repetitive Transcranial Magnetic Stimulation (rTMS)
An effective treatment for depression

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#MakingHealthMatter
rTMS uses magnetic stimulation to target the part of the brain that regulates mood, working with your body’s natural processes to increase the number and frequency of beneficial transmissions.
An Introduction to rTMS

rTMS is a non-invasive treatment that is generally free of side effects, and often succeeds when drugs have failed to reduce or eliminate symptoms of depression.

The human brain functions through the transmission of electrical signals between nerve cells. rTMS uses electromagnetic stimulation to target the part of the brain that regulates mood, working with your body’s natural processes by increasing the number and frequency of beneficial transmissions.

rTMS can selectively alter activity in concentrated areas of the brain, bringing about positive effects that have been shown to be helpful in treating a variety of mental health problems. In simple terms, it could help you get back to your calmer, happier, and more capable self. rTMS can also help if you are living with anxiety, the symptoms of tinnitus, Chronic Fatigue Syndrome or Fibromyalgia Syndrome.

How can rTMS help with depression specifically?

Brain imagining techniques have shown that people suffering from depression often display insufficient glucose metabolism levels, lower blood flow in the left Dorsolateral Prefrontal Cortex (DLPFC) and heightened activity in the limbic system. In treating depression, rTMS directly stimulates the DLPFC, an area located beneath the skull a few inches above the temple. This area is highly interconnected with limbic structures, which play an important role in regulating mood.

rTMS induces an electromagnetic current in the DLPFC to regulate the flow of impulses between brain cells to relieve the depression. Stimulations last under a millisecond. Several studies have indicated that rTMS increases levels of serotonin and dopamine, which are ‘feel-good’ chemicals in the brain.

rTMS treatment results

Furthermore, the parts of the brain treated directly with rTMS can communicate indirectly with other areas inaccessible to the rTMS coil. Some of these remote brain areas are also believed to play a role in depression. According to Professor Alex O’Neil Kerr, of the Royal College of Psychiatrists of England, 30% of clients are symptom free after rTMS treatment. However, 62% of clients treated for depression using rTMS protocols at The London Psychiatry Centre were fully recovered within an average of 4.3 weeks*. NPH uses these same protocols to treat people with depression in our clinic.

How does rTMS work?

rTMS is a non-invasive method of brain stimulation which works through electromagnetic induction using an insulated coil placed over the scalp. Electromagnetic stimulation is thought to play a role in mood regulation. The coil generates brief electromagnetic pulses, which pass easily and painlessly through the skull into the brain. These pulses are comparable to those generated by Magnetic Resonance Imaging (MRI) machines. When such pulses are administered in rapid succession, they can produce longer lasting changes in brain activity.

rTMS is based on Faraday’s Law of electromagnetic induction, by which electrical activity in the brain tissue can be influenced by a magnetic field. The magnetic field generated at the coil passes through the scalp and skull, depolarising the neurons in the cortex (Tyc and Boyadjian, 2006).

*This was presented as a peer reviewed poster at the RCPsych conference in June 2017.
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What happens in an rTMS session?

During your treatment you will be seated comfortably in a reclining chair, with your head and neck supported by a pillow. You will wear a hygienic cotton cap to ensure correct positioning of the coil, which is positioned over the left dorso-lateral prefrontal cortex.

Our consultant psychiatrist evaluates every client before treatment and will meet with you personally, reviewing your symptoms and medical history to determine whether rTMS is right for you. The treatment will be carried out by our specialist nurse, who is trained in administering rTMS.

Our clinical team has direct links with Dr Rafael Euba and Dr Andy Zamar and the clinicians at The London Psychiatry Centre. Dr Euba is one of an elite group of brain experts in the UK, specialising in rTMS and the use of brain stimulation in the treatment of depression.

How long does rTMS take?

rTMS treatment for depression is short but intense. It is administered as an outpatient procedure as a course of treatment, usually consisting of five sessions per week, for up to 6 weeks. Each treatment session lasts approximately 40 minutes, with benefits often being noted from the first week. The average length of care is 4.3 weeks, dependent on your initial assessment and response to treatment. It is important that clients complete the recommended course of treatment.

Is rTMS safe?

rTMS is approved by The National Institute for Health and Clinical Excellence (NICE) for the treatment of depression in adults. rTMS is a safe treatment, with low risk of side effects. rTMS is a safer intervention and has lower risk of side effects than many other anti-depression treatments. According to NICE, adverse effects are in the region of 1 in 1,000 and the risk of seizures is 1 in 30,000 treatments.

Adverse effects are generally minor – for example scalp pain, headache and a burning sensation which can appear during or after treatment but doesn’t last long. However, like any medical intervention, there are some people for whom rTMS is not suitable. All prospective rTMS clients are assessed thoroughly by our consultant psychiatrist.
FAQ’s

Does the treatment really work?

Extensive clinical trials from the United States show that for many clients, rTMS is more effective than antidepressants. Medical research studies and peer-reviewed articles have confirmed its value in treating a number of mental health problems. You can read the research on our website www.newcastlepremierhealth.com

Who can get the treatment?

rTMS is available to adult clients who have been properly diagnosed by a doctor or consultant psychiatrist and have been found suitable for the treatment. At NPH, all potential clients will be assessed to determine if rTMS is suitable and or to discuss other treatment options including medication.

Does rTMS hurt?

No, it does not hurt. During a session, you will hear a clicking sound and feel a tapping sensation on your head. After treatment, some clients report a mild discomfort or headache but you should be able to resume your daily activities right after your session.

Is rTMS safe?

rTMS is considered a safe treatment, with a low risk of side effects. It is non-invasive, and does not require needles or anaesthetic. The only thing entering a client’s body is pure electromagnetic energy. rTMS is free from symptoms associated with antidepressant medications e.g. stomach complaints, lowered libido, etc. There is a very small risk of seizure with rTMS but the University of Michigan reports during 10,000 treatments there has not been a single seizure episode recorded.

How long does treatment last?

Treatment usually consists of five sessions per week for up to 6 weeks; each treatment session lasts approximately 40 minutes. The consultant psychiatrist may prescribe 1-2 individual treatments for maintenance every few months. You may be prescribed maintenance treatments if you feel your symptoms are returning.
About Newcastle Premier Health

Newcastle Premier Health (NPH) is a leading provider of medical services, offering occupational health, travel medicine, and health and wellbeing services to businesses and individuals. We pride ourselves on offering a holistic and integrated approach to medicine.

The team at NPH comprises experienced health professionals including nurses, technicians, and doctors. Our doctors are primary health care physicians with extensive experience of NHS General Practice and a broad range of additional skills and qualifications. We have partnered with The London Psychiatry Centre to provide a safe and ground-breaking treatment for depression; repetitive Transcranial Magnetic Stimulation (rTMS) is not widely available in the UK.

The London Psychiatry Centre (TLPC) is recognised by the Care Quality Commission (CQC) as a leading mental health service provider, contributing to the advancement of mental health care and life changing treatments through the provision of rTMS in the UK. If you have suffered depression without an effective solution, call us on 0191 605 3140. Our experts will take the time to clarify whether rTMS could be the answer you are looking for.

Why has NPH partnered with TLPC?

When NPH reviewed the NICE guidance for the treatment of depression, our team felt that the best way to introduce the option to our clients was with the pioneers of this technology and the NICE advisors of rTMS.

The encouraging peer reviewed published results, along with the CQC’s report about The London Psychiatry Centre, largely drove our choice to team up and work together to provide an exemplar service combining our skills, professionalism and quality standards of both organisations.