



**Oxford Health**  
NHS Foundation Trust



rTMS

# Repetitive Transcranial Magnetic Stimulation

## What is rTMS?

Repetitive Transcranial Magnetic Stimulation (rTMS) uses pulsing magnetic fields to activate or suppress the brain centres associated with medical and psychiatric disorders, thus treating the brain circuits involved in your condition. Treatment is non-invasive and is usually given as an outpatient, generally alongside medication. rTMS is approved by the National Institute for Health and Care Excellence (NICE).

## Who can have rTMS?

The treatment is given for people who suffer from severe depression or anxiety, which has not responded to anti-depressants or psychological therapy (treatment resistance). Although other psychiatric conditions are treated with rTMS in some settings, for now our service offers rTMS for treatment resistant depression (including bipolar depression) and anxiety only. If you have one of these alongside another condition, you can still be treated but the symptoms due to the other condition may remain after treatment.



You need to be referred by your psychiatrist, who may have given you this leaflet to consider. All rTMS patients are expected to remain under the care of their usual mental health team during treatment.

## How does it work?

rTMS stimulates the brain and causes 'neuroplasticity'. This is the brain's ability to mend and build connections between nerve cells. For depression, the left side of the prefrontal cortex is stimulated, restoring the connections to help it work as it should, without the symptoms of depression. For anxiety, a related area on the right side is treated, but with a sequence of pulses that reduces activity, since this area has become over-active. Some people require both treatments, which can be delivered in the same session.

## What does rTMS involve?

Treatment with rTMS usually involves daily sessions of up to 30 minutes (but often less than 10 minutes), five days a week, for four to six weeks. After this we hope that your symptoms will have improved.

We expect most people can continue their usual daily activities after treatment sessions. Except for the first session, this includes driving if your condition otherwise permits this (please talk to your psychiatrist if you are unsure about the DVLA rules about your condition).

## Who can't have rTMS?

Given the high magnetic fields needed, you are unable to receive rTMS treatment if you have any type of non-removable metal in or near your head, except for braces or dental fillings. Therefore, people who have any of the following should not receive rTMS:

- Aneurysm clips or coils
- Stents in the neck or brain
- Deep brain stimulators
- Electrodes to monitor brain activity
- Metallic implants in your ears and eyes
- Metal shards, shrapnel or bullet fragments in or near the head
- Facial tattoos with metallic or magnetic-sensitive ink (please discuss with us if in you are unsure)
- Other metal devices or object implanted in or near the head

We do not usually treat people with a diagnosis of epilepsy due to the risk of triggering a seizure - please discuss this with your psychiatrist.

## What are the side effects?

Side effects are generally less than for medications since the treatment only affects the targeted area of the brain and the scalp over it. However, it can cause muscle twitching in the scalp during the session. For some people, this leads to a mild headache which can usually be treated with simple painkillers such as paracetamol. Headache tends to reduce as sessions continue.

In addition, some people feel slightly more tired after treatment.

There is a low risk of a seizure during the treatment (1 in 60 000). The increase in seizure risk stops once the coil is switched off, so you will not be at increased risk of seizures once you go home.

If you take insulin, there is occasionally a drop in blood sugar during treatment. We will therefore check this after treatment and offer a snack if needed.

## What will happen at my first appointment?

On arrival at the centre you will be introduced to the team, your blood pressure, oxygen levels and pulse will be taken. You will have an assessment with one of the doctors to confirm suitability with the opportunity to ask questions and discuss any concerns. If you agree to start treatment, we will ask you to sign a consent form and complete baseline questionnaires.

We will next show you the treatment area. rTMS is administered by a specially trained staff member who will monitor you throughout your treatment. You will be asked to remove any jewellery, including necklaces, earrings, face or tongue studs, hairgrips, mobile phone and debit/ credit cards as these can be affected by the magnetic field.

