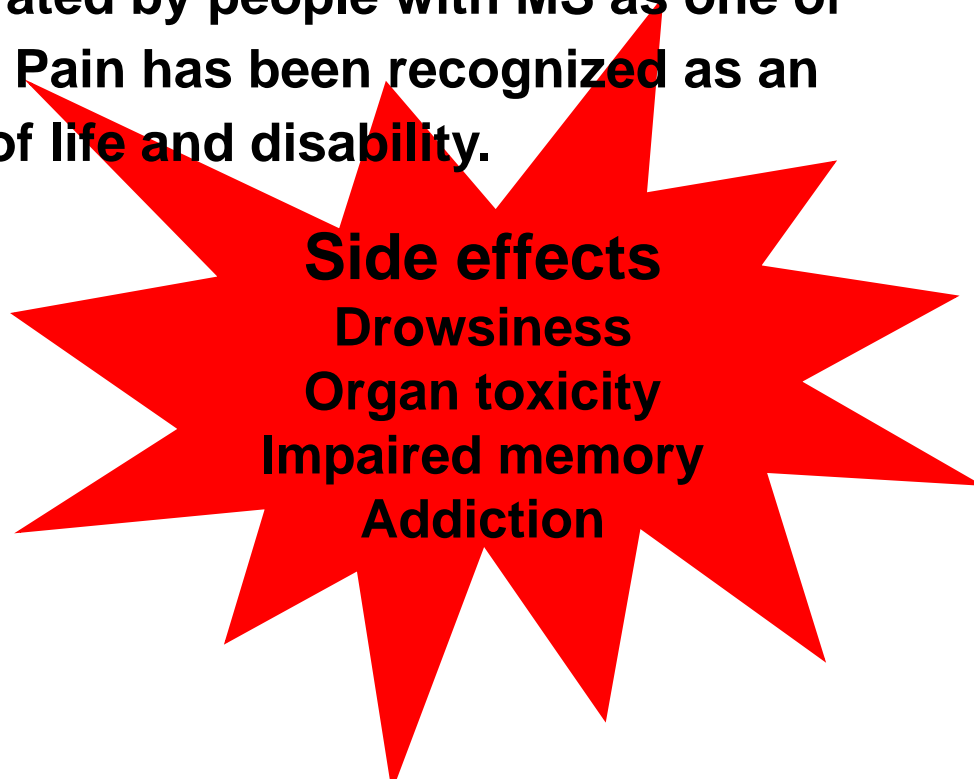
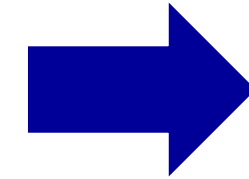


# Repeated anodal transcranial direct current stimulation in decreasing neuropathic pain in patients with Multiple Sclerosis

Dr Maryam Zoghi; Dr Jamie Young; Professor Mary Galea; Professor Fary Khan

Neuropathic pain is one of the key symptoms in patients with multiple sclerosis and it affects around 63% of this population. Pain has been rated by people with MS as one of their most important symptoms which is often severe. Pain has been recognized as an important factor in their overall health-related quality of life and disability.

