

Electroconvulsive therapy (ECT)
Information for individuals and families

NCMH
National Centre for Mental Health
Canolfan Iechyd Meddwl Genedlaethol

Electroconvulsive therapy (ECT)



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Electroconvulsive therapy (ECT) is a treatment for some types of severe mental illness that have not responded to other treatments.

An anaesthetic and muscle relaxant are given, and then an electric current is passed across your head.

This causes a controlled fit, which typically lasts fewer than 90 seconds.

The anaesthetic means that you are asleep while this happens. The muscle relaxant reduces the movement of the fit.

It is given as a course of treatments twice a week, typically for three to eight weeks.

What conditions can ECT be used for?

ECT is mostly used for depression. It is also used to treat catatonia, an uncommon condition in which a patient may stop talking, eating or moving.

Occasionally, it is used to treat people in the manic phase of bipolar disorder.

ECT is not advised for the treatment of anxiety or most other psychiatric conditions.

ECT can help symptoms of schizophrenia which have not improved with medication, but the long-term benefits are not known so it is not often used.

Most people with depression do get better with the right treatment and support, but it can come and go.

A doctor will usually be suggest ECT if your condition:

- is life-threatening and you need a rapid improvement to save your life
- is either causing you immense suffering or is likely to get worse, so that a rapid improvement is needed

- has not responded to other treatments, such as medication and psychological therapy
- has responded well to ECT in the past

How effective is ECT?

Most people who have ECT see an improvement in their symptoms.

Many patients feel their condition is very much improved after treatment while others feel no change in their condition and a small number can worse.

At first, they may suggest some lifestyle changes and monitoring your mood for a short period in case it improves on its own. If this doesn't happen, you may need to discuss other treatment options.

The majority of people treated with ECT for depression with benefit, with some 50% reaching remission, but recurrence of symptoms can occur during the 12 months following the treatment.

How does ECT work?

During depressive episodes, there is reduced neuroplasticity in the brain, making it harder for the brain to reorganise and adapt.

ECT reverses the impaired neuroplasticity, and we can observe this as increased volume of grey matter in many regions in the brain.

The immediate disruptive effects of ECT are followed by temporarily enhanced neuroplasticity, which enables the brain to rewire in more optimal patterns over time.

ECT also releases certain brain chemicals involved in the regulation of emotions.

The effects of ECT gradually build with each treatment.

As with many medical treatments, we need more research to help us better understand how ECT works.

Are there different types of ECT?

ECT has changed and developed over the years.

For example, the amount and form of electricity used has changed which has reduced the chance of side effects.

There are two ways in which ECT is given:

- bilateral ECT - the current passes across your head between your temples
- unilateral ECT – the current passes between your right temple and the top of your head

Bilateral ECT may work faster. Depending on the dose, unilateral ECT has less effect on memory.

You may wish to ask your doctor about which type of ECT would suit you better.

Maintenance ECT is occasionally used to help stop you becoming

unwell again after a successful course of treatment.

It is given less often but over a longer period than the first course of treatment.

You may be referred to a specialist eating disorders service if your GP thinks this is necessary.

Can ECT be used for children or young people?

ECT is not used for children under the age of 11.

It should only be used in a young person aged 11 to 18 as a treatment of last resort, if their illness is life-threatening or is severe and has not responded to other treatments.



What happens when you have ECT?

ECT is given in hospital. You will probably already be an inpatient in hospital, although some people do have ECT as day patients.

As a day patient, a named responsible adult will have to accompany you to and from the ECT clinic.

The treatment will usually be done in a set of rooms called the ECT suite, although some ECT services are based in an operating theatre.

There should be a room where you can wait, a room where you have your treatment, and a room where you can recover properly before leaving.

Qualified staff will look after you all the time you are there. They can help you with the process of waking up from the anaesthetic and during the time straight after the treatment.

If you have significant medical

problems, you may need to be treated in another hospital with more medical support.

Preparing for ECT

In the days before your course of ECT is started, your doctor will arrange for some tests to make sure it is safe for you to have a general anaesthetic.

