

Electroconvulsive Therapy Audit Report

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1 Introduction

Electroconvulsive therapy (ECT) has been used in New Zealand for more than 60 years and continues to have an important role in clinical psychiatry. It involves the passage of an electric current across the head of a person undergoing general anaesthesia, who has also had a muscle relaxant administered, to induce a convulsion. It is usually given as a course of six to ten treatments two or three times a week.

ECT is used mainly in the treatment of severe depressive episodes. It is used when medication has not been effective, the severity of symptoms means it is not possible to wait for the effects of antidepressant medication to become apparent, or the side-effects to or risks associated with medication make ECT the most appropriate treatment option. A meta analysis by the United Kingdom ECT Review Group (2003) confirmed its efficacy in the treatment of severe depression.

ECT also has an important, well-researched and well-documented role in the treatment of other specific psychiatric and medical conditions, again when treatment has not been effective, is not tolerated, or a rapid response is necessary due to the severity of the patient's medical or psychiatric condition. The United States Surgeon General has found that "on balance, the evidence supports the conclusion that modern ECT is among those treatments effective for the treatment of select severe mental disorders, when used in accord with current standards of care, including appropriate informed consent" (United States Department of Health and Human Services 1999).

In recent decades, there have been major improvements in the technical aspects of the delivery of ECT. Also, as in other branches of medical practice, there has been a move in psychiatry towards the use of quality audit tools to monitor and improve standards of practice.

The first major review of ECT delivery was performed in England in the early 1980s (Pippard and Ellam 1981). This audit cycle has been repeated in the United Kingdom on two occasions (Pippard 1992; Duffet and Lelliot 1998), and has shown a documented improvement in the technical aspects of delivery, while noting a decrease in the use of ECT and major regional variations in its use. A similar audit of ECT practice has also been undertaken in Scotland (SEAN National Audit 2000).

In mid-2002 the New Zealand Ministry of Health decided to establish baseline data on the quality of ECT delivery in New Zealand. Therefore, an audit of the technical aspects and quality of ECT delivery was initiated.

This audit was undertaken to determine whether the technical standards of ECT delivery in New Zealand are as high as is practicable. New Zealanders need to be sure that if they or a loved one are to receive ECT, treatment will be delivered in as safe a way as is possible, while ensuring the highest chance of the treatment being effective.

The Ministry of Health also considered it was important that a process of ongoing reflective ECT practice be established. This National ECT Audit Project was seen as important in initiating that process.

2 Aims and Methodology

2.1 Aims

The National ECT Audit Project's aims were to:

- identify all ECT service providers in New Zealand
- develop a consensus view on safe and best practice as a basis for performing the audit
- develop an audit tool with which to assess technical quality of service delivery
- gather data on the current standard of ECT facilities, equipment, staffing, staff training and documented policies and guidelines of ECT at each District Health Board (DHB) providing an ECT service
- identify factors that might impede or aid the implementation of total quality management standards
- provide a review of the results and develop recommendations to improve ECT delivery in New Zealand.

2.2 Methodology

An ECT Audit Project Team was established, comprising:

- Anthony Duncan, Deputy Director of Mental Health, Ministry of Health
- Ashar Khan, Consultant Psychiatrist, Bay of Plenty DHB
- Barry Welsh, Quality Improvement Co-ordinator, Ministry of Health
- Donna Clarke, Psychiatric Registrar, Waikato DHB
- John Strachan, Psychogeriatrician, Waikato DHB
- Margaret Tovey, ECT Nurse Co-ordinator, Capital and Coast DHB
- Richard Porter, Consultant Psychiatrist, Canterbury DHB
- Yvonne Fullerton, Psychiatrist, Auckland DHB.

Margaret Tovey was contracted to perform site visits and collate and write up the project.

An initial teleconference between the members of the ECT Audit Project Team was held in July 2002. A draft audit tool and ECT standards of practice were developed and presented to the project group at a meeting in Hamilton on 31 July 2002.

These standards of practice were developed from the most recent guidelines on ECT from the Royal Australian and New Zealand College of Psychiatrists (RANZCP), the Royal College of Psychiatrists (RCP), the American Psychiatric Association (APA), the Australian and New Zealand College of Anaesthetists (ANZCA) and the consensus agreement of the ECT Audit Project Group.

The finalised audit tool and covering letter was sent to the 20 sites identified as ECT service providers, and site visit times were arranged with the nominated contact person for that DHB.

For both privacy and timing reasons, it was impractical to view the administration of ECT in each area. Therefore, the project group decided to audit protocols and interview key staff in each DHB site delivering ECT treatments.

The 20 sites were visited between 24 September and 26 November 2002. Each site was sent a draft report of findings for verification. Feedback was received from six sites and some findings were amended as a result of this feedback.

The audit results were reviewed to identify any safety concerns and develop recommendations to improve practice.