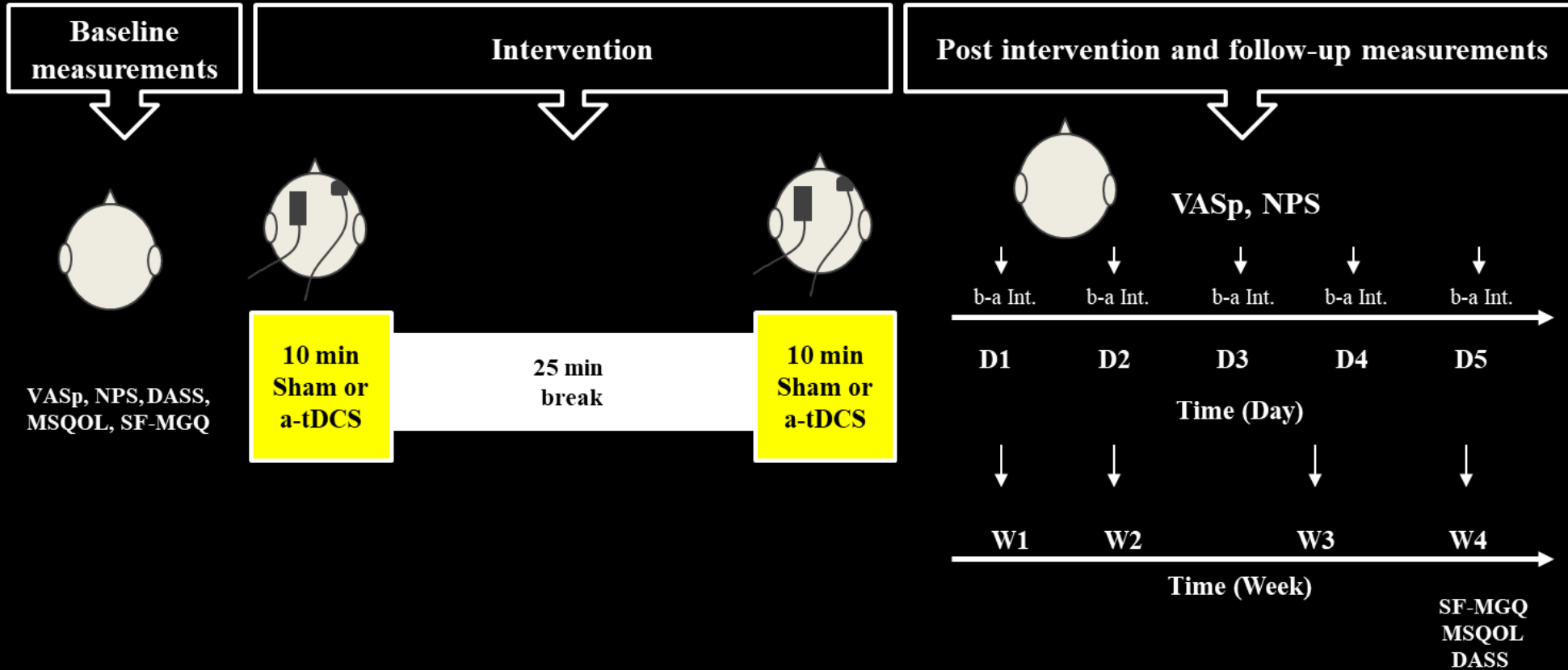
Neuropathic pain  
medications



Side effects  
Drowsiness  
Organ toxicity  
Impaired memory  
Addiction

Therefore, there is a definite need for adjunctive or alternative therapeutic approaches to decrease neuropathic pain in this population

# Transcranial Direct Current Stimulation (TDCS)

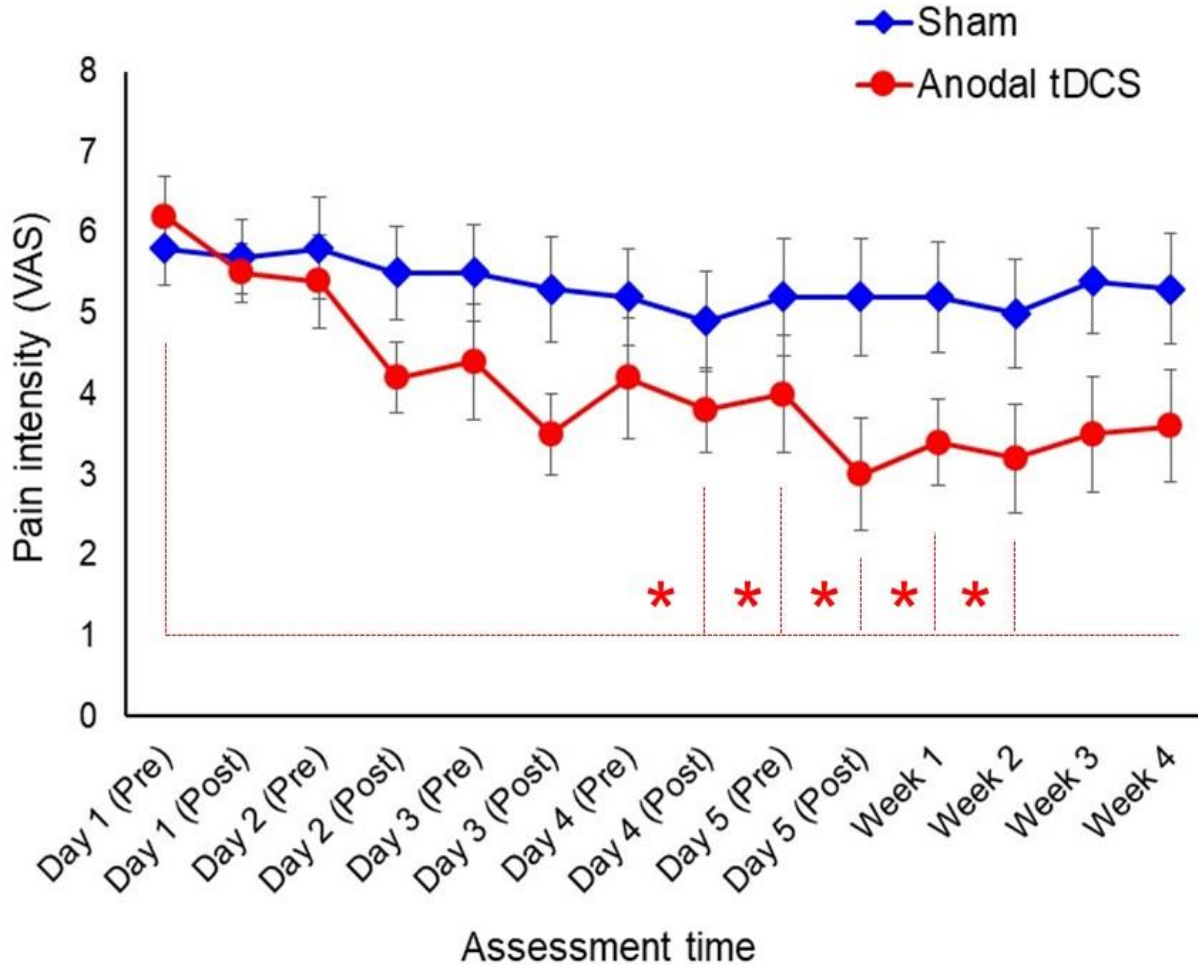


**VASp:** Visual Analogue Scale for pain  
**NPS:** Neuropathic pain scale  
**DASS:** Depression, Anxiety, Stress Scales  
**MSQOL:** Quality of life questionnaire in MS  
**SF-MGQ:** The Short Form McGill Questionnaire

**b-a Int.:** before and after intervention  
**tDCS:** transcranial direct current stimulation  
**a-tDCS:** anodal transcranial direct current stimulation  
**M1:** Primary motor cortex

**Experimental set-up:** Pain level will be evaluated before and after repeated application of a-tDCS on M1 for up to 4 weeks. DASS, MSQOL and SF-MGQ will be completed only at baseline and at the end of week 4.

# Result



## The possible mechanism



Modulation of primary motor cortex

Activates cortico-thalamic connections

This in turn inhibits nociceptive processing in the thalamus

The flow of nociceptive information to cortical areas will decrease

Reduction of pain perception