Electroconvulsive Therapy: Law, History and Practice*

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Electroconvulsive therapy (ECT) remains a publicly misunderstood and controversial therapy. However, its use for depressive illnesses, whilst accompanied by some generally transient side-effects, is regarded by most psychiatrists as safe and highly effective for patients who are unresponsive to pharmacological and other interventions. Nonetheless, psychiatry has not been effective in communicating the benefits and safety of modern ECT. Ongoing monitoring of the procedure is required to ensure quality improvements. In addition, there should be a mechanism by which patients can appeal against its administration. Legal provisions also need to be refocused in relation to the requirement for “informed consent” to ECT and the circumstances in which emergency ECT can be administered to patients unable to give “informed consent”. There also need to be changes to clinical practice. Audits have shown that better ongoing training and supervision are required for practitioners who administer ECT.

Introduction

While electroconvulsive therapy (ECT) is used to treat a range of psychiatric disorders, it is now most frequently employed in the treatment of depression where suicide is a risk.1 Patients with severe depression rarely respond to psychotherapy alone and ECT is used because of the delay of two to three weeks before patients respond to antidepressants.2 ECT is generally regarded as an effective form of treatment for people with depression and other mood disorders and it is also used when a severely depressed patient has not responded to antidepressants, is unable to tolerate the side-effects of antidepressants, or there is some

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Electroconvulsive Therapy, now incorporated into ECT Manual Licensing, Legal Requirements and Clinical Practice Guidelines (Mental Health Branch, Aged, Community and Mental Health Division, Department of Human Services, January 2000).

2 I Schweitzer, “Mood Disorders”, in Bloch and Singh, op cit n 1, p 142.
reason why speedy recovery is required. Modern ECT is viewed by most psychiatrists as an effective treatment with few undesirable side-effects. There are, however, some who refuse to use it, considering it to be invasive, unnecessary and dangerous.

Today practices in relation to the administration of ECT generally are more sensitive and more appropriate. In Victoria, it is standard, and also via for each patient to be given a tour of the ECT suite in the days prior to treatment so that he or she is familiar with the surroundings and personnel. On the morning of ECT the patient is required to fast and is taken to the area by a member of the nursing staff. The patient wears normal day clothes, but is asked to remove jewellery and to have loose-fitting sleeves. The anaesthetist introduces himself or herself, the patient lies on a trolley and a small canula is inserted into a vein. A short-acting anaesthetic is administered. After the patient becomes unconscious, a muscle relaxant is given. Usually oxygen is provided via a mask. The anaesthetist indicates to the psychiatrist when the patient is fully relaxed and anaesthetised. The seizure is barely visible, given the patient’s relaxed state, but is estimated clinically and monitored via the electroencephalogram (EEG). Usually the seizures last between 30 and 45 seconds. The patient resumes breathing spontaneously as the muscle relaxant wears off and usually returns to full consciousness in a few minutes. He or she spends approximately one hour in recovery before returning to the ward or to his or her home.

ECT remains a controversial treatment, partly because of past misuse, but also because of misinformation distributed by high-profile opponents and by groups including the Church of Scientology. An example was to be seen in the Melbourne newspaper The Herald Sun where a spokesperson for the Citizens Commission on Human Rights, an organisation of the Church of Scientology, is quoted as describing ECT as “barbaric”. There is a wide variety of literature on the advantages and disadvantages of ECT, ranging from works in praise of the procedure by professionals and others to those expressing the gravest concerns about its permanent impact upon the personality and brain structure of people upon whom it is administered.

This article relies on modern knowledge and practice governing ECT, as well as the legal and administrative controls upon its administration. These vary throughout Australia and it is argued that processes need to be in place to enable all involuntary patients to appeal to independent tribunals against the decision to administer ECT, Legislative amendments concerning what constitutes “informed consent” in the ECT context are necessary, as are provisions in all jurisdictions governing emergency administration of ECT to those unable to give “informed consent”. In addition, better training for those who administer ECT is needed to ensure they are thoroughly familiar with its technology and ongoing development. Steps need to be taken to enhance the ways in which the benefits, as well as the side-effects, of ECT are communicated to patients to ensure that patients are sure they can go about the concern the procedure continues to arouse for many.

The reputation of ECT

Media portrayals, such as the notorious scenes from the 1940s movie The Snake Pit and the film made from Ken Kesey’s 1962 book, One Flew Over the Cuckoo’s Nest, have left longstanding scars upon public attitudes, albeit that the version of ECT they depicted was as it was performed in the 1940s and 1950s — without muscle relaxants or anaesthetics, inducing unmodified convulsions and placing patients in danger of fractures, memory confusion and extreme anxiety. While unmodified ECT is not used now in the West, it continued much longer than it should have done. And, although media portrayals of ECT are often exaggerated, the public audits in the United Kingdom, the United States, Canada and Australia have revealed that, in the 1980s and even into the 1990s, ECT was frequently administered in conditions of serious deficiency. In short, the anxieties expressed about ECT by some commentators are not without foundation.

There is a widespread fear of electricity, and its use on the brain still causes much anxiety among the general public. This is not to say, interestingly, that ECT has prompted a high incidence of complaints to public authorities. For instance, the health complaints commissioners in Australia receive very few complaints about ECT.11 However, those patients who do complain are usually concerned about poor communication and failure to provide adequate information about the procedure.12 Complaints are also occasionally received that patients have been denied ECT.

The major modern debates about ECT are concerned more with issues of consent, coercion and the availability of alternative treatments rather than with its efficacy. Better equipment, improved education for those administering ECT and more careful selection of patients having the treatment have led to good therapeutic results. Some psychiatrists who favour the treatment have argued that the law has enshrined the views of political activists who have little knowledge of clinical practice, and they view legislation, particularly in the United States, as an unnecessary interference with a patient’s right to be treated effectively. On the other hand, the opinions of many members of the public are divergent from those of mental health professionals. Mental health literacy research has indicated that ECT is a treatment the general public rates very negatively and there is a strong perception that it is harmful. In his comprehensive book on ECT, Abrams gives a detailed overview of patient surveys and comments.

“Doctors who give ECT have shown remarkably little interest in their patients’ views of the procedure and its effects on them, and only recently has this topic received any consideration in the literature.”

What is ECT?

ECT induces a convulsion or fit. It is thought that the brain’s response to the fit may be what makes ECT efficacious. Its use as a treatment for psychiatric illnesses was based on observations of the impact of convulsions on people with epilepsy who also had a mental illness. The symptoms of the mental illness were considered to have improved following the fits. The strongest evidence available for the significance and effectiveness of convulsions is in the work of Cronholm and Ottoson. There is also evidence of a consistent relationship between the dose-response ratio and the overall results. The potential impact of a fit induction is not new. The idea that convulsions might influence the course of mental illness was discussed as early as the 16th century by Paracelsus. Since that time, many agents have been used to induce convulsions. For

1 See, eg, M Fink, Electroshock: Restoring the Mind (Oxford University Press, New York, 1990), p ix.
4 20 Jan 1990, p 11.

3 The first forensic proceeding over the Mental Health Board hearing in Victoria were the whose involuntary status was being reviewed had had ECT on the morning of the hearing and repeatedly warned his inhaib had amounted to an assault: see Heron v McGregor (1986) 6 NSLR 246 at 255; Gill v Rowdey (1901) 16 QBD 503; Thompson v Evans (1920) 26 Qd JR 221; [2000] ACTSC 73 in [16]; New South Wales, Report of the Royal Commission into Deep Sleep Therapy (Government Printer, Sydney, 1960), Vol 7, p Slater J, M Sexton, Uncertain Justice (New Holland, Sydney, 2000), p 167.

11 B Cronholm and J O Ottoson, "Experimental Studies of the Therapeutic Action of Electroconvulsive Therapy in Endogenous Depression" in Studies in Mental Disorders (Eds G Orlando and B Cronholm) Acta Psychiatrica et Neurologica Scandinavica 69.
13 L G Kiloh, "Electroconvulsive Therapy" in L G Kiloh, J Sydney Smith and G J Johnson, Physical Treatments in
instance, convulsions induced by camphor were tried in 1785 by Oliver, in 1798 by Weickhard and in 1828 by Burrowes and seven improved.34

In the 1920s there was an unfounded belief that epilepsy and schizophrenia were negatively correlated and that there might be an antagonism between them.35 As recently as 1958, Landolt propounded the theory that in people with epilepsy who developed schizophrenia the EEG became "more normal" indicating "forced normalisation". However, in a study of 69 people with epilepsy who developed schizophrenia-like illnesses, Slater could find no evidence to support Landolt's view.36 In 1932 Nyiro and Fabianszky took blood from people with schizophrenia and transfused it into patients with epilepsy.37 Their focus lay not in curing schizophrenia, but in curing epilepsy. Having observed marked improvement in the epileptic symptoms in a patient after he had developed schizophrenia, his fits having decreased in frequency and then ceased altogether, they then tried to give patients schizophrenia to cure their epilepsy. They concluded that, of 10 patients treated in this way, they had cured one.38

Meduna took a different view from Nyiro, with whose work he was familiar. He tried to cure schizophrenia by inducing convulsions. After familiarising himself with unsatisfactory animal trials of strychnine, thebaïne, nikethamide, caffeine, brucine and absinthe,39 he chose camphor as the inducing agent. While he found the results to be encouraging, the camphor caused intense terror in patients while they waited for the fits to occur as it had a delayed reaction and the camphor sometimes precipitated multiple fits.40 Meduna then turned to pentamethylenetetrazol (Metrazol, Leptazol, Cardiazol) which he gave intravenously. It had a faster action, was not so excited and less likely to cause multiple fits. However, it did produce a few seconds of mounting anxiety prior to loss of consciousness and this was exacerbated if the dosage was incorrect.41 Meduna published his results in 1936, reporting that, of 43 patients with schizophrenia, 18 were cured and seven improved.42 Experimentation in the 1930s with convulsive therapies coincided with the introduction of other treatments for schizophrenia, various sleep therapies (including narcosis therapy), lobotomies and insulin coma treatment. At a 1937 congress in Muensing on "shock" therapy, Meduna suggested combining pentamethylenetetrazol with insulin coma treatment.43 Other convulsants tried in those early days were triazol,44 picrotoxin and ammonium chloride. Photoshock was used by Gastaut et al in 1950.45 This involved the use of hexazol to lower the convulsion threshold but sufficient to produce a fit, the idea being to reduce apprehension while convulsions were produced by photic stimulation.46 In 1957 Kranz et al reintroduced the pharmacological approach by using a fluorinated ether that could be given intravenously or by inhalation. In 1942 only two or three manufacturers in England made ECT machines.47 There were no ECT machines available in Australia at that time so the Superintendent of Mental Institutions in South Australia, H M Birch, set about making his own with the assistance of the Physics Department at the University of Adelaide.48 In 1942 Birch wrote:

"It is confessed at once that the preliminary use on patients was accompanied by much apprehension -- not, as with 'Cardiazol' on the part of the patient, but on the part of the operator. Had I been in need of shock therapy for schizophrenic or manic-depressive illness, I feel quite certain that the psychogenic 'shock' to me would have been all that was necessary."

Birch noted that ECT was inexpensive and simple to perform but:

"With regard to the merits of this form of treatment as viewed from the standpoint of economics, I prefer to wait until further experience allow definite facts to be presented."

These days convulsive therapy is induced by electricity. While Cerletti coined the phrase "electro-shock treatment" which became popular in the United States, other psychiatrists tried to reject this expression as potentially damaging to the reputation of the therapy.49 Electricity is used to induce convulsions not because there is anything specially therapeutic about electricity, but for convenience and ease of use and because it is preferable to the substances experimented with previously.

Electricity was used therapeutically as early as Roman times50 when the source of the electricity was the torpedo fish which was applied to the head for treatment of headaches. In 1745 the invention of the Leyden jar condenser made it possible for electricity to be freely available and its use became widespread in the treatment of mental illnesses. It was used by John Franklin and John Wesley in 1759 who observed enthusiastically:

"I doubt not but more nervous disorders would be cured in one year by this single remedy than the English Memoira Medica will cure by the end of the century."

