

**原作者及出處 (Original):**

Villalta Santos L, Benite Palma Lopes J, Almeida Carvalho Duarte N, Galli M, Collange Grecco LA, Santos Oliveira C.

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**翻譯者 (Translator):**

張薰文

輔英科技大學物理治療學系助理教授，高雄，臺灣

**校閱者 (Reviewer):**

康琳茹

長庚大學早期療育研究所副教授，桃園，臺灣

**題目 (Title):**

對腦性麻痺使用陽極經顱直流電刺激於運動皮質區與小腦區之效應：研究計畫書  
Effect of Anodic tDCS Over Motor Cortex Versus Cerebellum in Cerebral Palsy: A Study Protocol.

**摘要中文翻譯****目的：**

比較痙攣型腦性麻痺兒童使用跑步機訓練結合陽極經顱直流電刺激(anodic transcranial direct current stimulation, atDCS)於主要運動皮質區(Cz)，特別是掌管下肢的運動皮質區，和小腦區(Cb)的臨床和功能性效應。

**方法：**

30位患有痙攣型腦性麻痺的兒童和青少年被隨機分配成三組：(1)跑步機訓練結合atDCS於皮質區；(2)跑步機訓練結合atDCS於小腦區；(3)跑步機訓練結合假性atDCS於皮質區。在介入前一周和介入後一周、一個月、三個月評估步態時間-空間參數、功能性活動、功能性平衡、粗大動作功能和功能表現。每三個月參與者將轉換組別。

**討論：**

這是一個比較使用atDCS於主要運動皮質區和小腦區的臨床和功能性效應的介入性研究計畫書。

## **Original Abstract**

### **Purpose:**

To compare the clinical and functional effects of treadmill training combined with anodic transcranial direct current stimulation (atDCS) on the primary motor cortex (Cz), specifically on the area of motor cortex representation of the lower limbs, and on the cerebellum (Cb) in children with spastic cerebral palsy (CP).

### **Methods:**

Thirty children and adolescents with spastic CP will be randomly allocated in 3 groups: (1) treadmill training and atDCS on Cz; (2) treadmill training and atDCS on Cb; (3) treadmill training and sham tDCS on Cz. Evaluations of gait spatial-temporal parameters, functional mobility, functional balance, gross motor function, and functional performance will be performed 1 week before intervention and 1 week, 1 month, and 3 months after intervention. Every 3 months the participants will cross over groups.

### **Discussion:**

This is a protocol for an intervention study comparing the clinical and functional effects of atDCS over Cz and Cb.

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