

# 10 Myths about ECT

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**A**s evidence supporting the use of electroconvulsive therapy (ECT) to treat patients with depression and other psychiatric illnesses continues to grow, myths about this treatment persist. In light of these myths, patients might be reluctant to receive ECT. As clinicians, we need to educate patients about the safety and effectiveness of this treatment. Here are 10 of the most commonly held myths about ECT, and why each is a misconception.

**1. It is a barbaric treatment.** ECT is conducted in a controlled medical environment, either during a hospitalization or as an outpatient procedure, by a team consisting of a psychiatrist, anesthesiologist, and nurse. Patients receive a short-acting intravenous anesthetic to ensure that they are unaware of the procedure, and a muscle relaxant to help prevent physical injury. Vital signs and brain waves are monitored throughout the procedure, which typically lasts 15 to 20 minutes. Patients remain relaxed, are unaware that they are having a seizure, and experience no pain. Following ECT, the patient is taken to a recovery area, where he or she is closely monitored as the medications wear off.

**2. It causes brain damage.** Studies using MRI to look at the brain before and after ECT have found no evidence that ECT causes negative changes in the brain's structural anatomy.<sup>1</sup> To the contrary, there is evidence that there is neuroplasticity in the brain in response to ECT, and the neurotrophin brain-derived neurotrophic factor also may be increased.<sup>2,3</sup>

**3. It causes permanent memory loss.** ECT can result in both anterograde and retrograde memory impairment; however, anterograde amnesia typically lasts only days to weeks. Retrograde amnesia is much less common, but when it occurs, it tends to be loss of memory of events that took place in the weeks leading up to and during treatment. Using an ultrabrief (as opposed to standard brief) pulse, as well as right unilateral (as opposed to bilateral) electrode placement, substantially reduces the risk of cognitive and memory adverse effects.<sup>4</sup>

**4. It is a treatment of last resort.** Typically, ECT is used for patients who have not responded to other interventions. However, ECT can be used as a first-line treatment for patients if a rapid or higher likelihood of response is necessary, such as when a patient is suicidal, catatonic, or malnourished as a result of severe depression.<sup>5</sup>

**5. It only works for depression.** Evidence shows ECT is efficacious for several psychiatric conditions, not just unipolar depressive disorder. It can effectively treat bipolar depression, mania, catatonia, and acute psychosis associated with schizophrenia

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**Disclosures**

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

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and schizoaffective disorders.<sup>6</sup> ECT also has been demonstrated to be effective in acute and maintenance treatment of Parkinson's disease.<sup>7</sup>

**6. It is not safe.** Death associated with ECT is extremely rare. A recent analysis estimated that the rate of ECT-related mortality is 2.1 deaths per 100,000 treatments. In comparison, the mortality rate of general anesthesia used during surgery has been reported as 3.4 deaths per 100,000 procedures.<sup>8</sup> Evidence also suggests ECT can be safely administered to patients who are pregnant.<sup>9</sup>

**7. It cannot be given to patients with epilepsy.** There are no absolute contraindications to using ECT for these patients. Most patients with epilepsy can be successfully treated with ECT without requiring an adjustment to the dose of their antiepileptic medications.<sup>10</sup>

**8. It will change one's personality.** ECT has not been found to cause any alterations in personality. Patients who are treated with ECT may describe feeling more like themselves once their chronic symptoms of depression have improved. However, ECT has not been shown to effectively treat the symptoms or underlying illness of personality disorders, and it may not be an effective treatment for depression associated with borderline personality disorder.<sup>11</sup>

**9. Its success rate is low.** ECT has the highest response and remission rates of any form of treatment used for depression. An estimated 70% to 90% of patients with depression who are treated with ECT show improvement.<sup>12</sup>

**10. It is a permanent cure.** ECT is not likely a permanent solution for severe depression. The likelihood of relapse in patients with severe depression who are helped by ECT can be reduced by receiving ongoing antidepressant treatment, and some patients may require continuation or maintenance ECT.<sup>13</sup>

**References**

1. Scott AJ, Turnbull LW. Do repeated courses of ECT cause brain damage detectable by MRI? *Am J Psychiatry.* 1990; 147(3):371-372.
2. Sartorius A, Demirakca T, Böhringer A, et al. Electroconvulsive therapy increases temporal gray matter volume and cortical thickness. *Eur Neuropsychopharmacol.* 2016;26(3):506-517.
3. Bocchio-Chiavetto L, Zanardini R, Bortolomasi M et al. Electroconvulsive therapy (ECT) increases serum brain derived neurotrophic factor (BDNF) in drug resistant depressed patients. *Eur Neuropsychopharmacol.* 2006;16(8): 620-624.
4. Sackeim HA, Prudic J, Nobler MS, et al. Effects of pulse width and electrode placement on the efficacy and cognitive effects of electroconvulsive therapy. *Brain Stimul.* 2008;1(2):71-83.
5. American Psychiatric Association. The practice of electroconvulsive therapy: recommendations for treatment, training, and privileging: a task force report of the American Psychiatric Association, 2nd edition. Washington, DC: American Psychiatric Association; 2001.
6. Fontenelle LF, Coutinho ES, Lins-Martins NM, et al. Electroconvulsive therapy for obsessive-compulsive disorder: a systematic review. *J Clin Psychiatry.* 2015;76(7): 949-957.
7. Narang P, Glowacki A, Lippmann S. Electroconvulsive therapy intervention for Parkinson's disease. *Innov Clin Neurosci.* 2015;12(9-10):25-28.
8. Tørring N, Sanghani SN, Petrides G, et al. The mortality rate of electroconvulsive therapy: a systematic review and pooled analysis. *Acta Psychiatr Scand.* 2017;135(5):388-397.
9. Sinha P, Goyal P, Andrade C. A meta-review of the safety of electroconvulsive therapy in pregnancy. *J ECT.* 2017;33(2): 81-88.
10. Lunde ME, Lee EK, Rasmussen KG. Electroconvulsive therapy in patients with epilepsy. *Epilepsy Behav.* 2006; 9(2):355-359.
11. Feske U, Mulsant BH, Pilkonis PA, et al. Clinical outcome of ECT in patients with major depression and comorbid borderline personality disorder. *Am J Psychiatry.* 2004; 161(11):2073-2080.
12. Kellner CH, McClintock SM, McCall WV, et al; CORE/PRIDE Group. Brief pulse and ultrabrief pulse right unilateral electroconvulsive therapy (ECT) for major depression: efficacy, effectiveness, and cognitive effects. *J Clin Psychiatry.* 2014;75(7):777.
13. Jelovac A, Kolshus E, McLoughlin DM. Relapse following successful electroconvulsive therapy for major depression: a meta-analysis. *Neuropsychopharmacology.* 2013;38(12): 2467-2474.

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