You will be seated in a comfortable chair, and several measurements are made to ensure correct coil placement. These measurements are marked on a specially designed cap to find the target area next time. Next, your motor threshold will be obtained by applying several brief pulses from the TMS machine. Your motor threshold is the minimum amount of magnetic energy to make your thumb twitch; this varies from person to person. Once this has been determined the coil is placed over the target area using a flexible positioning arm.

You will be given earplugs to wear for comfort and hearing protection. During treatment, you will hear a series of clicking sounds and feel a tapping sensation on your head underneath the treatment coil. Afterwards, we offer you tea/coffee and biscuits. You should not drive home after your first treatment.

Please style your hair to lie as flat as possible as the cap is tight fitting. Consider bringing a hairbrush to use afterwards if your hair needs this.

## Further Treatments and Follow-up

Your next session will be shorter as you will not have another assessment. However, you will still need to complete your monitoring questionnaires either from home before you attend or on arrival. You then go directly to treatment. Afterwards, you can drive home if you wish, provided you felt well after your first treatment.

Treatments continue five days a week for up to six weeks. After three weeks, you will have a further review with a doctor.

Three weeks after your treatment finishes, you will have a review with one of the team either by phone or video call (using Microsoft Teams). You will continue to receive treatment as usual from your community team.

## Practical Arrangements

Please ensure you have a good breakfast before attending.

rTMS is given at the Whiteleaf Centre in the same suite also used for electroconvulsive therapy (this is a different treatment to rTMS, but the space is shared). Our address is:

The Whiteleaf Centre, Bierton Road, Aylesbury, HP20 1EG

There is a bus stop by the prison, which is next to the hospital. Visitor parking is to the right of the building, reached from the main road entrance.

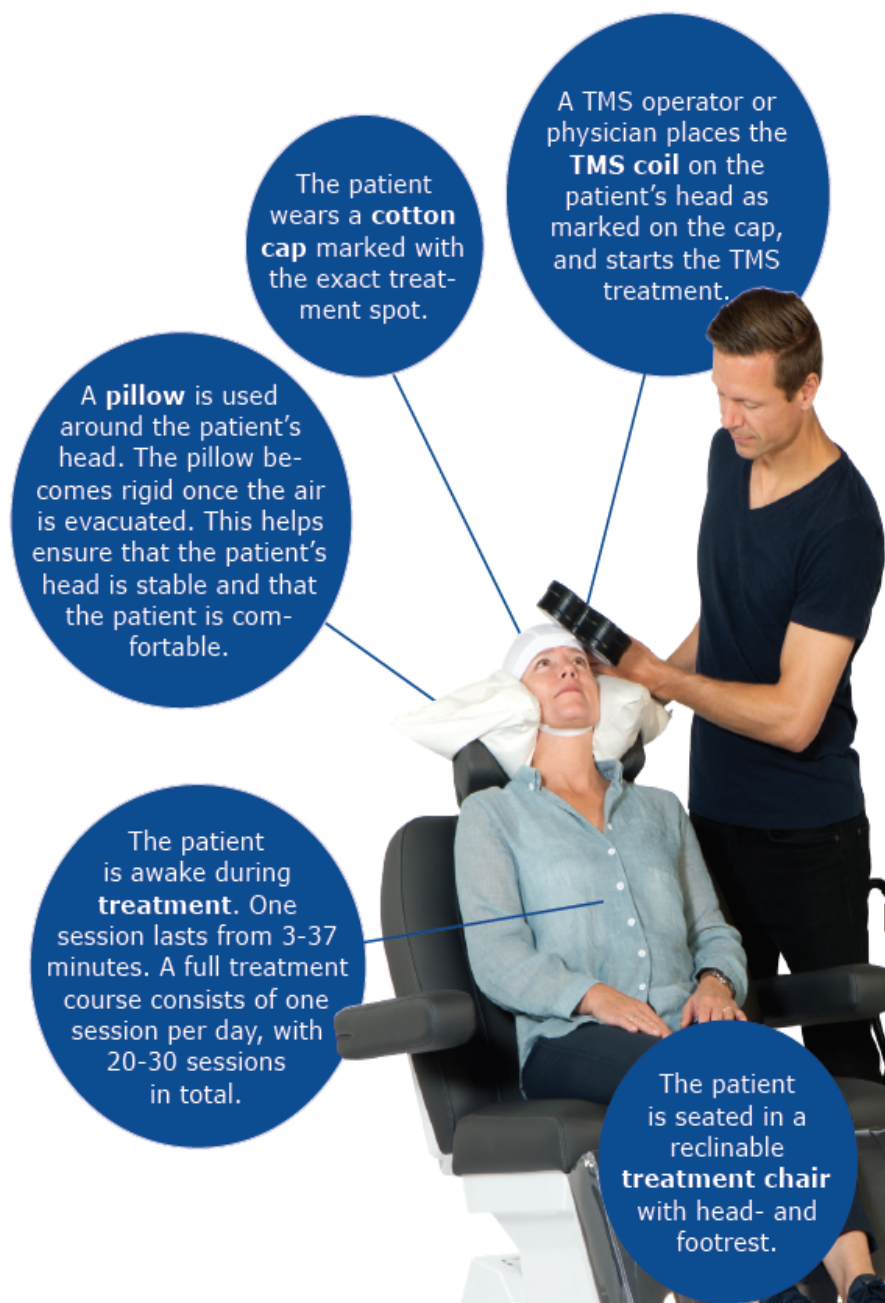
The rTMS service cannot arrange hospital transport for your appointments; if you anticipate travel difficulties, please discuss this with your care co-ordinator.