These may include:

- a record of your heartbeat (ECG)
- blood tests
- a chest X-ray

You must not eat or drink anything for six hours before the ECT, although you may be allowed to drink sips of water up to two hours beforehand. This is to ensure you can safely have the anaesthetic.





What to expect on the day

The whole ECT process usually takes around an hour.

Preparing for treatment

A member of staff will come with you to the ECT suite. They will know about your illness and can explain what is happening.

Many ECT suites are happy for family members to stay in the waiting room while you have your treatment.

You will be met by a member of the ECT staff, who will do routine physical checks (if they have not already been done).

They will check that you are still willing to have ECT and will ask if you have any further questions.

When ready, the ECT staff will take you into the treatment area.

In the treatment area

The anaesthetic staff will connect monitoring equipment to check your heart rate, blood pressure and oxygen levels.

Staff will also connect you to an electroencephalogram (EEG) machine. This will monitor your brain waves as the treatment happens, so staff can measure the length of the ECT fit.

You may be given oxygen to breathe through a mask.

The anaesthetist will give your anaesthetic through an injection into the back of your hand.

Once you are asleep, they will add a muscle relaxant. When you are asleep, a mouth guard is put in your mouth to protect your teeth.

During treatment

While you are asleep, two electrical pads about the size of a 50 pence piece are placed on your head.

One pad goes on each side in bilateral ECT and both pads go on the same side in unilateral ECT. These are connected by wires to the ECT machine.

The ECT machine delivers a series of brief electrical pulses, for three to eight seconds.

This will make you have a controlled fit. Your body will stiffen and then there will be twitching, usually seen in your hands, feet and face.

The muscle relaxant reduces the amount of movement involved. This controlled fit usually lasts fewer than 90 seconds.

The muscle relaxant wears off within a couple of minutes. The mouth guard will then be removed.

As soon as the anaesthetist is happy that you are waking up, staff will take you through to the recovery area. Here, an experienced nurse will look after you until you are fully awake.

Recovery

When you wake up, you will be in the recovery room with a nurse. They will take your blood pressure and ask you

simple questions to check how awake you are.

There will be a small monitor on your finger to measure the oxygen in your blood. You may wake up with an oxygen mask.

It can take a while to wake up fully and, at first, you may not know quite where you are. After half an hour or so, these effects should have worn off.

Most ECT units have a second area where you can sit and have a cup of tea or some other light refreshments.

You will leave the ECT suite when your physical state is stable, and you feel ready to do so.

For 24 hours after each treatment, staff will advise you:

- to have a responsible adult with you at all times
- to not drink alcohol
- to not sign any legal documents



How often is ECT given?

ECT is usually given twice per week with a few days between each treatment.

It can take several sessions before you notice an improvement. It is not possible to predict how many treatments you will need.

On average, the total number of treatments you might have in a course is between nine and ten, although it is common to have twelve treatments and more may sometimes be needed.

If you have had no improvement at all after six treatments, your treatment plan should be reviewed with your doctor to discuss whether to continue or change the form of ECT.

Your medical team will regularly review how you are responding to the ECT. They will discuss your progress – and any side effects or concerns – usually every week.

ECT should be stopped soon after you have made a full recovery, or

if you say you don't want to have it anymore and are well enough to understand this decision.

What happens after a course of ECT?

ECT is one part of getting better. It should also help you to use (or start again with) other treatments or types of support.

You will usually continue or start medication after ECT, this will help to maintain the improvements you have had from your ECT treatment.

Talking therapies, such as psychotherapy, cognitive behavioural therapy (CBT) and counselling, can help you to work on any reasons for your depression and to develop ways of staying well.

Changes in your day-to-day lifestyle can also be helpful - taking regular exercise, eating better, a regular sleep pattern and using techniques like mindfulness and meditation.

The clinic will usually contact you to ask about your memory two months after your last treatment.

How is the quality of ECT in my local hospital assessed?

The Royal College of Psychiatrists has set up the ECT Accreditation Service (ECTAS). This provides an independent assessment of the quality of ECT services.

ECTAS sets standards for ECT and visits all the ECT units who are members. The visiting team involves a psychiatrist, anaesthetist, nurse, ECTAS patient representative, and a member of the ECTAS project team.