A draft report of the overall findings was written by Margaret Tovey and forwarded to the Ministry of Health for circulation to project group members before the second reference group meeting on 21 February 2003. At this meeting the results were reviewed and a format for the final report decided on.

A final meeting of the project group to finalise the report was held on 23 June 2003.

3 Summary of Findings

The following is a summary of the findings from the site visits undertaken from September to November 2002. Detailed findings are presented in Appendix A.

3.1 Services

- Nineteen DHBs were identified as offering ECT services. However, 20 sites were visited as one DHB offered two separate ECT services.
- No private ECT service providers were identified.

3.2 National statistics (1 July 2001 to 30 June 2002)

- Few sites kept detailed ECT statistical data.
- From the available data, approximately 414 individual patients received 3506 treatments.

3.3 Administration facilities

- There were four ECT suites attached to mental health services. Other sites administered ECT within the general hospital theatre complex.
- All ECT administration and recovery facilities met ANZCA standards for safe ECT administration and recovery of patients following a general anaesthesia.
- In some sites there was a limit to how many ECT treatments could be given on any one day because numbers were capped as part of the theatre lists.

3.4 Machines

- Eighteen sites were using a brief pulse ECT machine with EEG monitoring.
- One site was using an ECT machine without EEG monitoring as its machine with EEG monitoring was not functioning.
- One site had stopped using a machine without EEG monitoring and was not administering ECT.
- All ECT machines were inspected at least annually by appropriately qualified technicians.

3.5 Staff

3.5.1 ECT committee

- Thirteen sites had an established local or regional ECT committee or were linked to a regional ECT interest group.

3.5.2 ECT consultant psychiatrist

- In all sites, the head of mental health services had overall responsibility for the ECT services of each DHB.
- In 18 sites, one consultant psychiatrist (or senior psychiatric registrar in a consultant position) was recognised as having responsibility for ECT services.
- In two sites, responsibility for ECT services was shared between several consultant psychiatrists or between a senior registrar and the psychiatrists on the ECT committee.
- Three ECT consultant psychiatrists had protected time for ECT.

3.5.3 ECT prescribing psychiatrist

- In all sites, ECT was prescribed only by a senior medical officer. This was usually a consultant psychiatrist, although at some sites medical officers of specialist scale (MOSSs) were permitted to prescribe ECT.

3.5.4 ECT administering psychiatrist

- In all sites, ECT was administered by a consultant psychiatrist or a trained or supervised psychiatric registrar or medical officer.

3.5.5 ECT consultant anaesthetist

- In all sites, the head of the anaesthetic department had overall responsibility for ECT anaesthetic services.

3.5.6 ECT administering anaesthetist

- In all sites, anaesthesia for ECT was administered by a consultant anaesthetist or a trained or supervised anaesthetic registrar.

3.5.7 ECT co-ordinating nurse

- In four sites, one ECT co-ordinating nurse was specifically employed for this role.
- In 11 sites, one or two nurses incorporated this role in their clinical ward or outpatient department duties.

3.5.8 Recovery nurse

- In all sites, recovery nursing was provided by appropriately trained registered nurses.

3.5.9 ECT administration team

- In all sites, the minimum team at each ECT administration was:
 - a medical officer to administer the ECT
 - an anaesthetist
 - an anaesthetic assistant
 - a recovery nurse.

3.5.10 ECT staff training

- Psychiatrists involved in ECT provision at 10 DHBs had attended recognised advanced ECT training programs in Australia, the United States or the United Kingdom.
- Psychiatric registrars were involved in ECT administration at 13 sites.

3.6 Policies and procedural guidelines (protocols)

- All sites had some form of ECT policy, guidelines or pack. However, many ECT policies, guidelines or packs were being developed or reviewed.
- The standard and scope of content in the ECT policy, guidelines and packs varied widely.
- Staff at most sites stated they follow RANZCP guidelines for ECT use.

4 Discussion

4.1 Services

All New Zealand residents have access to ECT if required, albeit at a distance in some cases.

4.2 National statistics

This audit provided the first opportunity to gather national data on the use of ECT. The number of ECT treatments was 92 per 100,000 people in 2001 to 2002. This compares with 142 per 100,000 per year in Scotland between 1997 and 2000, and 132 per 100,000 people in England in 1999.

Although ECT is a valid psychiatric treatment there is no consensus on how frequently it should be used.

In countries where data have been collected rates of use have fluctuated. This may reflect factors such as the availability of other treatment options, consumer preferences, culture, demographic changes and legislative frameworks.

4.3 Administration facilities

ECT administration facilities in New Zealand were safe. However, some facilities did not ensure adequate privacy for the patient. It is of concern that in 40 percent (8) of the sites there was no appropriate waiting area adjacent to where the ECT was delivered, and in 60 percent (12) of sites ECT was administered in the theatre recovery area while it was being used for other purposes.

4.4 Machines

At the time of the site visits, 18 sites providing an ECT service were using a recommended brief pulse machine with EEG monitoring.