Please tell the main reception team when you arrive, and a staff member will find you. If you choose to bring a family member, friend or carer, they are welcome to attend your appointment, or they may prefer to wait in the café next to reception.

The team can be telephoned on (01865) 90 1065, or via Switchboard (01865) 902000.





## Comments, suggestions or complaints

We are committed to providing a high standard of professional support and advice. We welcome any feedback you have regarding your experiences of our service. Please share your comments, suggestions, and positive feedback with a member of the rTMS team.

If you have concerns or wish to make a complaint, please also feel free to discuss this with the team; we will arrange a meeting on request. You can also ask your care co-ordinator to pass feedback to us.

Alternatively the Patient Advice and Liaison Service (PALS) provides advice and support to patients, their families and carers. They can help resolve any problems, concerns or complaints. You can contact PALS free by telephone 0800 328 7971, or by email: [PALS@oxfordhealth.nhs.uk](mailto:PALS@oxfordhealth.nhs.uk), or in person through the PALS offices at the Warneford Hospital and Whiteleaf Centre.

## Advocacy

Specialised independent mental health advocacy services are provided by POhWER.

<https://www.pohwer.net/buckinghamshire>

Independent Health Complaints Advocacy is offered by The Advocacy People:

<https://www.theadvocacypeople.org.uk/>

# Notes

If you would like to have information translated into a different language, please contact the Equality and Diversity Team at: [EqualityandInclusion@oxfordhealth.nhs.uk](mailto:EqualityandInclusion@oxfordhealth.nhs.uk)

**Arabic** يُرجى الاتصال بنا إذا كنتم ترغبون في الحصول على المعلومات بلغة أخرى أو بتسليق مختلف.

আপনি এই তথ্য অন্য ভাষায় বা আলাদা আকারে **Bengali**

পেতে চাইলে অনুগ্রহ করে আমাদের সাথে যোগাযোগ করুন।

**Urdu** اگر آپ یہ معلومات دیگر زبان یا مختلف فارمیٹ میں چاہتے ہیں تو برائے مہربانی ہم سے رابطہ کریں۔

**Chinese** 若要以其他語言或格式提供這些資訊，請與我們聯繫

**Polish** Aby uzyskać informacje w innym języku lub w innym formacie, skontaktuj się z nami.

**Portuguese** Queira contactar-nos se pretender as informações noutra idioma ou num formato diferente.

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