Repetitive transcranial magnetic stimulation (rTMS)
Treating depression

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Is a treatment for depression, it works by delivering repeated trains of magnetic pulses that stimulate the brain and increase in this way the activity of the brain cells, improving the symptoms of depression in the process. It employs magnetic energy to stimulate an area of the brain that regulates mood.

A very large body of research on this treatment has been published. It consistently shows that many patients experience a significant improvement in their depressive symptoms when treated with rTMS and some recover completely. This is despite the fact that most of these patients had already tried antidepressants unsuccessfully before they tried rTMS.

The effectiveness of rTMS has been recognised by NICE, which now recommends this intervention as a treatment for depression.

Is it suitable for all patients?
rTMS is recommended for depressed patients who either did not benefit from taking antidepressant medication, or otherwise do not wish to take this type of medication. In order to have this treatment, you must have a diagnosis of depression, or mixed anxiety and depression, although this does not necessarily need to be your only diagnosis. You should have a Care Coordinator or Psychiatrist allocated to you in your mental health team. You will need to be able to come to our clinic in Queen Mary’s Hospital, Sidcup, daily for a period of several weeks. rTMS is not recommended for people experiencing hallucinations or who have psychotic beliefs, or for those who are actively suicidal, unless they are in-patients in a ward.

How does rTMS work?
rTMS delivers a series of magnetic pulses, separated by brief intervals, through a magnetic treatment coil, placed over the patient’s scalp. The changes in magnetic field excite the brain cells in the area below the coil and produce measurable physiological changes. The magnetic field penetrates the scalp safely and without pain and creates a current in the targeted brain cells.

Is it safe?
rTMS is non-invasive, which means that it doesn’t require any needles or anaesthetic. It is administered as an outpatient procedure for just over half an hour per session.

NICE states that there are no major safety concerns with rTMS. There is a very small risk of having a seizure, but this is probably comparable to the risk associated with taking an antidepressant tablet. Before embarking on the treatment, a clinician in the Oxleas rTMS Clinic will go through a safety checklist with you and rule out any potential safety issues.

How often will I have the treatment, and for how long?
Each rTMS session takes about half an hour. Treatment for Depression using rTMS is short but intense. 5 sessions each week will be required and the average treatment course lasts between 3 and 6 weeks.

Is it compatible with other treatments?
Yes, you can still have medication, including antidepressant medication or tranquillisers if necessary, and you can also have psychotherapy, or any other psychological interventions, such as attending groups, etc.

How does it compare with ECT?
Those who are very severely depressed, to the point that they may have stopped eating, or perhaps are experiencing psychotic symptoms, will do better with ECT. In other cases, rTMS and ECT are similarly effective.

Will I experience any discomfort?
The magnetic pulses produce a clicking sound, which can be loud, but you will be wearing ear plugs. You will feel a tapping sensation on your scalp where the coil is placed. In most cases, this sensation is neutral and perfectly bearable, although in a minority of cases it can be a little uncomfortable. If this happens, the clinic nurse will alter the position of the coil to make it more comfortable.

How long do the benefits last?
Like any other treatment for depression, once an improvement or even recovery has been achieved, there is a need to maintain this improvement, so you do not become ill again. In the case of rTMS, you may need to have top-up sessions every so often in order to keep you well, as well as any other maintenance intervention that your consultant psychiatrist may recommend for you, such as tablets, etc.