

# Electroconvulsive Therapy



## What the fact sheet covers:

- What is ECT?
- When is ECT used?
- What are the side effects of ECT?
- How is ECT done?
- Giving consent to have ECT
- Where to get more information

## What is Electroconvulsive therapy (ECT)?

Electroconvulsive Therapy (ECT) is a physical treatment used for a range of mental illnesses.

ECT was introduced in 1938 and has since undergone dramatic changes so that modern ECT no longer resembles the early treatment often portrayed in the media.

Historically, ECT was given without anaesthesia and for conditions that would not be suitable for ECT treatment today. Modern ECT treatment involves stimulating the brain, using a carefully controlled current to induce a seizure while the patient is unconscious, under a short acting general anaesthetic and muscle relaxant.

## What are the side effects of ECT?

ECT is generally a very safe treatment. Before commencing a course of ECT, patients will undergo a thorough psychiatric evaluation and general health screening process. This may include having blood tests, a chest X ray and an electrocardiogram (ECG). Overall, the medical complication rate with ECT is very low and is comparable to other minor medical procedures involving anaesthesia (2.0–2.5 deaths per 100,000).

## When is ECT used?

ECT has been shown to be the most effective antidepressant treatment available for severe depression, with a response rate of over 70%.



However, further treatment either through continued ECT or antidepressant pharmacotherapy is beneficial in preventing relapse in depressive symptoms after an effective acute ECT course.

ECT is often prescribed as a treatment for depression when other treatments (antidepressant medication and psychological therapy) have failed to produce an improvement in symptoms, when patients have experienced serious side effects from medications, or are unable to safely take particular medications due to a medical condition.

Due to the fast acting antidepressant effects of ECT, it may also be prescribed when the risk of suicide is high or when a patient is too unwell to eat, drink or take medications. ECT is also used in the treatment of acute mania, catatonia and schizophrenia. However, the National Institute for Health and Care Excellence advises that ECT should not be used for the general management of schizophrenia.

A brief period of confusion following ECT is relatively common. Some people may experience a headache or nausea and these side effects can be treated with medication if necessary. Muscle soreness or aching can also occur after ECT as a result of the medications given to relax muscles during ECT. These effects are transient, usually lasting only a few hours after the ECT.

ECT can cause temporary memory loss. Specifically, some patients experience difficulties laying down new memories during the course of ECT and may be unable to remember events which occurred during this period. Evidence from research suggests that if memory and thinking are affected by ECT, the period of memory problems is relatively brief and test scores have usually returned to pre-ECT levels one month after treatment.

Sometimes, occasional memories from the past may be forgotten. It is also important to note that many patients suffering from depression already have problems with attention, concentration, thinking and memory prior to commencing ECT. It is not uncommon for patients to report that their memory is better following ECT. The safety of ECT has also been

examined with detailed brain scans done before and after ECT. There is no evidence that ECT causes brain damage.

## How is ECT done?

ECT is usually performed in an operating suite, so that there is easy access to specialist anaesthetic services. The anaesthetist and ECT nurses will connect monitoring equipment to check a patient's heart rate, blood pressure, oxygen levels, and brain waves. The anaesthetist will then insert a small needle into a vein in the hand, to provide anaesthetic. While going off to sleep, the anaesthetist will also provide oxygen to breathe.

Once fully asleep and relaxed, a doctor will give the ECT stimulus (which usually lasts about five seconds). This will induce a seizure that lasts about a minute, with minimal muscle movement. After this, patients gradually regain consciousness and are taken to the recovery area where a nurse will monitor heart rate, blood pressure, etc. until the patient is fully awake. The whole process takes around half an hour, and the patient may feel groggy for a while due to the seizure and the anaesthetic.

## Giving consent to ECT

As with any other significant medical procedure, before the ECT can be done, patients will be asked to give consent or permission for it to go ahead. Consent needs to be 'informed' – that is, the reasons for doing it, and the possible risks and benefits should be explained fully in a way that is understood. Patients have the right to ask questions regarding the procedure, and to discuss their views with their psychiatrist. After this is done, patients are asked to sign a consent form that states that ECT has been explained to them, that they understand what is going to happen, and that they consent to it. Patients can, however, withdraw their consent at any point if they wish – even before the first treatment.



There may be cases sometimes where people are too unwell to make a decision about having ECT. For example, they may be so severely withdrawn or have ideas about themselves that stop them taking on board all the issues surrounding ECT (e.g. they may wrongly believe that their depression is a punishment they deserve for something they have done). If this happens, it may be impossible for them to give informed consent.

In this case, ECT can still be given under the Mental Health Act – this is a strictly controlled process regulated by law, with input from independent clinical and legal experts, and takes into account the view of the patient and their family.

## References

1. Loo, C. K., Katalinic, N., Martin, D., and Schweitzer, I. (2012). A review of ultrabrief pulse width electroconvulsive therapy. *Therapeutic Advances in Chronic Disease*, 3(2), 69–85.
2. NSW Health. (2013). Electro Convulsive Therapy Standards Project. Available from: <http://www.health.nsw.gov.au/mhdao/cg/Pages/mh-electro.aspx>
3. Baker, P. L., Trevino, K., McClintock, S. M., Wani, A., and Husain, M. M. (2012). Clinical applications of electroconvulsive therapy and transcranial magnetic stimulation for the treatment of
4. Loo, C. (2013). ECT in the 21st century: Ultrabrief pulse stimulation – a new development in treatment unique. *Australian Prescriber*, 36(1), 22–23.
5. Institute of Clinical Excellence. (2003). NICE Clinical Guidelines, Guidance on the use of electroconvulsive therapy. Available from: <https://www.nice.org.uk/guidance/ta59>
6. The Royal Australia & New Zealand College of Psychiatrists. (2019) Position Statement 74: Electroconvulsive Therapy [ECT]. Available from [https://www.ranzcp.org/news-policy/policy-and-advocacy/position-statements/electroconvulsive-therapy-\(ect\)](https://www.ranzcp.org/news-policy/policy-and-advocacy/position-statements/electroconvulsive-therapy-(ect))
7. Puri, B., Hall, A., and Ho, R. (2013). *Revision Notes in Psychiatry (Third Edition)*. Florida: CRC Press.
8. Better Health Channel (2014). *Electroconvulsive Therapy (ECT)*. Victoria: Department of Health. Available from: [http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Electroconvulsive\\_therapy](http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Electroconvulsive_therapy)
9. Rose, D., Fleischmann, P., Wykes, T., Leese, M. and Bindman J.(2003). Patients’ perspectives on electroconvulsive therapy: Systematic review. *British Medical Journal*, 326, 1363.
10. Semkovska, M., and McLoughlin, D.M. (2010). Objective cognitive performance associated with electroconvulsive therapy for depression: A system review and meta-analysis. *Biological Psychiatry*, 68(6), 568–577.
11. Semkovska, M., Keane, D., Babalola, O., and McLoughlin, D. M. (2011). Unilateral brief-pulse electroconvulsive therapy and cognition: Effects of electrode placement, stimulus dosage and time. *Journal of Psychiatric Research*, 45(6), 770–780.



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