

# The Royal Australian and New Zealand College of Psychiatrists

## Clinical Memorandum #12

### **ELECTROCONVULSIVE THERAPY**

*Guidelines on the administration of electroconvulsive therapy (ECT).*

#### **INTRODUCTION**

1. Electroconvulsive therapy has been an important and effective treatment in psychiatry for over half a century. Its effectiveness in a variety of psychiatric conditions has been established beyond doubt. For many years the practice and technique of ECT remained relatively unchanged but in the 1990s there have been new developments, based on research, which have resulted in changes to the way in which ECT is understood and practised. While there continues to be debate about some controversial issues, particularly in relation to dosage techniques, there are nevertheless many areas of general agreement. This memorandum is an attempt to outline, for practitioners and other interested parties, currently acceptable guidelines for the prescription, practice and procedure of ECT. It is intended to mainly guide and assist clinicians and is not intended to be an extensive review of ECT, with an exhaustive list of references. Some key references however, are provided for the interested reader.

#### **INDICATIONS**

- 2.1 The principal indications for ECT will always be based upon a thorough physical and psychiatric evaluation of the individual, taking into account the illness, the degree of suffering of the patient, the expected therapeutic effect and the prognosis if such treatment is withheld.
2. The primary indication for ECT is major depression, especially with melancholia, psychotic features and/or suicidal risk. Other indications are mania and schizophrenia with acute features. ECT may also be helpful in certain conditions such as neuroleptic malignant syndrome and Parkinson's disease.

#### **Contraindications**

1. With the exception of raised intracranial pressure, there are no absolute contraindications to ECT although there are a number of clinical situations in which extra caution is required. ECT is among the least risky of medical procedures carried out under general anaesthesia, and substantially less

risky than childbirth.

## **Situations of High Risk**

4.1 Although there are no absolute contraindications to ECT, there are certain situations of high risk which necessitate the adoption of appropriate precautions. It is strongly recommended that appropriate consultation with the anaesthetist and/or the patient's treating physician is made prior to a course of ECT in all of the following situations.

### **4.1.1 Hypertension**

Elevation of blood pressure during the tonic-clonic phase of ECT is usual and may at times be marked. Patients with pre-existing hypertension should have their blood pressure stabilised with appropriate treatment prior to commencing a course of ECT. The use of antihypertensive agents during the procedure for patients with hypertension may be necessary to prevent excessive elevation of blood pressure.

### **4.1.2 Myocardial Infarction**

Recent myocardial infarction is generally regarded as a situation of high risk for ECT. There are no reliable data to indicate how long after myocardial infarction it is safe to proceed. Extreme caution is recommended within the first 10 days and the risk in general decreases over the ensuing 3 months.

### **4.1.3 Bradyarrhythmias**

Slowing of the heart rate is usual in the few seconds immediately following the application of the electrical stimulus. Patients with a pre-existing bradycardia or heart block are therefore at risk of a clinically relevant bradycardia or asystole. The risk is theoretically increased in the case of stimuli which do not produce a convulsion, such as during a dose titration procedure. The pre-treatment use of an anticholinergic agent such as atropine should be considered in these situations.

### **4.1.4 Cardiac Pacemakers**

Electrical stimulus is normally prevented from reaching the heart by the high resistance of the intervening tissues. All monitoring equipment must be properly grounded and patients must not be touched or held during the stimulus by anyone in electrical contact with ground. It is recommended that such patients should be treated in a setting which provides ready access to coronary care.

### **4.1.5 Intracranial Pathology**

ECT has been safely and effectively used in the presence of a variety of intracranial lesions, including infarction, haemorrhage, dementias,

intracranial aneurysms, trauma and tumours not associated with raised intracranial pressure<sup>1</sup>. However, if intracranial pressure is raised, treatment with ECT is contraindicated<sup>1</sup>. Caution should also be exercised in the presence of recent brain injury, infection, stroke or haemorrhage. Patients with organic brain lesions are likely to be more susceptible to the cognitive side effects of ECT and appropriate caution is recommended.

#### **4.1.6 Aneurysms**

Particular care to avoid treatment-induced hypertension is required in the presence of vascular aneurysm, including intracranial and abdominal aneurysms. It is recommended that a thorough evaluation by the appropriate surgeon/neurosurgeon be done before proceeding with ECT in the presence of vascular aneurysm.

