

# tDCS

TRANSCRANIAL DIRECT  
CURRENT STIMULATION



## WHAT IS THE TDCS - TRANSCRANIAL DIRECT CURRENT STIMULATION?

tDCS is a non-invasive and painless brain neuromodulation technique that applies a low-intensity galvanic current to the scalp in order to stimulate specific areas of the brain.

- ☑ There are **more than 8000 scientific articles** with an average of more than 2 articles per day published in the last 3 years.

## HOW IS IT APPLIED?

It is performed by placing different electrodes on the scalp, depending on the cortical areas to be stimulated in each case according to the pathology described and the published protocols, and the application of a galvanic current at low intensity through these electrodes.

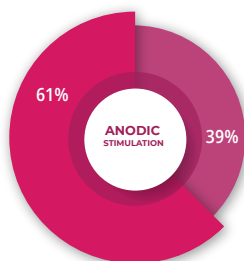


## WHAT IS THE OBJECTIVE OF THIS TECHNIQUE?

During stimulation there is an alteration of the membrane potential of the neuron depending on its polarity.

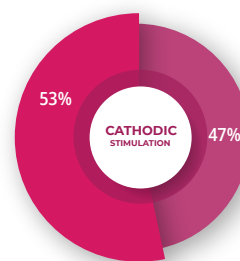
- 1. **ANODIC TDCS**  
Neuronal soma Depolarization.  
Apical dendrite Hyperpolarized.

- 2. **CATHODIC TDCS**  
Hyperpolarized neuronal soma.  
Apical dendrite Depolarization.



*High effectiveness*

Source: Hamada et al. 2013; Wiethoff et al. 2014



## “Non-invasive and painless cerebral neuromodulation.”

In short, the application of tDCS produces a neuromodulatory effect of neuronal excitability and favors cerebral neuroplasticity in the cerebral area of application, and therefore the reorganization of its neuronal connections, requiring the application of several sessions on a regular basis, favoring the clinical improvement of multiple pathologies.

### TDCS BENEFITS



### TDCS APPLICATION FIELDS

tDCS has ample scientific evidence and rated at high levels in fields such as: Evidence-Based Guidelines and Secondary Meta-Analysis for the Use of Transcranial Direct Current Stimulation in Neurological and Psychiatric Disorders - PubMed (nih.gov)

- Chronic Pain
- Fibromyalgia
- Migraines
- Neuropathic pain
- Epilepsy
- Stroke: aphasia, motor function
- Parkinson's
- Motor rehabilitation
- Chronic fatigue
- Attention
- Depression
- Anxiety
- Addictions