Kilohg interprets this as "the evangelist rather than the scientific speaking".51

The discovery of the battery by Volta in 1799 permitted what Cerletti saw as the utilitarian use of static electricity and galvanic stimulation until the middle of the 19th century. It was employed for many mental illnesses including "melancholia". The Wimshurst machine renewed interest in convulsive therapy in the latter half of the 19th century. In the 1830s Michael Faraday's work led to the indirect or alternating current which was usually not strong enough to induce convulsions even when applied directly to the head. If a convulsion did occur, this was regarded as undesirable. By the beginning of the 20th century, the use of electro-shock was waning.52

Carletti and Bini were attributed with having introduced the "classical technique" of inducing convulsions by the use of electricity.53 In the 1930s, Carlotta had been interested in the problem of whether the gliosis (scarring)54 found in the hippocampus regions of patients with limbic epilepsy was causally related to their epilepsy or was the result of repeated attacks.55 He was aware that a number of investigators had induced convulsions in animals by direct stimulation of the brain.56 He wanted to avoid direct stimulation as this would mean that any that occurred might have been caused by the stimulation rather than the convulsion. He experimented with dogs, applying electrodes to their mouths and rectums using a 125v alternating current. Kilohg assesses this as "successful but [it] had a substantial mortality".57

The mortality rate was reduced by using a brief stimulus duration with a stronger current. In 1936 Cerletti was appointed to the Chair of Neuropsychiatry in Rome where he used convulsive therapy via administration of pentamethylenetetrazol. Working with Bini, he began using electricity. Their first patient was an unidentified man of 39 found wandering around a train station without a ticket. He was delusional, hallucinating and gesticulating, alternating between periods of mutism and incomprehensible, neologistic speech.58 He was diagnosed as suffering from schizophrenia with gross thought disorder. It took several attempts before a grand mal seizure was achieved. After the second attempt, the patient exhibited a brief myoclonic reaction without a loss of consciousness and then began to sing loudly. He lapsed into silence while his doctors debated about what their next step should be. The silence was broken by his solemnly intoning, "Not again; it's murderous." This notwithstanding, another attempt was made and a grand mal seizure ensued. After 11

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18 Ibid, p 186.
19 Ibid, p 186.
20 ‘Gliosis is a neuronal scarring – cells called astrocytes come and fill in the gaps after injury of the brain or spinal cord. A gliotic scar can be quite significant and often eliminates the function of the nerve cell’ (Kilohg op cit 18, p 186).
21 Cerletti, op cit n 36, Abrams, op cit n 15, p 6.
22 Kilohg, op cit n 18, p 186.
23 Kilohg, op cit n 36.
24 Kilohg, op cit n 18, p 185.
25 Kilohg, op cit n 36.
26 Kilohg, op cit n 18, p 185.
27 Kilohg, op cit n 36.
28 Kilohg, op cit n 18, p 185.
29 Kilohg, op cit n 36.
conversions, the patient was discharged in a complete remission and, according to Kailowski, remained well on follow-up for two years later.

ECT spread with great rapidity within the world of psychiatry. Kailowski, who had been present at the Cerletti clinic in the early days of ECT therapy, took ECT to Paris at the Sainte-Anne Hospital in 1939 and then to England at the Netherne Hospital at Couden in the early 1940s. He established an ECT service at the New York State Psychiatric Institute, which was part of Columbia University, in September 1940. By 1944 ECT had supplanted Cardiazol in England as an agent for inducing fits. However, the reception of ECT in the United States was never unequivocal, psychoanalysts from the start expressing a disinclination to use such physical therapies and concerns being expressed about its side-effects. In Australia a number of early reports about the use of convulsive therapies, using Cardiazol in particular, have been published. By 1941, Dr Birch, the Superintendent of Mental Institutions for South Australia, published an account of his construction of the technology of assembling an ECT machine in the 1940s. He first tested it on rabbits and then used it in August 1941 at the Floods Mental Hospital in Adelaide, describing initial difficulties with the fuse blowing when trying to induce convulsions and problems in devising a timing mechanism for the voltage administration. These problems were addressed by obtaining an automatic telephone dialing mechanism made available by the Postmaster General’s Department. Another difficulty he encountered was the erratic flow of current occasioned by the propriety of the operating theatre with the result that ECT was administered most often during the laundry "down-time", which coincided with the lunch break. Birch initially selected patients "for whom the prognosis was practically hopeless and who had resisted all other forms of treatment." He had little success with these patients and turned his attention to those whose conditions were less serious. Unfortunately, he provided little by way of profile of these patients and his results.

ECT commenced to be widely administered in Australia during the latter part of the 1940s. By 1947 Williams felt able to proclaim that ECT and other physical treatments had rendered "curable some who were formerly incurable", made "some partial social adjustment possible for many who would formerly have had to be placed in an institution for life with all the legal paraphernalia of certification", produced "an attitude of optimism among patients, relatives and doctors" and "served to bring psychiatry more into line with other branches of medicine".

Cawte describes vividly his experience of the administration of ECT in the early 1950s at Dr Birch's institution:

"One by one... patients were ushered through the door into the dormitory, where the treatment had been set up. Sometimes the treatment was given in the examination room or another single room, but usually there were too many candidates for this privacy. The patients were asked to lie on their backs on a couch, with a small pillow behind the head. Conduction paste was applied to each temple. False teeth were placed aside in a dish. Bladders had already been emptied. A mask stood by on an oxygen cylinder. Each doctor who administered the treatment had his own remarks for each patient - rather like a dentist! When the dial was spun to transmit the current for its fraction of a second, consciousness was instantly lost.

The face and body wrenched into spasm, often with a cry from the larynx, which did not represent pain since the patient was unconscious. The body passed into the massive spasm that precedes the grand mal seizure. The limbs extended, the spine straightened and sometimes erected itself above the table, poised on heels and the back of the head. The nurse watched her chance to slip a padded airway into the mouth before the clonic convulsions began. These convulsions came regularly with the force that the body possessed. A cushion or pillow was slipped under the back to provide support. Saliva was ejected from the mouth. The clonic contractions lasted for less than half a minute. The doctor aspirated any retained saliva from the mouth. If the breathing did not commence soon enough, so that the face became congested and blue, he helped it resume with a few forced breaths of oxygen. Soon the unconscious patient relaxed and was lifted to a bed on one side of the ward, to snore it off in a noisy slumber before awakening. The next patient took his or her place." Cawte described an adjunct to treatment used successfully in other countries, that dispelled the outer convulsion - an injection of scopolamine to relax the voluntary muscles of the body. He maintained that, for most patients, this improved safety dramatically although some who had a "metabolic defect" were "unable to breathe and had stopped breathing with artificial respiration until the scopolamine was all metabolised." In due course Dr Birch obtained permission from the South Australian Health Department to use light anaesthesia. Cawte commented:

"We were now not subject to legal redress in the event of any anaesthetic mishap. Our anaesthetist visited regularly, with a promise to come at other times if required."

Although by the 1950s media attention to the treatment was adverse, Cawte described ECT as having become "more like a routine minor medical or surgical procedure, or like the dentist's extraction of a tooth under local or general anaesthesia. We were convinced that patients gripped by deep depression or mania required this treatment if these devastating illnesses were to be halted. We were also discovering that acute psychoses and delirium could be dramatically curtailed by a short course."

Wherever ECT was administered, it soon became apparent that some patients, particularly the elderly, became confused after a series of convulsions and showed no signs of recovery that last for a number of weeks. Many psychiatrists interpreted these effects as an important part of the treatment process. Bone fractures or dislocations were also suffered but were considered, by psychiatrists, to be a small price to pay given the severity of the symptoms of the people they were treating. Others, however, were deeply concerned about the complications and sought means of minimising them. In the 1940s, muscle relaxants were introduced in many countries to avoid fractures, anaesthetics were given to allay anxiety, sinusoidal currents were replaced by pulsed current, and unilateral electrodes were introduced to try to minimise confusion and memory loss.

Not all psychiatrists adapted in a timely way to the evolving technology. Kiloh in 1968 that 40 years after pulsed current and unilateral electrode placement were introduced, a substantial number of psychiatrists continued to use the older methods routinely (often in ignorance). He also observed that ECT machines delivering only sinusoidal currents were still employed. However, as noted earlier, there was still no consensus among psychiatrists that unilateral ECT is the best method, with many still preferring bilateral ECT.

References:

2. Cawte, op cit 54, p 74. This metabolic defect is rare. When present, it interferes with the metabolism of the muscle relaxant and leads to prolonged relaxation and a requirement for assisted respiration.
5. Cawte, op cit 54, p 74. This metabolic defect is rare. When present, it interferes with the metabolism of the muscle relaxant and leads to prolonged relaxation and a requirement for assisted respiration.
6. Ibid 676.
8. Ibid.
10. See Bolam v Friern Hospital Management Committee[1957] 2 All ER 118
11. Kiloh, op cit 18, p 188.
12. Fink, op cit 6, p 27, commented in 1999: "Unilateral ECT, however, is clinically less effective, and patients do not improve as quickly as they do with bilateral ECT. Treatments with unilateral electrode placement require special attention to energy dosing and the effects of high-dose unilateral treatment on brain function. Because good results with bilateral ECT are more likely, it is preferred for systematically ill patients, for whom an immediate and a minimal amount of treatments are desirable. Some doctors recommend high-dose unilateral ECT in young patients, the physically healthy, and those who express concern about the possible effects on memory and cognition." Abrams, op cit 15, p 160, stated in 1997 that he continued to recommend unilateral ECT "for at least the first few treatments, to determine whether a suitable response will be induced and whether the individual has a switch to bilateral ECT (with conventional anterior placement) is indicated, administered at a substantial (eg, not just above threshold) dose."
Effects of ECT

A number of recent studies have examined the question of whether ECT causes long-term physiological effects upon the brain. Coffey et al. in 1991 reported that ECT-positive patients may experience an increase in the number of lifetime seizures compared to the general population.42 Devanand et al. conducted a meta-analysis of ECT literature in 1994. They concluded that ECT-induced cognitive deficits are transient, although “spotty memory loss” may persist for events immediately preceding the course of ECT administration. They contended that prospective computerized tomography and magnetic resonance imaging studies show no evidence of ECT-induced structural changes to the brain, although some early autopsy case reports from the “unmodified ECT era” reported cerebrovascular lesions that were due to neuronal loss.58 In animal studies, they arrived at a similar conclusion, namely that no neuronal loss was apparent when appropriate control studies, blind ratings and perfusion fixation techniques were employed. They concluded, on the basis of a number of studies which they classified as using sound methodology, that neuronal loss occurs only after 1.5 to 2 hours of continuous seizure activity in primates, and muscle paralysis and oxygenation further delays these changes, these conditions not being approached during ECT in humans. In short, they concluded that studies properly conducted with both animals and people provide no credible evidence of structural brain damage being caused by ECT. However, in 1992 Abrams wrote:

“The day is now past when the physician can blithely reassure his patient that the memory loss will only be temporary. … At best, transient memory disturbance for events immediately before and after the course of treatment; at worst, significant memory loss extending from at least 6 months before ECT to 2 months afterwards, which may persist for at least 6 months, and subjectively for 2 years.”

