



ACADEMY OF MEDICINE, SINGAPORE

**GUIDELINES ON THE PRACTICE OF
ELECTROCONVULSIVE THERAPY**

1998

TITLE

**Guidelines on the
Practice of
Electroconvulsive
Therapy**

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**Chapter of
Psychiatrists,
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GUIDELINES ON THE PRACTICE OF ELECTROCONVULSIVE THERAPY

A. INTRODUCTION

Electroconvulsive Therapy or ECT in short has been in use by psychiatrists for more than fifty years in the treatment of psychiatric disorders, principally severe Depressive illness. The procedure involves the induction of a grandmal seizure by means of an electrical pulse through the brain. This is done under general anaesthesia and each induction of a seizure is considered one treatment. A course of ECT consists of several such treatments, the number varying from six to twelve.

B. AIM

This set of guidelines aims to standardise the procedures as well as to ensure operational quality in the practice of ECT in Singapore.

C. INDICATIONS FOR ECT

Indications for ECT must take into account the illness, the degree of suffering and distress of the patient, the prognosis and consequence if treatment is withheld. Diagnostic indications include:

- a) Depression
- b) Mania
- c) Schizophrenia with the following features:
 - catatonia
 - severe depression
 - stupor
 - resistance to drug treatment
- d) Other functional psychosis

D. HIGH RISKS SITUATIONS

There are times and situations when ECT is associated with high risks of serious morbidity and even mortality. These must be weighed against the risk of the illness itself. They include:

- Raised intracranial pressure
- Recent myocardial infarction with unstable cardiac function
- Space occupying intracranial lesion
- Recent intracerebral haemorrhage
- Bleeding or unstable vascular aneurysm or malformation
- Retinal detachment
- Pheochromocytoma
- Poor anaesthetic risks

E. CLINICAL RESPONSIBILITY FOR ECT

The psychiatrist ordering ECT takes ultimate clinical responsibility for the decision to treat a patient with ECT. The anaesthetist will be responsible for determining physical fitness of the patient to undergo general anaesthesia. All medical information as well as appropriate investigation results should be made available to the anaesthetist for him to make his evaluation.

F. CONSENT FOR ECT

- (1) Before consent is sought for, explanations on the procedure and the possible side effects should be explained to the patient and / or relatives so that they are adequately informed.
- (2) Consent should be obtained from the patient himself / herself whenever possible. However, in special circumstances, relatives may be asked to give consent on the patient's behalf. In situations when the patient is unable and no relative is available to give consent, the psychiatrist in charge of the patient can give consent after obtaining a second opinion on the need for ECT from an independent psychiatrist. This should be clearly recorded in the case-notes of the patient.
- (3) All informed consent obtained should be in writing, with the names and dates properly documented.

G. PROCEDURAL ISSUES

(1) *Type of Instrument*

Currently, the Thymatron or Ectonus series are the most often used instruments. These instruments ensure adequate treatment stimulus and duration. They also allow for greater flexibility as the dose and duration can be regulated by starting at a low threshold intensity and building it up during the treatment procedure.

(2) *Pre-ECT Evaluation*

A thorough medical history should be obtained and physical examination done prior to performing ECT. Where indicated, a Full Blood Count, Urea / Electrolytes, Urinalysis, ECG, CXR and further investigations should be done.

(3) *Patient Preparation*

a) The patient should have nothing by mouth for at least 6 hours prior to a treatment, except for any necessary medications, which may be given with a small sip of water. The patient is also asked to empty the bladder, and the head checked for pins and jewellery. Eye glasses, contact lenses, hearing aids and dentures should be removed.

b) Prior to anaesthesia, the psychiatrist with the assistance of nursing staff should ensure the following:

- treatment orders are properly recorded in the medical records since the last treatment reviewed.

- the patient's mouth is free of foreign bodies and loose or sharp teeth.

- that the case records belong to the correct patient, and note any significant problems recorded in them.

- a valid consent has been obtained.

- all necessary pre-ECT evaluation have been performed.

(4) *Administration of ECT*

a) - Ensure that patient is given adequate oxygen via a face mask both before and after Suxamethonium induced apnoea to avoid cerebral hypoxia during the seizure. Oxygenation also has the added advantage of lowering the seizure threshold.

- b) Care must be applied in the placement of the electrodes, which should be suitably moistened with electrolyte solution or conductive gel. The inter-electrode area should be dry. Hair beneath the electrodes should be parted and the electrodes applied firmly. Firm pressure should be continued throughout the passage of the current.
- c) The absence or presence of seizure should be noted. The duration of seizure, timed from the beginning of the tonic phase, should also be noted. Seizure duration should preferably be between 25 to 30 seconds.
- d) In the event that a seizure fails to be induced, restimulation at a higher intensity should be carried out after a 20 to 40 second delay. This is to take into account the possibility of delayed seizure onset. It is also useful to check if the machine has malfunctioned or if the electrodes had been properly applied (poor electrode contact). The patient's medication should also be reviewed to see if any antiepileptic medication is being administered.
- e) Should the duration of seizure be suboptimal, the intensity of treatment can be increased. Medications given should be reviewed, which may include the dosage of the anaesthetic agents.
- f) Prolonged seizures lasting more than 120 seconds may be aborted with IV Valium 10 mg or IV Dormicum 5 mg. The help of the anaesthetist should be enlisted as intubation may be necessary to ensure adequate ventilation.

(5) *Post ECT Management and Monitoring*

- a) Intensive monitoring of the patient after ECT is not routine practice. Nevertheless, management in the recovery area should be under the supervision of the anaesthetist who should be readily accessible though not necessarily present during that period.
- b) Maintaining patency of patient's airway and ensuring that there is spontaneous respiration is of utmost importance during the immediate post-ECT period. Each patient should be monitored till he or she recovers and breathes well.
- c) The patient should not be allowed to leave the recovery area until he or she is awake with stable vital signs. In the case of an outpatient, the patient should only be released to the care of a responsible other person.
- d) Post-ictal confusion or agitation should be managed supportively. Use of sedative/hypnotic drugs should only be considered if non-pharmacological methods fail. When recurrent, post-ictal confusion can be prevented by the prophylactic use of the anaesthetic agent or a Benzodiazepine. This should only be administered after the return of spontaneous respiration

- e) Headaches, nausea and muscle aches or soreness are common during the first few hours after treatment and warrant symptomatic relief. Prophylaxis should be considered if they are particularly bothersome or recurrent.

(6) ***Outpatient ECT***

Outpatient ECT can be safely given. The following should be observed:

- a) Clear instructions should be given to the patient to fast overnight. The patient should be able to comply with the instruction. A relative should be informed of this and enlisted to help compliance. The patient and his relative should be clearly instructed of the procedure and if possible, given a prepared information sheet for compliance.
- b) The anaesthetist should be informed of the patient's outpatient status.
- c) After treatment, the patient should remain in the recovery room until fully orientated. Pulse and blood pressure should be checked before being allowed home.
- d) In general, outpatient ECT should not be given to people who live alone, especially the elderly.

(7) ***Number and Frequency of ECT***

ECT is generally given 2 – 3 times a week in a course of six to twelve treatments. Daily ECT can also be given but the risks of confusional state are increased.

(8) ***Maintenance ECT***

Maintenance ECT may be used on some medication resistant patients after careful evaluation.

CONCLUSION

ECT is a very useful form of treatment in Psychiatry. Its use had stood the test of time despite countless attempts by its opponents to discredit and ban its use. When used judiciously, its safety and efficacy has been confirmed. It is hoped that this set of guidelines will ensure that ECT remains a safe and effective treatment tool in Psychiatry.

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