#### **4.1.7 Epilepsy**

Epilepsy does not represent a significant risk factor for ECT as long as it is diagnosed and treated, and the underlying structural or vascular lesions are excluded<sup>7</sup>. There may be an increased risk of inducing status epilepticus and EEG monitoring for these patients is necessary. The risk of status epilepticus may be modified by the continuation of the patient's anticonvulsant medication during the course of ECT, though this will raise seizure threshold so the medication dosage should be reduced to mitigate any possible loss of seizure quality and efficacy. It should be noted that ECT is often, but not always, associated with a rise in seizure threshold and patients with epilepsy are not likely to have spontaneous or prolonged seizures during the course of ECT<sup>7</sup>.

#### **4.1.8 Osteoporosis**

Patients with osteoporosis are at risk of fracture during unmodified or poorly modified ECT. Muscle relaxants should be given in adequate doses, and sufficient time allowed for the relaxant to take full effect before treatment proceeds. The use of an electronic device to test for full muscle relaxation is recommended. The assessment of quadriceps relaxation by testing the patellar reflex is simple and useful to ensure full relaxation. The holding down of patients during the procedure is not necessary with adequate relaxation and is likely to increase the risk of fracture.

#### **4.1.9 Skull Defect**

Special care must be taken to place electrodes away from skull defects to avoid local excessive current density through the defect.

#### **4.1.10 Retinal Detachment**

ECT induces raised intraocular pressure and may predispose susceptible patients to retinal detachment. Pre-ECT ophthalmic consultation and adequate control of blood pressure are required for these patients.

#### **4.1.11 Concurrent Medical Illness**

The anticipated effects of the patient's medical status, including current medications, upon the risks and benefits of ECT should play a part in the decision as to whether to administer ECT. The evaluation of medical conditions and their interaction with ECT should incorporate pertinent laboratory and other tests and consultation with appropriate medical personnel when indicated. The ECT procedure should be modified to lower morbidity, e.g. changes in ECT technique, the use of pharmacological agents, administration of ECT in a general hospital and the presence of additional medical personnel or monitoring procedures.

### **EVALUATION FOR ECT**

#### **5.1 Pre-ECT Evaluation**

5.1.1. It is the task of the psychiatrist caring for the patient to ensure that the patient suffers from a condition for which ECT is indicated. If there is doubt about the clinical condition, or ability to consent, of the patient, then it is recommended to obtain a second psychiatric opinion about the suitability for ECT.

5.1.2 Full medical history and physical examination, including fundoscopy, are necessary. No laboratory investigations are specific for ECT, but investigation of blood and urine, chest x-ray, and ECG may be performed according to clinical need. Similarly, cerebral CT scan may be required, in particular if raised intracranial pressure is suspected. Spinal Xray, EEG and pseudocholinesterase testing are not required for routine screening.

5.1.3 Anaesthetic consultation is suggested for the purpose of establishing the relative individual risk of general anaesthesia within the conditions under which ECT is performed. Other specialists from internal medicine may also be consulted as appropriate.

#### **5.2 Review of Patient Progress During Course of ECT**

5.2.1 It is inadvisable to prescribe a pre-determined number of treatments. The patient must be reviewed after each ECT treatment by a medical officer, who should assess the efficacy of treatment and any adverse events, especially delirium. Standardised rating scales for the longitudinal assessment of mental state (such as the Hamilton or Beck rating scales for depression) and of cognition (such as the Folstein Minimental State Examination) may be useful in assessing clinical progress.

5.2.2 ECT should continue until optimal clinical improvement is noted, but there is no rationale for continuing beyond this point. ECT should be discontinued if the patient revokes consent or develops a

medical condition which impacts significantly upon the ongoing use of ECT. Failure to improve should lead to review of the relative electrical charge delivered, electrode placement, EEG quality, the number of treatments delivered, and indeed the clinical presentation of the patient.

## **USE OF CONCURRENT MEDICATIONS**

6.1 The following guidelines are derived from limited human and animal research findings.

6.2 It is recognised that many patients receiving ECT will be administered concurrent psychotropic medications with the potential to alter significantly seizure propagation, and therefore impact negatively on the efficacy of ECT.

