakthrough for the treatment of Traumatic Brain Injuries (TBI's) and concussions.

CRT combines outside-the-box therapeutic thinking with cutting edge evidenced based science to produce the world's first documented successful brain therapy, ushering in a new era for human health and healing.

**Now Learn how to help your concussion and TBI patients!**

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