Greenberg, in his study of ECT and elderly patients, noted the frequency of depression in the elderly and its special risk factors for older people which include medical co-morbidity, suicide, malnutrition or dehydration and generally impaired recovery from medical illnesses. He concluded that many elderly people may not respond to antidepressants or may suffer intolerable medication side-effects. Some may also have medical illnesses with symptoms or consequences so severe it is not feasible to wait for modern anti-depressant drugs to work. For many of these people, he found, ECT can be a dramatically effective treatment which can be performed safely. He located no evidence of brain damage or permanent change and found cognitive consequences of short duration only. Greenberg also concluded that age itself does not predict any particular impairments to ECT use and found no evidence that age alters its efficacy. Indeed, he has treated many patients with ECT who were well into their nineties and recorded its use on a patient aged 102.59

Contemporary debates and knowledge

The orthodox current psychiatric view in the Royal Australian and New Zealand College of Psychiatry (RANZCP) Guidelines states that ECT is superior to drug treatment. The Guidelines cite clinical trials to confirm the improvement in depressive illness is better in patients who received ECT than those who received a placebo.60 While ECT is recommended by the RANZCP as a safe and effective treatment which is said to be significantly superior to drugs and placebos in the treatment of depressive illness, it is clear also that it can have unwanted effects.61 For instance, the National Institute of Health in the United States, in conjunction with the National Institute of Mental Health, convened a Consensus Development Conference on ECT in 1985. After hearing reports from mental health professionals, experts from a variety of disciplines and significant numbers of patients, a consensus panel representing psychiatry, psychology, neurology, psychopharmacology, epidemiology, law and the general public issued a consensus statement. It concluded that it was “well established” that ECT produces deficits in memory function “which have been demonstrated objectively and repeatedly, and which persist after termination of normal course of ECT.”62

Schwitzer includes amongst recognised side-effects of ECT, “headache, confusion and memory disturbance”, but he notes these can be reduced by the use of unilateral electrode application to the non-dominant hemisphere.63 However, there remains no consensus as to whether unilateral or bilateral ECT is better. Many senior consultant psychologists prefer bilateral administration. For this reason the ECT Manual published by the Department of Human Services in Victoria in January 2000 does not express a preference for either.64 Bloch and Singh have written:

“The chief technical variation is whether the electric current is passed through one or both sides of the brain. There is little doubt that passage through only one side leads to less confusion and memory disturbance (which in any event is temporary), but it may be less effective or more treatments may be required to achieve the same result.”65

The mortality rate for ECT is said to be from two to five deaths per 100,000 treatments and the RANZCP guidelines state this “relatively low death rate” in the context of the much higher mortality figures for suicide and physical illness in untreated depressive illness and the death rates for anaesthesia induction alone. The RANZCP Guidelines note the immediate and remote effects of ECT but state there is no evidence ECT produces permanent memory loss. A recent Magnetic Resonance Imaging study is invoked to show there is no evidence that ECT produces brain damage. ECT should not be used for the treatment of depression.

“a thorough physical and psychological evaluation of the individual patient, taking into account the illness, the past history of illness and treatment response, the degree of suffering of the patient, the preferences of the patient and their family or guardian and the prognosis if ECT is withheld.”66

ECT is usually given two to three times a week for six to 12 treatments. It is thought there is a group of patients with unipolar depressive illness who respond only to ECT but the RANZCP concedes further research is required to delineate this group.67 ECT has been, and continues to be, used for conditions other than depression, in particular for acute undifferentiated psychoses. For some time this has been somewhat controversial. In the past, however, it was used for a very wide range of conditions. For instance, Kiloh (in 1988) reviewed favourably the use of ECT for treating certain forms of epilepsy and delirium, and referred to claims for the benefits of its administration for malignant hyperthermia, neuropsychiatry, malignant syndrome, schizophrenia, psychomotor, extrapyramidal disorders, neuropyschitis, pellagra, senescence dementia, Alzheimer’s disease, Pick’s disease, rheumatoid arthritis, multiple sclerosis, systemic lupus erythematosus, narcotics addiction, non-insulin-dependent diabetes mellitus, chronic pain syndrome and hysteric conversion. However, they expressed serious reservations about its utility in the treatment of anorexia nervosa and the neuroses.68 A 1996 study by Sobin et al.69 has highlighted the remaining controversies about the effectiveness of the treatment in the modern arena. They contended that, contrary to previous research, ECT is also effective for depression subtypes and diagnosis.“

References


43 They also highlighted “research difficulty in assessing the impact of ECT upon the brains of elderly patients in poorer health or pre-existing brain disease. This is significant because of the numbers of elderly patients with depression upon whom ECT is administered.”


45 Abrams, op cit n 15, p 5.


47 Ibid.

48 RANDCP Memorandum #12, op cit p 1.


50 ibid, p 31.

51 ibid, p 31.

52 ibid, p 31.

53 ibid, p 31.

54 ibid, p 31.

55 ibid, p 31.

56 ibid, p 31.

57 ibid, p 31.

58 ibid, p 31.

59 ibid, p 31.

60 ibid, p 31.

61 ibid, p 31.
patients with delusions and/or retardation. A study by Small et al, which is cited in the RANZCP Guidelines, argues that ECT is as effective as lithium in the treatment of mania. The Guidelines warn, however, that ECT should be reserved for those severely disturbed patients unresponsive to pharmacological treatment or for whom these treatments are contra-indicated. ECT is also used in what have become, since the introduction of modern antipsychotic medication, rare cases of catatonic stupor and in the severe depression experienced by some patients with schizophrenia.

Clinical audits

The safety of ECT technology has been an issue since the introduction of the technique. The inadequacy of ECT machines was criticised by Davies et al in 1971 and lack of maintenance by Lambour and Murrills in 1978. In the United Kingdom the use of ECT came under intense scrutiny following allegations from Crow and others that psychiatrists knew too little about the mechanism of ECT. A distinction was made between “real” ECT and “sham” ECT. Palmer was able to show that “real” ECT was an effective treatment. However, the considerable variations in the use of ECT around the world and the deep concerns during the 1970s which culminated in the Royal College of Psychiatrists sponsoring a clinical audit conducted by Pippard and Ellam in 1981. The audit revealed serious deficiencies in the administration of ECT. When premises, equipment, anaesthetists, psychiatrists, nurses and overall patient care were rated, fewer than 50 per cent of clinics met the minimum criteria set down in the Position Statement of the Royal College of Psychiatrists. Pippard and Ellam arrived at deeply troubling conclusions. They found ECT was being given in many clinics in a degrading and frightening way, with little consideration for patients’ feelings, by bored and uninterested staff, with obsolete machines, operated by ignorant or uncaring psychiatrists.

The Lancet responded to the findings of the Pippard and Ellam survey by sharply criticising not the treatment but psychiatrists for their careless use of ECT. The editorial admonished: 

“Every British psychiatrist should read this report and feel ashamed and worried about the state of British psychiatry. If ECT is ever legislated against or falls into disuse it will not be because it is an ineffective or dangerous treatment; it will be because psychiatrists failed to supervise and monitor its use adequately. It is not ECT which has brought psychiatry into disrepute. Psychiatry has done just that for ECT.”

In 1992, Pippard followed up on the audit work he and Ellam had completed in 1980 and published in 1981. In 1989 he had tried to alert psychiatrists to important research on the United States and to the persistence of outdated habits of practice. The hope had been that, following the 1981 report, a follow-up survey could be carried out within five years to determine whether ECT practices had improved. Funding was unavailable for such a follow-up because College requests were repeatedly turned down by the Department of Health and Social Services.

Pippard, as a Mental Health Act Commissioner and a Second Opinion Appointed Doctor, had observed that some hospital patients were not receiving effective ECT and would therefore not be improving. He had also observed that many consultant psychiatrists assumed their patients had been adequately treated simply because they had had a course of seizures. However, many patients were not receiving adequate treatment because of inadequately trained psychiatrists and outmoded apparatus. An effect was that ECT was often given on too low a setting, resulting in seizures that were not therapeutic.

Instead of the full audit Pippard wanted, he was able to undertake only a limited audit in 1992 in two National Health Service (NHS) regions. Between February and May 1991 he visited 35 NHS hospitals and five private units in the two regions. In 1989 the College booklet on The Practical Administration of ECT had been published. It incorporated the advice of the 1977 College Guidelines. Pippard and Ellam had used these as the standard for their 1981 survey and Pippard used similar criteria to rate aspects of practice in 1992, comparing them with the 1981 findings. Again the findings were disturbing.

Pippard documented that the settings in which ECT was being carried out had improved. In 1991 nearly all settings had separate waiting, treatment and recovery rooms, some of a very high standard, but three large hospitals had not achieved this and equipment had to be moved from bed to bed with insufficient privacy or shielding from noise. In general terms 80 per cent of administrations of ECT were “excellent” or “reasonably satisfactory” compared with 50 per cent in 1980. All of the clinics he visited in 1981 were well supplied with essential anaesthetic, resuscitation and other equipment. By 1991 anaesthetic practice had made great progress and high standards of care were expected of anaesthetists.

Responsibility for the anaesthetic service still rested with the consultant anaesthetist and half of all clinics were served by a consultant or senior associate anaesthetist on at least one day a week. The consultant psychiatrist in charge of the clinic was responsible for ensuring that the service provided was satisfactory but this was not achieved in a quarter of the hospitals surveyed. Pippard noted unsatisfactory rotation arrangements of medical staff which meant that one or a dozen or more doctors administering ECT had little experience of it.

Pippard observed nursing administration of ECT clinics was generally “good” or “excellent”, as was patient care in 75 per cent of clinics. However, many clinics were short of staff because some consultant anaesthetists expected nurses to be seconded to separate units for additional training in other areas of nursing such as intensive care. In several clinics there was unsatisfactory haste in getting patients back to the wards without enough time for them to rest or to rest quietly after ECT. Space was at a premium at some of the clinics and practices were less than satisfactory at about a quarter of them. None, however, were as unsatisfactory as they had been in 1981.

The 1981 survey had recommended replacement of a large number of obsolete ECT devices. This occurred in many but Pippard still had major criticisms of the way in which the ECT apparatus was used in 1991. It was often given under the mistaken belief that induction of a generalised seizure was all that was needed and the actual stimulus administered was unimportant. Nearly all clinics surveyed by Pippard used standard stimulus-dosage but the level differed fourfold among them. He noted:

“Few operators appear to understand what the apparatus does; some think it similar to a light or a clock, which they set in a rigid way. There is little concept that there is a ‘trade-off’ between the extent of cognitive impairment and the efficacy and speed of recovery with ECT, which is related to the electrical stimulus used: too low a stimulus and treatment is less effective and slower; too high and cognitive impairment increases.”

Pippard noted Sackeim’s findings that there is good evidence that the critical variable is the individual patient’s seizure threshold, that stimulus which will just induce a generalised seizure will vary from patient to patient. This varies up to a fortyfold among patients and tends to be higher in men, at older ages, as a course of treatment continues and because of other factors, including the drugs used concomitantly or in anaesthesia. To be effective, the stimulus needs to be moderately above threshold, perhaps double:

“The determination of threshold levels empirically is possible and is increasingly being done routinely in clinics in the United States but is beyond the capability of clinics here as they are.”

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68 Fink, op cit n 3, p 47.
70 RANZCP Memorandum #12, op cit n 1, 3-1.
76 Psychiatrists often worked like mechanics performing ECT after ECT teaching hours; personal communication to the authors by Australian psychiatrist Dr Tom Murray. Dr Murray said he felt more like a mechanic than a doctor.
are at present organised, and with their present apparatus.103

Dykes and Scott in 1998 considered the threshold seizure level in bilateral ECT, noting that the extent to which the electrical dose exceeds the seizure threshold is an important determinant of the efficacy of ECT.104 Seizure thresholds had not been previously evaluated using an ECT machine made in the United Kingdom, so they studied ECT given to 100 patients bilaterally using Electroton Series 5A machines. They found men and women under 30 years of age had low thresholds and men of 60 years or more had high thresholds.105 Seizure thresholds varied at least threefold among other groups, suggesting empirical titration may be desirable for most patients treated by bilateral ECT. Noting that the most recent College Guidelines recommended the electrical dose be adjusted for each patient to take into account the variation in seizure threshold (a technique called “stimulus dosing”), they described the two approaches.106

One was the empirical measurement of the seizure threshold by a technique called “dose titration”. The other was the routine administration of a predetermined dose, dependent on the lateriality of treatment and the age and the gender of the patient. Dose titration was recommended by the Royal College of Psychiatrists in 1993. The latter approach was more straightforward but its main disadvantage was the paucity of data to guide practice. Dykes and Scott recommended further research, especially on young women who may have very low thresholds. Case reports indicated that elderly men had very high seizure thresholds and this was confirmed in Dykes and Scott’s study. Their findings concern only the initial seizure threshold which, they say, is likely to rise by an average of 80 per cent over a course of ECT because of the anti-convulsant effect of repeated ECT which was also reported by Sackheim et al in 1991.107

Dykes and Scott’s findings confirm the importance of new ECT machines able to deliver a smaller dose than the earlier machines. They note that debate continues about the relative merits of the two approaches to stimulus dosing (empirical measurement versus a predetermined dose) and their findings do not suggest that age and gender alone can be used reliably to estimate the initial seizure threshold for all patients:

“While all patients under 30 years of age had a low seizure threshold and the elderly men all had a high seizure threshold, initial seizure threshold varied by more than threefold among the other patient groups who made up more than 80% of the total sample.”

Their findings suggest empirical titration of the seizure threshold may be desirable for most patients treated by bilateral ECT.

