Electroconvulsive Therapy – ECT

Electroconvulsive Therapy (ECT) was developed in 1938 in Italy. It is among the safest and most effective treatments for depression including bipolar depression. It is most commonly used to treat patients with depression who fail to respond to medications, are unable to tolerate the side effects of medication, or need a quick improvement in depressive symptoms. ECT has also been used to treat acute manic symptoms as well as psychotic episodes associated with schizophrenia. ECT can be a life-saving procedure for those with catatonic features associated with severe depression or schizophrenia.

How it works
The mechanism of ECT remains unclear. However, it is believed that electricity delivered though the skull can cause neurons in the brain to release chemicals that cause the neurons to form new connections with other neurons. ECT has also been referred to as a ‘reset button for the brain,’ which not only directly improves depressive symptoms, but also allows current medications to work more effectively.

How it is performed
While the patient is under general anesthesia, a muscle relaxant is given and electrodes are applied to the scalp. A brief electrical stimulus is delivered. The effective stimuli produce a mild seizure, which changes the activity of the brain. The brain stimulation is accompanied by mild muscle contractions usually lasting less than one minute.

The electrical stimulus can be delivered in one of three ways; right unilateral, bi-frontal or bi-lateral. Most patients begin treatments with a right unilateral stimulus. If, after several treatments, the patient is not improving, the stimulus can be changed. The benefit of changing to bi-frontal or bi-lateral is a faster improvement in mood. The risk is an increased chance of memory loss. The decision to change the electrical stimulus is made by the patient and the psychiatrist.

Goals & Benefits
The goal of ECT is to help patients achieve complete recovery from their symptoms. If a complete recovery is not achievable, then the goal is to get as much benefit as possible. More than 80% of the patients can have at least 50% improvement from their baseline.

ECT requires multiple treatments. The treatments are divided into two series of treatments, acute and maintenance. During the acute series, ECT treatments are given three times a week for a total of 6 to 12 treatments for the majority of patients. Prior to each treatment, the patient is evaluated for improvement.
When maximum improvement or complete recovery is achieved, maintenance treatments begin. The goal of the maintenance treatments is to prevent symptoms from re-occurring.

**Risks**
ECT is among the safest medical treatments given under general anesthesia. The risk of death or serious injury as a result of ECT is approximately 4 in 100,000 treatments (Gelder).

Prior to receiving ECT, each patient undergoes blood tests, an EKG, a physical exam, and additional tests or exams if necessary. The results are reviewed by the anesthesiologist before the first treatment. For those with complex medical conditions, consultations from other specialties may be required before initiating ECT.

**Side Effects**
The most common side effects of ECT are headache, nausea, muscle aches, jaw pain, confusion and memory loss.

Headache, nausea, muscle aches and jaw pain are all treatable with medication before and after the ECT treatment. Confusion, as a result of general anesthesia or seizure activity, usually lasts for a short time.

Some patients receiving ECT experience short-term memory loss during the acute series of treatments. Memory problems can be difficulty recalling things learned in the past and/or with difficulty learning new things after each ECT treatment. The degree of memory loss is not predictable. However, the degree of memory problem is commonly related to number of ECT treatments, frequency of treatments, and electrode placements. Overall, right unilateral electrode placement causes less memory problems than bilateral electrode placement.

Once the treatments are spread out during the maintenance series, the majority of patients will recovery their memories within 6 months. However, a small number of patients may have some permanent memory loss.

**Getting Started**
Since Electroconvulsive Therapy is an elective procedure, you should first discuss the option of ECT with your psychiatrist. Your psychiatrist must send a referral to the ECT Service at University Hospitals Case Medical Center for an ECT evaluation.

Once the referral is received, we will contact you to set up the initial evaluation with an ECT psychiatrist. The initial ECT evaluation takes place at the W.O. Walker Building, 10524 Euclid Avenue, Cleveland, OH 44106. The ECT psychiatrist will explain the pros and cons of ECT, the procedures of ECT, and anything that needs to be done prior to
ECT. During your meeting, the psychiatrist will determine if you are a good candidate for ECT. Following your meeting, the ECT psychiatrist will send a letter to your psychiatrist detailing his/her recommendation and your decision. If you are a good candidate and decide to receive ECT treatment, the ECT psychiatrist will inform the nursing care coordinator who will contact you to schedule pre-admission history & physical exam and laboratory tests as well as ECT treatments.

Pre-admission testing takes place at UH Richmond Medical Center, a campus of UH Regional Hospitals. Pre-admission testing must be completed prior to your first ECT treatment.

**Getting Ready**
As with any other surgical procedure, you may have nothing to eat or drink after midnight the night before your ECT treatment. On the day of your ECT appointment, please bring your insurance information and picture identification. Additionally, you will need a responsible adult to drive you home and assist you there. Since you will receive general anesthesia, you must not drive for 24 hours after your ECT treatment.

**What to expect**
Upon arrival at Richmond Medical Center, you will need to check in with the receptionist on the third floor, located to the left of the elevator. Once inside the ECT suite, your appointment consists of three parts; admission, treatment and recovery. Admission takes place within a private room with an ECT nurse who also inserts an IV for the anesthesia.