### **6.2.1 Antidepressants**

a) Given that many patients with depression receive ECT because of the failure of antidepressant medication and that concurrent use of antidepressants has not been demonstrated to improve the efficacy of ECT, there would seem to be no rationale in continuing the same antidepressant during the course of ECT. However, it is reasonable practice to commence maintenance post-ECT pharmacotherapy towards the end of a course of treatment.

b) Whilst associated with seizures in 4-9% of cases at both therapeutic doses and in overdose<sup>1</sup>, little is known about the combined effects of tricyclic antidepressants (TCAs) and ECT on seizure threshold. Deaths have been reported in patients with known cardiac illness who had received concurrent TCAs. Whilst a number of anecdotal reports suggest that the selective serotonin reuptake inhibitors (SSRIs) are associated with prolonged seizures, the only study of the combination of ECT and a SSRI (fluoxetine) did not show statistically longer seizures. The combination of ECT and irreversible monoamine oxidase inhibitors appears to be safe, but there is no information on moclobemide.

### **6.2.2 Benzodiazepines**

Benzodiazepine tranquillisers and hypnotics including the shorter acting compounds, are not recommended for routine use, given their anticonvulsant nature. It would be advisable to minimise total dosage of, or withdraw completely, these medications either before or early in the course of ECT. The short term use of sedative antipsychotics in low dose would seem to represent the best alternative for both night sedation and agitation.

### **6.2.3 Mood Stabilisers**

Both carbamazepine and sodium valproate increase seizure threshold, although it may be appropriate to continue these drugs during ECT if they are used for mood stabilisation. Similarly, patients with epilepsy

should continue to receive their anti-epileptic medication, and consultation with a neurologist is recommended. In both instances, the dose of anti-convulsants may require temporary reduction. Lithium prolongs the neuromuscular blockade of succinylcholine and has been reported to increase the risk of post-ECT delirium. Although concomitant administration is not a contraindication to ECT<sup>4</sup>, it is generally advisable to withdraw lithium prior to the commencement of ECT. For certain bipolar patients who are well controlled on lithium, the risk of ECT-induced mania may outweigh the risk of delirium, in which case lithium should be continued during ECT.

## **Anaesthesia**

7.1 Anaesthesia for ECT should be administered by fully trained specialists, ie registered medical practitioners with Fellowship of the Australian and New Zealand College of Anaesthetists (FANZCA) or equivalent qualifications. In some facilities, a trainee anaesthetist who has received adequate training and who has access to appropriate supervision may administer anaesthesia. A suitably trained member of the nursing staff must be available to assist the anaesthetist. Adequate equipment including a breathing system for administration of 100% O<sub>2</sub>, suction apparatus, pulse oximeter and a cardiac defibrillator, should be available.

7.2 It is the anaesthetist's responsibility to stay with the patient until they are safely transferred to the care of the recovery area staff. All patients recovering from anaesthesia must be supervised in an area designated for that purpose. Standard precautions must be adopted for all anaesthetic practice in terms of infection control.

## **Treatment procedures**

### **8.1 Preparation of the Patient**

All patients selected for the administration of ECT should have the procedure, including the side-effects, carefully explained to them by the medical and nursing staff involved in the care of such patients. Educational pamphlets and videos of the procedure are useful for this purpose. Patients should be fasted from midnight, unless otherwise advised by the anaesthetist. Patients should be advised to refrain from smoking at least for 2 hours prior to treatment to minimise risk of excessive bronchial secretions. Appropriate attention should be paid to hair, dentures and jewellery.

### **8.2 Location and Equipment**

A dedicated ECT suite or area should be available and this should comprise a waiting area, treatment room, and recovery area with appropriate privacy. A designated member of nursing staff in charge of the ECT suite and maintenance and checking of all equipment, along with co-ordination of all aspects of carrying out the treatment is recommended. Nursing staff caring for patients in the recovery room should have adequate training in recovery room procedures.

### **8.3 ECT Devices**

In recent years a number of hospitals across Australia and New Zealand have begun to use modern ECT devices which have a number of safety features and allow for easy determination of stimulus dose of current and EEG monitoring of seizures. It is recommended all hospitals should be equipped with a modern ECT device.