Pippard concluded in 1992 that it would require great changes in practice and newly designed equipment if empirical determination of threshold or even intelligent estimation of likely threshold were to be used properly.108 He recommended much closer clinical observation of patients after each administration of ECT and more involvement by consultants in the process of treatment in the clinic if optimal results were to be achieved. He also concluded that the full potential even of existing apparatus was not being used. There was no consistency in policies for restimulating if no seizure occurred or if a seizure was too short. There was no agreement about what constituted short seizures and no clear conception of their possible significance. Although seizures were routinely timed in most clinics, and the times recorded, little or no use was made of the information. He concluded:

“Most clinics the operators lack the knowledge and training which would enable ECT to be given by other than rule-of-thumb.”109

In 1991 Pippard continued to be critical of the availability of trained personnel for ECT administration. While it was accepted that each clinic should have a nominated consultant psychiatrist responsible for the ECT clinic, and for training of junior staff, most of the clinics had nominated consultants but few seemed actively involved in the treatments. Many had not administered ECT themselves because they were

overcommitted to other important work and could not give ECT the attention it merited. Pippard found only four consultants were often in their clinics and seven more took part in training, typically one session with new doctors to show them how to use the particular apparatus. In 18 clinics the consultant was rarely seen and training was delegated to a junior doctor.

Pippard criticised the policy that doctors should give ECT to their own patients, regardless of how much training or experience they had in the treatment. He found it unacceptable that over half of the doctors rated no more than “mediocre” in “medicolegal” terms.110 So did the clinical team was the training adequate or the rotation system such as to inspire confidence. He wrote:

“All the criticisms made of psychiatric practice in 1981 apply equally today. It is not, therefore, surprising that I would personally have had considerable reservations about accepting ECT: had I needed it, in about half of all clinics in which ECT is administered.”

Pippard also inquired into ECT other than the practical training. He noted the then recent publication of the American Psychiatric Association Task Force Report which included recommendations for training and found no hospital he visited in the United Kingdom came anywhere near fulfilling the requirements recommended by that report.111 He had strong criticisms about the lack of teaching and education for ECT in the United Kingdom and recommended further audits. Some of the hospitals had upgraded the premises in which ECT was administered and provided the appropriate equipment for anaesthesia and some care of patients but much more training and supervision was required of both anaesthesia and other aspects of the administration of ECT. The rotation system meant that sometimes inadequately trained anaesthetists were used.

Pippard found nursing administration and the nursing care of patients were generally good. Indeed, in many clinics nurses were much more enthusiastic about their work and eager for knowledge than were the doctors:

102 Ibid at 61.

104 Ibid, op cit a 87, at 61.

105 Ibid, op cit a 87, at 61.

106 Ibid, op cit a 87, at 61.

107 Ibid.
There have been very few studies of ECT in Australia and there is some evidence of similar difficulties in Canada. During the early 1990s, while Victoria performed Australians' conditions, patients and staff were encouraged to write letters to the editor of the local newspapers or to contact their members of parliament. The latter appeared to have a more positive attitude towards the role of ECT in their communities, and a number of them wrote letters to the editorrolley of the local newspapers. The effect of this was to increase the awareness of the local community about the importance of ECT and to encourage more people to consider it as a treatment option.

In 1995 Victoria passed legislation to provide for the licensing of ECT facilities in Victoria. This was seen as an important step in improving the quality and effectiveness of ECT services in Victoria. The legislation required that all ECT facilities in Victoria had to be licensed by the Victoria Department of Health. The licensing process involved an inspection of the facility, including the staff, equipment, and procedures. Facilities were required to meet specific standards in order to be licensed. This included having qualified staff, appropriate equipment, and a safe environment for patients.

The importance of the audit cycle

The audit process in the administration of ECT in the United Kingdom is well established. The audit process is designed to improve the quality and effectiveness of ECT services by identifying areas for improvement and implementing changes to address these areas. The audit process typically involves the following steps:

1. Identifying the areas for improvement.
2. Developing and implementing changes to address the identified areas.
3. Monitoring the effectiveness of the changes.
4. Adjusting the implementation process as necessary.

The audit process is an ongoing process and is designed to be continuous. It is important that the audit process is used to improve the quality and effectiveness of ECT services, and that it is not seen as a one-time event.

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itself needs to be well structured, and the reasons for failure to improve practices need to be documented and addressed. 104 Childs and Edwards' study was one of a series of audit exercises in which all medical staff in their unit at the Royal South Hampshire Hospital in Southampton participated. Pippard and Ellam had demonstrated that the administration of ECT often failed to meet agreed standards. Childs and Edwards concentrated on a survey of an ECT documentation regime which aimed to help correct deficiencies. The results of their first study were presented in one of their regular audit meetings where all psychiatrists were circulated with a written summary of the deficiencies previously identified. Childs and Edwards then attempted to collect information on a structured data collection sheet designed specifically for the purpose. It tabulated information on all patients who had received ECT during a six-month interval. The data should have been routinely recorded by trainee psychiatrists on an ECT form as well as in patients' medical records. The results of 50 patients were assessed. Childs and Edwards had expected that agreed standards of documentation would be met, and that the documentation to which they were being met, pointing out deficiencies to colleagues and repeating the observations (in other words, completing the audit cycle), would lead to improvement. However, this was not the case. 105 Indeed, in some areas there was a decline in performance. Documented information on the reasons for beginning and ceasing ECT and the results of physical examination were worse, although there was an improvement in the recording of the response of patients to ECT. Childs and Edwards sought reasons for "these disappointing results". They speculated that perhaps the importance of documentation for both clinical and medicolegal reasons and the previous audit findings were not emphasised as much as they should have been. A more likely explanation was that, when working under pressure, and dealing with more urgent clinical matters, documentation takes second place or is forgotten. A third possibility was audit fatigue. Suggestions to improve the poor results were more efficient induction procedures for new trainees and more intense supervision by consultants or senior registrars, as had been recommended by the Royal College of Psychiatrists in 1989 and 1995. 106

The administration and outcomes of ECT were the subject of a retrospective study over two successive periods of 12 months by Trezise and Conlon in 1997. 107 The studies were conducted before and after replacement of the Ectron Series 5 ECT machine by a Thymatron DXG. It was found that the Thymatron enabled the same outcome of ECT to be achieved while administering significantly fewer treatments per patient. 108 Trezise and Conlon noted that in July 1994 the Ectron Series 5 ECT machine in their unit was replaced by a Thymatron DXG. The Series 5 had been recognised by the Royal College of Psychiatrists in 1995 to be underpowered with a maximum output of 400 mC as compared with 1008 mC for the Thymatron and was no longer recommended for routine use. Trezise and Conlon had become concerned about the number of patients in whom they were unable to induce seizures of adequate therapeutic length when using Series 5 and had therefore decided to upgrade their equipment in line with the recommendation of the Royal College. They introduced a new machine, which required increased consultant supervision of ECT sessions and training of medical and ancillary staff. This prompted Trezise and Conlon to examine their standards of ECT practice and study the effects of change in the machinery and of consequent intensified supervision. The study was a retrospective analysis of case notes for all patients receiving ECT during the previous year and the year after the change of machinery. This involved 64 and 60 patients respectively from a catchment area of 310,000. Their information came from case notes and included discussion with colleagues and records kept by the ECT clinic staff. They recorded for each patient: name, date of birth, gender, unit number, consultant, legal status requiring treatment, in-patient or out-patient status, diagnosis, number of treatments received, range of motor fit length, range of energy setting used, medication during treatment and outcome. Diagnoses were ascertained from the notes and discharge summaries and were divided into severe depressive disorder with or without psychotic symptoms, depressive disorders with an additional diagnosis (cerebrovascular disease), dementia, anxiety disorder, personality disorder and schizophrenia, and diagnosis other than depression (schizophrenia, manic episode, schizoaffactive disorder, mixed affective episode and alcohol-induced dementia). Outcomes were defined as "recovered," "improved," or "no change." There were no patients who had been made worse by treatment. These results were determined by the completion of treatment by studying the medical records and discharge summaries as before. Medication was also examined. 109 Trezise and Conlon acknowledged a limitation of this study because diagnoses were not operationally defined. 110 It was not possible to be certain the two groups were directly comparable in terms of severity of illness. Also, for a period of 11 weeks during the second half of the study, methohexine sodium for induction of anaesthesia became unavailable. 111 During this time Propofol was used instead. Propofol has been shown to reduce fit lengths when used for ECT, and is therefore not recommended for this purpose. 112 Trezise and Conlon noted that for their patients, of whom nine were affected, outcome on average numbers of treatments received did not appear to differ significantly from the figures for the whole group. 113 The main finding was that, while using the newer machines, psychiatrists were able to achieve the same results in terms of treatment outcomes although giving significantly fewer treatments per patient. 114 The explanations for this were that possible changes in antidepressant prescribing might have made a difference to the two groups of patients as it is known that both TCAs and SSRIs reduce fit thresholds. The authors acknowledged that these effects are complex and

104 Ibid at 11.
105 Ibid at 11.
106 Methohexine was the drug of choice for anaesthesia in ECT but in 1999 Ellul indicated it would disappear from the market because of difficulties in finding a manufacturer. See C. Freeman, "Anaesthesia for Electroconvulsive Therapy: Statement from the Royal College of Psychiatrists' Special Committee for Electroconvulsive Therapy" (1999) 23 Psychiatric Bulletin 740.
107 Ibid at 740.
108 Trezise and Conlon, op cit at 112, at 11.
109 Ibid at 12.
variable and it is difficult to reach conclusions about the effects of altering prescribing practices in their results. The differences between the two groups, they speculated, might have been accounted for by changes in practice by one or more consultants but this did not appear to be the case seven out of eight consultants reduced the number of treatments given by approximately one per course. The authors considered it unlikely that the consultants would have decided independently of one another to use fewer treatments during the course of the study and discounted this explanation.

Another explanation is that the Thymatron is a much more powerful machine and those patients who might not have convulsed adequately with the earlier Ectron machine for reasons of high fit threshold could have been more effectively treated with a new machine. Despite this argument, 23 patients in the second group were treated at energy settings which exceeded the maximum output of the Series 5.

The final explanation for the marked difference in the number of treatments received by the two groups was the level of supervision of the treatment sessions. For the group one patients, a total of 97 treatment sessions were supervised by one of the supervising clinicians. Following introduction of the Thymatron, 91 out of 97 sessions were supervised directly by one or both doctors with a special interest in ECT. This helped to ensure that junior doctors giving treatment adjusted the energy settings on the machine in accordance with the documented response to treatment.122 Once again the importance of adequate supervision and training in use of the machinery is emphasised by this study. And once again this study shows the introduction of new machinery alone is insufficient to improve practice. Quality improvements require good equipment, effective training and supervision, and accurate diagnoses.

In 1997 Hillam et al noted the increasing concern that trainee psychiatrists were not receiving adequate training and were not fully competent in the administration of ECT.123 This had led to the inclusion in the Guidelines of the Royal College of Psychiatrists of the recommendation to improve supervision and tuition. Hillam et al compared the results of two surveys five years apart exploring levels of supervision, satisfaction with training and confidence in the procedure of training psychiatrists at the Royal Free Hospital Scheme.124 They found continuing problems with supervision and emphasised the need for organised ongoing training. Their study involved contacting trainees by telephone and conducting interviews using a structured questionnaire. The sample size was 33 of a previous survey of Royal Free trainees undertaken five years previously. At the time of the first study there was no formalised teaching of ECT, and a substantial proportion (over one-fifth) had admitted to distress or unease when giving ECT.

The number of questionnaires returned in 1990 was 51 from a total of 55 trainees compared with 34 from 46 trainees in 1995.125 In the 1995 survey all but six trainees had administered ECT, mostly within the last year, and the majority reported having given more than five treatments. All had been supervised on the first occasion although in most cases (54 per cent) this was by a fellow trainee and only one had observed or had been supervised for more than three treatments. This represented some improvement. However, as in 1990, 16 per cent were unsupervised on the first occasion, and a further 7 per cent were supervised by the nurse or anaesthetist. There was an increased number of trainees reporting their practical instruction as at least adequate (71 per cent as compared with 62 per cent). Perceived adequacy of theoretical instruction was also higher in the 1995 sample with 75 per cent as compared with 47 per cent in 1990. Most trainees were confident in their ability to administer ECT, 86 per cent in 1995 and 80 per cent in 1990, but a substantial proportion (over one-fifth in both surveys) also admitted to distress or unease when giving ECT. In the 1990 survey, confidence was associated with degree of supervision received and inversely related to distress experienced. Of the nine who reported distress in the 1995 survey, three felt

the theoretical teaching was inadequate and four stated that practical instruction was inadequate. Three also admitted to lack of confidence in the procedure itself.

