

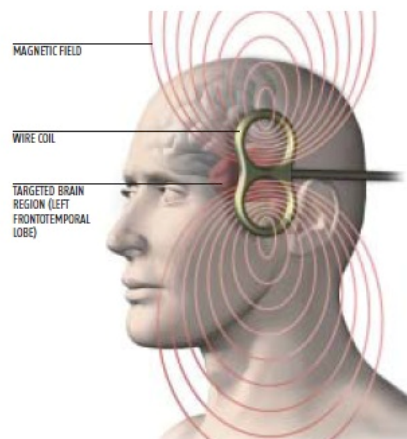
REPETITIVE TRANSCRANIAL MAGNETIC STIMULATION (rTMS) Information for Patients and Families

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What is Repetitive Transcranial Magnetic Stimulation (rTMS)?

After a stroke, the cells within the brain undergo changes in their electrical activity. These changes may explain why patients experience functional problems after a stroke (e.g. difficulty moving your arm or leg). Repetitive Transcranial Magnetic Stimulation (rTMS) is a pain-free, non-invasive technique used to stimulate the cells in your brain. This stimulation alters the electrical activity of cells in targeted areas of the brain.

During rTMS a conducting coil is held close to the scalp. Current pulses are passed through the coil, to generate pulsed magnetic fields. These pulsed magnetic fields pass through the skull to stimulate brain cells. When this stimulation is delivered at regular intervals, it is termed as rTMS. This therapy has been studied by high quality research studies and has been found beneficial for arm function in patients.



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Are there different kinds of rTMS?

rTMS can be applied at low, medium and high frequencies depending on which side of your brain is being treated. A low frequency rTMS is often used to stimulate the part of the brain on the same side as your weaker arm/leg. A medium or high frequency rTMS is used to stimulate the part of the brain on the opposite side of your weaker arm/leg.

Does it work for stroke?

Although the exact mechanisms of rTMS are still being studied, there is evidence that the use of rTMS as an adjunct to standard therapy can help improve hand function for some people after stroke, especially those who already have some use of their hand and arm. For example, research studies have reported that patients who receive rTMS have better control of their affected hand and are better able to manipulate fine objects.

What can I expect?

Typically a session of rTMS is non-invasive and painless. A small, plastic-covered coil is placed against your head to deliver the rTMS. The rTMS is provided for several minutes. You will be required to wear earplugs during this session. It is often followed by a session of physical and/or occupational therapy, which involves exercises to promote the use of your weaker arm and hand.

Are there any side effects or risks?

A common side-effect following a session of rTMS is a minor headache, although this often resolves after a few hours or with a dose of acetaminophen (i.e. Tylenol®). A very rare side-effect is the risk of seizures. However, your doctor will examine you thoroughly before beginning this treatment in order to examine the possibility for this risk.

People with a history of seizures, cardiac pacemakers, and metal implants anywhere in the head or mouth should not be treated with rTMS.

Who provides the treatment?

A trained medical technician provides the rTMS. The exercise session following that is provided by a physical or occupational therapist.

You can speak to your therapist or physician about whether you are a suitable candidate for rTMS and where you can obtain this treatment.

How many treatments do I need?

The exact number of treatment sessions can vary based on your goals, your needs and your tolerance to the intervention. While there is some variability in regards to the frequency and duration of rTMS treatments as reported in research studies, rTMS is often provided for approximately 5-10 sessions, with each session lasting 10-25 mins. As such, your therapist or physician will suggest the frequency and duration of your rTMS treatment sessions.

Is rTMS for me?

rTMS can be beneficial for individuals who have reduced arm and hand function after stroke. Studies have shown that rTMS may be useful for individuals who have had a stroke very recently, over the past couple of months and those who have experienced a stroke six or more months ago.

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