

Repetitive transcranial magnetic stimulation (rTMS)

Purpose of the Examination

Repetitive transcranial magnetic stimulation (rTMS) is a safe therapy method that is in wide use, and in which the brain is activated or inhibited by magnetic pulses given to the head surface. The method can be used to treat various diseases and symptoms. You will undergo an MRI scan of the brain before the treatment, for which you will receive separate instructions. This MRI image will aid in targeting the right brain areas during the treatment.

Preparing for the treatment

- If you are being treated for pain or tinnitus, you'll get a symptom diary with these instructions. Fill in symptoms and observations to the enclosed diary for a week before starting the treatment. Take the diary with you when you come to the first treatment.
- You should have clean and dry hair when arriving to the treatment. Do not use any skin lotion when you come to the treatment for the first time.
- Bring along information about any medication you are taking. If you have a pain killer, that you use as needed, you can take it with you to the treatment session.

Treatment Process

You will rest on a chair during the treatment. A magnetic coil will be placed on your head. The exact location of the coil depends on the treated disease or symptom. During the first treatment session, a physician will determine the magnitude of the magnetic stimuli used in the treatment. A magnetic coil will activate your motor cortex from outside your head. The induced muscle contraction is measured by adhesive sensors placed on the skin of your hand.

If you have an inner ear prosthesis, an infusion pump, a pacemaker or a prosthetic valve in your heart, or metallic parts in your head (e.g. surgical clips, metallic fragments) that are impossible to remove, the therapy might not be suitable for you. Amalgam fillings, dental implants or braces do not prevent the therapy. If you are pregnant or if you have experienced epileptic seizures, please inform the physician before treatment. You will be asked about possible reasons not to perform the treatment before beginning.

We kindly ask you to shut down your mobile phone for the duration of the treatment. You are also required to remove objects containing metal or magnetic stripes (e.g. jewellery, credit cards, keys & coins) from your pockets and from your head.

Therapy Duration and Sensations

A single treatment session usually takes from an hour to an hour and a half. The first session may take from an hour and a half to two hours. You can be treated at multiple locations during the same session, and the therapy duration will increase accordingly.

The amount of treatment sessions may vary (approximately 10 to 15 sessions). Normally, the therapy sessions are on consecutive weekdays (Monday to Friday). In case the treatment is found beneficial for you, it is possible to continue treatments as a maintenance therapy. In this case, treatments are more seldom and treatment frequency will be planned individually.

The magnetic stimuli applied during the treatment may feel slightly unpleasant because of the brief contraction of the muscles and the activation of sensory nerves of the scalp. Some patients can experience momentary headaches or sensitivity in the treated area. If needed, you can treat these symptoms with your usual anti-inflammatory pain killer (for example paracetamol or ibuprofen).

After Treatment

The clinical neurophysiologist will write a report about the treatment. The report is directed to the clinic/ward that ordered the treatment. They are responsible for any necessary follow-up examinations.