The Hillam et al survey had two main aims, the first being to identify levels of supervision and adequacy of training and trainees' attitudes and confidence in giving ECT. The second aim was to compare the then situation with that prevailing five years earlier. Formal teaching sessions on the theory of ECT had been implemented in the interim as part of the trainees' induction course. The authors warned that their study involved only small numbers and that statistical analysis should be considered accordingly. They found some improvements in the training of ECT administration since the initial survey, at least so far as the trainees themselves were concerned. Overall, a higher proportion had been supervised by a more senior doctor and more reported practical training was at least adequate. Trainees were more satisfied with the theoretical tuition received and there was a significant increase in levels of confidence.

However, this was high in both surveys and is a poor indicator of actual competence. Evaluation of competence of administration of ECT was outside the scope of this research.126

Hillam et al concluded too many trainees were being supervised by their peers rather than by more senior psychiatrists and the extent of even this level of supervision was limited. Their findings were similar to those from other units and training rotations but fell short of the recommendations of the Royal College of Psychiatrists in 1989 that "all trainees should have the opportunity of seeing ECT administered on several occasions by an experienced operator."127 The authors criticised the College Guidelines because the 1995 version omitted the above recommendation and, although suggestions for supervision received greater emphasis, the Guidelines remained sparse and open to interpretation in this regard. They concluded:

["[I]f, as seems likely, degree of supervision as well as formal teaching has an effect on confidence and competence then it has important implications for the well-being of patients and the professional development of the trainee psychiatrist. The 'see one, do one, teach one' culture is beginning to be replaced by more organised teaching."128

Hillam et al recommended that proposals to adopt more rigorous tuition of ECT along United States lines should be considered if psychiatry was to ensure its most widely prescribed practical procedure was carried out effectively. They also believed that audit of ECT practice, and particularly of the competence of those administering it, should be the priority of every Mental Health Unit, as should regular and continuing supervision and tuition of trainees by an appropriate senior psychiatrist.129

The experience of junior doctors' training in the theory and practice of ECT was also researched by Duffett and Lelliott in 1997.130 Noting that recent advances in knowledge about effective administration of ECT had placed great emphasis on the importance of good training and supervision of those administering it, Duffett and Lelliott reported that the American Psychiatric Association required doctors to be specially accredited before being allowed to give ECT.131 In England and Wales training was much more informal and ECT was often given by junior doctors. Doctors rostered to administer ECT in Wales and in two areas of England were surveyed by Duffett and Lelliott as part of the College's third audit of ECT. About two-thirds of respondents were senior house officer level and the training of ECT appeared to be of a variable quality: a half not being supervised by an experienced psychiatrist on the first occasion they administered ECT. Responses to examination-type questions revealed that 45 per cent lacked knowledge of one or more basic issues related to effective administration of ECT.132 Duffett and
Lelliott noted recent research had shown the passage of an electric current just sufficient to induce a seizure may be inadequate for maximum effective therapy. The current, they wrote, should be 50 per cent or more above the seizure threshold (the minimum required to induce a seizure) for bilateral ECT and 20 per cent above in unilateral ECT. The seizure threshold varies according to the patient's age, gender, medication, previous ECT treatments and other individual factors as revealed by Sackein in 1991. They maintained that those administering ECT needed to fully understand these findings and have adequate training in the use of appropriate equipment.

Duffett and Lelliott's work revealed, among other things, that while there was new knowledge about ECT, this was not provided to those administering it. Of the doctors who commented on their training (48), 15 praised their recent training, 23 were wholly critical and 10 had mixed views. Duffett and Lelliott concluded that practice would not markedly improve simply in response to the latest handbook and "despite the College's recent initiative to improve practice and 17 years of audit, ECT is still often being delivered by inadequately trained personnel". They found of particular concern "the 45% of doctors who answered incorrectly one or more of the first three questions pertaining to the delivery of ECT which are considered by the authors to be essential knowledge for anyone administering ECT".

They also found that junior doctors in two clinics which were "genuinely consultant-led" had significantly greater knowledge. These two clinics, however, were the exception rather than the rule, with most clinics adopting the traditional British system of delegating responsibility for ECT administration to junior doctors on rotation. The authors concluded: "Unless this system is changed it will remain difficult to assure the quality of training and supervision in ECT or to introduce a comprehensive national accreditation scheme."

Matters had not improved much by 1999. Yousaf et al re-audited ECT in 1999 after a period of five months using the new College Guidelines. The audit at the Sutton Hospital in London included obtaining consent from patients, training and supervision of junior doctors, and the practical aspects of ECT administration, including dose titration. While there was some improvement in the training and supervision of junior doctors, shortcomings were identified in the areas of pre- and post-ECT preparation, information recording and correct use of stimulator-dosing policy. Yousaf et al concluded: "Psychiatrists still need to be challenged to introduce modern ECT machines, use EEG monitors and dosing schedules to maximise treatment and minimise side effects."

Surveys of usage

In the 1940s and the 1950s convulsive therapy was a principal treatment of those with severe mental illnesses. The introduction of anti-psychotic medications in the 1950s affected the rate at which ECT was used, as well as other treatments. It was thought that the new medications would replace ECT, insulin coma and leucotomy. While the use of the latter treatments all but disappeared, the same is not the case for ECT. The frequency at which depressive conditions do not respond to anti-depressants, and the time which these can take to be effective, has meant that ECT continues to be used commonly in Australia, New Zealand, Canada, the United States and the United Kingdom.

The first national survey of ECT was conducted in the United States in 1976 by the American Psychiatric Association (APA). The survey used self-reports by a randomly selected sample of 20 per cent of members of the APA and an estimated annual usage of 4.4 per 10,000 population was made. This estimate has been similar to surveys in Canada (2.9 per 10,000 in 1979), 3.53 per 10,000 in Great Britain in 1980 and 5.3 per 10,000 in Ireland in 1982. In 1987 Thompson and Blaine estimated for the United States that usage had reduced to 2.79 per 10,000 in 1975 and 1.6 per 10,000 in 1980.

Disappointingly few up-to-date publicly available data exist about the extent to which ECT is used, its effectiveness and adverse sequelae following its application. This is particularly so for Australian jurisdictions. In Victoria the Department of Human Services has collected self-reported data about the number of ECT administrations. These are expected soon to be available. They will include figures on private and public, voluntary and involuntary administrations. About 1,500 Victorians now receive ECT treatments annually and the national figure is around 4,000 treatments with 80 per cent received by women. The disproportionate percentage of women is in large part attributable to the disproportionate percentage of women diagnosed as suffering from depression. Nonetheless, it is prompting disquiet in some quarters.

Health Insurance Commission data indicate 11,123 sessions of ECT in Australia during 1999-2000, with 3,700 sessions on 600 Victorians in the private sector alone. In New South Wales, where ECT for involuntary patients must be approved by the Mental Health Review Tribunal, some data are available on the Tribunal plans to publish them soon.

Similar deficiencies of information exist in the United Kingdom where, in the House of Lords, Lord McNair (a member of the Church of Scientology) asked a question about ECT-related deaths:

"What are the recorded statistics for electroconvulsive therapy (ECT) related deaths in this country as a proportion of total annual administrations of ECT?"

Baroness Cumberlege replied: "There has been one death registered with a mention of electroconvulsive therapy (ECT) on the death certificate since the beginning of 1993, certified by a coroner. Reliable information on the number of administrations of ECT treatment is not available centrally."

Lord McNair then asked: "Whether there are procedures to ensure that electroconvulsive therapy (ECT) is cited as a cause or contributing factor in the death of a patient, if that patient dies of a heart attack following the administration of ECT, or dies of other causes which could be linked to ECT, and if not, whether they have plans to implement such procedures; and whether there are procedures to record the administration of electroconvulsive therapy (ECT) in death records if a patient dies within two years of receiving this treatment, if so how many-reports have been made since such recording began, and if not, whether they have plans to implement such procedures?"

Baroness Cumberlege responded by saying: "This is a question specific to electroconvulsive therapy (ECT) for ensuring that it is cited as a cause or contributing to the death of a patient within two years of receiving this treatment. We have no plans to implement such a procedure."

In 1999 Duffett et al assessed the frequency of ECT use in people under the age of 18 in the United Kingdom, maintaining that particular ethical issues arise in relation to the use of the procedure on young people. They surveyed ECT clinics, private hospitals, adolescent units and United Kingdom members of the Royal College of Psychiatrists. They identified 12 young people who had been treated with ECT. Three were aged 15 years or younger and eight were female. Nine were rated as having improved following treatment with ECT. The indications for its use were the same as for adults and the authors concluded that ECT is rarely administered to young people in the United Kingdom.

A useful profile is available from Texas where from 1993 it has been mandatory for data to be compiled about the use of ECT. In a study reported in 1998, all reports of the administration of ECT between September 1993 and April 1995 were examined. There were 2,583 such reports referring to 15,240 treatments. About 6 per cent of Texas psychiatrists performed ECT during the period at some 50 hospitals. Almost all recipients were white. However, caution needs to be applied to commenting on this result because of the demographics of the State of Texas. Older age...
groups were disproportionately represented, as were women, 70.3 per cent of recipients being female. Almost all patients provided their own consent (99.0 per cent), including consented but consenting patients (1.5 per cent). Group data assembled from clinical reports (10 against patient perceptions) indicated generally good-to-excellent responses, as measured on a five-point severity symptom scale. However, eight patients died within 14 days of a treatment, two possibly of anaesthesia complications and three others in accidents or suicide. Four were receiving maintenance treatments every second week. No death appeared to be related directly to ECT stimulus or seizure.

Clinicians were asked to estimate global memory before and after treatment using a five-point scale. In results that are not very discerning, the clinicians reported improvements in memory. They indicated that there was moderate memory dysfunction in 21 per cent of patients before treatment and in 18.3 per cent after treatment; severe memory dysfunction before treatment in 10.1 per cent and in 2.7 per cent after treatment. The authors of the Texas profile concluded that their data disputed any suggestion that, in their jurisdiction at least, ECT was being used disproportionately amongst minority populations. They drew attention to the health risks of depressive and mood disorder illnesses, as well as to the risks of chemical treatments, arguing: “The risks of ECT included a lower (as against antidepressant medication) potential for adverse cardiac effects and a considerably lower probability that it would be ineffectual for severe depression.”

**Attitudes toward ECT**

Lewis writes that the first recorded use of "electrical treatment" (a battery and a generator being employed) was at the New Norfolk Asylum in Tasmania in 1851: “The electrical treatment seems to have been used as a form of discipline as well as a means of therapy [for depression and schizophrenia-like symptoms]. Thus, a clinical entry of 1870 recorded that an ‘obstinate’ and ‘defiant’ patient who refused to eat was ‘subdued’ immediately when given electric shocks.”

Such uses of electro-therapy (as distinct from ECT) and their resistance to torture continue to provoke anxiety in some.

As Fink observed in 1999, “the public’s images of electroshock too often reflect practices that were discarded more than forty years ago.” It is important, though, to acknowledge that the images produced by both film and emotive descriptions have proved enduring. Regardless of the evolving improvements in the effectiveness and safety of ECT, it falls into a category of treatment that induces considerable fear in many patients. The history of its usage and the adverse publicity it has attracted have contributed to these fears. Some patients have described the treatment as frightening and/or unpleasant. Some have been “won over” or used in the course of anti-psychiatry campaigns. In an early study, Petitt found that anxiety about ECT, and also about drug therapy, does not reduce with experience, women particularly harbouring such concerns. By contrast, Kerr, McGrath, O’Kearney and Price found the patient’s gender had no effect upon their fear of ECT; the factors making a difference were personal experience of ECT or a doctor’s reassuring explanation of the treatment. Hillard and Folger too found patients tended to fear ECT less if they had experience of it. An Australian study by Spencer suggested it was the wait for ECT treatment, rather than the treatment itself, that caused most distress for patients.