#### **8.4 Electrode Placement**

8.4.1 It is now well established that unilateral placement of electrodes over the non-dominant hemisphere causes less severe cognitive side effects than bilateral placement<sup>1</sup>. However, the relative efficacy of right unilateral and bilateral ECT is still controversial. Some studies have found superior efficacy with bilateral therapy<sup>11</sup> whereas others have reported equivalent efficacy<sup>12</sup>. Given this uncertainty, it is recommended that electrode placement be determined on a case-by-case basis. For unilateral ECT to be effective, the electrical dose has to be much higher than the patient's seizure threshold<sup>16</sup>. Seizure threshold varies widely between patients.

8.4.2 As a standard practice, one should start off with non-dominant unilateral ECT using the d'Elia position, but if there is no response after 4 - 6 treatments, changing to bilateral treatment should be considered. However, if a particular patient has responded only to bilateral treatment in the past, or faster therapeutic response is necessary (eg patient being highly suicidal or compromised food intake), treatment can reasonably commence with bilateral ECT.

#### **8.5 Stimulus Dosing**

8.5.1 Stimulus dosing refers to the electrical dosage required to elicit adequate therapeutic seizure. Higher doses are generally more effective, but they also cause more cognitive side effects. Hence, an optimal dose has to be determined for each patient and for each treatment for that patient. This is not a simple task. It can be approached in a number of ways:

8.5.2 Establishing the seizure threshold by titration method on the first treatment, then administering higher doses (eg twice the strength) during subsequent treatment. However, as seizure threshold tends to increase during a course of ECT, this has to be taken into account.

8.5.3 Using established algorithms (eg age and/or gender based) to determine the initial dose and then vary the dose according to clinical progress and quality of seizure as judged from the EEG tracing. Standard text books<sup>1</sup> and operational manuals from the manufacturers of the ECT device should be consulted. Each hospital should determine their preferred method of stimulus dosing and provide training accordingly to their staff who administer ECT.

#### **8.6 EEG Monitoring**

8.6.1 Preliminary evidence suggests that seizure quality and

degree of post-ictal suppression are related to treatment efficacy.

8.6.2 EEG monitoring is essential in determining the quality, duration and end point of seizures during ECT. EEG monitoring should be considered best practice. Without EEG monitoring prolonged seizures in the absence of motor manifestations can be easily missed resulting in adverse consequences to patients.

## 8.7 Physiological Monitoring

8.7.1 During the ECT procedure, pulse, blood pressure and oxygenation should be regularly monitored until stabilisation is reached. ECG monitoring should be carried out from prior to anaesthesia induction until recovered from anaesthesia.

8.7.2 A stop-watch is useful to monitor ictal motor activity. The longest duration of any seizure-related motor activity should be used to determine the motor end point. The measurement of seizure-related motor activity is facilitated by using the cuff technique.

## 8.8 Management of Missed, Inadequate or Prolonged Seizures

### 8.8.1 Missed or Inadequate Seizures

a) The muscular contraction that usually accompanies the delivery of the electrical stimulus should not be mistaken for a seizure. With missed seizures there should be a 20 - 40 second delay before re-stimulation to take into account the possibility of a delayed onset of seizure. Re-stimulation should be at a higher intensity, after a quick check that the electrical connection is not at fault, including the electrode contact.

b) If the seizure duration is inadequate (eg less than 15 - 25 sec. motor manifestation or 20 - 30 sec. EEG evidence), re-stimulation at a higher intensity may be considered after an interval of 60 - 90 seconds because of the refractory period. It should be noted that during the course of the ECT, especially in the elderly, there is a tendency for shorter seizures and it may not be necessary to restimulate.

### 8.8.2 Prolonged Seizures

a) Seizures persisting for more than 120 seconds by motor and/or EEG criteria should be considered prolonged seizures. EEG monitoring is recommended to monitor prolonged seizures. These should be terminated pharmacologically by either administering more of the anaesthetic agent (except Ketamine) or by intravenous fast-acting benzodiazepine such as midazolam 1 - 2 mg.

b) Oxygenation should be maintained during and immediately following prolonged seizures.

## POST-ECT MANAGEMENT



9.1 Immediate post-anaesthetic care should be provided in an appropriately equipped recovery area by a registered nurse, trained in recovery procedures and resuscitation techniques, with access to prompt medical assistance. The patient should be nursed in the left lateral or supine position with a clear airway being maintained. A nurse should be present with the patient at all times and monitor consciousness and other routine observations on a regular basis. The intravenous line should be maintained in case rapid medication is necessary. The patient should not leave the recovery area until alert, and should be assisted back to the ward on a wheelchair or trolley, if appropriate.