Membership of ECTAS is not compulsory but almost all active ECT units are accredited. Your unit can tell you if they are accredited by ECTAS.

Giving consent for ECT

Like any significant treatment in medicine or surgery, you will be asked for your consent, or permission, to have ECT.

The ECT treatment, the reasons for doing it and the possible

benefits and side-effects should be explained in a way that you can understand. If you decide to go ahead, you then sign the consent form.

It is a record that ECT has been explained to you, that you understand what is going to happen, and that you give your consent to it.

However, you can withdraw your consent at any point, even before the first treatment. You should be given a leaflet explaining your rights about consenting to treatment.

Can I make my wishes about having ECT known in advance?

If you have feelings about ECT (for or against), you should tell the doctors and nurses caring for you, as well as friends, family or anyone else you would like to support you or speak for you.

Doctors must consider these views when they think about whether ECT is in your best interests.



What are the side effects of ECT?

As with any treatment, ECT can have side effects. These are effected by factors such as:

- level of the current passed through your brain
- your age

Side effects are usually mild and short term but can sometimes be more severe and potentially long-lasting.

If you experience side effects during the course, the treatment can be adjusted.

Short term effects

Immediately after an ECT treatment you may feel:

- a headache
- aching in the muscles and/or jaw
- tiredness while the effects of the anaesthetic wear off
- confusion, particularly if you are elderly - this usually wears off after 30 minutes

- sickness or nausea

A nurse will be with you while you wake up after ECT. They can also give you simple pain relief such as paracetamol.

Up to 40% of patients can have temporary memory problems while they are having ECT. For example, they may forget conversations with visitors during this time.

About a fifth (17%) of people say that their memory was already causing them problems before they have ECT. This is often because of their depression. Directly after treatment, this figure increases to 23%; however, in most people, memory difficulties clear within two months of the last treatment, and it do not cause problems or distress.

Nevertheless, about 2% of people complain of severe memory problems directly after ECT.

A small number of patients report gaps in their memory

about events in their life that happened before they had ECT.

This tends to affect memories of events that occurred during, or shortly before, the depression started. Sometimes these memories return fully or partially, but sometimes these gaps can be permanent.

All medical procedures carry risk; however, death caused by ECT is extremely rare. If the anaesthetist considers it unsafe to give you an anaesthetic, you will not be able to have ECT.

The death rate following ECT is less than that for other minor surgical procedures.

Very rarely, ECT can trigger a prolonged seizure. This would be immediately treated by the medical staff present.

Long term effects

The extent of long-term side effects is controversial.

Reports of these problems vary widely between studies, depending on how they are done.

Rigorous scientific research has not found any evidence of physical brain damage to patients who have had ECT.

There is no increased risk of epilepsy, stroke or dementia after ECT.

Some patients do say that they have suffered brain damage and that they do have long-term side effects that have changed their lives.

Testimony from user groups and observational studies have suggested that, after ECT, some people also experience:

- a change in their personality
- a loss of creativity
- a loss of energy and/or drive
- a lack of emotions

However, ECT is only used when people are severely ill or other treatments have not worked, so it is difficult to separate out the effects of ECT from the effects of the illnesses it is treating.

It is clear that most people benefit from ECT treatment and a small number report some long-lasting side effects.

We need more research to understand what is happening for those patients who are reporting distressing symptoms – and to find ways to help them.

Resources

Mind

UK mental health charity with resources and support services covering a wide range of mental health topics, including ECT.

[mind.org](https://www.mind.org)

Royal College of Psychiatrists

Professional medical body which provides evidence-based information on mental health problems and treatments, including ECT.

[rcpsych.ac.uk](https://www.rcpsych.ac.uk)

Waves of Hope by Professor George Kirov

A new book which contains personal stories of ECT from patients and their families.

[cardiff.ac.uk](https://www.cardiff.ac.uk)



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Join our research community today and help us better understand mental health conditions. The aim of our research is to improve diagnosis, treatment, and support for people in the future.

Joining our community is easy - it involves completing an online sign-up form which takes about 15 minutes and will ask you about:

- personal information, like date of birth and ethnicity
- mental and physical health
- lifestyle

To join, visit: ncmh.info/join

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