# Article information:

Brain Sciences | Free Full-Text | Anodal-TDCS over Left-DLPFC Modulates Motor Cortex Excitability in Chronic Lower Back Pain  
<https://www.mdpi.com/2076-3425/12/12/1654>

# Article summary:

1. This study examined the impact of anodal-tDCS over left-dorsolateral prefrontal cortex (left-DLPFC) on motor cortex excitability and pain in those with chronic lower back pain (CLBP).

2. Results showed that the anodal-tDCS group demonstrated higher ICF and SICI following the intervention compared to the sham-tDCS group, as well as a reduction in pain intensity and self-reported disability.

3. These findings provide preliminary support for anodal-tDCS over left-DLPFC to modulate cortical excitability and reduce pain in CLBP.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article “Anodal-TDCS over Left-DLPFC Modulates Motor Cortex Excitability in Chronic Lower Back Pain” is a well written, comprehensive study that provides evidence for the potential of transcranial direct current stimulation (tDCS) to modulate motor cortex excitability and reduce pain in individuals with chronic lower back pain (CLBP). The study was conducted using a randomized, placebo controlled design which is considered to be one of the most reliable methods for assessing efficacy of treatments. The authors also used appropriate measures such as Short interval intracortical inhibition (SICI), intracortical facilitation (ICF), Visual Analogue Scale (VAS), Roland Morris Disability Questionnaire (RMDQ), and Pain Catastrophizing Scale (PCS) to assess motor cortex excitability, pain intensity, disability, and catastrophizing respectively.

The article does not appear to have any major biases or unsupported claims. All claims are supported by evidence from previous studies or from this study itself. The authors also discuss potential limitations of their study such as small sample size, lack of blinding for participants due to tDCS ramp up/down period at beginning/end of stimulation, and lack of follow up assessments after 4 weeks which could have provided further insight into long term effects of tDCS on CLBP.

In conclusion, this article is trustworthy and reliable due to its use of appropriate methodology and measures as well as its discussion of potential limitations.

# Topics for further research:

* Transcranial direct current stimulation (tDCS)
* Chronic lower back pain (CLBP)
* Short interval intracortical inhibition (SICI)
* Intracortical facilitation (ICF)
* Visual Analogue Scale (VAS)
* Pain Catastrophizing Scale (PCS)

# Report location:

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