

## **INFORMATION FOR THOSE INTERESTED IN PARTICIPATING IN RESEARCH STUDIES ON TRANSCRANIAL MAGNETIC STIMULATION (TMS)**

We are planning to start a research study in the summer of 2011 aimed at patients who have NEUROPATHIC PAIN. By definition this is pain that results from injury or disease affecting the nervous system. Typical conditions include: pain following spinal cord injury, stroke, brachial plexus avulsion, or damage to the peripheral nerve or nerve trunk. For the study, we require that such nerve damage has been confirmed by investigations. The pain should be primarily unilateral.

The study involves brain imaging (MRI scan of the brain) and several sessions using TMS. Not all people can be scanned or subjected to TMS for safety reasons. Therefore, we must exclude people if they have: i) history of seizures or epilepsy, (ii) had brain surgery, (iii) have a brain tumour, (iv) have had a severe head injury in the past (v) have metal located in head (e.g. shrapnel, surgical clips, fragments from welding), (vi) cochlear implant, (vii) cardiac pacemaker, (viii) any implanted stimulators, (ix) an implanted intrathecal drug delivery system, (x) have progressive neurological disease (including MS). Pregnant women cannot be entered into the study.

The study we are planning is quite arduous in that each patient attends 21 sessions each lasting 30 minutes to 1 hour for TMS. Prior to that each patient has to visit the Walton Centre and the Liverpool University Brain Imaging Centre on two separate days. Following that we will agree with you on the details of your treatment protocol.

The treatment part will consist of three separate clusters of 5 daily treatments (or if needed 5 treatments every second day). Each treatment series is followed by a no-treatment week (or two no-treatment weeks, depending), after which the next series of 5 treatments is due. The treatment can be given on any 5 separate days between Monday and Saturday. For those who live too far to travel to our centre on a daily basis, the sensible option is for them to stay in Merseyside one week at a time for three times over a period 5-8 weeks. The final part of the treatment regimen consists of 5 weekly sessions (on a mutually agreed day Mon-Sat). - It is anticipated that some patients will wish to continue with monthly or 3 monthly booster sessions which can be arranged.

The reason for this complicated arrangement is that the effect of TMS builds up slowly and that in order to obtain optimal relief we have to stimulate different regions of the brain. The technique of TMS in clinical pain is very new and we suspect that there may be significant individual differences in how people respond. (You will appreciate we are really conducting research on this new technique - it is not available as a treatment as such either on the NHS or in the private sector)

Travelling is likely to cause some patients a major challenge because each participant must arrange their own accommodation - unfortunately we cannot admit them onto a hospital ward. This is of course no major problem to those who live rather locally or have family in Merseyside region. We can unfortunately only meet a very small proportion for travelling/accommodation expenses.

All patients also will have a brain MRI scan at the start of the study; a select group of patients will have another one during or after the study.

If you wish to be included in our database of potential participants please send an email to: Dr. P Sacco ([psacco@liverpool.ac.uk](mailto:psacco@liverpool.ac.uk)) with your contact details and a brief account of your pain and its cause.

PLEASE NOTE! We will eventually need a referral from your GP to the Walton Centre NHS Foundation Trust Pain Clinic, BUT NOT JUST YET. We are currently finalising the many arrangements needed for the study. Please visit this website later for further information.