PROCEDURE

Electroconvulsive therapy

Electroconvulsive therapy uses a controlled electrical stimulus under general anaesthesia to treat severe mental illness.

PURPOSE
Relieve severe psychiatric symptoms when rapid treatment is needed

PROCEDURE TYPE
Therapeutic; non-invasive electrical stimulation

WHERE IT IS DONE
Hospital treatment suite or outpatient procedure unit

ANAESTHESIA
General anaesthesia with a muscle-relaxing medicine

HOW LONG IT TAKES
About 5 to 10 minutes

PREPARATION
Fasting, medication review, and an arranged ride home

RECOVERY
Same day; no driving afterward or during the treatment course

MAIN RISKS
Memory problems, confusion, anaesthesia complications, heart rhythm changes

RESULTS
Symptoms assessed after each treatment and across the course

Overview

Electroconvulsive therapy, or ECT, treats certain severe mental health conditions. Under general anaesthesia, a controlled electrical stimulus causes a brief seizure in the brain. A muscle-relaxing medicine limits body movement, and you should not feel the stimulus.

ECT is usually given as several treatments over a number of weeks. Some people later have less frequent maintenance treatments to help prevent relapse.

Modern ECT is performed by a specialist team using anaesthesia, oxygen, and continuous monitoring. It can still cause significant side effects, particularly memory problems, which should be discussed before you consent.

Why the procedure is performed

ECT may be considered when symptoms are severe, rapid improvement is important, or other treatments have not helped enough.

Reasons include:

ECT is not guaranteed to work. Your team should explain why it is recommended and how improvement will be measured.

- Severe depression, especially with psychosis, suicidal risk, or inability to eat or drink
- Catatonia, which can cause severe slowing, lack of movement, or inability to respond
- Severe or prolonged mania
- Some severe cases of schizophrenia or related psychotic illness
- A previous illness that responded well to ECT

Who should and should not have it

ECT may be appropriate when its expected benefits outweigh its risks. Your preferences, previous treatment results, physical health, and concerns about memory should be considered.

No single medical condition rules out ECT in every situation. However, treatment may be delayed or modified if you have an unstable condition that increases the risks of anaesthesia or temporary changes in heart rate and blood pressure. Examples include unstable heart disease, a recent stroke, severely uncontrolled blood pressure, or raised pressure inside the skull.

Pregnancy, older age, a pacemaker, or epilepsy do not automatically exclude ECT, but they may require specialist planning and extra monitoring.

You should not be pressured into consenting. If you can make the decision, you may ask questions, request another opinion, or decline. When someone cannot give informed consent, local law may require independent review or legal authorization.

How to prepare

Your team will review your physical health, symptoms, memory, and medicines. You may need blood tests, an electrocardiogram, or other tests based on your medical history.

Medicines including lithium, seizure-prevention medicines, sedatives, and some diabetes or blood pressure treatments can affect ECT or anaesthesia. Do not stop or change any medicine

yourself. Follow the team's instructions about what to take and when.

You must stop eating and drinking before anaesthesia. Follow your facility's fasting instructions and tell the team if you accidentally eat or drink during the fasting period.

Remove contact lenses, jewellery, dentures, and removable dental devices when instructed. For outpatient treatment, arrange for a responsible adult to take you home and follow any supervision instructions.

What happens during the procedure

An intravenous line is placed in a vein. Equipment monitors your blood pressure, oxygen level, heart rhythm, and brain activity, and you receive oxygen.

Anaesthesia makes you unconscious. A muscle relaxant reduces movement, and a mouth guard protects your teeth and tongue.

Electrodes are placed on your scalp, either on both sides of the head or mainly on one side. Their position and the electrical dose can affect effectiveness and memory side effects.

The electrical stimulus lasts a few seconds and produces a controlled seizure, commonly lasting less than a minute. There is usually little visible movement because of the muscle relaxant. The procedure is brief, but preparation and recovery make the appointment longer.