Cawte has commented of the early days of ECT administration in Australia that complaints from patients were proportional to the number of treatments: “The longer the course, the greater the complaints. And if more neurotic symptoms were mixed with the depression, there were more complaints. However, my notes show that less than 10 per cent of my patients were troubled by slowness in memory, or change in personality – less than with the tranquillisers used today.”

Patients have had different perceptions of the impact that ECT has had upon their condition. Freeman and Kendell, for instance, interviewed 106 patients who had received ECT 12 to 18 months previously, as well as 60 patients who had received ECT six years before the interview. Seventy-eight per cent of respondents said ECT had helped them a little or a lot and two-thirds said they would have ECT again if it were deemed necessary. Eighty per cent reported side-effects, 30 per cent of them maintaining that their memory had never returned to normal after the ECT. Forty-eight per cent reported headaches after the treatment. Hughes, Barraclough and Reeve arrived at similar results with 83 per cent of their sample reporting side-effects, most frequently headaches, drowsiness, confusion and memory loss. Forty-four per cent reported memory impairment and 18 per cent claimed it was still present at the time of interview.

In 1987 Faby and Latey compared ECT surveys in Great Britain and Ireland and found what they described as “remarkable uniformity of opinion and practice in the selection of patients for treatment, treatment technique and clinical outcome.”

Fourteen and 20 days after completion of treatment, between 75 per cent and 80 per cent of patients were as satisfied with the outcome as were their psychiatrists. About 20 per cent of the patients disagreed with the psychiatrists about the outcome. Faby and Latey acknowledged that both the Irish and British psychiatrists who agreed to report on outcome were themselves biased in the direction of good outcome. The psychiatrists who favored ECT the most, and who therefore ordered its administration most often, were also those who reported the best results. In the British survey over 80 per cent of the patients were treated by the 50 per cent of psychiatrists who reported more than the median of cases. The authors concluded it was likely that the psychiatrists who reported good outcomes in both surveys were among those who favored the treatment.

Freeman and Cheshire argued in 1986 that the question of effects needs to be kept in perspective, taking account both of the life-changing effects of ECT and that almost every procedure has an incidence of some degree of ill-effects. Moreover, they argued: “Both the general public and ECT patients remain largely ignorant of the nature and purpose of ECT... Patients, relatives, and the lay community, in general, are therefore especially vulnerable to anti-ECT propaganda. Continued lay hostility derives from the view that the treatment is dangerous and coercive, if not punitive.”

Freeman and Cheshire called for further investigation into the ability of patients to give informed consent to ECT, arguing that unrealistic expectations of the benefits of ECT and fear of the consequences of the procedure have contributed to dissatisfaction with it. They championed further research to assess the quality and effect of communication between psychiatrists and patients and relatives, to inform and reassure them about ECT.

Westreich et al conducted an interesting study which was reported in 1995. They showed some patients a video about ECT and did not show it to others. The result suggested no extra understanding.
Freckleton and Wilson

of ECT amongst those who had undergone the procedure.

The Royal College of Psychiatrists (RCP) Guidelines describe the procedure in detail, indicating the importance of informed consent. The guidelines state that patients should be informed about the risks, benefits, and alternatives to treatment, and that they should be given the opportunity to ask questions and express their concerns.

The guidelines also emphasize the importance of obtaining consent from patients. They state that consent should be obtained before the procedure, and that patients should be given the opportunity to withdraw consent at any time.

Informed Consent

Informed consent is essential for any invasive medical procedure. It is important that patients are fully informed about the risks, benefits, and alternatives to treatment, and that they understand the implications of the procedure.

ECT is a highly invasive procedure, and it is important that patients are fully informed about the risks and benefits. The Royal College of Psychiatrists (RCP) Guidelines recommend that patients should be given the opportunity to ask questions and express their concerns, and that they should be given the opportunity to withdraw consent at any time.

Informed consent is also important for ethical reasons. It is important that patients are fully informed about the procedure, and that they understand the implications of the treatment.

Conclusion

ECT is a highly invasive procedure, and it is important that patients are fully informed about the risks and benefits. The Royal College of Psychiatrists (RCP) Guidelines recommend that patients should be given the opportunity to ask questions and express their concerns, and that they should be given the opportunity to withdraw consent at any time.

Informed consent is also important for ethical reasons. It is important that patients are fully informed about the procedure, and that they understand the implications of the treatment.

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The California law has been the subject of many sources of criticism. For instance, Winslade et al have lamented that it has resulted countless patients in therapeutic delays or denial of services while failing to resolve critical legal issues involving competence and consent. They also decried the attempts to control ECT in Alabama where, in State hospitals, three specialists and five others are required to give consent before ECT can be performed. In Minnesota the Supreme Court in 1976 prohibited the use of ECT for incompetent patients without a court hearing, taking place on the "necessity and reasonableness of the proposed treatment."

Common law liability

One of the best-known decisions in English medico-legal jurisprudence ruled on the propriety of the application of ECT without consent. In Bolam v Friern Hospital Management Committee, the plaintiff, who suffered from depression, was readmitted to hospital suffering serious symptoms of his illness. He was seen by a consultant psychiatrist attached to Friern Hospital who advised him to undergo ECT. The consultant said that he proposed to undertake the procedure on the next day. The plaintiff signed a consent form but was not warned of the risks involved. He received the ECT and then again four days later. On this second occasion, an initial shock was passed through the plaintiff's brain for about one second and was followed within about four seconds by a succession of five momentary shocks administered for the purpose of damping the amplitude of the jerking movements of the plaintiff's body. The convulsion engendered was not unusually violent, the voltage of the current being 150 volts and the frequency 50 cycles per second. During the treatment, the plaintiff reclined in a supine position, a pillow under his back and his lower jaw being supported on a mouth gag by a male nurse.

Otherwise the plaintiff was not restrained in any way, although a male nurse stood on either side of him in case he should move. No relaxant drugs were administered. In the course of the treatment the plaintiff sustained severe physical injuries consisting in the dislocation of both hip joints with fractures of the pelvis on each side. These were caused by the head of the femur on each side being driven through the acetabulum. The medical evidence in the patient's negligence action against the hospital disclosed that competent doctors at the time held divergent views on the desirability of using relaxant drugs, on restraining the patient's body by manual control and on the question of whether a patient should be warned of the risks of ECT.

Evidence at the trial was to the effect that such injuries were extremely rare, even at the time. A medical witness for the defendant swore he had only seen the acetabular fracture in 50,000 cases, involving 250,000 treatments. McNair J of the Queen's Bench Division commented in his charge to the jury:

"It is clear that the particular injury which produced these disastrous results in the plaintiff was not likely effects of ECT or has not consented to it, ECT can still be administered. This is subject to two further qualifications. The first is that the doctor appointed by the Secretary of State certifies in writing that the patient should be given ECT, having regard to the likelihood of its alleviating or preventing a deterioration in the patient's condition. The second is that (other than in circumstances of "emergency") prior to making the certification the practitioner is obliged to consult two other persons who have been professionally concerned with the patient's mental treatment, one of them being a nurse and the other neither a medical practitioner nor a medical practitioner. However, all that is

[307] J. 2 All ER 118 at 121. The law in Australia in relation to neglectful diagnosis, treatment and information provision has since departed from this formulation and applied an objective standard, as distinct from one which focuses upon the views of the patient. However, the Court has not considered the case of ECT. See also R v Secretary of State for Social Services, ex parte Association of Metropolitan

Legal controls

In 1974 legislation was passed in California (described by many psychiatrists as "anti-ECT") because of complaints of misuse of the treatment. At the same time, consideration was given to passing similar legislation in Massachusetts, Michigan and New York. Then followed the clinical audits by Pippard and Ellam and others in the United Kingdom and respondents from Canada, Australia, Ireland, The Netherlands, New Zealand and Scandinavia.

Bloch and Chodoff stated in the introduction to the second edition of "Psychiatric Ethics" that ECT has been derided, with its critics labeling it as "hazardous and barbaric." They wrote:

"The reaction was so intense that a vociferous patients' advocacy group was responsible for the passage of legislation in the State of California imposing almost impossible barriers before ECT can be used. They argued that the informed consent provisions for competent patients in California include scientifically unsound restrictions of ECT and a misleading allegation about its efficacy which disparages the available scientific information."

The result is that in California consent is required to perform ECT on patients who are not competent. A court hearing is as well as the consent of a relative or guardian.

[307] 1972 2 All ER 118 at 121. The law in Australia in relation to neglectful diagnosis, treatment and information provision has since departed from this formulation and applied an objective standard, as distinct from one which focuses upon the views of the patient. However, the Court has not considered the case of ECT. See also R v Secretary of State for Social Services, ex parte Association of Metropolitan

The "excess of consultation has been held to be the communication of a genuine invitation to give advice and a genuine consideration of that advice." R v Secretary of State for Social Services, Ex parte Association of Metropolitan


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necessary is that there be "consultation," not that a second opinion should match that of the appointed medical practitioner. In short, therefore, there are very modest constraints upon the administration of ECT.209

Fennell in 1996 reported that ECT was administered in circumstances of "emergency"210 at a "surprisingly high" level. This meant that the consultation process did not need to be undertaken. In a survey on second opinions carried out between December 1991 and August 1992, Fennell found a remarkable incidence of the phenomenon for ECT patients.112 of the 116 emergency patients receiving emergency treatment being ECT cases, 84 women and 28 men. Forty-five of the women were over 60 years of age, and 25 were over 70. In all cases, the justification proffered was "either immediate need to save life" or "to prevent serious deterioration in the patient's condition."210

In England there is no appeal from the decision to administer ECT.

Legislative regulation of ECT in Australia and New Zealand

Legislation in all Australian jurisdictions and in New Zealand governs the administration of ECT. In the Australian Capital Territory, New South Wales, South Australia, Victoria, Western Australia and New Zealand, there are specific provisions relating to the use of ECT, while in the Northern Territory, Queensland and Tasmania, the general provisions dealing with psychiatric treatment apply to the administration of ECT.

The Australian Capital Territory

In the Australian Capital Territory convulsive therapy is defined as a "procedure for the induction of an epileptiform convulsion in a person," and may only be administered by a medical practitioner.211 "Inform consent," exhaustively defined, is necessary from voluntary patients. A person is prescribed to have given "informed consent" to ECT (and psychiatric surgery) in very limited circumstances if the patient has given consent in writing (independently witnessed after: (a) the person has been given a clear explanation of the procedure that contains sufficient information to enable the person to make a balanced judgment about whether or not to consent to the procedure; (b) the person has been given an adequate description (without exaggeration or concealment) of the benefits, discomfort and risks involved in the procedure; (c) the person has been advised of all alternative treatments reasonably available that may be of benefit to the person; (d) the person has been given an opportunity to ask any questions about the procedure, these questions have been answered and the person appears to have understood the answers; (e) a full disclosure has been made to the person of any financial relationship between the person seeking to obtain the consent, the doctor who is proposing to conduct the procedure or both (as the case may be) and the psychiatric institution at which it is proposed to conduct the procedure; (f) the person has been given, has read and appears to have understood a prescribed notice; and (g) the person has been given an information statement.211

The concentration of the legislative requirements, therefore, is upon the provision of significant amounts of information and the disclosure of financial conflicts of interest by doctors and institutions. What will constitute "an adequate description" of the disadvantages and disadvantages of the procedures is not entirely clear: save that the level of information provided, both at an oral and a written level, has to be of a high order. A key component of the obligations on the part of the doctors is that they provide a prescribed notice and that the patients have read and appeared to have understood it. Otherwise, the primary criterion for the informed consent consists of the provision of information after having been given a large amount of information, whether or not patients have been able in any meaningful sense to come to grips with it.

