ELECTROCONVULSIVE THERAPY (ECT): IS ECT THE TREATMENT CHOICE FOR YOU?

UNIVERSITY OF MICHIGAN HEALTH
MICHIGAN MEDICINE

What is ECT?

Electroconvulsive therapy, often called ECT, is most commonly used to treat patients with severe depression who do not respond to medications or who are unable to tolerate the side effects associated with medications. ECT may also be the treatment of choice for patients who need a more rapid response than medications can provide. These patients may include those who are severely agitated, delusional, suicidal, not eating or drinking, as well as those who suffer from catatonia (a potentially life-threatening trance-like state). ECT is the most effective treatment for severe mental illness and is extremely safe.

ECT treatment is not limited to depression. It may also be used to stabilize bipolar disorder during extreme episodes of mania or depression. Additionally, ECT can be used to halt psychotic episodes associated with schizophrenia. Once these individuals are stabilized, medications are started or resumed.

A brief history of ECT

ECT was developed in 1938. After its introduction, ECT was found effective for treating multiple psychiatric illnesses, especially depression. The use of ECT treatment declined in the 1960s with the development of psychiatric medications and increased stigma associated with ECT. Because of improved treatment delivery methods, increased safety and comfort measures, and enhanced anesthesia management, the use of ECT has increased since the 1970s.

The Michigan ECT treatment team and their roles

ECT is performed by a team of medical professionals specifically trained in the delivery of ECT. At the University of Michigan, our team is led by Daniel F. Maixner, M.D., and consists of seven psychiatrists, numerous ECT nurses, and support staff. We collaborate with our colleagues in anesthesiology to deliver safe and effective ECT. ECT nurses' roles include evaluating symptoms during the ECT course and providing recovery care. Team psychiatrists conduct ECT consultations with patients, administer ECT with the

anesthesiology team, and serve as consultants to outpatient referring clinicians. Nursing staff and psychiatrists meet weekly to track your progress and coordinate care with your outpatient doctor. During each treatment, our team members are involved in every aspect of the treatment day activities including pre-treatment assessments/monitoring of your symptoms, conducting ECT, and recovery from anesthesia. We are proud to provide the most complete ECT care in the region.

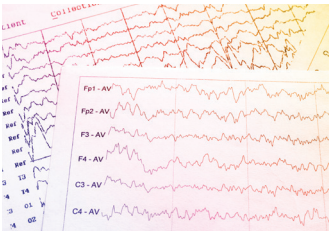
Michigan ECT treatment team

How ECT works

Electroconvulsive therapy involves applying a brief electrical pulse to the scalp through electrodes while the patient is under anesthesia. This pulse excites the brain cells, causing them to fire in unison, and produces a seizure.

ECT treatment appears to have many positive effects, although the specific mechanisms for how it works are unknown. One theory suggests that the seizure activity itself causes an alteration of the chemical messengers in the brain known as neurotransmitters. Another theory proposes that ECT treatments adjust the stress hormone regulation in the brain, which may affect energy, sleep, appetite, and mood.

How many times do I need ECT?



Treatments are normally administered three times a week on Monday, Wednesday, and Friday. A course of ECT normally ranges from six to twelve treatments. The average number of treatments is nine. The severity of your symptoms and how rapidly you respond will determine the number of treatments you need.

Six treatments are usually required before major improvements in your symptoms may be observed. However, family members, friends, and caregivers may begin to see mild improvements following the first three to six treatments. These improvements may include an increase in your activity level, improved sleeping patterns, and a mild increase in your appetite.

Your ECT care providers will monitor your response to the treatments. They will use this information as well as your own feedback to determine how many treatments you will receive.

Right unilateral treatment versus bilateral treatment

There are primarily two types of electrode placement used for the delivery of ECT: right unilateral treatment and bilateral ECT treatment. These two techniques differ in the area of the brain stimulated, the timing of response, and potential side effects.

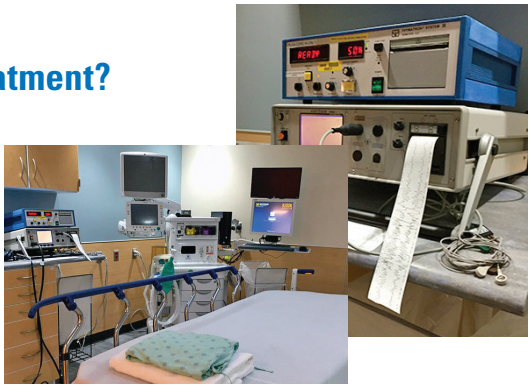
To generate a seizure with a right unilateral treatment, one electrode is placed on the crown of the head and the other on the right temple. Those receiving the right unilateral treatments may respond somewhat slower than those who receive bilateral treatments. This difference is usually no greater than one to two treatments. Right unilateral treatment is typically associated with fewer memory side effects. Patients who do not respond to right unilateral treatments may require a switch to bilateral placement.

Bilateral ECT treatment involves placing the electrodes on both temples. This treatment may be associated with more acute memory side effects than right unilateral treatments. Bilateral ECT is often preferred for severe

mental illnesses including depression with psychosis, manic episodes of bipolar disorder, psychosis related to schizophrenia, and catatonia.

You and your doctor will work together to determine which treatment option is best for you. Specific recommendations will be made after carefully evaluating your concerns, medical/psychiatric history, and the severity of your symptoms.

What happens during a treatment?



The night before a treatment you will not have anything to eat or drink after midnight. Some people may take their usual medications in the morning with a sip of water for headache, high blood pressure, stomach reflux, or other significant medical conditions.