## **ADVERSE EFFECTS AND THEIR MANAGEMENT**

10.1 A number of immediate side effects, such as headache, myalgia, nausea, and drowsiness are benign and should respond to symptomatic or supportive therapy.

10.2 The cognitive side effects of ECT are of most concern to clinicians and to patients. It should be noted that evidence for much of this is based on older studies which used ECT machines with sine wave stimulus and bilateral electrode placement<sup>4/5</sup>. It should also be noted that severe depressive illness per se is associated with cognitive impairment, and that this may improve as the depression responds.

10.3 The features of an acute post-ECT delirium may vary from impaired comprehension and disorientation, which is not unexpected in most patients and for which close nursing supervision and support is adequate, to severe psychomotor restlessness, which may require the administration of intravenous psychotropics. A persistent post-ECT delirium may be observed in a small proportion of patients, in which case physical investigations should be considered. Techniques which may minimise the extent of delirium include the use of unilateral ECT in association with moderate suprathreshold electrical dosage, reduction in the frequency of treatment and minimisation of concurrent psychotropic medications.

10.4 Unilateral ECT using modern brief-pulse machines is associated with minimal anterograde amnesia (inability to learn new information) and minimal retrograde amnesia (memory loss for events or information before ECT); complete resolution by six months after treatment is expected. However, bilateral ECT is associated with greater levels of amnesia, which may be more persistent, although new learning, judgement and reasoning are not affected<sup>4</sup>. Retrograde memory problems, especially for autobiographical events for up to 6 months before ECT, may continue to be noted. In some cases, persistent subjective complaints of memory disturbance after ECT seem to show greater correlation with residual depression, rather than with any objective evidence.

10.5 There is no evidence that ECT causes any structural cerebral damage.

## **SPECIAL POPULATIONS**

### **11.1 ECT in Children and Adolescents**

11.1.1 Recent research<sup>1</sup> suggests that the indications, effectiveness and side effects of ECT in adolescents are similar to those in adults. The predictors of response and non-response also appear to be similar. Although there has been concern in the literature about young persons having increased rates of prolonged seizures compared to adults, the data is not compelling. Nevertheless, in the case of a young person having ECT who experiences prolonged seizures, propofol may be the preferred anaesthetic, especially early in the treatment course when prolonged seizures appear more likely<sup>29</sup>. Concerns have been raised regarding the possibility that propofol may reduce seizure efficacy as well as seizure length, but this has not been adequately demonstrated by clinical trials. There is currently no evidence to suggest that ECT causes damage to a young person's brain or adversely affects brain development. However, there is very little empirical data on this subject and therefore no definite conclusions can be drawn.

11.1.2 Consent issues warrant particularly close attention when adolescents have ECT. It is advisable to seek the opinion of a child and adolescent psychiatrist prior to the treatment. Where possible, psychometric assessment should be performed at baseline and six months after completion of ECT.

11.1.3 Because there is little known about seizure threshold for ECT in adolescent patients, the method of stimulus dosing by individual titration of seizure threshold is recommended, starting with doses in the lower range of the ECT machine.

11.1.4 ECT is very rarely given to children prior to puberty; therefore, no clear recommendations can be made for this age group. In the few cases in which ECT was used, there were no problems reported.

## 11.2 **Pregnancy**

The decision whether or not to treat pregnant women with ECT needs to take into account the risks associated with alternative treatments, the risks to the mother and foetus of withholding ECT and any complications of the pregnancy which may increase the risks of ECT or the anaesthetic. Pregnancy is not a contraindication to ECT and it may be used with confidence during the second and third trimesters. Little information is available for its use in the first trimester, including any potential teratogenic effects of drugs associated with ECT and, until further data are available caution is advisable during this stage. ECT does not produce abnormal uterine contractions and it appears to be safe even in complicated pregnancies. Foetal monitoring during ECT has not revealed any untoward effects on the foetus, although non-significant bradycardia has been noted during the tonic-clonic phase. In selected cases, treatment may need to be carried out in a setting which enables sophisticated maternal-foetal monitoring. Careful maternal physiological monitoring is necessary and adequate control of ECT induced hypertension may be required.

Modifications to anaesthetic technique, particularly in the third trimester, may be required to ensure adequate oxygenation, and for prevention of aspiration. Close

consultation and joint management with the obstetrician and anaesthetist is recommended.