210 Mental Health Act 1990 (NSW), s 55(5).

211 Mental Health (Treatment and Care) Act 1994 (ACT), s 5.4.

legislation. The locations at which it may be administered must be approved by the Director-General of Health.218 It may only be given by a medical practitioner where at least two doctors are present, one of whom must be experienced in such therapy and the other experienced in administering anaesthesia.219 As in the Australian Capital Territory, there are requirements about the information that must be provided before a patient can be said to provide informed consent to the treatment. The disclosures are made in writing and orally in a language with which the person is familiar. The requirements are similar to those existing in the Australian Capital Territory, but contain some subtle differences. Before the consent of a person is obtained for the administration of ECT:

(a) a fair explanation must be made to the person of the techniques or procedures to be followed, including an identification and explanation of any technique or procedure about which there is not sufficient data to recommend it as a recognised treatment or to reliably predict the outcome of its performance, and

(b) a full disclosure must be given, without exaggeration or concealment, to the person of the possible attendant discomforts and risks (including possible loss of memory), if any, and

(c) a full disclosure must be given to the person of the benefits, if any, to be expected, and

(d) a full disclosure must be made, without exaggeration or concealment, to the person of appropriate alternative treatments, if any, that would be advantageous to the person, and

(e) an offer must be made to answer any inquiries concerning the procedures or any part of them, and

(f) notice must be given to the person that the person is free to refuse or to withdraw consent and to discontinue the procedures or any of them at any time, and

(g) a full disclosure must be made to the person of any financial relationship between the person proposing the administration of the treatment or the medical practitioner who proposes to administer the treatment, or both.
and the hospital or institution in which it is proposed to administer the treatment, and (b) notice must be given to the person that the person has the right to obtain legal and medical advice and to be represented before giving consent, and (i) any question relating to the technique or procedures to be followed that is asked by the person must have been answered and the answers must appear to have been understood by the person.225

The final requirement is significant — wherever the patient poses questions about ECT, the answers given to the questions posed must “appear to have been understood”. Curiously, it is not the general information provided which needs to appear to be understood, just the answers to questions subsequently asked by the patient. If the patient is significantly depressed and/or frightened or intimidated, he or she may well ask no questions or very few. This means that the understanding criterion is largely irrelevant.

ECT may be administered where informed consent is given, namely consent that is free, voluntary and in writing after the provision of the seven disclosures. It is specifically provided that a person is presumed to be incapable of giving informed consent if, before, or at the time when the consent is sought, “the person has received medication which, at the time that the consent is sought, impairs the person’s ability to give that consent”.226 If the patient is sufficiently depressed for ECT to be considered, generally attempts will have been made to remedy the illness by the provision of medication. On a significant number of occasions this would have the capacity to impact upon the person’s ability to provide consent, although it may well be that it will be the illness, more than the medication, that will actually impair the ability to give consent.

The consent must be given by a person capable of providing it and where at least two doctors, one of whom must be a psychiatrist, certify in writing that: “after considering the person’s clinical condition, history of treatment and any appropriate alternative treatments, they are of the opinion that the treatment is a reasonable and proper treatment to be administered to the person and is necessary or desirable for the safety or welfare of the person.”227 Special procedures apply if the patient in New South Wales is involuntarily detained in a mental health facility. A doctor may administer ECT where the person is, in the opinion of the medical superintendent of the facility, incapable of giving informed consent or has refused or the person has neither consented to nor refused the treatment. However, there is a requirement for a second medical opinion to the same effect. Before ECT can be administered to an involuntary patient, two doctors, one of them being a psychiatrist, must have certified in writing: “After considering the patient’s or person’s clinical condition, history of treatment and any appropriate alternative treatments, they are of the opinion that the treatment is a reasonable and proper treatment to be administered to the patient or person and necessary immediately in order to save the life of the patient or person.”228 This is a high order criterion. It is not directed merely to alleviation of suffering or retarding deterioration in mental state. The condition of the patient must be such as to require ECT straightaway to save the person’s life. In principle, this should be a rare phenomenon, generally pertinent to cases where the person is likely otherwise to commit suicide.

The medical superintendent of the facility may apply to the Mental Health Review Tribunal to determine whether a person is capable of providing informed consent to the treatment and, in the case of a person who has been involuntarily detained who is incapable of giving consent or has refused consent, or at any rate who has not provided consent, whether the administration of the treatment is “a reasonable and proper treatment” and “necessary or desirable for the safety or welfare of the person”. The Tribunal is obliged to hold an inquiry to determine such issues “as soon as is practicable” and must consider medical certificates, as well as the patient’s views about the treatment by way of ECT.229 The medical superintendent may decide against such treatment taking place, even if the Tribunal permits it.230

Until 19 September 1997 hospitals had the power in New South Wales to proceed with the administration of ECT on an emergency basis without prior approval by the Tribunal. However, this power was removed by the Mental Health Legislative Amendment Act 1997 (NSW), the main instigation for the change coming from hospitals and medical superintendents. From 19 September 1997, the Tribunal in three-person hearings began to deal with cases involving patients regarded by clinicians as needing emergency ECT, through its ordinary hearing processes.

In the 316 concluded hearings of applications to administer ECT to involuntary patients brought before the Tribunal in 1998, 27 patients were determined by the Tribunal to be capable of giving informed consent. Of the remaining 288 cases, 274 were found by the Tribunal to be unable to provide informed consent. The Tribunal granted 272 applications and refused two. On 27 occasions the Tribunal was not required to give a determination because it found the patient to be able to decide for himself or herself. About twice as many women as men are shown through the New South Wales Mental Health Review Tribunal figures to have received ECT as involuntary patients About half of the patients receiving ECT were over 55 years of age. Of the 316 applications to the Tribunal to approve the administration of ECT in 1988, 13.9 per cent (n=44) were in respect of persons of a non-English speaking background.

South Australia

In South Australia a slightly different mechanism for ECT regulation is used. ECT is classified as a Category B Prescribed Psychiatric Treatment under the Mental Health Act 1993 (SA). Such treatment cannot be administered in any mental health facility unless it has been authorised by the psychiatrist who had examined the patient and the consent in writing has been obtained from the patient, if he or she is “capable of giving effective consent”; from the patient’s guardian, if the patient is under 16 years of age and incapable of giving effective consent; or from the Guardianship Board where the patient is over 16 years of age and incapable of giving effective consent.231 No guidance is given to the Guardianship Board’s exercise of its discretion to permit or decline ECT.

However, an important further discretion is left with medical practitioners — consent to a “particular episode” of ECT is not required if the administration of the treatment is “urgently needed for the protection of the patient or other persons” and in the circumstances it is “not practicable to obtain that consent”.232 In short, therefore, ECT can be administered where it is urgently needed not for the saving of the patient’s life as, for example, in New South Wales, but for the broader category of patients where the patient needs it for his or her protection or for the protection of others by reason of what the patient might do if ECT is not administered. The concept is the same but the bar is lower.

Victoria

In Victoria ECT is defined to “include a course of electroconvulsive therapy consisting of not more than six treatments given over a period with not more than seven days elapsing between any two treatments”.233 The giving of informed consent to ECT is governed by principles that are the same as those relating to informed consent to psychosurgery. Thus, a person is taken to have given informed consent to ECT if he or she has given written consent to the administration of ECT after:

(a) The person has been given a clear explanation containing sufficient information to enable him or her to make a balanced judgment; and
(b) The person has been given an adequate description of benefits, discomforts and risks without exaggeration or concealment; and
(c) Any relevant questions asked by the person have been answered and the answers have been understood by the person; and
(d) A full disclosure has been made of any financial relationship between the person seeking informed consent or the registered medical practitioner who proposes to perform the treatment, or both, and the service.

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225 Mental Health Act 1990 (NSW), s 155.
226 Mental Health Act 1990 (NSW), s 184.
227 Mental Health Act 1990 (NSW), s 185(1).
228 Mental Health Act 1990 (NSW), s 186(1).
229 Mental Health Act 1990 (NSW), s 191, 193.
230 Mental Health Act 1993 (SA), ss 22(1)(b), 22(2).
231 Mental Health Act 1993 (SA), s 195.
232 Mental Health Act 1993 (SA), s 22.
233 Mental Health Act 1993 (SA), s 72(2).

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hospital or clinic in which it is proposed to perform the treatment.\footnote{229}

In addition, the patient must be given a printed statement advising of his or her legal rights and other entitlements, including the right to obtain legal and medical advice, the right to obtain a second psychiatric opinion, and to be represented before giving consent. The right to refuse or withdraw his or her consent and to discontinue all or any part of the treatment at any time, and containing any other information relating to the treatment that the Department of Human Services considers "relevant."\footnote{230} In addition, the patient must be given an oral explanation of the information contained in the statement and, if he or she appears not to have understood, or to be incapable of understanding, the information in the statement, arrangements must be made to convey the information to the person in the language, mode of communication or terms which the patient is most likely to understand.\footnote{231}

As with the Australian Capital Territory provisions, therefore, the obligation on the part of the authorised psychiatrist and of the approved mental health service is to provide information. It does not need to have been understood by the patient, but the information must have been understood by the patient. However, what is necessary is that answers given by the doctor to questions posed by the patient "have been understood" (not appear to have been understood, by contrast with the position in the Australian Capital Territory). This would require interchange between the doctor and the patient, sufficient for the doctor to be able to assure himself or herself that the answers given by the doctor actually have been comprehended at a cognitive and affective level to a reasonable degree by the patient. On many occasions, this could be problematic, but, as previously noted, most patients considered by doctors to be candidates for ECT are unlikely to enter into assertive and probing discourse about the advantages, disadvantages and side-effects of the treatment.

The performance of ECT is expressly prescribed to be a criminal act and professional misconduct unless it is done in accordance with Victoria’s mental health legislation.\footnote{232} If an involuntarily patient or a security patient\footnote{233} is incapable of giving informed consent to ECT, the procedure may be performed if certain conditions are met. The authorised psychiatrist can authorise the ECT after having been satisfied that the therapy has "clinical merit" and is "appropriate"; and having had regard to any "benefits, discomforts or risks"; and after any "beneficial alternative treatments" have been considered; and having concluded that unless the ECT is performed "the patient is likely to suffer a significant deterioration in his or her physical or mental condition."\footnote{234} No timeframe is imposed upon the projected deterioration; but probably the deterioration should be in the short or possibly medium term. Nor is the criterion limited to a threat to the person’s life. Nor is a threat or risk to others specified. Presumably in this context "significant" means more than "minimal", "of some consequence" but less than "substantial". All reasonable efforts must also have been made to notify the patient’s guardian or primary carer of the proposed performance of the ECT.

Informed consent to ECT is not necessary if the nature of the mental disorder that the patient has is such that the ECT is "urgently needed."\footnote{235} Circumstances when this might be the case are not prescribed. However, the criteria in relation to clinical merit and similar, so far as the authorised psychiatrist is concerned, still apply.

Existing provisions govern the premises at which ECT may be performed and the licensing of\footnote{236} and further licensing of\footnote{237} such premises, as well as the conditions which may be attached to such licences.\footnote{238} While appeal lies to the Victorian Civil and Administrative Tribunal (VCAT) in respect of licensing matters, no appeal lies to the Mental Health Review Tribunal or under any specific provision to the VCAT with respect to decisions relating to the administration of ECT. While this may be surprising in the context of the treatment modality, the absence of review to the Mental Health Review Board is in keeping with the remainder of the appellate provisions which do not allow appeals in respect of particular treatment decisions to the Board.\footnote{239} However, it means that the decision in relation to administration of ECT to involuntary patients is a clinical decision in Victoria, and not subject to any formal mechanism of external oversight.

**Western Australia**

In Western Australia the Mental Health Act 1996 (WA) permits electroconvulsive therapy to be administered in prescribed circumstances. The provisions within the Act are the newest in Australia and are directed toward mandates a high level of information by psychiatrists about the advantages and disadvantages of ECT and enabling patients, so far as possible, to make informed decisions about whether they wish to submit to the procedure. "Electroconvulsive therapy" is defined as:

> "the application of electric current to specific areas of the head to produce a generalised seizure which is modified by general anaesthesia and the administration of a muscle relaxing agent."\footnote{240}

ECT can be performed on four categories of patients:

1. a person who is an involuntary patient;
2. a mentally impaired defendant in an authorised hospital;
3. a person who has given "informed consent" (as defined); and
4. a patient in need of emergency psychiatric treatment.

The penalties for fraud are $10,000 fine and imprisonment for two years. It is specifically provided that it is no defence to the offence of giving ECT without informed consent that the patient refused to give or was incapable of giving informed consent.\footnote{241} ECT cannot be performed on an involuntary patient or a mentally impaired defendant who is in an authorised hospital unless it is recommended by the treating psychiatrist and the recommendation is approved by another psychiatrist.\footnote{242} However, there is a major exception. The preclusion does not apply if the ECT is given as "emergency psychiatric treatment" which is defined as psychiatric treatment necessary to be given to a patient to save his or her life or to "prevent the person from behaving in a way that can be expected to result in serious physical harm to the person or to any other person."\footnote{243} No timeframe is specified in relation to such dangerous behaviour.