Currently all sites are using brief pulse machines with EEG monitoring. The group considers this is essential to determine the quality, duration and endpoint of seizures, which is necessary to maximise efficacy and minimise cognitive side-effects.

It is noted that few sites had formalised arrangements for access to a back-up machine in the event of mechanical failure. This is a potential hazard for acutely ill patients.

4.5 Staff

ECT has become a treatment requiring a high level of expertise and technical competence in its delivery. Despite this, many services did not have an identified consultant psychiatrist *and* a mental health nurse with protected time to co-ordinate the service. The project group considers this deficiency will impede the delivery of high quality services.

Not all personnel in co-ordinating roles had received specific advanced training in ECT delivery. While training is available in Australia, there is no course available in New Zealand.

4.6 Policies and procedural guidelines (protocols)

The quality of documentation supporting and underpinning the ECT services varied significantly. Treatment given was documented in all services. However, in some case the documentation was only minimal.

5 Recommendations

The project group makes the following recommendations.

5.1 Services

Every New Zealander has a right of access to appropriate mental health services, including ECT if required.

DHBs need to balance local availability with the viability of smaller ECT services treating only people occasionally. It may be better for smaller DHBs to have formal arrangements with another larger DHB, so people for whom ECT is an appropriate treatment option are not disadvantaged.

5.2 National statistics

DHBs providing ECT services need to ensure they have a system to collect readily accessible, nationally consistent, data. There needs to be ongoing discussion between the Ministry of Health and DHBs to determine what information should be collected, and what outcome measures should be used.

5.3 Administration facilities

All current guidelines emphasise the importance of ensuring the patient's privacy before and during ECT treatment. However, there may be a trade-off between an efficient use of space and individual comfort and privacy. It is imperative all services regularly review these aspects of service delivery to maximise comfort and privacy for people receiving ECT.

A course of ECT is an acute treatment for a serious medical condition, and as such should not be limited by capping on theatre lists.

5.4 Machines

ECT should be administered only by a brief pulse machine with EEG monitoring. DHBs need to ensure they have back up arrangements in place to ensure access to ECT in the event of equipment failure. It is of note that the majority of ECT machines in use in New Zealand are no longer in production and parts are no longer readily available. The group recommends that DHBs instigate a policy of regular equipment upgrade within planned capital expenditure.

It is recommended that EEG tracings be used as the primary means of assessing quality and duration of the seizure induced by the ECT.

It is recommended that at least one consistent member of the psychiatric ECT administration team be highly conversant with using the machine.

5.6 Staff

5.6.1 ECT committee

All ECT sites should establish and maintain a local ECT committee and be part of wider regional networks to develop best practices and quality assurance processes.

5.6.2 ECT consultant psychiatrist

Each ECT service needs to have an identified consultant psychiatrist with overall responsibility for ECT services, staff training and supervision, and best practice policy/protocol development and review.

This psychiatrist should have successfully completed a recognised ECT training programme. To facilitate this, an identified DHB ECT training budget is recommended.

The psychiatrist should, where the frequency of ECT use necessitates it and/or psychiatric registrars are being offered ECT training, have protected sessional time to carry out the responsibilities of the ECT consultant.

5.6.3 ECT co-ordinating nurse

All sites delivering ECT should have a senior registered nurse to act as the co-ordinator of the ECT service. The nurse should be provided with training in all aspects of ECT service delivery.

5.6.4 Psychiatric registrar training

The RANZCP has formalised the training requirements for psychiatric registrars with respect to the use of ECT. All DHBs providing training to psychiatric registrars should ensure all aspects of the RANZCP guidelines (as outlined in the most recent RANZCP psychiatric registrar training log book) are covered in this training.

5.6.5 ECT consultant anaesthetist

All DHBs administering ECT should have an identified consultant anaesthetist with overall responsibility for ECT anaesthetic services. This anaesthetist, or their delegate, should be readily available for consultation on particular cases, and, ideally, should be a member of the ECT committee.

5.7 Policies and procedural guidelines (protocols)

All DHBs should have an up-to-date, comprehensive, ECT policy (procedural guidelines or protocols) that incorporates RANZCP and internationally accepted practice guidelines and reflects local practice.

These, together with all forms in use, should be compiled together and be readily accessible by all staff involved in providing ECT services (for example, on an electronic database).

It is recommended that all ECT-related documentation in use and/or under development is critically reviewed and updated. In such review, attention should be given to documentation of processes for cultural consultation where appropriate.

6 Conclusion

ECT remains an important therapy that is being delivered safely in New Zealand.

The audit highlighted areas of service delivery that could be improved. Already some changes have been implemented as a result of immediate feedback to DHBs. However, auditing is not a static process. A continuing audit cycle is needed to ensure New Zealanders continue to benefit from ongoing refinements in the delivery of this treatment, which remains essential for some people.

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