Shortly after you arrive in the ECT treatment area, an ECT team member will insert a catheter into your vein, often referred to as an IV. The IV will be used to administer medications necessary for both the ECT and your comfort. Pads with monitoring wires will be placed on your head and upper body to monitor your brain waves and your heart during the procedure. Blood pressure cuffs will be placed on both an upper arm and your lower right leg. The cuff on your arm will be used to monitor your blood pressure. The cuff on your leg will be used to prevent the muscle relaxant medication from traveling past your ankle, allowing the psychiatrist to monitor the physical seizure only in your right foot.

You will then be given a medication to make you sleepy. At the same time, a mask will be placed over your nose and mouth. The mask is used to provide you with oxygen.

When you are completely asleep, a muscle relaxant will be administered to prevent your muscles from twitching. After your muscles are sufficiently relaxed, two electrodes will be placed on your scalp and a pulse of electricity will be administered. To ensure an adequate response, seizures are monitored by observing brain wave activity on an EEG (a machine that measures electrical activity in the brain) and the mild twitching of your right foot. Seizures vary but are generally in the 25 to 45 second range.

You will be closely monitored during and immediately after the treatment. After you awaken and your vital signs are stable, you will be transferred to the recovery area. The ECT treatment generally lasts only 10 to 20 minutes.

In the recovery area, the nurse will closely monitor your blood pressure and level of consciousness for another 30 to 60 minutes. Once the anesthesiologist is satisfied that you are ready, your treatment session is done. If you are in the hospital, you will return to the inpatient unit. If you are an outpatient, you will prepare to return home and will be released to the care of the person who accompanied you to the hospital.

What are common side effects after ECT treatment?

Occasionally, a patient may have a headache, muscle aches, or nausea after the treatment. These side effects can be treated with medications before or after the ECT. Please inform your doctor and nurse if you experience any of these side effects. Once the staff is aware of these side effects, they can take measures to prevent them.

Additionally, some people may exhibit mental confusion resulting from the combination of anesthesia and/or ECT treatment. Acute confusion, if it occurs, typically lasts for 30 minutes to one hour. For your safety, you are closely observed by nursing staff and doctors during this time.

Possible memory side effects

Memory loss is one of the greatest concerns of people who receive ECT. Two different kinds of memory loss may occur during the course of 9 ECT treatments. The first is the loss of short-term memory during the period of time that you are having ECT treatments. Some examples of short-term memory loss include forgetting what you had for lunch or not remembering talking to someone earlier in the day. Your ability to remember new information will generally return to your normal level within a few weeks to a few months after the treatments are finished.

The second type of memory loss that may occur involves memory loss of past events. Recent past events (two to six weeks before treatment) are more sensitive to ECT. However, some patients may describe “spotty” memory loss for events that occurred as far back as six months before beginning ECT. This memory impairment is potentially permanent. Although rare, some patients have reported a more severe memory loss of events dating back further than the six months preceding ECT treatments.

How safe is ECT?

ECT treatments are extremely safe and severe medical complications are rare. However, like any other medical procedure involving anesthesia, treatment carries some risks. The potential risks include cardiac or

respiratory arrest. Respiratory or cardiac arrest resulting in death during ECT is extremely rare (less than 1 in 10,000 cases). This risk is comparable to the risks of having an outpatient surgical procedure under anesthesia. You will be monitored constantly during the procedure by a team of medical professionals in the event of a complication.

What is maintenance ECT?

Because depression is often a recurring illness, patients may experience repeated episodes of depression even if they respond very well to ECT. Because patients commonly have not responded to numerous medications prior to starting ECT, their illness may be significantly resistant to medications. If repeated episodes of depression occur after ECT treatment, your doctors may recommend "tapering" ECT, or gradually spacing out the time between treatments over a course of several weeks to months. This is referred to as "maintenance ECT," and modern clinical practice and research have found that it is often very effective in keeping patients well. A common slow taper of ECT involves treatments once a week for a month, once every two weeks for two months, once every three weeks for two months, and once every month for two to four months. Although maintenance ECT requires a considerable commitment by patients and families, avoiding lengthy re-hospitalizations and having to undergo more medication trials is often worth any inconveniences.

What to expect after an ECT course

Although ECT is an extremely effective and safe treatment, it is only one component of a complete treatment regimen. Preventing a return of your illness after your ECT course will likely require medications as maintenance therapy. ECT also cannot resolve other sources of stress (such as problems associated with personal relationships) or how an individual may cope with those stressors. However, because ECT should relieve the severe symptoms of your illness, you will be able to participate more effectively with other therapies that are recommended, such as psychotherapy.

Is ECT for you?

The decision to undergo ECT requires an understanding of the treatment by you and your loved ones. If ECT is offered to you as a treatment for your severe illness, it is because your physician believes you will benefit. Hopefully, after reviewing this material and talking with your psychiatric professionals, you will be more comfortable in weighing the benefits and risks of ECT so you can make a decision that is right for you.

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To learn more about ECT at Michigan Medicine, we invite you to watch this educational video featuring our patients and providers: michmed.org/ECTvideo

Michigan Medicine Psychiatry is pleased to partner with our Patient and Family Advisory Committee to offer **ECT Peer Mentoring & Support** for patients and families who want to know more about ECT from a personal point of view. Please contact Heather, who says "I became the resource I wish I had when I was starting ECT!" at ectpeermentoring@umich.edu

Save the **988 Suicide & Crisis Lifeline** and **other mental health info** as a contact in your phone. Scan this QR code:

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