Recovery and what to expect afterward

You may have a headache, jaw or muscle soreness, nausea, or temporary confusion when you wake. Staff can assess and treat these symptoms. Confusion usually improves as the anaesthetic wears off but may last longer for some people.

You can usually eat and drink once you are fully awake and staff say it is safe. Rest for the remainder of the day. Avoid alcohol, major decisions, and activities requiring clear judgment until you have recovered and your team approves them.

You cannot drive yourself home. Driving restrictions often continue throughout an acute treatment course and for a period afterward. Follow your treatment centre's instructions and local licensing rules.

When you can return to work depends on your recovery, symptoms, memory effects, and job. Work involving driving, machinery, heights, or safety-critical decisions may require more time away.

Risks and possible complications

Memory effects are a major concern. You may have difficulty remembering events around the treatment period or forming new memories during the course. Some people lose memories from weeks or months before treatment. Memory usually improves afterward, but gaps in personal memories can persist.

Other risks include:

Serious heart, breathing, or neurological complications can occur. Your individual risk depends strongly on your health, so ask how the team will reduce risks that apply to you.

- Temporary confusion, headache, muscle soreness, or nausea
- Brief changes in heart rate and blood pressure
- Complications from general anaesthesia
- A prolonged or repeated seizure
- Dental, tongue, or mouth injury
- A switch from depression into mania

Results and follow up

Improvement may begin after the first few treatments, but some people need more sessions and others do not improve enough to continue.

The team will assess your mood, thinking, daily function, safety, condition-specific symptoms, memory, and other side effects. Treatment frequency or number may be adjusted according to benefits and side effects.

ECT treats the current episode but does not guarantee that symptoms will remain controlled. Follow-up may include medication, psychotherapy, maintenance ECT, or a combination.

Alternatives

Alternatives depend on the condition, its severity, previous treatment, and how urgently improvement is needed.

Choosing no active treatment avoids procedure-related risks but may allow severe illness to continue or worsen. Your team should explain what this could mean for you.

- Medication: Antidepressants like sertraline or fluoxetine , antipsychotics like olanzapine or risperidone , mood stabilizers, or medicines for catatonia may help, but can take longer, cause side effects, or may already have failed.
- Psychotherapy: Talking therapies can help depression and prevent relapse but may not work quickly enough alone during severe psychosis, catatonia, or inability to eat and drink.
- Repetitive transcranial magnetic stimulation: Magnetic pulses stimulate the brain without anaesthesia or a deliberate seizure. Memory effects are generally less prominent, but repeated visits are needed and it may be less suitable when a rapid, strong response is required.
- Ketamine or esketamine: These can reduce some forms of depression quickly, but benefits may be short-lived and repeated monitored treatment may be needed. They are not alternatives for every condition treated with ECT.
- Supportive or inpatient care: This provides safety, nutrition, hydration, and observation but may not treat the underlying episode by itself.

When to call your healthcare team

Contact the ECT team if headache, nausea, tiredness, or confusion is not improving; memory problems interfere with daily life; or you develop ongoing dental or muscle pain.

Seek urgent medical help for chest pain, breathing difficulty, fainting, a seizure after leaving the facility, repeated seizures, new weakness on one side, or severe or worsening confusion.

If you may harm yourself or someone else, or cannot keep yourself safe, contact emergency services or a local mental health crisis service immediately.

Common questions

Will I be asleep?

Yes. General anaesthesia keeps you unconscious during the electrical stimulus and seizure.

Can I drive home?

No. A responsible adult must usually take you home. Further restrictions may apply during and after the course.

How painful is it?

You should not feel the procedure. Headache, jaw soreness, muscle aches, or nausea can occur afterward.

When will I know if it is working?

Your team assesses you after each treatment. Improvement may appear after a few sessions, but some people need more.

Will I lose my memory?

Temporary difficulty forming new memories is common. Gaps in earlier memories can also occur and may persist. Ask how your memory will be monitored.

Sources

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