

# How to talk to patients and families about brain stimulation

Adam Philip Stern, MD

**B**rain stimulation often is used for treatment-resistant depression when medications and psychotherapy are not enough to elicit a meaningful response. It is both old and new again: electroconvulsive therapy (ECT) has been used for decades, while emerging technologies, such as transcranial magnetic stimulation (TMS), are gaining acceptance.

Patients and families often arrive at the office with fears and assumptions about these types of treatments, which should be discussed openly. There are also differences between these treatment approaches that can be discussed (*Table, page 36*).

## Electroconvulsive therapy

Although ECT has been shown to be the most efficacious treatment for treatment-resistant depression,<sup>1</sup> the most common response from patients and families that I hear when discussing ECT use is, “Do you really still do that?” Many patients and family members associate this treatment with mass media portrayals over the past several decades, such as the motion picture *One Flew Over the Cuckoo’s Nest*, which paired inhumane and unnecessary use of ECT with a frontal lobotomy, thereby associating this treatment with something inherently unethical.

My approach to discussing ECT with patients and families is to convey these main points:

- **Consensual.** In most cases, ECT is performed with the explicit informed consent of the patient, and is not done against the patient’s will.

- **Effective.** ECT has a remission rate of 75% after the first 2 weeks of use in patients suffering from acute depressive illnesses.<sup>2</sup>

- **Safe.** ECT protocols have evolved to maximize efficacy while minimizing adverse effects. Advances in anesthesia use with paralytic agents and anti-inflammatory medications reduce convulsions and subsequent musculoskeletal discomfort.

In addition, I note that:

- Ultra-brief stimulation parameters often are used to minimize cognitive side effects.

- ECT is associated with some psychosocial limitations, including being unable to drive during acute treatment and requiring supervision for several hours after sessions.

## Transcranial magnetic stimulation

The field of non-invasive brain stimulation—in particular, TMS—faces a different set of complex issues to navigate. Because TMS is relatively new (approved by the FDA in 2008 for treatment-resistant depression),<sup>3</sup> patients and families might believe that TMS may be more effective than ECT, which has not been demonstrated.<sup>4</sup> It is important to communicate that:

- Although TMS is a FDA-approved treatment that has helped many patients with treatment-resistant depression, ECT remains the clinical treatment of choice for severe depression.

continued

Dr. Stern is an Instructor in Psychiatry at Harvard Medical School and the Director of Psychiatric Applications at the Berenson-Allen Center for Noninvasive Brain Stimulation, Beth Israel Deaconess Medical Center, Boston, Massachusetts.

### Disclosure

The author reports no financial relationships with any company whose products are mentioned in this article or with manufacturers of competing products.

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Table

Features of ECT and TMS for treatment-resistant depression

	ECT	TMS
Efficacy	Preferred treatment for clinical efficacy	Mounting evidence of a robust response rate
Stimulation pattern	Diffuse	Often targeted
Cognitive adverse effects	Can be substantial	Minimal
Use of anesthesia	To reduce convulsions and musculoskeletal discomfort for more tolerable treatment	Unnecessary
Location of treatment	Hospital	Hospital, outpatient facility

ECT: electroconvulsive therapy; TMS: transcranial magnetic stimulation

Although TMS is FDA-approved for treatment-resistant depression, ECT remains the clinical treatment of choice

- Among antidepressant non-responders who had stopped all other antidepressant treatment, 44% of those who received deep TMS responded to treatment after 16 weeks, compared with 26% who received sham treatment.<sup>5</sup>

- Most patients usually require TMS for 4 to 6 weeks, 5 days a week, before beginning a taper phase.

- TMS has few side effects (headache being the most common); serious adverse effects (seizures, mania) have been reported but are rare.<sup>3</sup>

- Patients usually are able to continue their daily life and other outpatient treatments without the restrictions often placed on patients receiving ECT.

- If the patient responded to ECT in the past but could not tolerate adverse cognitive effects, TMS might be a better choice than other treatments.

References

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