

★ ELECTROCONVULSIVE THERAPY (ECT)

Indications for ECT:

1. Schizophrenia (catatonic, resistant to drugs).
2. Depression:
 - Depressive disorder with suicidal risk.
 - Depressive stupor or marked retardation.
 - Depressive disorder with delusions
 - Inability to take drugs :
- First trimester of pregnancy.
- In the elderly.
- In physical diseases e.g. renal failure.
3. Post-partum psychosis.
4. Schizoaffective disorder.
5. Mania and mixed affective states.

Psychiatric disorders that may show deterioration or no response to ECT: Phobic disorders, conversion disorder, Primary hypochondriasis (not due to depression), depersonalization disorder.

Precautions: Recent research showed no absolute contraindications to ECT. At one time raised intracranial pressure was considered as the only absolute contraindication to ECT. Remember that not all space occupying lesions produce raised intracranial pressure. **Relative Contraindications: A- To anesthesia and muscle relaxants. B- To ECT itself:** Cardiac infarct in the preceding 3 months (some references extend it to 2 years). Other cardiac diseases including arrhythmias. History of cerebral infarction. Brain tumor.

Mode of Action of ECT: The exact mode of action is unknown. The current hypothesis: the beneficial effect which depends on the cerebral seizures (not on the motor component) is thought to result from neurotransmitter changes probably involving serotonin and noradrenaline transmission.

ECT Preparations: Explanation to the patient (or his caretakers). ECT consent by the patient or his caretaker. Hospital admission for full physical assessment (fitness for anesthesia and ECT). Fasting (midnight). Oxygenation to overcome succinylcholine-induced apnea, to facilitate seizure activity and to reduce memory impairment. Muscle relaxant to reduce the consequent motor effects (severe muscle contraction may lead to bone fracture). Placing a mouth gag in patient's mouth to prevent tongue or lip bites. Machine and electrodes preparations. Decreasing scalp's resistance with jelly or normal saline.

ECT Procedure:

- Bilateral (most commonly used procedure)
 - One electrode on each side of the head (fronto-temporal position).
 - It gives a rapid response.
 - Bi-frontal position can be used; it produces less memory impairment but may be therapeutically ineffective.
- Unilateral:
 - Both electrodes are placed on the non – dominant side.
 - It produces less memory impairment but less effective than bilateral.
- ECT is usually given **2 – 3 times a week** with a total of **6 – 12** sessions, according to response and progress. Response begins usually after 2 – 4 sessions. If there is no response after 8 sessions, it is unlikely that more sessions will produce a useful change. In depressed patients, antidepressants should be started towards the end of the course of ECT to reduce the risk of relapse.



[youtube.com/watch?v=9L2-B-aluCE](https://www.youtube.com/watch?v=9L2-B-aluCE)

Side Effects of ECT: (ECT in general is a safe procedure)

- Headache (due to temporary increase in intracranial pressure).
- Body aches and myalgias (due to muscle contraction)
- Memory impairment (both retrograde and anterograde amnesia).
 - Duration varies (days – several months).
 - May be due to neuronal hypoxia during seizure.
- It may induce mania in certain susceptible depressed patients.
- Bone fracture and tongue or lip injury.
- Very rarely death (in patients with cardiovascular disease).

Misconceptions about ECT: Dangerous procedure/causes serious brain damages/involves a high voltage (110 – 220 V) current. Some traditional healers tried 110 V current with some patients assuming that it is the same procedure used by psychiatrist (ECT).