



FUQUA CENTER FOR  
LATE-LIFE DEPRESSION  
**Electroconvulsive Therapy**

 **What is ECT?**

Electroconvulsive therapy (ECT), also known as electroshock therapy (EST), is a medical procedure used to treat various psychiatric disorders including depression, manic-depressive illness and schizophrenia. The reputation of ECT often precedes it, bringing to mind negative images of an antiquated and barbaric treatment. Electroconvulsive therapy has also been touted as a "cure all" for many psychiatric illnesses. The truth, as with many things, lies somewhere between the two extremes. ECT is one of the most effective treatments for depression and is usually well tolerated but does carry some potentially serious side effects.

 **How is ECT administered?**

ECT is typically administered in the morning to patients with an empty stomach. The patient is asleep and electrodes are placed on his head. The electrical stimulus is then administered and the unconscious patient does not suffer pain. The patient wakes up in the recovery area 5 to 10 minutes after the procedure. After treatment, follow-up therapy is important and includes either medication or ECT given less frequently in intervals over a 6-month period.

 **Who should get ECT?**

Usually, ECT is considered after a person has tried several antidepressant medication trials and still has significant depressive symptoms. ECT is considered earlier and may be the first line of treatment in situations when the patient is severely depressed, actively suicidal or not eating food and drinking fluids.

 **How does ECT work?**

The exact mechanism of how ECT works is unknown. However ECT is believed to affect the central nervous system (CNS) and change the levels of neurotransmitters such as serotonin, norepinephrine and dopaminereceptors in the brain. The most widely accepted theory about how ECT works is that ECT acts as an anticonvulsant; that is, ECT actually raises the seizure threshold or decreases the tendency of the brain to seize. ECT may therefore quiet many of the overactive neurotransmitters in the brain. This theory is known as the anticonvulsant hypothesis and the anticonvulsant effects cause brain changes that lead to the antidepressant effects that are observed after ECT. More research in this area is needed before definitive statements can be made regarding the mechanism of ECT.

## Is ECT a safe treatment?

Electroconvulsive therapy can be given safely to adults of nearly all ages. However, there are some risks, particularly if the patient has significant medical problems. The two most serious concerns regarding ECT are related to the heart and brain. Stroke, heart attack and even death are very rare but potential outcomes. The risk of death is approximately 1/80,000 per ECT treatment, near the risk rate of just getting general anesthesia alone. However, the fact is that most modern medical facilities such as our own have not had an ECT related fatality because of the intense medical monitoring before, during and after the treatments.

## How effective is ECT?

Electroconvulsive Therapy is between 60% and 90% effective in the treatment of Major Depression. The American Psychiatric Association, the American Medical Association, and the National Institutes of Mental Health recognize ECT as an effective treatment.

## How often are treatments given?

Electroconvulsive therapy is given in a series of treatments. Usually it takes between 5 and 8 treatments given approximately three times per week before the benefits are observed. ECT can be given as inpatient or outpatient depending on each individual's specific situation. ECT is discontinued after a sustained response is obtained. The patient then takes medications to help prevent a relapse of the depressive symptoms. Unfortunately, due many factors, there is high relapse rate after completing ECT. Individuals who have relapsed previously after completing electroconvulsive therapy or had an extremely severe depressive episode may be considered for a longer more protracted course of continuation ECT (C-ECT). C-ECT is given after someone completes the acute series of ECT. It is usually given weekly for four treatments, then every 10 days for three treatments and then every other week for 8 treatments. C-ECT helps reduce rate of relapse of depressive symptoms.

## What side effects can be expected from ECT?

Serious adverse effects are rare. However, patients can experience headaches and nausea, which can be effectively treated with medications. Short-term memory loss, particularly, around the treatment is common. Patients also report, that their "thinking is little fuzzy" during the acute treatment phase. These cognitive deficits usually resolve a few weeks after the last ECT treatment. During the acute treatment phase it is recommended that patients not drive a car or sign important documents until these effects resolve. Here at Wesley Woods Hospital, ECT is usually given by stimulating the right side of the brain only (rather than bilateral stimulation on both sides of the brain), in effort to reduce the cognitive side effects. The risk of an ECT related fatality is, of course, increased if the patient has other significant medical problems. Increased risk is associated with brain tumors, recent strokes or heart attacks, unstable vascular disease and aneurysms. A very thorough medical exam, including evaluation of the heart and brain are standard in the pre-ECT evaluation. The ECT treatment may be modified slightly depending on the medical conditions of the patient.

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