### 11.3 The Elderly

Old age per se is not a risk factor for ECT, although many elderly will have concurrent medical morbidity. ECT may be particularly appropriate for use in this group of patients, given the increased incidence of psychomotor changes and psychotic features in old age depression, and potential difficulty in tolerating antidepressant medication.

### 11.4 Cultural Considerations

Special cultural factors will need to be considered in the preparation of patients from certain cultural backgrounds and sensitivity to these needs is urged. Care will often be needed in preparing such patients and their families regarding treatment with ECT. For example, among the New Zealand Maori the head is sacred and a patient's family will need to be closely involved and consulted. In these circumstances the indications for ECT and all aspects of the process need to be very carefully explained and due sensitivity shown at the time of treatment.

## POST-ECT RELAPSE PREVENTION

12.1 ECT is an acute treatment which is associated with high rates of illness recurrence in the absence of maintenance physical therapy. It would seem best practice that all patients receive adequate pharmacotherapy for a pre-determined period following the completion of a successful course of ECT.

12.2 Limited data suggests that a tricyclic antidepressant or lithium at therapeutic dosage may help reduce the risk of depressive relapse or recurrence<sup>27</sup>, and there is also some experience with the use of serotonin re-uptake inhibitors.. Preliminary evidence suggests that where any particular antidepressant, used in adequate dose and duration, has failed to produce a therapeutic response prior to ECT, that antidepressant is probably not suitable as a maintenance agent<sup>38</sup>. It has also been speculated that the addition of an antipsychotic drug may improve the outcome of patients with psychotic depression.

## MAINTENANCE ECT

13.1 There is a very small proportion of patients with depression who have responded to ECT during the acute phase of their illness, but do not respond to adequate maintenance pharmacotherapy, do so for only short periods, or are unable to tolerate such medications. The use of intermittent individual ECT treatments on a continuing basis, the frequency of which is titrated according to the severity of illness, may be an effective alternative strategy for relapse prevention in such patients. However, it should be noted that there is a paucity of controlled trials examining the efficacy, optimal duration or cognitive complications of maintenance ECT.

## Outpatient ECT

14.1 Given the safety of ECT, it may be appropriate or at times preferable for the treatment to be given as an outpatient procedure. In the case of maintenance or continuation ECT, treatment is given commonly on an outpatient basis and is considered standard practice, but it may also be appropriate for selected patients to be given an index course of ECT (two or three times weekly) during the acute illness, as an outpatient. Individual units are advised to develop their own criteria for patient selection, based on local facilities and circumstances, but in general the following criteria are recommended:

- a. Low risk of suicide
- b. Relatively less severe illnesses
- c. No impairment of nutrition or hydration
- d. Absence of significant concurrent medical illness
- e. Low anaesthetic risk
- f. Adequate family support, including providing transport to and from the hospital
- g. Adequate ability to comply with pre-ECT procedures, such as fasting
- h. Minimal cognitive impairment during the course.

14.1.1 Patients having outpatient ECT should not drive or operate machinery on the day of treatment, and in the case of patients having an index course, should be advised not to work or drive until after the course is completed.

14.1.2 Patients will normally require to be observed for approximately 4 hours post-ECT, as is the usual procedure for any day-only procedure.

14.1.3 Procedures should be in place to ensure that patients are reviewed by the treating psychiatrist at appropriate intervals between treatments and that adequate communication occurs between the treating psychiatrist and the operator performing the treatment, especially when the treating psychiatrist is not 'on site'.

## Education and training

15.1 The technique of ECT has now become a complex procedure which requires practitioners to be adequately trained. It is no longer appropriate for ECT to be administered by junior psychiatry trainees who have not been trained by experienced senior practitioners. It is recommended that trainees in psychiatry satisfy the requirements of training in ECT set down by the RANZCP before being allowed to administer ECT unsupervised. Practising psychiatrists who wish

to administer ECT are strongly recommended to undergo specific training in modern methods of ECT, including the use of EEG monitoring, at a recognised ECT training program.

## **Privileging in ECT**

16.1 It is recommended that individual hospitals consider the granting of privileges to administer ECT only to those medical practitioners who have been appropriately trained. In developing guidelines for granting privilege, consideration should be given to the ongoing maintenance of skills and the frequency with which operators are likely to be giving ECT. Giving an occasional ECT may not be adequate to maintain the necessary skills.

