

**原作者及出處 (Original):**

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Pediatr Phys Ther. 2018;30(1):67-71. doi: 10.1097/PEP.0000000000000467.

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**題目 (Title):**

經顱直流電刺激對腦性麻痺運動皮質的效果：研究計畫書

Effect of Transcranial Direct Current Stimulation of Motor Cortex in Cerebral Palsy: A Study Protocol

**摘要中文翻譯****目的:**

評估結合經顱直流電刺激(transcranial direct current stimulation)與跑步機訓練對單側痲攣型腦性麻痺之最佳電極位置

**方法:**

30位腦性麻痺兒童隨機分成3組:(1)跑步機訓練合併陽極電極擺放於優勢大腦半球之主要運動皮質區以及陰極電極擺放於陽極電極對側之上視眶區;(2)假性(sham)經顱直流電刺激之陽極電極擺放於主要運動皮質區以及假性陰極電極擺放於對側之上視眶區合併跑步機訓練;(3)跑步機訓練合併陽極電極擺放於受傷大腦半球之主要運動皮質區以及陰極電極擺放於陽極電極對側之主要運動皮質區。進行步態、平衡、生活品質、肌電圖(electromyographic)活動之評估。

**討論:**

這是一個探討能改善功能的最佳電極位置的介入研究計畫書。

## **Original Abstract**

### **PURPOSE:**

To assess the best electrode position of transcranial direct current stimulation combined with treadmill training in children with unilateral spastic cerebral palsy.

### **METHODS:**

Thirty children with cerebral palsy were randomly allocated to 3 groups: (1) treadmill training combined with anodal electrode positioned over the primary motor cortex in the region of the dominant hemisphere and the cathode positioned in the supraorbital region contralateral to anode; (2) sham anodal transcranial direct current stimulation over the primary motor cortex and sham cathode over the contralateral supraorbital region combined with treadmill training; (3) treadmill training combined with the anodal electrode positioned over the primary motor cortex in the region of the injured hemisphere and the cathode positioned contralateral to anode over the primary motor cortex. Evaluations of gait, balance, quality of life, and electromyographic activity were performed.

### **DISCUSSION:**

This is the protocol for an intervention study investigating electrode position to achieve improved function.

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