## Cranial electrotherapy stimulation (CES)

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## What we will do?

- Cranial electrotherapy stimulation (CES) is a noninvasive procedure that has been used mainly to treat anxiety, depression, and insomnia in the general population.
- We started with CES in ADHD children, moderate hypertension and chronic diseases (CF) as well as in adolescents with general anxiety and depression.

- Cranial electrotherapy stimulation (CES) uses medical devices about the size of a cell phone that send a pulsed, weak electrical current to the brain via electrodes placed on the ear lobes, maxilla-occipital junction, mastoid processes, or temples.
- It produces current of 0-500 microamperes'
  (μA), preset to 0.5Hz, emitted in cycles for 20
  minute countdown to auto-off.

## Procedure

- Dgn DSM-V
- Psychometric tests (Beck Depression Inventory, MMPI, Anxiety scales, etc)
- QEEG, ERP's
- Influence on alpha brain waves (20, 40, 60 min. duration)
- Evaluation of results