MagVita TMS Therapy™
New and effective treatment for Refractory Depression
– a well tolerated alternative to antidepressants

– a CE-approved therapy based on repetitive Transcranial Magnetic Stimulation (rTMS)

MagVenture
Versatility in Magnetic Stimulation

Please note that this brochure is not intended for US audiences.
What is repetitive Transcranial Magnetic Stimulation (rTMS)

rTMS is an effective, non-invasive, and pain free\(^{1}\) alternative for the large number of patients not responding to medication or who cannot tolerate side effects of medication. rTMS does not require anesthesia – and is not to be confused with ECT (Electro Convulsive Therapy).

Clinical trials and experience from clinics offering this treatment show excellent results in terms of response rate or even complete remission\(^2\), 5), 6), 7), 8), 9). The system delivers magnetic pulses to stimulate nerve cells in the part of the brain controlling the mood. The rapid change in the magnetic field induces a current, and if the current induced is of sufficient amplitude and duration, it will excite neurons\(^{10}\).

Research shows that rTMS leads to increases in blood flow, increases in glucose metabolism and increases the level of the neurotransmitters (dopamine and glutamate\(^{11},12\)), in the stimulated regions of the brain. It is known that people suffering from depression have a reduced blood flow, glucose metabolism and generalized activity in the part of the brain that contributes to mood\(^{13}\). Repeated stimulation of this area of the brain has an antidepressant effect on people suffering from major depression.

A meta-analysis of 34 studies comparing rTMS to sham treatment showed a mean effect size for rTMS in depression of 0.55 which is high compared to mean effect sizes for pharmacotherapy between 0.17-0.46\(^5\). A double-blind, placebo-controlled trial finds that 61% of patients respond to rTMS therapy with a significant reduction in HAM-D score over the 4 week treatment time\(^5\).

Therapeutic indication

MagVita TMS Therapy™ is CE-approved for “treatment of Major Depressive Disorder in adult patients who have failed to achieve satisfactory improvement from two prior antidepressant medications, at or above the minimal effective dose and duration in the current episode”.

The principal components of the MagVita TMS Therapy™ system include a stimulator, which generates very brief pulses of energy whose intensity can be varied, and a transducer coil which is placed on the patient’s head. The (transducer) coil transforms the electric energy from the stimulator into magnetic fields that are used to non-invasively stimulate the brain.
Give your patients an alternative to antidepressants

Often patients suffering from major depression obtain no relief, or inadequate relief from antidepressants. And in many cases drug therapies induce side effects that result in noncompliance.

MagVita TMS Therapy™ based on repetitive Transcranial Magnetic Stimulation (rTMS) is an effective and easy-to-use alternative:

- Series of pulsed magnetic stimuli to the brain
- Non-invasive procedure - no anesthetics
- Ambulant treatment
- Excellent tolerability\(^1, 2\)
- Free from common antidepressant drug side effects\(^1\)
- Can be used in combination with typical antidepressants\(^1\)
- Cognitive function not affected\(^3\)
- Patient able to resume daily activities right after treatment

Effectiveness

More than 40 independent clinical trials (with more than 2,000 patients worldwide) have demonstrated that rTMS is an effective therapy for the treatment of resistant major depression.\(^1, 2, 6, 7, 8, 9, 14\)

- Onset of therapeutic effect in as little as 2 weeks
- Short treatment period of normally 3 to 6 weeks
- >30% remitters and >50% responders (refractory patient group)

Simple treatment procedure

The MagVita TMS Therapy™ treatment protocol consists of repeated cycles of rTMS followed by rest periods.

A full MagVita TMS Therapy™ consists of:

- An initial session which includes the determination of the patient’s individual stimulation level (motor threshold determination)
- 5 treatment sessions per week during a period of normally 3-6 weeks
- Maintenance treatment\(^{14}\) if needed

Diagnosis and initial session are performed by a psychiatrist. The remaining treatment sessions are typically conducted by trained personnel under the supervision of a psychiatrist.

Easy to use

Position patient, set treatment protocol and press start.

- Quick selection of pre-defined treatment protocols from stimulator menu
- Includes tools for accurate treatment spot determination
- Easy to pause and restart the treatment
Progressive research

Progressive research with rTMS in areas such as anxiety, auditory hallucinations, bulimia nervosa, migraine, pain, and schizophrenia shows promising results. Please see www.magventure.com for updated information.

MagVita TMS Therapy™ is CE-approved for the "treatment of Major Depressive Disorder in adult patients who have failed to achieve satisfactory improvement from two prior antidepressant medications, at or above the minimal effective dose and duration in the current episode". The use of rTMS for any other purpose is considered investigational.

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Sources

1. Hadley et al., 2011, "Safety, tolerability, and effectiveness of high doses of adjunctive daily left prefrontal repetitive transcranial magnetic stimulation for treatment-resistant depression in a clinical setting". The Journal of ECT.

2. Slotema et al., 2010, "Should We Expand the Toolbox of Psychiatric Treatment Methods to Include Repetitive Transcranial Magnetic Stimulation (rTMS)? - A Meta-Analysis of the Efficacy of rTMS in Psychiatric Disorders". The Journal of Clinical Psychiatry.


5. Rossini et al., 2005, "Transcranial magnetic stimulation in treatment-resistant depressed patients: A double-blind, placebo-controlled trial". Psychiatry Research.

6. Peng et al., 2012, "High Frequency rTMS treatment increases white matter FA in the left middle frontal gyrus in young patients with treatment-resistant depression". Journal of Affective Disorders.

7. Carpenter et al., 2012, "Transcranial magnetic stimulation (TMS) for major depression: a multisite, naturalistic, observational study of acute treatment outcomes in clinical practice". Depression and Anxiety.

8. Connolly et al., 2012, "Effectiveness of transcranial magnetic stimulation in clinical practice post-FDA approval in the United States: results observed with the first 100 consecutive cases of depression at an academic medical center". The Journal of Clinical Psychiatry.


11. Keck et al., 2002, "Repetitive transcranial magnetic stimulation increases the release of dopamine in the mesolimbic and mesostriatal system". Neuropharmacology.

12. Luborzewski et al., 2007, "Metabolic alterations in the dorsolateral prefrontal cortex after treatment with high-frequency repetitive transcranial magnetic stimulation in patients with unipolar major depression". Journal of psychiatric research.


*) Headache is a common side effect of rTMS treatment.