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NIBS using tDCS to mitigate aggression V.1

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Non Invasive Neuromod...

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We use this protocol and it's working

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Keywords: neuromodulation, brain stimulation, transcranial direct current stimulation, noninvasive brain stimulation study, frontal cortex tdc, non invasive neuromodulation procedure, tdcs intervention, noninvasive brain stimulation study on the same day, aggressive behavior safety, using tdc, aggressive behavior in healthy adults condition, electrode, current stimulator, aggressive behavior, electrode site, metallic implants near the electrode site, aggression, obtained medical clearance contraindication

Disclaimer

The protocol is published to facilitate sharing and reuse of non invasive neuromodulation research outcomes. The protocol describes a procedure which has been tested, peer reviewed and published by reputable sources with supporting data.
The source of the protocol together with critical information about its safe application are provided without warranties.
The author is not responsible for unexpected, undesired or adverse outcomes of the application of the protocol.
Readers, researchers, clinicians and healthpractictioners accessing this material are responsible for verifying the content and relevance of the protocol and its application, and use it at their own discretion, taking into account the the safety warnings.

Abstract

Protocol Description: Non Invasive Neuromodulation procedure using tDCS (transcranial direct current stimulation) to mitigate aggressive behavior in healthy adults
Condition: tendency to exhibit overly aggressive behavior
Safety: The procedure must be administered by trained personnel, and the subject must obtained medical clearance
Contraindications: Do not administer this procedure if the subject has metallic implants near the electrode sites; is epileptic; has unstable medical conditions; neurological, cardiovascular, or psychiatric illness; participates in another noninvasive brain stimulation study on the same day; has history of adverse reactions to tDCS;
Do not apply electrodes to skin with lesions

tDCS intervention. using a battery-driven, constant-current stimulator .

DLPFC pre frontal cortex
Tdcs transcranial direct current stimulation

Guidelines

Safety Warning: The procedure Must be administered by trained personnel ; the subject must obtain medical clearance

Materials

tDCS administered by trained personnel using a battery-driven, constant-current stimulator (adherent to international standards) plus Two anodal electrodes

A constant currentof 2 mA (1 mA to each DLPFC site) applied for 20 min through saline-soaked sponge electrodes (5 × 5 cm).

A single extracephalic cathodal electrode (5 × 7 cm) ia placed at the posterior base of the neck to minimize unintentional effects of inhibitory stimulation on brain activity.

Troubleshooting

Safety warnings

Do not administer this procedure if the subject has metallic implants near the electrode sites; is epileptic; has other unstable medical conditions; neurological, cardiovascular, or psychiatric illness; participates in another noninvasive brain stimulation study on the same day; has history of adverse reactions to tDCS;
Do not apply the electrode on skin with lesions

Ethics statement

Subject must be informed about the protocol followed in procedure before it starts, its safety warnings, the expected duration and has given explicit consent.
The procedure has been developed and tested in research laboratory on 81 subjects, pre trial, (see Source) tDCS is associated with minimal side effects. No major adverse events were reported over the duration of the study

Before start

Two hours before or after main meals
wearing no metal objects
comfortable clothing
sitting in semi reclined position

Protocol Description

1 Two anodal electrodes are placed over the DLPFC bilaterally (F3 and F4) according to the International 10 –20 EEG system.

2 A constant current of 2 mA (1 mA to each DLPFC site) is applied for 20 min through saline-soaked sponge electrodes (5 5 cm).

3 A single extracephalic cathodal electrode (5 7 cm) is placed at the posterior base of the neck to minimize unintentional effects of inhibitory stimulation on brain Activity.

4 Following standard tDCS protocol, stimulation commences after 30 s ramp-up period. The current is ramped down over the last 2 s.

5 Check the subject throughout the procedure and discontinue if the subject shows discomfort

Safety Warnings

6 Use tDCS equipment and accessories compliant with international standards, by trained personnel

7 In pre clinical studies, the procedure can mitigate Aggressive behaviour

Protocol references

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