

Does motor imagery training improve hand function in chronic stroke patients? A pilot study
Dijkerman HC, Ietswaart M, Johnston M*, MacWalter RS***
Helmholtz Institute, Utrecht University, Utrecht, *Department of Psychology, University of
Aberdeen, Aberdeen, UK, **Stroke Studies Centre, Department of Medicine, Ninewells
Hospital and Medical School, Dundee, UK

One of the most common consequences of stroke is a limitation in motor function. Evidence that a) mental tasks can improve stroke outcomes and b) that athletes' performance is enhanced by imagery, suggest that motor imagery techniques may be a valuable in maximising motor recovery. The aim of the current study was to assess the efficacy of motor imagery training for arm function in chronic stroke patients. The relation between mental processes such as attentional and perceived personal control over recovery, and motor imagery was additionally investigated.

Twenty patients with long-term motor impairments (mean two years post stroke), were assessed before and after four weeks of training. Ten patients mentally rehearsed movements with their affected arm. Their recovery was compared with patients who performed non-motor imagery (n=5), or who were not engaged in mental rehearsal (n=5). Assessment and training were performed at the patients' home. The motor imagery group was asked to practice daily imagining moving tokens with their affected arm. The non-motor imagery group rehearsed visual imagery of previously seen pictures. All patient practiced physically moving the tokens. The following variables were assessed before and after training: motor function (training task, pegboard and dynamometer), perceived locus of control, attention control and ADL independence.

Each patient group improved on all motor tasks except the dynamometer. Improvement was greater for the motor imagery group on the training task only (average of 14% vs. 6%). No effect of motor imagery training was found on perceived or attentional control.

To conclude, motor imagery training without supervision at home may improve performance on the trained task only. The relation between movement imagery, attention and perceived personal control over recovery remained unclear.

Chris Dijkerman. Helmholtz Institute, Utrecht University, Heidelberglaan 2, 3584 CS
Utrecht, t 030-2533395, e-mail c.dijkerman@fss.uu.nl

Poster session: Cognition And Behavioural Neuroscience