



# Patient education: Electroconvulsive therapy (ECT) (The Basics)

Written by the doctors and editors at UpToDate

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## What is electroconvulsive therapy?

Electroconvulsive therapy ("ECT") is a safe and effective treatment for severe depression. It is also sometimes used to treat other forms of mental illness.

During ECT, a small amount of electricity (called an "electrical current") is passed through the brain. The current causes a seizure that affects the whole brain. This causes chemical changes in the brain that relieve severe depression.

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## Is ECT safe?

You might have questions about the safety of ECT. But experts have studied it over many years. Based on these studies, they have found that ECT is safe and does not make a person more likely to have medical problems later.

Before giving you ECT, your doctor will do an exam, ask you about your medical history, and run tests. For example, you will probably have blood tests and a test called an "electrocardiogram" ("ECG") to make sure that your heart is healthy enough for the treatment. These tests will also help the doctor make sure that there is no other medical problem causing your depression.

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## How many times will I need ECT?

Every person is different, but most people need a total of 6 to 12 treatments. The treatments usually happen 3 times a week: Monday, Wednesday, and Friday.

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## How should I prepare for each session?

Do not eat or drink anything after midnight the night before each session. If you smoke, do not smoke the morning of your ECT treatment, because this can cause problems during the ECT.

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## What happens during ECT treatment?

Before you get ECT, a doctor or nurse will put a thin tube into a vein in your arm (called an "IV"). That way, they can easily give you the medicines you need before and during the treatment.

You will be asleep during the treatment. But the medical team will start getting you ready for treatment while you are still awake. They will:

- Place devices called "electrodes" on your head, so they can measure the electrical activity in your brain. To do this, they will use a device called an "electroencephalogram" ("EEG").
- Place electrodes on your chest, so they can measure the electrical activity in your heart. To do this, they will use an ECG.
- Wrap a blood pressure cuff around your arm, so they can check your blood pressure during the procedure
- Put a small device on 1 of your fingers called a "pulse oximeter," which measures the amount of oxygen in your blood. This will tell them if you are breathing normally.
- Give you oxygen through a mask or a tube that rests below your nose. You will get oxygen throughout the whole procedure, until you wake up.

When everything is connected, the medical team will test the ECT machine to make sure that it is set properly for you. Next, a doctor or nurse will give you medicine to make you go to sleep for 5 to 10 minutes. When you are asleep, you will get another medicine to relax your muscles. This will keep you from moving during the treatment.

When your medical team is sure that you are deeply asleep and that your muscles are completely relaxed, they will give you the ECT treatment. You will be asleep, so you won't feel any pain, and you won't feel the current or the seizure. If you could watch yourself getting the treatment, you would see your toes wiggle or other parts of your body move a little, but not much else.

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## What happens after ECT treatment?

When you wake up after the ECT, you might feel confused. This is partly due to the medicines you got and partly due to the treatment. In most people, the confusion goes away within an hour. You might also have a headache the day of the treatment. You can take a pain reliever to help with this. Other side effects, such as nausea, usually last only for a few hours.

You might have trouble remembering things while you are in treatment. This memory loss should slowly get better by itself over the course of several weeks. But you might never remember many things that happened to you shortly before, during, or soon after your treatment.

To help improve your memory, use your brain. Read, ask questions, and follow stories on TV. This is the best way to help your brain get back to normal.

Since ECT affects memory, avoid making any major decisions until a week or 2 after your ECT treatment is finished. Do not drive during your course of ECT.

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## When will my depression get better?

Some people start to feel a little better after 1 to 4 treatments. But many do not get the full benefit of ECT until they have more treatments.

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## Does ECT have any risks?

Yes. Like any medical procedure, ECT has some risks. In rare cases, ECT can disrupt the heart's rhythm or cause other problems. People who already have heart disease are more likely to have these problems. If you have a heart condition, your doctor will take special care to monitor your heart. They will also take other steps to make sure that the treatment is as safe as possible.

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