

# Successfully Treating Depression and Other Mental Illnesses Through Non-Pharmacologic Technologies at McLean Hospital

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**Electroconvulsive therapy (ECT)**—a highly effective intervention for chronic depression, mania, and schizophrenia—and **transcranial magnetic stimulation (TMS)**—used for severe depression—are increasingly becoming viable options for successfully treating patients, especially those who may not respond well to medication.

“Patients are increasingly looking for alternative solutions when medications aren’t working, or to use in conjunction with pharmacotherapy,” said **Paula Bolton, MS, APRN-BC**, nurse director for McLean’s neurotherapeutics program, which includes ECT and TMS services. “They are experiencing positive results and feeling better relatively quickly.”



*A patient receives TMS treatment*

To help meet current and future growth, ECT and TMS services were moved to a renovated space on the Belmont campus last November. Since then, inpatient and outpatient services for ECT have been in even greater demand, she said, adding

that the new space was specifically designed to accommodate both ECT and TMS services.

“Whereas other hospitals and medical facilities have ECT and TMS, the services are limited, often due to space constraints,” said Bolton. “McLean is unique in the New England area in that it offers an ECT and TMS suite that is able to accommodate a large volume of patients each day. Plans are also underway to accommodate expanded outpatient services this fall.”

While McLean has been offering ECT for decades and TMS since 2009, technological advances have continually made treatments more effective, frequently offering immediate or promising results for patients where medications alone have not worked.

“Patients who undergo ECT often report they can experience joy again,” said Bolton. “We receive letters from patients all the time telling us they are getting their life back.”

**Oscar Morales, MD**, director of the TMS service and associate director, psychiatric neurotherapeutics program at McLean, and instructor in psychiatry at Harvard Medical School, said, “Major depressive disorder (MDD) is a prevalent and disabling condition in which many patients do not respond to conventional treatments. An estimated 20 to 40% of patients do not benefit adequately from such interventions as pharmacotherapy and psychotherapy. TMS has proven to be both safe and effective, with patients experiencing positive outcomes after several weeks of undergoing treatment.”

The FDA, in fact, recently approved the use of deep transcranial magnetic stimulation (dTMS)—a technology that allows stimulation into deeper areas of the brain—for the treatment of MDD.

McLean was one of 20 sites worldwide selected to participate in a three-year study that led to the FDA approving dTMS. The outcomes of the study, which measured the safety and effectiveness of dTMS, were published in a *World Psychiatry Journal* report in February.

This was the first double-blind randomized controlled multicenter study evaluating the effects of dTMS for patients with MDD, according to Morales. The study was

conducted at 13 centers in the U.S., four in Israel, two in Germany, and one in Canada, from October 2009 through January 2012. It included over 200 patients who were randomly assigned real or simulated dTMS over a month. Patients underwent a maintenance period that included two sessions per week for three months. The study showed that dTMS treatment was superior to the simulated treatment and induced a beneficial effect that lasted after the acute phase and the maintenance phase.

“McLean was approached to participate in the study because it has offered TMS over the past four years with great success,” said Morales. “The program grew very fast and we have been treating an increasing number of patients every day.”

One such experience was described by a patient who started undergoing TMS in March after struggling with depression and bipolar disorder for most of her life.

“I tried pretty much everything—so many medications I can’t even list them all,” she said. “There were times when I had good responses but my illnesses changed over the past decade and I eventually received very little benefits from medication.”

Another patient said she has felt more hopeful and positive since beginning her TMS treatments in January.

“I had goals before going into TMS. I felt like I was managing, not thriving. I felt like I wanted to be more engaged with life, to experience more joy with life. I wanted to reach out more toward people. I now feel more hopeful, I don’t feel so bogged down, and I laugh more. Recently a friend called me and told me she got a promotion at work, and I was able to feel genuinely happy for her. That was a new feeling.”

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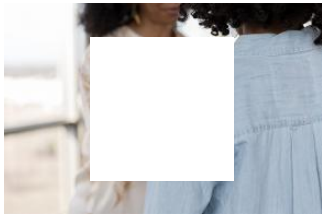
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