Before a psychiatrist makes a recommendation of ECT, the psychiatrist is required:

- to be satisfied that the proposed therapy has clinical merit and would be appropriate in the circumstances;
- to decide whether or not the person has the capacity to give informed consent to the proposed therapy;
- if the person has the capacity –
  - to ascertain whether or not that consent has been given; and
  - to have regard to whether or not that consent has been given.\footnote{245}

Importantly, therefore, both the treating and other psychiatrist are directed to give thought to whether the patient is capable of giving informed consent. The principal criteria for administration of ECT upon involuntary and "mentally impaired" patients, though, remains clinical merit and appropriateness, a very broad notion, and one in respect of which the patient does not have any right of appeal.

There is one limited situation in which an independent perspective is brought to bear on the decision to administer ECT. Where the psychiatrist does not approve the recommendation that ECT be performed, he or she must refer the matter to the Mental Health Review Board.\footnote{246} This has only happened on the one occasion, in 1998, since the Mental Health Act 1996 (WA) came into force. On that one occasion, the patient was discharged from involuntary detention before the matter came before the Board.\footnote{247}

Upon a referral from a psychiatrist, the Board has constrained powers. It is not authorised to substitute its decision for that of the psychiatrist withholding approval. If the psychiatrist continues to withhold approval, the Board is empowered to recommend to the treating psychiatrist an alternative treatment; to transfer responsibility for treating the person from...
the treating psychiatrist to another psychiatrist; or in the case of an involuntary patient, to order that the person be discharged as an involuntary patient.248

In short, therefore, the role of the Board is limited, only being able to be activated by a disagreement between psychiatrists. Patients’ ECT is not reviewed by the Board, nor can a patient appeal to the Board specifically about the decision to administer ECT.

A patient is prescribed to give “informed consent” to treatment only if the requirements for such consent are made out and the consent is “freely and voluntarily given”.249 The aim of this provision appears to be to exclude forms of consent which are the product of duress or inducement. The provision of consent is distinguished from passive acquiescence – failure to oppose, to resist, to be stipulated not of itself to constitute consent to treatment.250 A patient is provided to be incapable of giving “informed consent”, as defined, unless he or she is capable of understanding a range of matters:

- the things that are required to be communicated to him or her;
- the matters involved in the decision; and
- the effects of giving consent.251

No level of understanding is prescribed.

Before “informed consent” is given, the patient must be given a clear explanation of the proposed ECT:

- containing sufficient information to enable the patient to make a balanced judgment about the treatment;
- identifying and explaining any medication or technique about which there is insufficient knowledge to justify its being recommended or to enable its effect to be reliably predicted; and
- warning the patient of any risks inherent in the treatment.252

The legislation again raises the dilemma of how well placed a patient for whom ECT is contemplated will be able to make a balanced judgment about it. However, the legislative requirements are predicated upon the psychiatrist having the responsibility for supplying enough information to enable such a judgment. On occasions, this could be an involved process.

The amount of information needing to be supplied to the patient is dictated by the particular needs and circumstances of the patient. This is made plain by a further provision which stipulates that the extent of the information required to be given to the patient is limited to information that a “reasonable person in the patient’s position” would be likely to regard as significant unless it is, or reasonably should be, known that the patient would be likely to regard as significant.253 This provision enacts the dual obligations of medical practitioners to advise on matters pursuant to the ruling of the High Court in Rogers v Whitaker254 and as later confirmed in Rosenberg v Percival.255 The information required to be communicated to the patient is prescribed not to be considered to have been effectively communicated unless it is in a language or form that is readily understood by the patient using a competent interpreter if necessary and it is so expressed as to facilitate his or her understanding of what is required to be communicated.256 In addition, informed consent is not to be considered to have been given unless the patient has been allowed sufficient opportunity to consider the matters involved in the decision and to obtain such advice and assistance as may be desired.257 This provision is directed toward enabling a patient to have a “cooling-off” period after receipt of information from the psychiatrist, so that he or she can make a decision upon unpressured consideration of their options.

New Zealand

In New Zealand the Mental Health (Compulsory Assessment and Treatment) Act 1992 (NZ), which came into effect on 1 November 1992, introduced new regulations in relation to ECT. Under s 60 of the Act, no patient can be required to accept ECT for a mental disorder unless he or she consents in writing or unless the treatment is considered by a psychiatrist appointed by the Review Tribunal to be in the interest of the patient. Under the Mental Health Act 1983 (UK), by contrast, there is the additional requirement for overriding the patient’s refusal of consent that “[h]aving regard to the likelihood of its alleviating or preventing a deterioration of his condition the treatment should be given”.

An indication of the courts’ view of the function of s 60 is provided by the decision of the New Zealand Court of Appeal in Re S (A Mental Patient) where a judicial inquiry took place under s 84 of the Act into a decision by the patient’s “responsible clinician” that the patient should be administered ECT over his objections. Tenny J interpreted s 60 to mean that if the patient is considered by the responsible clinician to be one for whom ECT would be “beneficial”, even if the patient does not consent, it can still be administered subject to a second psychiatrist appointed by the Review Tribunal agreeing on its clinical advisability.

Brookbanks has expressed concern about the ramifications of the decision, suggesting that it leads to a return to a presumption of global incompetence in relation to decision-making about treatment by those with mental illnesses.258 He argued that where a patient with a mental illness declines ECT treatment, his or her wishes will almost invariably be overridden by contrary clinical opinions, in effect being able to be dismissed as the product of lack of insight.259 He has argued that s 60 should be read subject to an implied limitation that, where it is decided that the patient’s refusal of consent may legitimately be overridden by the psychiatrists’ view “the treatment must be considered to be ‘necessary’ in the interests of the patient. Such a limitation would mean that the procedure under s 60 could not be invoked simply because it would be clinically ‘useful’ or ‘beneficial’ where other, more benign treatments would be equally effective and less intrusive.”260

248 Mental Health Act 1996 (WA), s 104(2)(a)-(c).
249 Mental Health Act 1996 (WA), s 95(1)(a)-(b).
250 Mental Health Act 1996 (WA), s 95(2).
251 Mental Health Act 1996 (WA), s 90(4)-(c).
252 Mental Health Act 1996 (WA), s 97(1)(a)-(c).
253 Mental Health Act 1996 (WA), s 97(2).
254 (1992) 175 CLR 473.
256 Mental Health Act 1996 (WA), s 97(4).
257 Mental Health Act 1996 (WA), s 98.
258 [1993] 1 FRNZ 15.
259 W Brookbanks, "Electroconvulsive Therapy and the Mental Health Act (Compulsory Assessment and Treatment) Act 1992 (NZ)" (1994) 1 JLM 184 at 190.
261 See also D Court, “Mental Disorder and Human Rights: The Importance of a Presumption of Competence” (1996) 8 Auckland University Law Review 1.
262 Mental Health Act 1996 (WA), s 104(2)(a)-(c).
263 Mental Health Act 1996 (WA), s 97(1)(a)-(c).
265 See also D Court, “Mental Disorder and Human Rights: The Importance of a Presumption of Competence” (1996) 8 Auckland University Law Review 1.
266 [1993] 1 FRNZ 15.
indicated so that misunderstandings are reduced, fears are alleviated and decisions are made by patients who are informed about the present state of scientific knowledge on the procedure, its success and its side-effects. Consumers also need assurance that machinery is appropriate and well maintained and that those using it are trained, supervised and have up-to-date skills.

As with any treatments, ECT at first was greeted with excessive enthusiasm and applied indiscriminately to categories of patients for whom its use was not supported by evidence.244 It has had a troubled image in the media and even in the courts, the English case of Bolam v Prior Hospital Management Committee creating an enduring record of its risks when used without an anaesthetic or a muscle relaxant. Poor communication between psychiatrists and patients has not assisted understanding in a highly vulnerable group of patients. While few complaints are recorded in Australia about ECT’s administration, the figures, or absence of them, must be regarded with caution, as few patients who receive psychiatric treatment register formal complaints or initiate legal action against their doctors. Anecdotal reports, some of them communicated passionately, make it clear that a significant proportion of patients are frightened about ECT but may feel unable to voice their fears or their disinclination to have the treatment. For such patients the elaborate definitions of “informed consent” have little application because they are unlikely to give voice to their concerns and misapprehensions; ECT can be a confronting emotive treatment. However successful the statistics show it to be, and although side-effects have been reduced in the modern era of its administration, these still occur, especially if ECT is given incorrectly.

As recently as 1997, Abrams commented: “Doctors who give ECT have shown remarkably little interest in their patients’ views of the procedure and its effects on them.”245 He noted: “Psychiatrists have lagged behind other medical specialists in developing and promulgating the doctrine of informed consent for medical procedures”, speculating that this relates to the patient group with which they deal, and noting the special significance of consent in the context of ECT.246

The audit process in the United Kingdom has revealed strong concerns about the training of those able to administer ECT. Raskin247 in 1986, for instance, was critical of the educational standards of psychiatrists’ training programs in relation to the administration of ECT, no attempt being made to ascertain psychiatric material being taught to the trainees. Fink248 the following year observed how much the technological revolution was affecting what needs to be understood by those with responsibility for administering ECT, concluding that teaching programs were often deficient in respect of the information they provided about ECT. A 1989 survey of residents in Philadelphia confirmed many of Fink’s concerns,249 as did the American Psychiatric Association Task Force Report on ECT which deplored the quality of teaching in relation to ECT.250

Despite these concerns, the pace of change has been slow. In 1992 Fink and Abrams were still criticising inadequate training for residents in the United States,251 while similar concerns have also been raised in England252 and in Canada.253 In 1999 Fink and Abrams advanced by Kramer for an integrated post-residency training module in respect of administration of ECT.274

The voices of the articulate consumers have also been recorded. Roy Porter, for instance, in The Faber Book of Madness, writes:

[No]thing in the literature is so harrowing as the opposition expressed by most patients to compulsory dosages of any of these deeply disagreeable and painful shock procedures.275 It is important to note here, however, that Porter’s book presents a history, not a contemporary account.

Conclusions

In their acknowledgment of the controversy surrounding ECT, Bloch and Singh write:

“We now turn to a treatment wrapped in enormous controversy, despite a half-century of its teaching programs were often deficient in respect of the information they provided about ECT. A 1989 survey of residents in Philadelphia confirmed many of Fink’s concerns,249 as did the American Psychiatric Association Task Force Report on ECT which deplored the quality of teaching in relation to ECT.250

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hat care for patients in those regions is not second
rate.219 These suggestions have merit beyond the
confines of Victoria. However, second opinions and
review of patients may be better carried out by
practitioners who have an open mind about ECT.
Clinics which specialise in the treatment have made
significant financial and intellectual commitment
to the treatment and may be too ready to
recommend its use. There has been far too little
information and research made available about ECT
in Australia. Thorough audits are required to
etermine where problems continue to exist and
what measures are required effectively to address
them.

Until, and unless, the quality assurance issues are
addressed, we cannot assume that ECT, an effective
treatment, is being effectively and appropriately
administered. Incorrect treatment will not maximise
benefits for patients and will increase undesirable
side-effects. ECT is effective in treating depression
in the short term but there is a significant relapse
rate following the treatment. High-quality aftercare
remains of the utmost importance.220 Accreditation
of psychiatrists administering ECT is required to
ensure that adequate training and supervision are
provided so that psychiatry does not continue to
bring ECT into disrepute and fall short of what its
patients deserve.221

219 D Barton, "ECT: A Review of Recent Developments",
Presentation at the Mental Health Legal Centre Inc Seminar, May
2000, Melbourne (unpublished). Dr Barton is in charge of the
Mental Health Program, North Western Health Care Network,
The Royal/Melbourne Hospital.

220 C Robertson and J M Eagles, "Review of ECT Prescription
and Outcome in Depression" (1997) 21 Psychiatric Bulletin 498;
L Ogundipe, M Jorsh, B Wai and J Lea, "Onset of Clinical
Improvement of Depressive Illness Following Electroconvulsive

221 Porter, op cit n 189.