## **Administrative issues**

### **17.1 Staffing**

Each facility should determine minimum standards of staffing for the procedure of ECT for their own purposes, but as a guideline a minimum of three people should be present at the treatment i.e. the operator (an appropriately trained medical officer), a qualified anaesthetist and an ECT nurse trained in anaesthetic and resuscitation techniques and modern ECT practice. At least one additional registered nurse should be available to patients – this number should be increased as patient numbers increase.

### **17.2 Consent**

The following are guidelines only and are to be read in conjunction with the relevant Mental Health Acts of New Zealand and each Australian state which will denote the specific code of practice.

17.2.1 Irrespective of the Mental Health Act in current use, all patients should be advised of the decision to use ECT and their permission for treatment obtained.

17.2.2 It should be made clear to the patient that regardless of whether permission is given for each separate occasion of treatment, or for a course of treatment of unspecified length, consent may be withdrawn at any time.

17.2.3 It is not necessary for patients to sign a consent for each treatment. However, if there is a substantial interval between each group of treatments then permission should again be sought and a new consent form signed. In the case of maintenance (continuation) ECT, it is recommended that patients renew their written consent at regular intervals, eg every three to six months.

17.2.4 In certain emergency situations the specialist psychiatrist may decide to proceed with ECT without the consent of the patient. This would occur in the following circumstances:

- a. the illness is regarded as causing serious risk to the patient or others, or seriously impairing self care

- b. ECT is deemed to be the most appropriate treatment and
- c. the patient is of involuntary status and is detained under the Mental Health Act.

17.2.5 If the relevant Mental Health Act contains provisions to enable the patient to be given ECT without consent, then treatment should proceed according to the Act. The psychiatrist should also inform the family and seek the opinion of at least one other senior colleague. Having obtained agreement and the opinion having been noted in the case file, the psychiatrist in charge shall also sign and date the consent form.

### 17.3 Documentation

17.3.1 It is recommended that documentation be used which records the following:

- a. an order for each treatment, specifying electrode placement and signed by the treating psychiatrist
- b. details of the anaesthetic agents and dosages used, signed by the anaesthetist
- c. ECT treatment parameters, namely electrical dose used, electrode placement and seizure duration, signed by the administering medical officer.

17.3.2 Space should also be available to record comments about treatment adequacy or untoward events.

17.3.3 Separate forms should also be in use for the documentation of pre-ECT observations and nursing procedures as well as post-ECT recovery details.

17.3.4 Care should be taken to ensure that ECT documentation complies with any requirements which may be imposed by various Mental Health Acts.

### 17.4 Organisation of ECT Service

17.4.1 It is recommended that within hospitals, the provision of ECT should be organised as an ECT Service or Department, under the direction of a psychiatrist, which will take the responsibility for:

- a. the development of Policies and Procedures for ECT,
- b. supervision and quality control of ECT
- c. clinical consultation
- d. training of medical and nursing staff
- e. post graduate education
- f. research.

17.4.2 As far as possible, the number of clinicians involved in giving ECT on a regular basis should be limited, to avoid loss of skills from infrequent practice. Hospitals should aim to have a medical practitioner experienced in ECT present at each treatment session to deliver the treatment and to supervise trainee psychiatrists who have not yet reached the standard of adequate training in ECT prescribed by the College.

17.4.3 A system of clinical review should be in place to allow for the communication of information between relevant clinicians regarding the treatment of each patient (eg EEG analysis, electrode placement and dosage used, progress and the development of side-effects) to ensure adequate continuity of care.

## 17.5 ECT Committees

The ECT service within hospitals needs good coordination and a committee of appropriate representatives, eg of ECT-expert psychiatrists, nursing staff, anaesthetists and administrators, is recommended. The existence of an ECT Committee tends to raise the profile of the ECT service, should facilitate the settling of administrative and staffing problems, and should help to ensure appropriate ongoing funding and quality assurance.

### **Clinical Memorandum #12**

**Adopted:** October 1982

**Revised:** January 1983; November 1986; September 1992 (GC2/92. R49. Item 4.8.1), April 1999 (GC1/99, R40)

**Currency:** Review no later than 5 years after initial approval and each subsequent 5 years (Initial review by GC1/04).

## REFERENCES