Within the privacy of your room, the psychiatrist conducts a pre-procedure assessment of your symptom severity. Before your first treatment, the anesthesiologist completes a pre-anesthesia evaluation.

When it is time for your treatment, you will be moved, in the bed, to the treatment room. In the treatment room, vital sign are monitored continuously. The anesthesiologist administers the anesthetic and the muscle relaxant. When you are asleep and your muscles are relaxed, the ECT psychiatrist will deliver an electrical stimulus based on your age and gender. The stimulus causes a mild seizure that can be seen as muscle movement in the face, hands and feet and changes in brain activities measured by ECT machine. The seizure usually lasts less than 60 seconds.

The anesthesiologist monitors vital signs and supports breathing with oxygen, until you are breathing well on your own and vital signs are stable. At this point, you are ready for transport back to the private room where the Post Anesthesia Care Unit (PACU) nurse is waiting.

The PACU nurse is with you throughout the recovery period. Vital signs and pain assessment are done periodically. Complaints of pain or nausea are addresses by the
psychiatrist and anesthesiologist. Medications for pain and/or nausea will be offered if indicated. Once you are alert and oriented, food and drink are provided.

Recovery time after the treatment is generally one hour. During the recovery period, your transportation is contacted and asked to return to the ECT suite. Home-Going Instructions provide details on post-treatment dos and don’ts, contact phone numbers and next appointment date and time.

When can I expect to start feeling better?
A small number of patients may experience significant improvement of their symptoms after 1 or 2 treatments, but the majority of patients need 4-6 treatments for noticeable improvement and 6-12 treatments for remission. Treatments for the acute series take place on Monday, Wednesday and Friday. It is crucial to attend all these treatments for your speedy recovery. ETC treatments twice a week are acceptable for those who have serious memory problems or transportation difficulty. Missing treatments during the acute series may cause setbacks in your progress.

The ECT Suite
The ECT suite is located on the third floor of UH Richmond Medical Center. ECT is available for both in-patients and out-patients. The ECT suite contains 7 private patient rooms, the treatment room, nursing station and offices.

The nursing staff to patient ratio is 1 staff member for 3 patients. All nurses are ACLS credentialed. We are fortunate to have a very knowledgeable and specialized staff with over 50 years of ECT treatment experience. Daily staffing for the ECT suite consists of:

• 1 Psychiatrist
• 1 Anesthesiologist
• 1 Nursing Care Coordinator
• 2-5 Clinical nurses depending on the number of patients

Click here to see a slideshow of the ECT Suite

ECT team
Our ECT team consists of psychiatrists, anesthesiologists, and nurses.
The psychiatrists are:

• Keming Gao – MD, PhD, Medical Director of ECT
• David Kemp – MD
• Irina Korobkova – MD

The anesthesiologists are:

• Helmut Cascorbi - MD, PhD, DABA – Section Head Psychiatric Anesthesiology
• Annemarie Norenberg – MD, DABA

The nursing staff members are:
Maps and directions
The ECT suite is located on the third floor at Richmond Medical Center, 27100 Chardon Rd., Richmond Heights, OH 44143 (click here for map and directions). The hours of operation are Monday, Wednesday, Thursday and Friday from 7:00 a.m. to 3:30 p.m. Tuesday hours vary. The ECT suite is closed Saturday, Sunday and major holidays.

Appointment times for ECT start at 8:00 a.m.

The direct phone number for the ECT suite is (216) 844-5559. Messages may be left on the confidential voice mail.

Frequently asked questions
Does ECT work?
Yes, it is effective for more than 80% of the patients.

Does ECT hurt?
No. You will not feel the treatment. You might feel sore after the 1st treatment, and have headaches and/or nausea after any treatment.

How long will each visit take?
Expect to spend 2 -3 hours in the ECT suite at each visit.

Does my transportation have wait for me?
No. Your transportation does not have to wait at the hospital. We can call your transportation when you are ready to be picked up. If they choose to wait, the 1st floor waiting area has many amenities.

Can I have something to eat or drink before coming to my ECT appointment?
No. You may have nothing to eat or drink after midnight the night before ECT.

Should I take my morning medications?
Take only blood pressure medications with a small sip of water. Your list of medications will be reviewed at each visit. If the physician wants you to take any additional medication, you will receive written instructions.

Will anyone be able to tell that I’m having ECT treatments?
No. You will not look any different after the treatment.

Does insurance pay for ECT?
You should check with your insurance company to verify how much, if any, you will need to pay.

What if I need to change or cancel an appointment?
Call (216) 844-5559. You may leave a message. Please give 24 hour notice.

Do I still need to see my regular psychiatrist while doing ECT?
Yes. Your psychiatrist will continue to manage your medications. The ECT psychiatrist will provide updates on your progress to your regular psychiatrist.

Do I still take my psychiatric medications while doing ECT?
Yes, unless instructed differently by the psychiatrist or anesthesiologist. Some medications may interfere with your seizure duration. If that is the case, the ECT psychiatrist may have you hold or temporarily stop some of your medications.

What if I still have questions?
You may call the ECT suite at (216) 844-5559 with additional questions.

Suggested Reading:

Books:


Articles:


