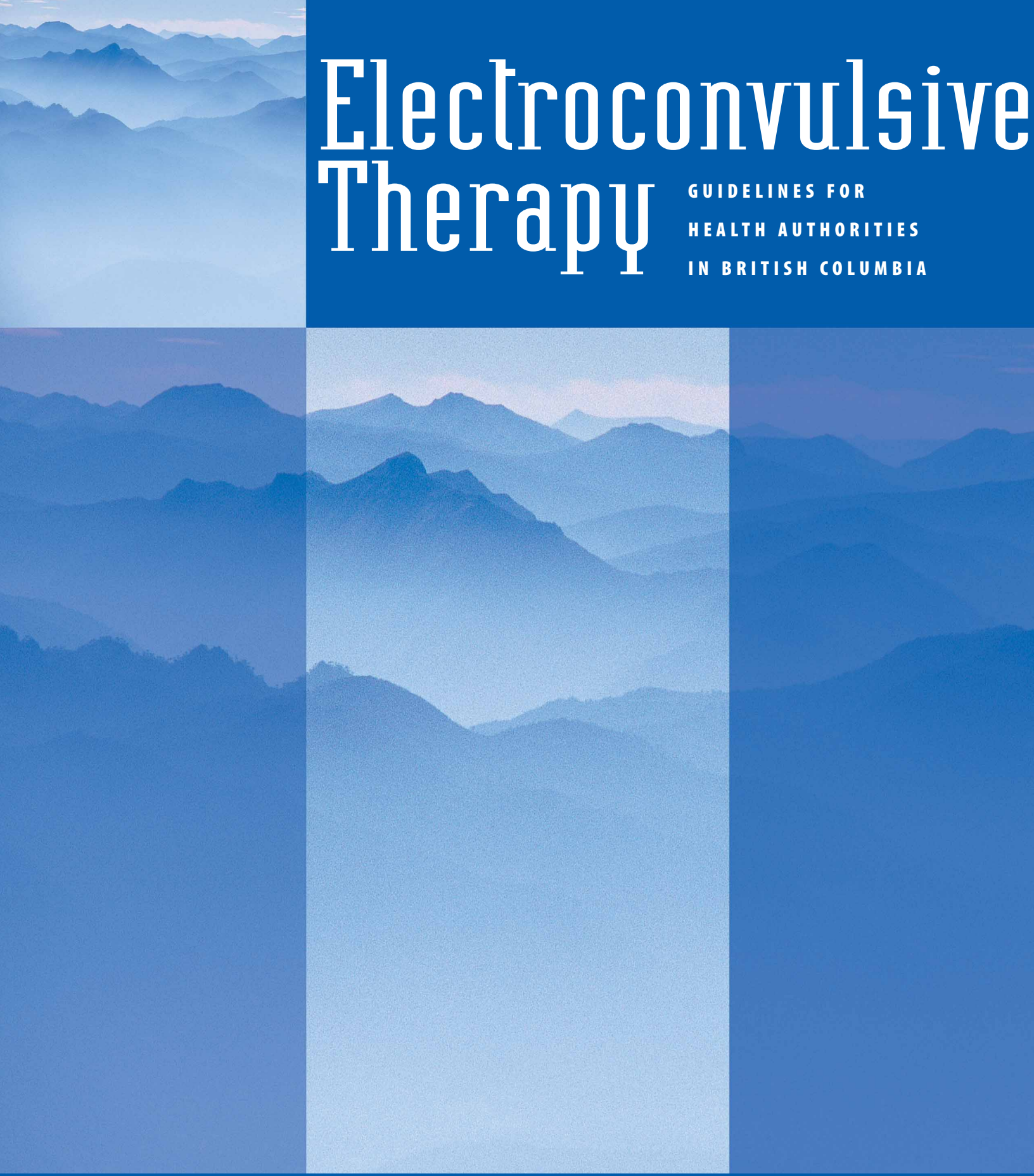

Electroconvulsive Therapy

GUIDELINES FOR HEALTH AUTHORITIES IN BRITISH COLUMBIA

Mheccu
Mental Health Evaluation & Community Consultation Unit

British Columbia
Ministry of Health Services

Electroconvulsive Therapy

GUIDELINES FOR HEALTH AUTHORITIES IN BRITISH COLUMBIA

APPLYING THE GUIDELINES

There is a great deal of evidence-based research on ECT, but clearly there is always much that needs to be researched. Patients present complex problems, and ECT is itself a complicated treatment. For both of these reasons, these guidelines should be considered recommendations rather than requirements, except when discussing legal mandates.

Professionals still need to tailor treatments to individual patient needs. Some latitude is also needed to make certain that professionals practicing in remote areas are not held to educational standards that are impossible to achieve.

Writers have been asked to use the word “should” when there is a strong belief that a particular issue must be adhered to. They have used softer words like “recommend” or “suggest” when they have felt more latitude is warranted.

Mheccu Mental Health Evaluation & Community Consultation Unit

British Columbia Ministry of Health Services

This report was funded by the Ministry of Health Services and carried out under contract with the Mental Health Evaluation and Community Consultation Unit (Mheccu).

Limited additional copies of this guide are available through Mheccu, besides digital versions on the websites of the Mental Health and Addictions, Ministry of Health Services and Mheccu:

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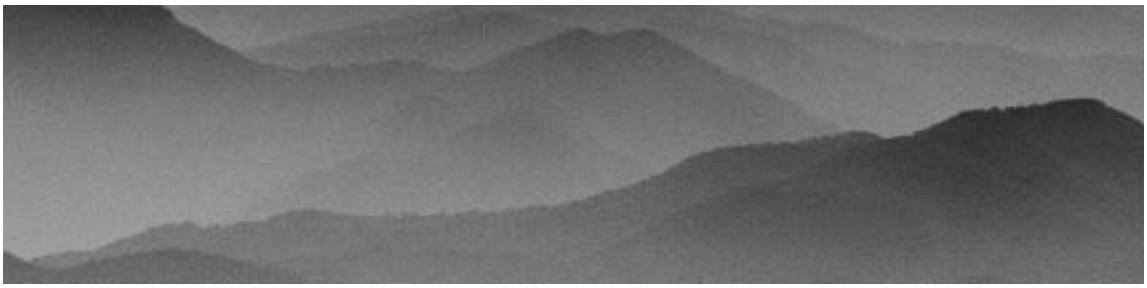

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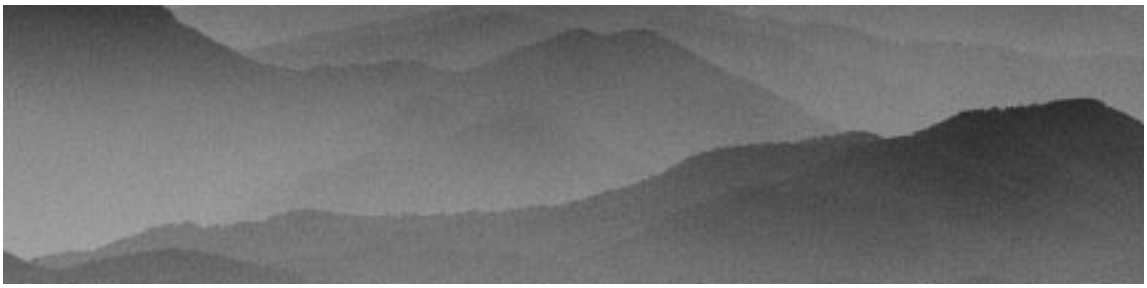

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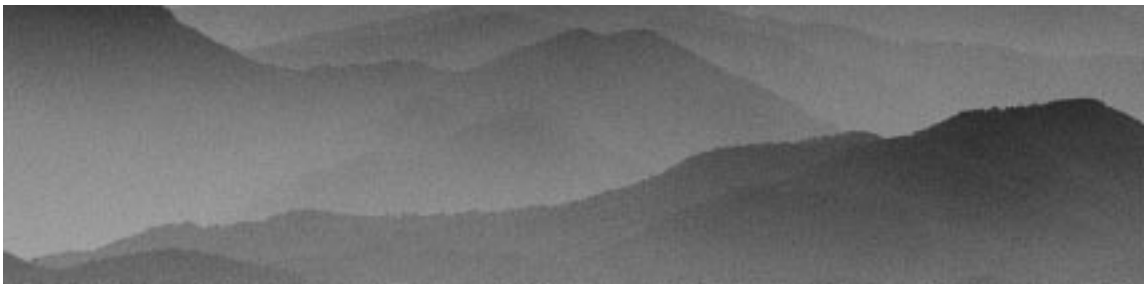

INTRODUCTION

The purpose of these guidelines for electroconvulsive therapy (ECT Guidelines) is to standardize the delivery of electroconvulsive therapy services across British Columbia. There will be differences in the way care is delivered according to local resources, but good basic care must be available wherever ECT is provided.

This introduction outlines the responsibilities of various sectors of the health care system for the delivery of ECT services, as well as how these guidelines were developed, their scope, and how they should be applied.

Responsibility for ECT Services

Responsibility for the delivery of ECT services rests primarily with health care professionals within a health authority. However, patients, families, and the Ministry of Health Services also have responsibilities, outlined below.

Ministry of Health Services British Columbia

Responsibilities are to

- Review and revise these guidelines, in consultation with health authorities, professions, and other stakeholders, every 5–7 years, depending on developments in the field.
- Establish in consultation with health authorities, methods of recording data about ECT services that make inter-facility comparisons useful for quality assurance purposes.
- Ensure that accurate information about ECT is made available to the public if public education on mental health treatments is provided by or through the Ministry.

Regional Health Authorities

Responsibilities are to

- Establish clear policies consistent with BC's ECT Guidelines.
- Appoint a psychiatrist in each regional health authority to be responsible for the ECT service.
- Appoint a nurse in each regional health authority to be responsible for ensuring nursing procedures are appropriate.
- Provide equipment and furnishings to make the procedures safe and user-friendly.
- Ensure staff are appropriately trained, and that there is a program of credentialing to administer ECT.
- Establish and carry out a quality assurance program that may include reviews of privileging, equipment, training, patient and family satisfaction, and comparisons with other health authorities.

Medical Staff

Responsibilities are to

- Ensure that there is a functioning privileging system for ECT, and that training and competency requirements consistent with these guidelines are established and maintained.
- Select appropriate patients, provide information to patients and obtain consent from patients and involve relatives according to good medical practice.
- Liaise with anesthetists, nurses, and other medical specialists as needed.
- Deliver ECT.
- Complete records.
- Participate in quality assurance activities relevant to ECT services.

Responsibility for ECT Services, continued

Nursing Staff

Responsibilities are to

- Ensure that nurses involved with ECT have appropriate training.
- Prepare patients psychologically and physically for ECT.
- Participate in the actual delivery of ECT, including preparation and aftercare.
- Provide education to patients and their families about ECT and the management of the illness it is treating.
- Participate in quality assurance activities relevant to ECT services.

Families and Other Caregivers

Responsibilities are to

- Support the patient before and after the ECT, by providing care and information.
- Understand information provided about ECT.
- Report progress or problems to caregivers if the patient and physician request.

Patients

Responsibilities are to

- Participate in their care as much as possible.
- Report positive and negative effects to caregivers.

Development of the Guidelines

The Ministry of Health Services contracted with the Mental Health Evaluation and Community Consultation Unit (Mheccu), to write guidelines for ECT in BC. A nine-person advisory committee was then created to give overall direction to and review the project. Members included a nurse, a representative from the Mood Disorders Association, academic psychiatrists from the University of British Columbia and the University of Toronto, as well as a clinical psychiatrist from Northern BC, and a BC Ministry of Health Services staff member. (See "ECT Guidelines Advisory Committee.")

To ensure guidelines were acceptable within the larger hospital community outside of Vancouver, psychiatric directors at all hospitals with mental health units under the *Mental Health Act* were then contacted and asked to share their hospital-specific guidelines, and to participate in reviewing the first draft.

Several additional consultations occurred before and after preparation of the first draft. This included consultations with the Consent Team for the Public Guardian and Trustee Office, the Health Care Consent and Care Facility Admissions Planning Group, the Mental Health Advocate for BC, the BC Psychiatric Association Executive, and Registered Nurses Association of B.C.

Contributing writers reviewed the Canadian Psychiatric Association position paper on ECT, the American Psychiatric Association's recommendations for ECT treatment, training and privileging (2001), and Australian and British guidelines for ECT. The writers also reviewed pertinent literature for their specific chapters, as well as Mheccu's ECT literature review.

Scope of the Guidelines

These guidelines cover patient and family education, clinical applications of ECT by physicians, nurses, and anesthetists, as well as suggestions for charting, professional education, and quality assurance programs.

Chapter 1: "Indications for Use" highlights the dominance of severe depression as the main indicator. Other indications such as mania and schizophrenia are also reviewed. Special population issues such as dementia and pregnancy are also addressed.

Chapter 2: "Patient Selection and Pre-ECT Evaluation" includes assessments that should be done in all cases, and those that may be done according to circumstances.

Chapter 3: "Patient Information and Consent" gives an overview of the laws regarding consent in BC for ECT, as well as information considered necessary for providing truly informed consent to patients and substitute decision-makers. It provides examples of information for patients and families.

Chapter 4: "Technique, Equipment, and Evaluation" focuses on patient preparation, the use of psychotropic medications with ECT, and required equipment. It also discusses the actual application of ECT, including skin preparation, electrode placement, seizure monitoring, and evaluation of individual courses of therapy.

Chapter 5: "Management of Adverse Effects" reviews the management of major side effects like postictal delirium, cognitive changes, and hypomania. It also offers suggestions for professionals facing patients who do not appear to be responding to the course of ECT.

Chapter 6: "Documentation of Individual Courses" outlines the basic pre-treatment and treatment parameters that need to be documented, illustrated with examples from the BC community.

Chapter 7: "Continuation and Maintenance ECT" discusses general indications for maintenance ECT, the process for administering it, and special considerations in patients who are suffering from dementia.

Chapter 8: "Nursing Considerations" discusses the role of the nurse in both inpatient and outpatient settings, as well as in the ECT treatment area.

Chapter 9: "Anesthesia Guidelines" reviews requirements for an anesthesic consultation before commencing ECT as needed. It also reviews the procedure used for ECT anesthetic, including the specific use of medications, and outlines the anesthetist's role in the post-anesthetic period.

Scope of the Guidelines, continued

Chapter 10: "Training and Privileging for Health Care Professionals" discusses guidelines for both nurses and physicians. It is recommended that the Head of the Department of Psychiatry (or equivalent), should be responsible for appointments, reappointment, monitoring, performance appraisals, and recommendations for privileging physicians to practice ECT.

Chapter 11: "Quality Assessment," gives recommendations for quality improvement (QI) activities, and for maintaining a standard database which should be kept for all patients receiving ECT anywhere in the province, in order for individual hospitals to appropriately evaluate their performance, and to facilitate inter-hospital comparisons of the provision of ECT.

Chapter 1

INDICATIONS FOR USE

General Considerations

Electroconvulsive therapy (ECT) is a safe and effective treatment for a variety of psychiatric and some medical conditions. It has proven superiority in prospective studies comparing ECT with "sham" ECT[1,2], and with standard antidepressant treatment in "medication-resistant" patients.[3,4] Especially when patients are identified early in the course of hospitalization and offered ECT as a treatment option, there can be a reduction in the length of stay and hospitalization cost, owing to both efficacy and rapidity of response.[5,6] There is no evidence to suggest that ECT response rates (found to be around 75 - 85% for mood disorders, but as low as 60 - 70% for those resistant to medication) drops off during the early or late parts of the lifespan. On the contrary, despite generally higher seizure thresholds in the elderly, evidence suggests that response rates are higher in both the "young" elderly (65 - 74),[7] and "old" elderly (75 or greater),[8,9] with fewer complications compared to certain antidepressants.[1] Nevertheless, ECT can induce side effects and may be physically risky for certain individuals, as is discussed in later chapters. Relapse rates after an acute course of ECT can be high without continuation or maintenance pharmaco-therapy and/or ECT.

Primary Indications for Use

As stated in the APA guidelines[1], there is "compelling data . . . or strong consensus" supporting the use of ECT in the following conditions:

Major Depressive Episode (arising from unipolar depression, as part of bipolar depression, or concomitant manic symptoms during "mixed states")

ECT should be strongly considered, especially when associated with one of the following features

- Acute suicidality with high risk of acting out suicidal thoughts.
- Psychotic features.
- Rapidly deteriorating physical status due to complications from the depression, such as poor oral intake.
- History of poor response to medications.
- History of good response to ECT.
- Patient preference.
- Risks of standard antidepressant treatment outweigh the risks of ECT, particularly in medically frail or elderly patients.
- Catatonia.

Mania

ECT should be particularly considered if

- Any of the above features is present.
- In the presence of extreme and sustained agitation.
- In the presence of "manic delirium."

Schizophrenia

According to the APA guidelines[1], the following associated features predict a favourable response to ECT

- Positive symptoms with abrupt or recent onset.
- Catatonia.
- History of good response to ECT.

Primary Indications for Use, continued

Studies demonstrating a favourable response to ECT in regard to psychotic symptoms have generally used a combination of ECT and standard antipsychotics.[10,11] There are reports that those with significant affective symptoms, whether arising from primary schizophrenia[12] or schizoaffective disorder,[13,14] can also benefit significantly from ECT. ECT for those with negative symptoms, or aggression unrelated to these conditions cannot be advocated at this time because of insufficient data.

Related conditions such as schizophreniform disorder can also respond favourably to ECT, but there is insufficient evidence to recommend ECT as being a primary treatment for brief psychotic disorder, which by its nature is considered time-limited. However during the course of brief psychotic disorder, ECT may be an option when the condition is considered life-threatening.

Secondary Indications for Use

Catatonia (unrelated to the primary conditions described above)
There should be a thorough medical and neurological work-up to identify reversible physical conditions in order to evaluate the risk for ECT and to initiate prompt medical treatment.

Parkinson's Disease

The motoric symptoms can improve, especially with associated "on-off" phenomenon. However, if an acute course of ECT is initiated, provisions should be considered for maintenance ECT in order to sustain a remission.[15,16] The attending physician should consider adjusting doses of anti-Parkinsonian agents during the course of ECT due to the possibility of treatment-emergent dyskinesia or psychosis.

Neuroleptic Malignant Syndrome

Antipsychotics should be discontinued and autonomic stability achieved[1] before initiating ECT.

Delirium

This should only be rarely considered for patients who require urgent treatment, after medical treatment has been initiated to target the specific cause.[1] For those who become delirious secondary to profound physical deterioration (e.g., dehydration) related to the underlying psychiatric disorder (e.g., depression), reversible physical factors should be corrected as quickly as possible before ECT to lessen risk, but the concomitant persistence of delirium should not necessarily impede the consideration of urgent ECT.

Intractable Seizure Disorder

Paradoxically, ECT can be considered when treating status epilepticus that is unresponsive to conventional treatments.[17]

Mood Disorder Secondary to Physical Conditions

Reversible underlying physical conditions should be adequately addressed first, in order to speed resolution of symptoms and lessen ECT risks.

Special Populations

Dementia

The efficacy of ECT when applied to those with dementia and concomitant mood disorder is under-studied. Clinical experience, case reports,[18] and retrospective case series[19] point to ECT being beneficial in mood, and sometimes cognitive, symptoms and signs in all stages of dementia. There are also case reports of ECT being successfully used for general agitation[20,21] or screaming[22,23] related to dementia without concomitant depression. However, without further evidence, promoting routine use of ECT for dementia without depression cannot be advocated at this time. It is strongly recommended to consider non-pharmacologic and pharmacologic approaches first.

Aging and dementia increase the likelihood of post-ECT delirium or transient worsening of cognitive impairment. Adjustment in technique (e.g., switch to unilateral or bifrontal ECT) and/or frequency of treatments (e.g., twice weekly instead of thrice weekly ECT) should be optimized to the clinical condition during the course, with special attention paid to tracking cognitive status.

Pregnancy and Postpartum Period

ECT is considered a safe and effective treatment in all stages of pregnancy.[24,25] Anesthesia consultation should be obtained well ahead of time because of potential differences in technique, monitoring, and positioning.[1] Obstetrical consultation is also suggested, particularly with high-risk pregnancy and those near term. Resources should be readily accessible in the event of a neonatal or obstetrical emergency.[1]

ECT is also considered a safe and effective treatment in the postpartum period. Anesthetic agents pose little risk to the nursing infant.[1]

Children and Adolescents

Sparse data exist on the use of ECT in adolescents, but available evidence suggests that ECT can be effective for treating the primary conditions outlined earlier (depression, mania, schizophrenia),[1, 26, 27, 28, 29, 30] or for catatonia.[27] Use of ECT in pre-pubertal children is even more rare, but has been successfully applied.[27,32]

Treating children and adolescents with ECT should be considered only when symptoms are severe, persistent, and significantly disabling.[31] Other parameters would include life-threatening symptoms and medication-resistant/intolerant patients. In the latter condition, since youths often do not adhere to medication regimes, the adequacy of medication trials needs to be scrutinized before embarking on a course of ECT.

Special Populations, continued

Children and Adolescents, continued

A second psychiatric opinion for the necessity of ECT by a clinician experienced in child and adolescent issues should be mandatory before proceeding.

Serious complications are rare.[27] ECT technique should take into account the younger person's lower seizure threshold on average.

Resource availability, consent, and psychiatric attitudes towards ECT for minors[33] are issues potentially limiting further study in this area. Nevertheless, ECT can reduce morbidity and mortality in this age group, just as in other age groups.

Congenital and Acquired Brain Injury

A number of case reports and case series exist describing ECT as being effective in the treatment of primary conditions described earlier and catatonia, without promoting persistent cognitive impairment for those with mental retardation[34,35] or traumatic brain injury.[36] There is a higher risk for post-ECT delirium, so adjustments in technique and/or frequency of treatments should be considered.

Cultural Considerations

It is important to understand the cultural context by which patients consent to or refuse ECT. There may be specific beliefs in certain cultures surrounding electricity and touching of the head that can prevent patients from accepting ECT as a form of treatment. Another barrier occurs in refugees and immigrants who may have experienced incarceration for political reasons in psychiatric institutions and who have been subjected to ECT involuntarily without psychiatric indication. Survivors of torture who have been subjected to electrical shocks may also resist the notion of ECT. The reluctance to proceed with ECT is unfortunate in these circumstances, since these individuals may benefit significantly from ECT in treating mood and psychotic disorders that have developed as a complication of trauma or migration.

Elderly Patients

Aside from physiological considerations during and immediately after anesthesia, being elderly in itself confers no specific risk for ECT, and may in fact predict a favourable response when compared to younger adults. However, being elderly increases the likelihood of dementia and having physical illness, which may in turn increase the risk for adverse effects due to ECT. For this reason, pre-operative evaluation is particularly important in the elderly, and an anesthesia consultation is often appropriate.

Other Conditions

There are insufficient data to advocate the use of ECT for such conditions as primary anxiety disorders, including post-traumatic stress disorder, or primary delusional disorder.[37] Those with chronic pain, along with concurrent affective symptoms, may experience an analgesic effect,[38] but this area requires further study. Studies[39,40] indicate that those with a personality disorder, particularly borderline type, can benefit if they have a concomitant Axis I mood disorder, but there is likely a reduced response rate overall, and a higher risk for relapse within one year. Drug-induced extrapyramidal symptoms have also been reported to improve transiently with ECT, but its role in this condition has not been firmly established.[12]

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Chapter 2

PATIENT SELECTION AND PRE-ECT EVALUATION

Selection and Risk

Patient selection is critical in ensuring a high degree of confidence that ECT will be more effective than other treatments considered, while minimizing risk. Primary and secondary indications for ECT, including considerations for special populations, has been discussed in Chapter 1. ECT evaluation also addresses the presence of concurrent medical conditions that can increase risk, as well as the concurrent use of medical or psychiatric medications that can alter risk. The risk is defined as serious morbidity and mortality, which is most likely cardiopulmonary in nature if occurring,[1] and is considered in line with the risk associated with other low-risk procedures under a general anesthetic. While a wide range of mortality rates are reported in the literature, a widely-quoted figure derived by Kramer is 2/100,000 individual ECT treatments, yielding a figure of 1.6 deaths per 10,000 in a (typical) course of 8 ECTs.[2] This approximates the mortality figure of 1/10,000 quoted in the APA guidelines.[3]

Contraindications for ECT

There are no absolute contraindications for ECT.

ECT may be deemed necessary even when such "relative contraindications" identified by the APA guidelines,[4] are present

- Unstable or severe cardiovascular conditions, such as recent myocardial infarction, unstable angina, poorly-compensated heart failure, and severe valvular cardiac disease including critical aortic stenosis[5].
- Aneurysm or vascular malformation that might be susceptible to rupture with increased blood pressure.
- Increased intracranial pressure, as may occur with some brain tumors or other space-occupying cerebral lesions.
- Recent cerebral infarction.
- Pulmonary conditions such as severe chronic obstructive pulmonary disease, asthma, or pneumonia.
- Patient status rated as ASA (American Society of Anesthesiologists) level 4 or 5.

Conditions having substantially higher risk with ECT include

- Pheochromocytoma.
- Retinal detachment.
- Acute narrow angle glaucoma.

Those with cardiac pacemakers and implanted automatic defibrillators warrant some caution. It is unlikely ECT would disrupt the functioning of a modern cardiac pacemaker, but if uncertain, consult a cardiologist. The monitoring leads should be well grounded, and it is preferable **not** to have someone holding the patient who is grounded to the floor. Implanted automatic defibrillators are more susceptible to the effects of ECT during stimulation, thus a cardiologist and an anesthetist should be consulted well ahead of time.

Pre-ECT Evaluation

Other important concurrent medication should be considered prior to ECT (e.g., atrial fibrillation, diabetes, hypertension, and gastroesophageal disease), as addressed by the APA guidelines.[4] Other recent reviews explore ECT in those with cardiovascular conditions,[6] those with neurological conditions,[7] and those who are elderly.[8,9]

An adequate pre-ECT work-up should include the following, to be carried out within 10 days for inpatients or within 30 days for outpatients

- A physical examination.
- Evaluation of dentition for the presence of dentures and dental problems that could affect the use of the bite-block. Temporal-mandibular joint problems can also be noted.
- An electrocardiogram for those over age 45, or those with known cardiovascular disease.

Other routine lab investigations are not mandatory and should be guided by the patient's history and a physical exam. Common investigations include hemoglobin, electrolytes, and renal function tests.

The pre-ECT evaluation may also include

- A chest x-ray if there is a florid or unstable cardiopulmonary condition.
- A cervical spine x-ray in those with suspected cervical spine instability (rheumatoid arthritis, severe osteoporosis, Down syndrome, certain collagen vascular diseases) because it would warrant full muscle relaxation during ECT and monitoring the maximum relaxation time using a nerve stimulator.
- An anesthesia consult, strongly advised for those over age 60, those with significant cardiovascular or neurologic conditions, those who are pregnant, and those with potentially unstable cervical spine instability.
- A pertinent specialty consultation (e.g., cardiology, neurology), advised for medical conditions that would substantially increase the risk of ECT. Specialty consultation for special populations may also be indicated (e.g., obstetrics, pediatrics). An obstetrical consult well before the ECT is strongly advised for those who have high-risk pregnancies or are near term.

Pre-ECT Documentation and Referral

The following should be documented before ECT and conveyed to the ECT practitioner

- Indication for use of ECT.
- Comorbid psychiatric diagnoses.
- Concurrent medical conditions, highlighting those that can substantially enhance the risk of ECT
- Current medications.
- Whether a physical examination has been done within the recommended time frame, and the pertinent findings. A base-line blood pressure and pulse rate should be recorded as part of this physical examination.
- Whether consent was obtained, and who signed the consent (patient, patient's designated substitute decision-maker, public trustee, or medical director).
- Whether sample information about ECT was given to the patient and/or family.
- Whether an anesthetist was consulted, and if available, the ASA category.
- Copies of pertinent consultations by other specialists during the pre-ECT work-up.
- Whether the patient has a cardiac pacemaker or implanted automatic defibrillator.
- Dentition and the presence of dentures.
- Allergies.
- Base-line cognitive function (MMSE recommended).
- Any prior history of ECT and its outcome.
- The referring physician's or patient's preference for bilateral or unilateral ECT if requested, and a what frequency. However, ECT technique and frequency should be at the discretion of the ECT practitioner while considering these preferences and the clinical situation.
- The name and signature of the attending physician.

Documentation should clearly identify which medications should be held during each ECT treatment, which medications should be given on the morning of ECT, and which medications should be continued post-ECT.

References

1. American Psychiatric Association Task Force on Electroconvulsive Therapy. The Practice of Electroconvulsive Therapy. 2nd edition. Washington, DC, American Psychiatric Press, 2001, p16.
2. Abrams R. The mortality rate with ECT. Convulsive Therapy 1997; 13:125–127
3. American Psychiatric Association Task Force on Electroconvulsive Therapy. The Practice of Electroconvulsive Therapy. 2nd edition. Washington, DC, American Psychiatric Press, 2001, p320.
4. American Psychiatric Association Task Force on Electroconvulsive Therapy. The Practice of Electroconvulsive Therapy. 2nd edition. Washington, DC, American Psychiatric Press, 2001, Chapters 3,4,6.
5. Levin L, Wambold D, Viguera A, Welch CA, Drop LJ. Hemodynamic responses to ECT in a patient with critical aortic stenosis. Journal of Electroconvulsive Therapy 2000; 16:52–61
6. Journal of Electroconvulsive Therapy 1997; 13: Various papers.
7. Krystal AD, Coffey CE. Neuropsychiatric considerations in the use of electroconvulsive therapy. Journal of Neuropsychiatry and Clinical Neuroscience 1997; 9:283–292
8. Kelly KG, Zisselman M. Update on electroconvulsive therapy (ECT) in older adults. Journal of the American Geriatrics Society 2000; 48:560–566
9. Rabheru K. The use of electroconvulsive therapy in special patient populations. Canadian Journal of Psychiatry 2001; 46:710–719

Chapter 3

PATIENT INFORMATION AND CONSENT

All patients (and families, or substitute decision-makers where appropriate) must be given the opportunity to be adequately informed about ECT when it is recommended as a specific therapy. This chapter sets out guidelines on providing that information. A valid (informed) consent must be obtained from **voluntary** patients using the procedure set out in the *Health Care (Consent) and Care Facility (Admission) Act*. Most of the Act came into force in February 2000, and affects the provision of psychiatric and non-psychiatric treatment to adults (including those admitted to mental health facilities as voluntary patients), as well as the provision of non-psychiatric treatment to involuntary adult patients in mental health facilities. In the case of **involuntary** patients requiring ECT, the process for obtaining consent is set out in the *Mental Health Act* and must be followed.

Consent should not be viewed as simply filling in a form, but rather as a dynamic process that starts when the treatment is first recommended, and does not end until the therapy is completed. It should be an interactive educational process between patients (or their substitute decision- makers), and mental health professionals, where patients are respected as individuals with rights and needs, including the right to participate in decision-making and treatment planning and to have their questions answered.

The Law: Consent for Voluntary Patients

Under the Health Care (Consent) And Care Facility (Admission) Act[1]

The attending physician must obtain a valid consent from the patient, including completing an examination regarding their incapability to consent when there is evidence to support the possibility of incapability. It must be remembered that all patients are to be considered capable unless there is evidence to the contrary. Other health care professionals (i.e., nurses, psychiatric residents, or other students) may participate in the process of obtaining a valid consent by giving the required information to the patient. In the end, however, it is the sole responsibility of the attending physician (the physician who is overall in charge of the patient's psychiatric care) to ensure the process is completed properly. It is the responsibility of the treating physician (the physician doing the ECT) at the time of the individual treatments to ensure consent forms have been properly signed.

Consent is valid if the following criteria are met

- The consent that is given is for the health care that is being proposed.
- The consent is given voluntarily.
- The consent is not obtained by fraud or misrepresentation.
- The adult is capable of giving or refusing consent.
- The health care provider who wants to provide the treatment gives the adult the information a reasonable person would require to understand the proposed health care and make a decision about it, including information about
  - The condition for which the health care is proposed.
  - The nature of the proposed health care.
  - The risks and benefits of the health care that a reasonable person would expect to be told about, and any alternative courses of health care, including the option of not receiving the health care.
- The adult has been given an opportunity to ask questions and receive answers about the proposed health care.[2]

When deciding whether a patient is incapable of making a particular consent decision, a health care provider must base the decision on whether the patient demonstrates an understanding of the information given to him or her, and that the information applies to the patient's own health situation. Asking the patient to repeat the information in his or her own words or manner is one way of testing their understanding. Note that the symptoms of a patient's mental disorder may impair his or her capability to give a valid consent.

The Law: Consent for Voluntary Patients, continued

In all situations in which consent is required, the health care professional must consider the patient's communication needs and methods, and allow for interpretation or augmentative communication strategies when necessary, to ensure the patient has the best opportunity possible to understand and participate in decision-making.

If the patient is considered capable, the patient may accept or reject the ECT. If the patient is considered incapable of making a health care decision regarding ECT at the time the consent is being sought, then a second medical opinion is recommended in all circumstances. A second written opinion is **required** if a temporary substitute decision-maker (e.g., the patient's nearest relative) or a person named as the patient's representative in a representation agreement made under Section 7 of the *Representation Agreement Act* (a basic agreement containing only standard provisions) will be making the health care decision.

If the patient is considered incapable of making the health care decision, a substitute decision-maker must be sought. If the patient has a committee of the **person**, then the committee should be asked to make the decision. If the patient has an enhanced representation agreement made under Section 9 of the *Representation Agreement Act*, then that representative should be approached for a decision if he or she is authorized in the agreement to make health care decisions on behalf of the patient. A representative who is named in a basic agreement (i.e., a Section 7 agreement) and who has the authority to make health care decisions can make a decision as long as there are two medical opinions. In addition, if a representative with a "rep 7 agreement," or a temporary substitute decision-maker is making the decision, the *Health Care (Consent) and Care Facility (Admission) Act* states that an authorized advocacy organization must be notified (presently the Community Legal Assistance Society, or CLAS).

If there is neither a guardian nor a representative (under Sections 7 or 9), in place, a temporary substitute decision-maker must be chosen from a list of persons prescribed in section 16(1) of the *Health Care Consent and Care Facility (Admission) Act*. The health care provider must choose the first of the following who is available and qualified to act on the patient's behalf:

- The patient's adult spouse (including a common-law spouse or same sex partner).
- One of the patient's adult children.
- One of the patient's parents.
- The patient's adult brother or sister.
- Any other adult who is related to the patient by birth or adoption.

A person **may not** act as a substitute decision-maker for the patient unless they are at least 19 years of age (i.e., legally an adult in B.C.). In addition, the person must have been in contact with the patient during the preceding 12 months, must be capable of making the health care decision, must be willing to comply with the duties of a decision-maker (e.g., assisting the patient and complying with the patient's wishes expressed while capable), and must not be in a dispute with the patient.

The Law: Consent for Voluntary Patients, continued

Health care providers must not "shop" for substitute consent. The decision made by the substitute decision-maker who is first approached, and who is eligible to make the decision, is the decision that must be followed, even if the person refuses to give consent. If the decision is to refuse consent, the health care provider must not work down the list until he or she finds someone who will give consent.

If no-one is available or eligible to act as a temporary substitute decision-maker, then the health care provider must choose a person authorized by the Public Guardian and Trustee's office (PGT) (e.g., a friend of the patient, a relative-in-law), or an employee of the PGT.

If the guardian, representative, or temporary substitute decision-maker refuses treatment on the patient's behalf and a health care professional is concerned about the welfare of the patient because of this decision, then the health care professional can refer the decision to the Health Care and Care Facility Review Board. Patients, and all parties entitled to make decision on their behalf, can also refer decisions to give, refuse, or revoke consent to the Health Care and Care Facility Review Board.

The temporary substitute decision-maker makes the decision to accept or reject the treatment. The treatment must start within 21 days from the date on which the substitute makes this decision. The attending physician must immediately notify an authorized advocacy organization (presently CLAS), and the adult after the substitute has made the decision to consent to the ECT on the patient's behalf. In addition, there must be a 72-hour delay before the treatment is started, to allow the adult, family member, or advocacy organization to request a Review Board hearing regarding the decision if they so wish.

If there is no request for a Review Board hearing, then the treatment may proceed. If there is a request for a Review Board hearing, the hearing must occur within 7 days. The Health Care and Care Facility Review Board may confirm the decision under review, or substitute its own decision. The Review Board's decision may be appealed to the Supreme Court of BC within 30 days after a decision is made by the Board, during which time the treatment may not occur unless the court makes an interim order authorizing treatment to prevent physical or mental harm to the patient. (See Appendix A for a flowchart reviewing the process of consent for a voluntary patient.)

It should be remembered that a person holding power of attorney and a committee of the estate have authority only over a patient's finances. They **do not** have the authority to make substitute health care decisions. Remember also that representation agreements and committeeships can involve the management of a patient's property and financial affairs, decisions about their personal care and health care, or both. Consequently, the health care professional must make certain that the substitute decision-maker has the necessary authority to make substitute health care decisions. It is advisable to ask for and to read a copy of the representation agreement or the court order appointing the committee.

The Law on Consent for Involuntary Patients: the Mental Health Act

(amendments in force November 15,1999)[3]

When an adult is admitted to a mental health facility as an involuntary patient, the attending physician has a responsibility to inform the patient regarding the appropriateness and risks of ECT, if it is a recommended therapy. If the patient is considered capable of making the health care decision, then the patient may give or refuse consent and sign the consent form (Form 5: see Appendix E). If the patient is considered incapable, the attending physician should discuss the case, either in writing or orally, with the director of the facility, or his or her designate. That person may sign a Form 5 – a substitute consent – for the involuntary patient. Treatment may not proceed without a valid consent from the patient or valid substitute consent from a lawful substitute.

The assessment of incapability, under the *Mental Health Act* involves the attending physician informing the patient of the nature of their condition, as well as the reasons for and likely consequences of the proposed treatment. To be considered capable of making the health care decision under the *Mental Health Act*, the patient must demonstrate that he or she appreciates the nature of their condition, the reasons for treatment and its likely consequences.

When an adult is to receive treatment as an involuntary patient under the *Mental Health Act*, it may be helpful and appropriate to ask a family member, friend, or other person supportive of the patient to be involved in the informational process associated with obtaining a valid consent, in order to assist the patient throughout the course of ECT in understanding the procedures that are followed. (See Appendix D for a flowchart reviewing the process of consent for involuntary patients).

The *Mental Health Act* does not require a second medical opinion. However, it is recommended that a second medical opinion be obtained wherever possible when a decision to do ECT is first made, to ensure that the patient receives the most appropriate treatment.

Section 31 (2) of the *Mental Health Act* permits a patient, or someone acting on his or her behalf, to request a second medical opinion regarding the appropriateness of the treatment. A second medical opinion can be requested once per renewal period (at 1 month, 2 months, 3 months, and every 6 months thereafter). The second medical opinion is documented on Form 12 (See Appendix F). The director of the designated facility is required to sign the form to indicate that he or she has received the report. Following the receipt of the second medical opinion and discussion with the consulting physician, the director must consider whether changes should be made to the patient's authorized treatment. It should be noted that if a patient is released on extended leave, psychiatric treatment authorized by the director is still deemed to be given with the consent of the patient. This applies to patients receiving maintenance ECT upon discharge. If an involuntary patient on extended leave requires non-psychiatric treatment, the procedure for obtaining consent or substitute consent is the procedure set out in the *Health Care (Consent) and Care Facility (Admission) Act* for any adult who requires health care.

Repeat or Renewed Consents

Generally patients respond in 6 – 12 treatments for an index course. In certain cases, patients may require a substantial number of treatments to improve. It is recommended that if a patient does not show significant response after 15 treatments of an index course, another medical opinion should be sought at that time regarding the appropriateness of continuing the therapy. In fact, there is some support for the view that another medical opinion should be considered if the patient shows no response after a slightly lesser number of treatments. At all times along a course of ECT, it is necessary to check repetitively the patient's (or the substitute decision-maker's) understanding of the rationale for the treatment, and this person's continuing consent. If after one or more treatments a voluntary patient refuses to continue or withdraws consent, that position must be accepted. Once informed consent is withdrawn, a new informed consent must be obtained before continuing.

It is recommended for maintenance ECT that a renewed consent is obtained after either 6 months or every 15 treatments. This should be established policy by each hospital.

Knowledge of Adverse Side Effects

Health care professionals are encouraged to read Chapter 5, "Management of Adverse Effects," in *The Practice of Electroconvulsive Therapy: Recommendations for Treatment, Training, and Privileging* (2nd edition), a Task Force Report of the American Psychiatric Association published in 2001. This is a very thorough literature review, with up to date references, and is considered the best resource on this topic.[4]

Giving Information to Patients or Substitute Decision-Makers for Consent

A health care professional must directly communicate information orally to the patient and/or the substitute decision-maker. It is recommended that a standard package of written information be given to all patients so that they can take it away and look at it privately, at a later time. (See Appendices G and H.) It may be prudent to have a videotape of ECT information available for the patient and family to observe. Either a physician or a nurse should answer any patient, family, or substitute decision-maker's questions after they have viewed the video.

Information given to patients and/or their substitute decision-makers should allow them to make an informed decision. The patients must be told why ECT is being considered for them at this time. They must be given information about ECT in general, and how the treatment is provided in a particular treatment setting, in a way that is sufficiently clear for them to understand given their educational backgrounds and learning styles. They also must be given sufficient time to think about the options and discuss them with their closest friends, relatives, and health care team.

There are three different types of information that should be given to all patients in proposing a recommended course of ECT

- A standardized general information package about ECT (see Appendix G).
- A list of recommended ECT information resources, including internet sites, books and videos (see Appendix G).
- A standardized hospital-specific information package about practical issues surrounding the administration of ECT. (See the following section for guidelines.)

Guidelines for Standard Hospital-Specific Information Packages

Patient information packages individualized for specific hospitals are recommended for giving practical information about the administration of ECT. Having information with the hospital logo on it personalizes the treatment for patients, and hospitals may also wish to have very specific guidelines for their own patients. These information packages should be written in plain language, in either 12- or 14-point print. The following is a list of items considered essential for appropriate education for patients regarding ECT

- Usual booking times and days for inpatients, or the place to come and the time to show up for outpatients, including the days.
- Hospital-specific requirements for taking nothing by mouth before ECT
- Requirements to wear no nail polish, jewelry (except rings), or contact lenses, and not to bring contacts or glasses to the treatment suite or OR
- Instructions regarding the administration of medications the night before and the morning of ECT.
- Instructions to empty one's bladder directly before going into the treatment area.
- The use of preoperative medications.
- The procedures carried out within the treatment suite or OR, including having an IV started; a blood pressure cuff put on; and ECG leads, EEG leads, and the stimulus band applied.
- The recovery room process, including monitoring of vital signs, as well as the approximate time for inpatients and outpatients to recover before going back to their rooms, or being allowed to go home.
- Post-discharge information for outpatients, including requirements to have a responsible person drive them home, not to drive or drink any alcohol for 24 hours, and to rest for a specific period on the day of the ECT.
- Instructions to patients about speaking to their nurse or their attending physician about any questions they may have about the procedure, and the importance of telling the nurse and the doctor about all side effects or perceived benefits from the treatments.

For an example, See Appendix H, Vancouver Hospital's Patient Information Booklet.

Consent Forms

It is recommended that general consent forms for procedures within a particular hospital be used. It is not necessary to develop a specific form for ECT because the important part of informed consent is the interactive informational process and its documentation.

Documentation of Informed Consent

It is necessary for all health care professionals involved in the process of obtaining informed consent to briefly document in the patient's chart what information has been given, and what the outcome of the discussions have been regarding acceptance or rejection of the treatment. All of the patient's questions must be answered, but not necessarily documented. The fact that the patients have received written information should also be documented. If patients view videos, this should be documented as well.

The conclusion of the competency assessment must be documented. If the patient is considered not competent, the basic reasons for this determination should be given

Contacting the Public Guardian and Trustee

The Health Care Decisions Office is based in Vancouver, and may be reached at (604) 775-0775, toll free at 1-877-511-4111, by fax at (604) 775-0777. If a health care professional needs more information about the process of consent under the *Health Care (Consent) and Care Facility (Admission) Act*, this office will be helpful in directing them to the appropriate resource. The Public Guardian and Trustee Website may also be helpful: www.trustee.bc.ca.

Consent for Patients under Nineteen Years of Age

Changes to the provincial *Infants Act* (R.S.B.C., 1996, c. 223),[5] which came into force in early 1993, removed the minimum age below which a young person or minor (someone under 19, known as "infant" in legislation) could not give or refuse consent to his or her own health care. Now each case must be assessed on the basis of the young person's capacity to understand information being given to him or her by a health care provider at the time health care is being proposed. This is sometimes referred to as the "mature minor" test. The majority of jurisdictions in Canada have adopted it.

Consent for Patients under Nineteen Years of Age, continued

Consent can be obtained from a young person only if the health care provider proposing to give health care has both

- Explained to the young person, and is satisfied, that he or she understands the nature, consequences, and the reasonably foreseeable benefits and risks of the health care.
- Made reasonable efforts to determine, and has concluded, that the health care is in the young person's best interests.

If in the opinion of the health care provider the young person does not understand the information being given about the proposed health care, substitute consent must be obtained from the young person's parents or legal guardian.

In general, the younger the person is, the more likely it is that parental consent will be required because the young person lacks the maturity to make his or her own decision. If a young person who is capable gives consent for the health care provider to inform his or her parents or legal guardian, this should not be viewed as the equivalent of a parental authorization or consent. **If the young person is capable of making the health care decision, he or she is the only person who can give (or refuse) consent, regardless of what a parent might say.**

In some cases, health care providers may not be prepared to provide treatment unless parents are involved and agree with the decision. While this might be good practice, the *Infants Act* does not now require it. Young people who are mature enough to make their own health care decisions are entitled to make those decisions without parental interference,[6] provided that the proposed health care is deemed to be in their best interests.

Section 17 of the *Infants Act* is the source of the proviso that young persons may consent only to treatment that is in their "best interests." This does not include inappropriate or unnecessary treatment. Generally speaking, "best interests" means that the health care must be given in the expectation that it will improve (or prevent deterioration or impairment of) the young person's physical or psychological health. If a health care provider has doubts about whether proposed health care would be in the young person's best interests, a second opinion should be obtained.

Young people under the age of 19 can be admitted involuntarily to a mental health facility under the *Mental Health Act*. In these circumstances, the *Mental Health Act* provides for substitute consent to **psychiatric treatment** to be given by the director of the facility following the same procedure, and using the same form (Form 5: see Appendix E) as for adult involuntary patients. If the young person requires treatment **other** than psychiatric treatment, the *Infants Act* procedure must be followed.

Consent for Patients under Nineteen Years of Age, continued

The *Mental Health Act* provides direction on admitting children and youths, and protects their rights by providing for regular reviews and early access to the Review Panel. The *Mental Health Act* also provides for young persons under 16 years of age to be admitted to a mental health facility by their parents or guardian as voluntary patients if the admitting physician and director agree. Once a minor under 16 years of age is admitted on this voluntary basis, only **psychiatric treatment** may be given with the consent of the parents or guardian. If he/she requires non-psychiatric treatment, the *Infants Act* procedure must be followed.

Form 1, Request for Admission (Voluntary Patient) (see Appendix B), and Form 2, Consent for Treatment, (Voluntary Patient) (see Appendix C), must be filled out by the parent or guardian admitting a young person.

References

1. *Health Care (Consent) and Care Facility (Admission) Act*, RSBC 1996, Chapter 181.
2. *Ministry of Health and Ministry Responsible for Seniors. A Primer to British Columbia's New Health Care Consent Legislation: the Health Care (Consent) and Care Facility (Admission) Act*, March 2000.
3. Mental Health Act, RSBC 1996, Chapter 288. Amended 15 November 1999 (BC Reg 233/1999).
4. American Psychiatric Association Task Force on Electroconvulsive Therapy. The Practice of Electroconvulsive Therapy. 2nd edition. Washington, DC, American Psychiatric Press, 2001.
5. *Infants Act*, RSBC 1996, Chapter 223.
6. The Vancouver Hospital and Health Sciences Centre Consent Guidelines. February 2000.

List of Chapter 3 Appendices

Appendix A:
Consent in Major Health Care for Incapable Adults for Voluntary Patients – this has been amended for ECT. The original document is in the educational package created by the Public Guardian and Trustee's Office for Acute Care Consent.

Appendix B:
This is Form 1 of the British Columbia Mental Health Act 1996, which in that document is in Appendix D.

Appendix C:
This is Form 2 of the *British Columbia Mental Health Act 1996*, which in that document is in Appendix D.

Appendix D:
ECT Treatment Consent for Involuntary Patients – this algorithm was created for this document by Dr. M.L. Donnelly and Dr. John Gray.

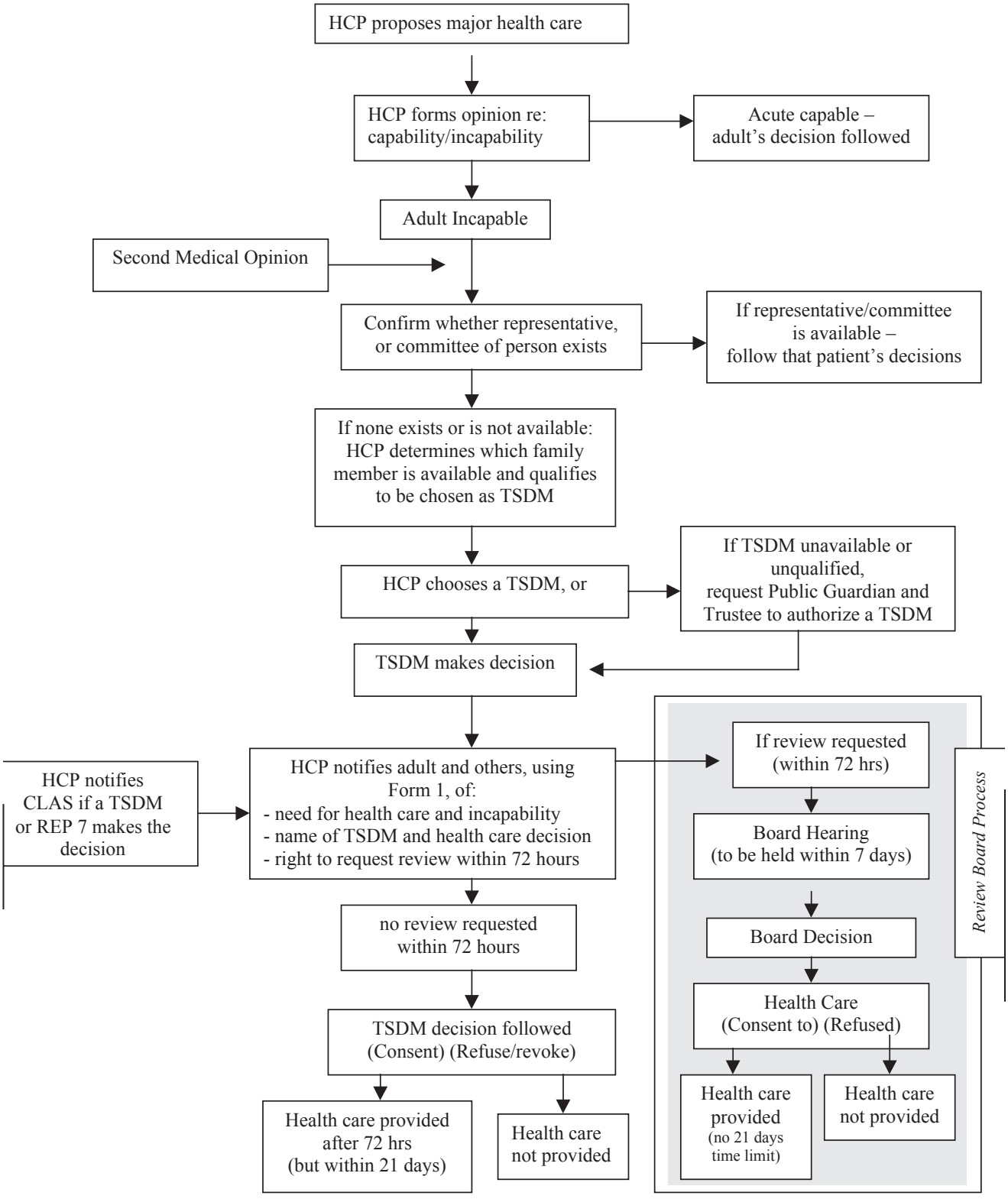
Appendix E:
This is Form 5 of the British Columbia *Mental Health Act 1996*, which in that document is in Appendix D.

Appendix F:
This is Form 12 of the *British Columbia Mental Health Act 1996*, which in that document is in Appendix D.

Appendix G:
Standard General Information Package General Information about Electroconvulsive Therapy (ECT). This was created for this document by Dr. M.L. Donnelly. This document can be photocopied and used in any way that is helpful.

Appendix H:
Electro-Convulsive Therapy (ECT) *Information Booklet*. This patient and family information booklet was created by Psychiatry Nursing and Education Services, University Hospital, Vancouver, revised by Marg Acton, Educator and Jeanette Eyre, ECT Coordinator UBC Hospital. Permission has been granted for this document to be used as is seen helpful, as long as the original development by Vancouver's University Hospital is cited in its use.

CONSENT IN MAJOR HEALTH CARE FOR INCAPABLE ADULTS FOR VOLUNTARY PATIENTS



BRITISH COLUMBIA

Ministry of Health and
Ministry Responsible for Seniors

FORM 1
MENTAL HEALTH ACT
[Section 20, R.S.B.C. 1996, c. 288]

REQUEST FOR ADMISSION (VOLUNTARY PATIENT)

The information on this form is collected pursuant to section 20 of the *Mental Health Act*. It will be used to document your voluntary admission to this facility designated under the *Mental Health Act*. Any questions you have about this form may be addressed to the director or staff of this facility.

I, _____ ,
patient's first and last name (please print)

of _____
street address *city* *province* *postal code*

request admission to _____
name of designated facility

for treatment, and agree to abide by the rules and regulations of the designated facility and to inform the staff if I wish to be discharged from the designated facility.

_____ _____
signature (patient, if 16 years of age or older) *date of signature (dd / mm / yyyy)*

OR

_____ _____
signature (parent or guardian, if patient is under the age of 16 years) *date of signature (dd / mm / yyyy)*

_____
name of parent or guardian, if applicable (please print)

_____ _____
signature (witness) *date of signature (dd / mm / yyyy)*

_____
first and last name of witness (please print)

BRITISH COLUMBIA

Ministry of Health and
Ministry Responsible for Seniors

FORM 2
MENTAL HEALTH ACT
[Section 20, R.S.B.C. 1996, c. 288]

CONSENT FOR TREATMENT (VOLUNTARY PATIENT)

I, _____ ,
patient's first and last name (please print)

in _____
name of designated facility

authorize the following treatment(s) _____

The nature of my condition, options for my treatment, the reasons for and the likely benefits and risks of the treatment(s) described above have been explained to me by _____.
name and position/title

_____ _____
signature (patient, if 16 years of age or older) *date of signature (dd / mm / yyyy)*

or

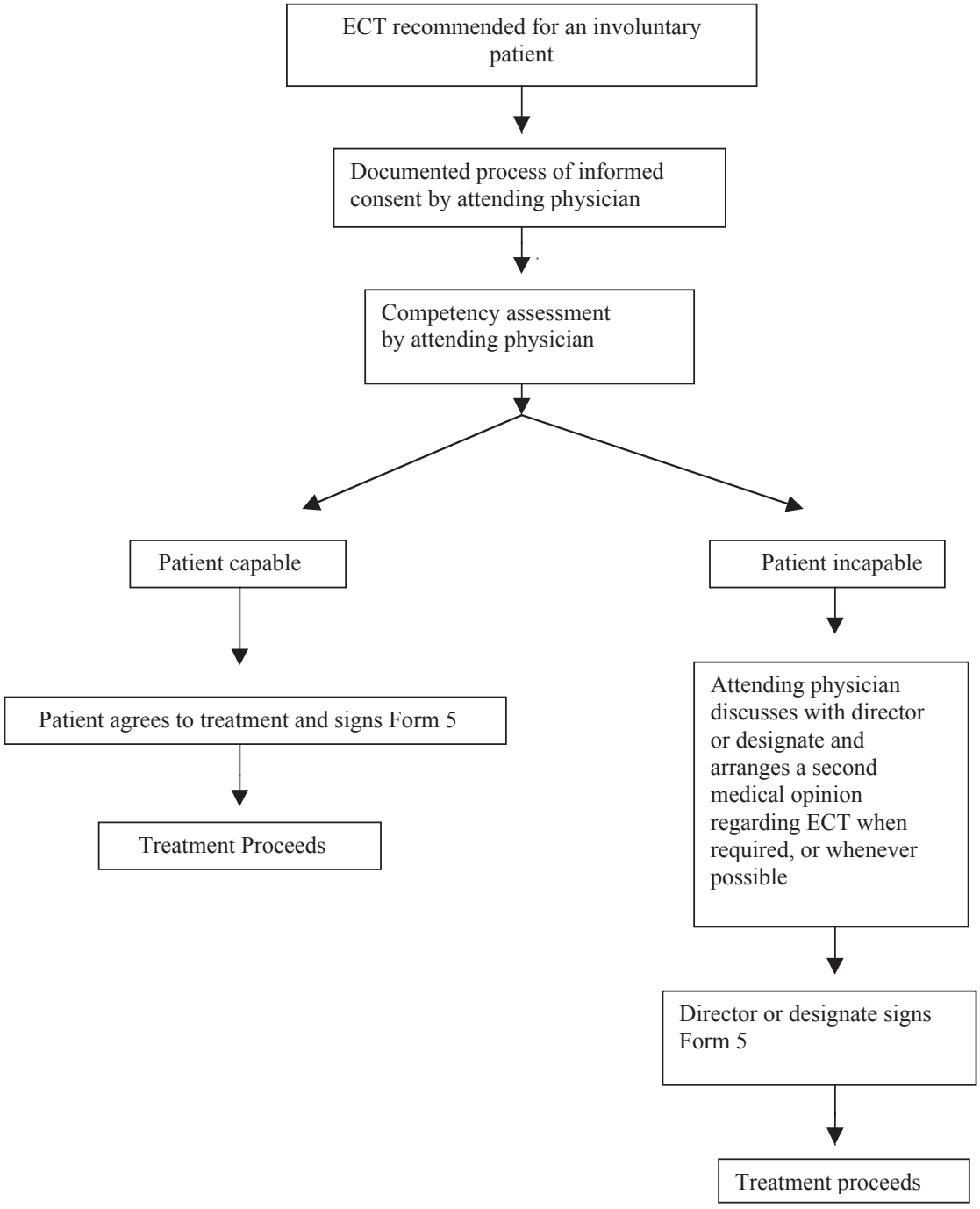
_____ _____
signature (parent or guardian, if patient is under 16 years of age) *date of signature (dd / mm / yyyy)*

name of parent or guardian, if applicable (please print)

_____ _____
signature (witness) *date of signature (dd / mm / yyyy)*

_____
first and last name of witness (please print)

ECT TREATMENT CONSENT FOR INVOLUNTARY PATIENTS



Note: A 2nd medical opinion may be requested by the patient, or substitute decision-maker once per renewal period, regarding appropriateness of ECT as a therapy.

BRITISH COLUMBIA
Ministry of Health and
Ministry Responsible for Seniors

FORM 5
MENTAL HEALTH ACT
[Sections 8 and 31,
R.S.B.C. 1996, c. 288]

CONSENT FOR TREATMENT (INVOLUNTARY PATIENT)

Note: Complete either A or B

A. I, _____ , authorize the treatment described below.
first and last name of patient (please print)

B. I, _____ , authorize the treatment described below
name of director or person authorized by the director (please print)

with respect to _____ at _____ .
first and last name of patient *name of designated facility (please print)*

Description of treatment/course of treatment:

_____

_____

_____

_____

_____

_____

_____

_____

_____

The nature of the condition, options for treatment, the reasons for and the likely benefits and risks of the treatment described above have been explained to me by _____ .
name and position/title

Complete either A or B

A. If signed by patient

_____
patient's signature

_____ _____
date (dd / mm / yyyy) *time*

_____
witness' signature

_____
witness' first and last name (please print)

To the best of my judgment, the above-named patient was capable of understanding the nature of the above authorization at the time it was signed.

_____ , M.D.
signature

B. If not signed by patient

_____
signature

_____
name of director or person authorized by the director (please print)

_____
position/title

_____ _____
date (dd / mm / yyyy) *time*

The above-named patient is an involuntary patient under section 22, 28, 29, 30, or 42 of the *Mental Health Act* and to the best of my judgment is incapable of appreciating the nature of treatment and/or his or her need for it, and is therefore incapable of giving consent.

_____ , M.D.
signature

BRITISH COLUMBIA
Ministry of Health and
Ministry Responsible for Seniors

FORM 12
MENTAL HEALTH ACT
[Section 31, R.S.B.C. 1996, c. 288]

MEDICAL REPORT
(SECOND MEDICAL OPINION)

To the director of _____ :
name of designated facility

On _____ I examined _____
date (dd / mm / yyyy) *first and last name of patient (please print)*

who is a patient at _____ .
name of designated facility (please print)

Based on my examination, my opinion on the appropriateness of the treatment is *(include recommendations if any)*:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____
physician's signature

_____
date (dd / mm / yyyy)

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physician's name (please print)

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physician's address and phone number

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☐ I acknowledge receipt of this medical report.

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signature of director

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date (dd / mm / yyyy)

Standard General Information Package

General Information about Electroconvulsive Therapy (ECT)

What is ECT?

Electroconvulsive therapy (ECT) is a physical therapy in which a patient under general anesthetic will have an electrical current passed through his or her brain, causing a seizure in the brain. This therapy was developed in the 1930s and has become a painless, safe, effective therapy for a number of psychiatric problems.

How does it work?

Current theories suggest that the seizure activity causes changes in brain chemistry.

When is ECT used?

ECT is used primarily for depressive illnesses. It is usually reserved for situations where medications have not worked, but it may be the first choice of therapy for frailer, older patients for whom medications may be more of a problem. If a patient has responded well to ECT in the past, it may be his or her own first choice. ECT is also used occasionally in mania, schizophrenia, and in severe Parkinson's disease.

How is the procedure carried out?

Patients are treated in specific ECT suites or in hospital operating rooms. You will be given an intravenous line. Sensors monitoring your heart and brain waves will then be applied to your head, and you will be given a short-acting general anesthetic. Once you are asleep, you will be given a muscle relaxant. When you are completely asleep and your muscles are relaxed, a brief electrical current will applied to your brain either unilaterally (on one side), or bilaterally (on both sides). A brief seizure will follow, which will be modified by the muscle-relaxants so that medical staff may need to look carefully at brain wave monitors and observe your toe and hand movements to monitor it. The whole procedure takes only a few minutes. You will then be moved to a recovery area where a nurse will closely observe your pulse and blood pressure until you are awake enough to return to your room or to the outpatient clinic.

How many treatments are required?

Usually patients with acute psychiatric problems require 6 – 12 treatments, given either 2 or 3 times a week. Occasionally more treatments will be required for maximum benefit.

In order to keep patients well, outpatient maintenance ECT is sometimes recommended. In such cases the treating physician determines the number and frequency of treatments by assessing specific clinical problems and needs.

Standard General Information Package, continued

General Information about Electroconvulsive Therapy (ECT), continued

What are the benefits of ECT?

ECT has produced substantial improvement in most of the patients who have been treated with it. It has been shown to be effective in many who have not responded to other forms of treatment. In fact, between 50 – 70% of patients who previously did not respond to medications will respond positively to ECT.[1] Many depressed patients have problems with their memory; after their depression is relieved, which may occur after having ECT, their memory may improve.

Improvement is gradual over several treatments until most or all symptoms of a depression are relieved. You may notice an improvement of appetite early on, later an improvement in energy, and finally an overall sense of feeling better. The treatment team will work with you to monitor your individual symptoms and response.

What are the side effects?

Immediately after ECT, you may experience some nausea, headache, and muscle aches. These are most often managed by taking plain Tylenol tablets. You may experience some acute confusion on the day of the ECT treatment, which most often resolves quickly. You may also forget recent events or events occurring around the time that you have the ECT. These memory problems are usually minor and may be decreased by slight changes in the procedure. Some patients experience longer-lasting problems with recalling memories from around the time of the ECT, and occasionally problems recalling some distant events. These memory effects generally subside once the ECT is completed. A few patients may have more severe problems remembering events from the distant past. Patients generally have fewer memory problems with unilateral ECT compared to bilateral ECT. Your treating psychiatrist will further explain this.

You should always report possible side effects to your nurses or psychiatrist, so the treatment team can work to reduce them.

ECT is considered very safe, and no more dangerous than a minor surgical procedure requiring a short general anesthetic. A current estimate of mortality in ECT is 2 in every 100,000 treatments.[2] If you are worried about this, please discuss it with your psychiatrist.

Standard General Information Package, continued

General Information about Electroconvulsive Therapy (ECT), continued

How do I give consent, and what are my rights to withdraw consent?

Your treating physician will inform you about the reasons ECT is being considered as an appropriate therapy for you. You will also be informed about possible alternative treatments and will get the opportunity to ask questions about your proposed treatment. Your treating physician will request your informed consent by asking you to sign a consent form.

In circumstances where voluntary patients are not able to give their own consent, the physician will seek consent from a substitute decision-maker, in this order: their adult spouse, one of their adult children, one of their parents, one of their adult brothers or sisters, or any other adult related to them by birth or adoption. For involuntary patients, the medical director may be asked to give substitute consent. A second med Iical opinion can be requested about appropriateness of the treatment.

You or your substitute decision-maker may withdraw consent even after the treatments have started. The treating psychiatrist will arrange for appropriate alternative treatments.

What happens after ECT?

Your physician will discuss what treatments are suggested to keep you well after ECT has been completed. In most circumstances they will suggest the follow-up use of medications. In some situations, they may recommend a course of maintenance ECT to maintain improvement.

How can I find out more about ECT?

You can find out more about ECT by checking the following resources:

Internet sites

- The Royal College of Psychiatrists http://www.rcpsych.ac.uk/info/webguide/ect.htm
- The American Psychiatric Association http://www.psych.org/public_info/ECT~1.cfm
- American Academy of Family Physicians http://familydoctor.org/handouts/058.html
- The Mayo Clinic http://www.MayoClinic.com/home?id=HQ00612

Standard General Information Package, continued

Books

- *Electroshock: Restoring the Mind*, by Max Fink. New York: Oxford University Press, 1999. Riverview Hospital Library Call no. WM/412/F56/1999
- *Holiday of Darkness* by Norman S. Endler (revised edition). Toronto: Wall and Thompson, 1990

Videos (available at Riverview Hospital Library)

- Electroconvulsive Therapy: ECT: The Treatment, The Questions, The Answers by Leon Grunhaus, Lisa Barroso-Whal. Ann Arbor, Mich: University of Michigan, 1988. Call number: WM/412/G78/1988
- Electroconvulsive Therapy: Information for Patients and their Families by American Medical Communications. American Medical Communications, 1997 Call number: WM/41/E53/1997
- Informed ECT for Patients and Families, with Dr. Max Fink by Max Fink (15 min.). Lake Bluff, Ill.: Somatics, 1986. Call number: WM/412/I53/1986

References

- Rabheru K. The use of electroconvulsive therapy in special patient populations. Canadian Journal of Psychiatry 2001; 46:710–719
- Abrams R. Convulsive Therapy 1997; 13:125–127

Electro-Convulsive Therapy (ECT)

Information Booklet

VANCOUVER HOSPITAL
& Health Sciences Centre

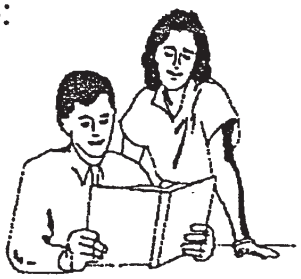
We hope this booklet is helpful in assisting you to understand Electro-Convulsive Therapy (ECT) and the part it plays in the treatment of your illness.

As you read through, we suggest you write down any questions on the pages provided and discuss these with your doctor or nurse.

TABLE OF CONTENTS

Introduction

This booklet has been prepared for the patient whose physician has recommended ECT for treatment. It has been designed to complement the teaching offered. After the teaching sessions you will be able to:



- ➢ Discuss ECT as an effective mode of treatment
- ➢ Discuss what will take place prior to the first treatment
- ➢ Discuss what will take place before, during and after each treatment
- ➢ Identify the 5 most common side effects of ECT and describe ways to cope with each
- ➢ Identify 3 possible methods of follow-up to ECT

Current medical literature states that ECT is a safe & effective procedure for which there continues to be an established clinical need.

What is ECT treatment like?

You will be given an anaesthetic to put you to sleep followed by a muscle relaxant. Brief electric currents are then passed through electrodes on the scalp to stimulate the brain. Stimulation of the brain causes a mild seizure (convulsion), that is of brief duration. You will not be aware of anything because you will be asleep. When you waken, you will be in the recovery room where nursing staff will be caring for you.

1

The electric current can be applied in 2 ways:

a) **Unilateral** - 2 electrodes applied on one side of the head

b) **Bilateral** - 2 electrodes applied; one on either side of the head

In consultation with you, your physician will decide the number, frequency and method of your treatments.

How does ECT work?

Current theories suggest that the seizure activity causes changes in brain chemistry.

Who needs ECT?

➢ The depressed person who is not responding to other treatment or who is at increased risk for suicide.

➢ The depressed elderly person who cannot take medication due to risk of side effects.

➢ The person experiencing delusional thinking (fixed, false beliefs) or hallucinations (e.g. hearing voices when no one is there) who is not responding to medication.

➢ The person with Parkinson's Disease, who is:

- suffering from psychiatric side effects of their medication
- depressed
- requiring treatment for the illness

(Note: see Appendix I)

➢ The person with mania who is not responsive to treatment.

2

➢ The person with physical symptoms and chronic pain for which there is no identifiable cause (somatization) who fails to respond to medication.

ECT can be the:

❖ ***Safest Method of Treatment***
(e.g. pregnant women; the elderly)

❖ ***Fastest Method of Treatment***
(e.g. mood/delusions may improve in 2 weeks, whereas with medication mood/delusions may take 3-4 weeks to improve.)

Facts Versus Myths

Fact: **ECT performed today is safe and effective. Prior to the first treatment, the physician completes a thorough physical examination. Before each treatment, you are given an anaesthetic and muscle relaxant.**

Myth: ECT is a "Barbaric & Archaic" form of treatment.

Fact: **Memory loss may occur in varying degrees lasting from a few days to a few months. This will usually not be permanent. However, memory loss for events that occur before, during, and/or after the period of time you are being treated may persist. It is recommended that important decisions be postponed during this time.**

Myth: ECT leaves permanent memory loss.

Fact: **ECT has been found to be as effective or more effective than medication.**

Myth: ECT is less effective than other types of therapy.

3

What will happen prior to my first treatment?

➢ **Consent** - your doctor will explain the procedure and request that you sign a consent form.

➢ You may be visited by some or all of the following people. We recommend that you write down any questions you may have for each one:

- The doctor who will be giving your anaesthetic;
- The doctor who will be giving your treatment;
- The nurse who is in charge of the Treatment Area *(UBC Site)*.

➢ You will be encouraged to attend the "ECT Group" for support and information. Ask your nurse for details *(UBC Site)*.

What will happen before, during and after each treatment?

➢ **NIGHT BEFORE**

Bath/Shower and Shampoo

- Aids in relaxation & promotes sleep;
- Clean hair provides for better conduction of the electric current;
- It is important that hair be dry before treatment is given, therefore hair should be washed the night before;
- The gel used with the electrodes leaves a sticky residue, you may prefer to shampoo after each treatment.

Wearing Hospital Clothing

- This is necessary to prevent possible soiling of personal clothing.

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Remove Nail Polish and Make-up

- This allows for better assessment of your physical condition during the anaesthetic.

Ensure Valuable Jewellery is Locked Up

- rings can be taped in place and worn during treatment.

Inpatients:

- you can ask your nurse to place valuables in a safe place in the nursing station.

Outpatients:

- please DO NOT bring valuables.

Nothing to Eat or Drink After Midnight the Night Before (NPO)

- This includes candy, gum & water.
- This is to prevent aspiration of food if vomiting occurs during or after treatment.

Inpatients:

- Food and beverages will be removed from your bedside area; they will be returned when your treatment is finished.

Treatment Time

- You will be informed the day before of the time your treatment is scheduled. (On Friday for Monday treatment)
- Treatments are Monday, Wednesday and Friday during the morning.

Outpatients:

- You will also be informed of:
  - the time to arrive at the hospital.
  - your expected time of discharge.

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Medication

- Sometimes a medication will be given the night before and/or the morning of your treatment. Ask your nurse about the specific reason for this.

Identification (I.D.) Bands

Inpatients:

- If you remove your I.D. band when you go out on a pass, please ensure you are given a new one prior to going for treatment.
- If you have drug allergies, it is essential to wear a band indicating what these are.

➢ MORNING OF TREATMENT

On Ward/Outpatients

Nothing to Eat or Drink until After Your Treatment*

Reminder: This includes candy, gum & water.

Vital Signs

- Temperature, pulse, respirations and blood pressure will be taken prior to your treatment.

Dentures

- You will be asked to remove your dentures before receiving the anaesthetic. You can wear them to the treatment area/operating room, provided you take a container with you to put them in (UBC Site only).

Glasses/Contact Lenses

- You will be asked to remove your glasses/contact lenses. If you wish to wear your glasses to the treatment area, please bring your glass case with you (UBC Site only).

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Bladder

- You will be asked to empty your bladder about 15 minutes prior to your treatment. This is to avoid incontinence during the treatment.

Medication

- Occasionally a medication will be given 1-2 hours prior to your treatment. This will be taken with a small sip of water. Your regular medications will usually be held and given to you after your treatment is finished.

Escort

- You will be accompanied to the Treatment Area (UBC Site) or to the Operating Room Area (VGH Site) approximately 5-45 minutes prior to your scheduled time of treatment.

Outpatients:

- Consider having a responsible adult accompany you to the hospital.
- Be prepared to be at the hospital for up to 4 hours.

➢ AFTER EACH TREATMENT

Recovery Room

- Following your treatment you will be moved on a stretcher to the Recovery Room while still asleep. You will remain there for approximately 10-30 minutes (UBC), 60 minutes (VGH).

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When you awaken you will find nurses in attendance who carry out the following procedures:

- blood pressure, pulse and respirations taken every 5-10 minutes
- oxygen is given by mask or nasal prongs.
- a heart monitor may be used to provide nursing staff with information about your heart beat.
- nurses will be asking you for your name and if you know where you are. This is to assess your level of consciousness.
- nurses will ask you to grip their hand and lift your head off the pillow. This is to assess muscle strength.
- a needle inserted in your vein which was used to give you your anaesthetic will be removed. A bandaid may be applied to the area. This can be removed at your discretion.

Inpatients:

- you will be returned to your own room by wheelchair or stretcher.

Outpatients:

- you will be allowed to rest until you are fully awake.
- breakfast will be provided prior to discharge.

<u>On Ward</u>

Inpatients:

When you first return your nurse will assist you to bed and will take your blood pressure, pulse, and respirations. The nurse will assess your level of recovery from the anaesthetic. Once you are fully awake you will be encouraged to get up, get dressed and have breakfast.

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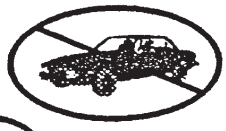
Outpatients: Discharge Information - What do I need to Know?

You have had a general anaesthetic and the effects persist for many hours. The following precautions are advised by your anaesthetist and psychiatrist:

1. Have a responsible adult pick you up from the Recovery Room and stay with you for the first 24 hours.
2. Rest quietly at home for the remainder of the day.
3. DO NOT drive your car for at least 24 hours.



4. DO NOT drink alcohol for 24 hours.

5. DO NOT travel alone for the rest of the day.

What are the 5 Most Common Side Effects?

1. **Muscle Stiffness**
   Caused by the medication given to relax your muscles.

   Ways to relieve
   - inform your nurse or doctor.
   - take a warm bath.
   - request medication for pain.
   - do some moderate exercises, e.g. walking.

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2. **Confusion**
   You may be temporarily confused or disoriented (i.e. not know the date or time) due to the effects of the anaesthetic or treatment.

   Ways to relieve
   - seek reassurance from staff.

Caution:
If you plan to go on a pass on the day of treatment, you must be accompanied by a responsible adult.

3. **Memory Loss**
   Because temporary memory loss is a common side effect of ECT it is recommended that you postpone major decision making.

   Ways to relieve
   - keep a diary - record events for each day.
   - write important dates and times down prior to your first treatment and as you go along.
   - keep a calendar - mark off each day.
   - seek assistance with reorientating yourself.

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4. **Headache**
   Can be caused by the anaesthetic, by the treatment or by being without food for an extended period of time.

   Ways to relieve
   - have something to eat.
   - request pain medication before headache becomes too severe .
   - use relaxation tapes to help reduce muscle tension - ask your nurse where you may obtain these.
   - use distraction techniques, e.g. counting aloud. (ceiling tiles), imagery (imagine you are strolling in your favorite spot).
   - rest in a darkened room.
   - apply a cold cloth to your forehead.

5. **Nausea**
   Can be caused by the anaesthetic or by being without food or fluid for an extended period of time.

   Ways to relieve
   - eat small amounts of food, eg. soda crackers, dry toast.
   - rest.
   - request medication before nausea becomes too severe.

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Follow Up - What will happen after my ECT treatments?

Once you start feeling better, you will be discussing with your doctor and your nurse what can be done to maintain your improvement. Some of these suggested methods may include:

- Anti-depressant therapy (medication)
- Psychotherapy
- Maintenance ECT (This can be administered to you as an outpatient.)

NOTE:

You are welcome to continue with the ECT group after your treatments are finished (UBC Site).

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APPENDIX I

Why is ECT effective for Parkinson's Disease?

Drugs used for the treatment of Parkinson's Disease replace or mimic a missing brain chemical called "dopamine". Used carefully, these drugs work well for many years. However, over time, in certain patients, these dopamine agents can cause psychosis. Symptoms of this condition can include hallucinations or delusions (see page 2, "Who needs ECT?"). The psychosis can be treated by lowering or stopping the dopamine replacing drugs. This leads to a difficult choice as the patient's mobility depends on these drugs.

ECT is an effective treatment for this condition as the psychosis will clear, allowing patients to tolerate an adequate dose of the dopamine replacing drugs. How ECT works remains uncertain. For reasons that are also not understood, ECT can improve the symptoms of Parkinsons' Disease.

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Questions

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This pamphlet is intended to supplement the advice given by your doctor. There may be complications or instructions which are not listed. You should consult your doctor about any undesirable side-effects.

The information in this document is intended solely for the person to whom it was given by the health care team.

Developed by: Psychiatry Nursing & Education Services, University Hospital

Revised by: Marg Acton, Educator & Jeanette Eyre, ECT Coordinator
UBC Hospital

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and quote Catalogue No. **CD 270 EL25**

Chapter 4

TECHNIQUE, EQUIPMENT, AND EVALUATION

Setting

ECT can be provided in a variety of settings. For centres where ECT is provided for a large number of patients, a designated suite housing a receiving/waiting area, the procedure room, and a post-ECT recovery area for close patient observation would be ideal.

Alternatively, ECT is also commonly offered in pre-operative hospital holding areas, or within an operating room itself. Essential elements to any site include the provision of privacy for the patient receiving ECT, and adequate space for the anaesthetic and ECT equipment, as well as for staff to assist with the procedure. ECT should be carried out close to the necessary resources in case of a medical emergency.

In addition to the post-ECT room, patients undergoing outpatient ECT should have access to a supervised day room (i.e., the lounge of an inpatient psychiatric ward), where they can rest, read, or eat until they are ready to be discharged.

Patient Preparation

The patient should

- Have their initial weight recorded on the ECT Checklist.
- Be NPO. (See Chapter 9, "Anesthesia Guidelines," on oral intake.)
- Remove jewellery, hair accessories, contact lens, glasses, hearing aids, and dentures. Local policy can state whether glasses or dentures can be kept for transport.
- Receive pre-ECT medications (if ordered) and most routine a.m. medications 1 hour before ECT, with sips of water if oral.
- Void his or her bladder and bowels.
- Be wearing an incontinence pad if he or she has bladder or bowel instability.
- Have pre-ECT vital signs and, if diabetic, blood sugars recorded on the chart before each treatment.
- Have clean hair if at all possible.

The physician should be alerted to any change in medication and patient status if notable since the last treatment.

Psychotropic Medications during ECT

A careful review of medication is essential before starting a course of ECT. Existing medications for medical illness can usually be continued throughout the ECT course and given one hour before the ECT with sips of water, or after the treatment when the patient is fully awake. Diabetic patients should be given priority if several patients receive ECT on the same day. Insulin and hypoglycemic agents are usually given after the treatment. Medical consultations may be requested for patients with poorly-controlled blood sugars or with respiratory or cardiovascular illnesses.

Consideration should also be given whether to continue psychotropic medications throughout an ECT course. As a general rule, it is favourable to discontinue as many medications as possible to decrease the risk of delirium and minimize cognitive side effects. This is particularly applicable to those bearing anticholinergic effects.

On the other hand, in bipolar patients, it may be necessary to maintain mood stabilizers throughout the ECT course; for example, to reduce the risk of iatrogenically shifting a patient's depressed state into mania.

No substantial evidence currently exists to support that the combined use of ECT and medications improves the efficacy of ECT in symptom reduction.

Psychotropic Medications during ECT, continued

Antidepressant Medications

■ Selective Serotonin Reuptake Inhibitors (SSRIs)

SSRIs are commonly administered throughout the ECT course. Conflicting reports exist about the safety of this; some point towards a possible improved result when combined with ECT, some report no improved results, and others suggest both shortened seizure length and prolonged seizure length. Discontinuing SSRIs before ECT may be recommended for patients at higher risk of post-ECT delirium (i.e., those on multiple medications, the elderly, or those with co-existent dementia). If SSRIs are continued, the anesthetist should be informed and alerted to the possible risk of a prolonged seizure.

■ Monoamine Oxidase Inhibitors (MAOIs)

Selective MAOIs (e.g., moclobemide) are likely safe to continue, although little data exists on their effects.

Nonselective MAOIs (e.g., phenelzine, tranylcypromine) are also likely safe to continue. If hypotension occurs during the ECT, indirect-acting vasopressors should be avoided and neosynephrine used instead. In such a circumstance, an anesthesia consultation should be done before the first ECT.

■ Tricyclic Antidepressants (TCAs)

These are likely safe to continue. TCAs with stronger anticholinergic side effects (e.g., amitriptyline, imipramine, trimipramine, clomipramine) have increased risk of creating post-ECT confusion, and should be discontinued if possible.

■ Bupropion Hydrochloride

No data exists about the safety of bupropion (Wellbutrin) during ECT. Due to case reports of spontaneous seizures, it should likely be discontinued.

■ Others (e.g., Venlafaxine, Nefazodone, Trazodone)

No data exists.

Psychotropic Medications during ECT, continued

Mood Stabilizers

■ Lithium Carbonate

Controversy about the use of lithium during ECT centres on reports of increased risk for delirium, prolonged seizures, and possible decreased seizure thresholds. Generally lithium is well-tolerated at lower doses, and may have to be continued in patients with refractory mood disorders. Lithium should be held the night before and the morning of ECT and given post-ECT. Lithium carbonate levels should be done before ECT.

■ Anticonvulsant Agents (Carbamazepine, Valproic Acid, Gabapentin, Lamotrigine, Phenytoin, Topiramate)

Again, clear guidelines do not exist, but reports point towards decreased seizure time, higher seizure thresholds, and possible decreased efficacy of ECT for improving mood symptom when they are used concomitantly with ECT. They are generally well tolerated, however. If they are being used as mood stabilizers, doses should be held the night before and the morning of ECT.

■ Antipsychotic Agents

Traditional antipsychotics lower seizure threshold, but as with TCAs, may increase post-ECT delirium if they hold a stronger anticholinergic profile (e.g., chlorpromazine, thioridazine, methotrimeprazine, and fluphenazine).

Little information exists about the safety or efficacy of combining ECT with novel antipsychotics.

Reserpine has been associated with death when used during ECT and should therefore not be used.

■ Benzodiazepines

Benzodiazepines are commonly used in a variety of psychiatric illnesses, and have a major effect on ECT. They clearly increase seizure threshold. Many reports also define their role in lessening seizure efficacy for mood symptoms. If the indications for benzodiazepine use cannot be managed by other substitute agents (e.g., sedatives, antipsychotic agents), then

- Benzodiazepines with medium half-life (i.e. 8 hours) should be used, and held the morning of ECT.
- IV Flumazenil can be used in the treatment room if it is clear the benzodiazepine impacts upon ECT efficacy. IV Midazolam should then be given in the PAR room to ensure withdrawal symptoms do not occur.

Equipment

ECT Devices

Initial models of ECT devices (such as Med Craft) provided a sine wave stimulus. Advancing knowledge about the effects of different waveforms in ECT has resulted in the development of brief pulse devices. These offer an equally sufficient stimulus, but with notably less cognitive side effects. Given this key finding, brief pulse devices have become readily available and are in widespread use. (See the following chart.) Sine wave machines are no longer acceptable for modern ECT delivery.

Bi-Directional Brief Pulse Square Wave ECT Devices (North American Suppliers)

Supplier	Model	Pulse Width	Frequency	Duration	Current	Maximum Charge
MECTA Corporation	Spectrum 4000Q or 5000Q	0.5–2.0 msc	30–70 hz	0.5–6 sec	500–800 mA	576 mC
Somatics Incorporated	Thymatron System IV	0.25–1.4 msc	10–70 hz	0.14–8 sec	900 mA	504 mC

ECT Equipment

- Brief pulse ECT machine and backup: brief pulse and constant current with wide output range.
- Electrodes: flat and concave for unilateral placement.
- Patient stimulus cable, +/- hand-held paddles.
- EEG cable.
- EEG disposable electrode pads.
- EEG recording paper.
- Adjustable headband.
- Bite-blocks.
- Tube of electrode gel.
- Jar of abrasive conductant gel.
- Alcohol (for cleaning skin).
- 2 x 2-inch gauze (for cleaning skin).
- Bottle of buffered bleach (for cleaning equipment in MRSA-positive patients).

Skin Preparation

For electrical current from an ECT device to reach the brain, it must flow between two metallic electrodes. Since blood is a conductor, the brain's vascular system carries the current. Skin inherently resists electrical current, so careful site preparation is a key component in ECT delivery. Inadequate cleansing or sloppy use of conductant gel can result in an inadequate or aborted seizure, and in skin burns. Skin or scalp preparation involves

- Thoroughly cleansing the chosen electrode sites with alcohol-soaked gauze squares to remove oil, makeup, gel from previous treatments, hair sprays, dead skin cells, etc. Note that shaving the hair is not required. If a parietal site is used for unilateral ECT, hair can be parted and cleaned as described.
- Massaging an abrasive conductive such as that used in EEG labs into the skin with fingertips, in a circular motion.
- Removing the abrasive gel with a cloth or dry gauze (not with alcohol), to create a dry, clean, mildly-abraded area.
- Applying a conductive ECT gel (non abrasive), onto the electrode surfaces.
- Firmly pressing the electrodes against the skull, which is imperative to minimize impedance.

Electrode Placement

Electrode placement continues to be controversial and under active research and debate. It is generally accepted that bilateral placement is somewhat more effective than unilateral placement, but that the latter creates less cognitive side effects. Of interest is the emergence in the past few years of new electrode sites. Treating physicians should follow changing recommendations as they develop, and familiarize themselves with the benefits and detriments of the various options.

■ Unilateral Placement

The d'Elia position has become the recommended electrode placement site for unilateral, non-dominant hemispheric ECT:

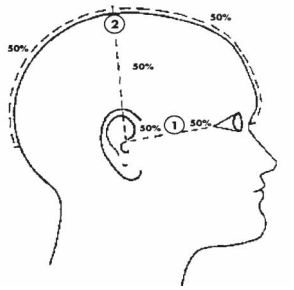

Figure 1: The midpoint of electrode one is placed one inch above the midpoint on an imaginary line drawn between the external canthus of the eye, and the tragus of the ear (i.e., the bottom edge of a two-inch electrode is on the line). The second electrode is similarly placed one inch on the right-hand side of two imaginary intersecting lines; the first drawn between the two tragi of the ears; the second connecting sagittally the inion with the nasion.

(From *The Practice of Electroconvulsive Therapy*, 2nd ed., p. 154[1].) www.appi.org Used with permission.

■ Bilateral Placement (Bitemporal)

The most widely used bilateral electrode placement has been bitemperofrontal. Electrodes are placed over both temples, as in Figure 1, Position 1, bilaterally.

Electrode Placement, continued

Other Positions

■ Bifrontal Placement

Bifrontal placement with electrodes close together appears to result in less clinical efficacy than the bitemperofrontal placements, albeit with less cognitive effects. Recent studies suggest two other bilateral strategies with wider bifrontal placements. The first is described in an original article, J.S. Lawson.[2] Alternatively, a Left Anterior Right Frontal position – the so-called "LART" is introduced by Schwarz.[3] Early work indicates that effective ECT may be deliverable closer to seizure threshold with bifrontal placement than with either bilatemporal or unilateral positioning.

■ LART (Left Anterior Right Frontal) Placement

The rationale for this electrode site option is that the left anterior electrode lies near the medial region of the frontal lobes, which is thought to be the cortical region most sensitive to seizure induction by electricity. It is also believed that one of the reasons these last two positions are more efficient in transmitting current is that these placements avoid skull sutures, and thereby avoid the concentration of electrical current as it enters the brain.
The end result is fewer cognitive side effects.

Stimulus Dose Strategies

Since the late 1980s, it has become apparent that the degree to which the electrical dose lies above seizure threshold has an impact on the efficacy of ECT. A stimulus delivered barely above seizure threshold can create a grand mal seizure, which will have little effect on improving target symptoms (i.e., depression). A stimulus that is markedly suprathreshold improves symptomatology, but also carries with it unnecessary cognitive side effects, causing patient suffering and a prolonged hospital stay.

From this have arisen differing approaches to dosing strategy. The "titration method" involves initially stimulating a patient with a very low electrical dose in "search" of threshold. Gradual dose increases are then delivered until an adequate seizure is obtained. "Adequacy" is determined via EEG morphology from the EEG readout delivered by the ECT device. From then on, the electrical dose for subsequent treatments is either maintained or gradually increased, using EEG criteria as well as clinical response as a guide. (See the following section, "Seizure Monitoring.")

Inherent to this method is the finding that seizure threshold varies from patient to patient. Concern exists that if all patients – regardless of age, gender, diagnosis, medications, or number of previous ECT treatments – received the same dose, with the same electrode placement, some patients (for example, those with high seizure thresholds) will receive sub-optimal treatments. Others with low thresholds will be left with excessive cognitive effects. Various protocols are available for the titration method dose scheduling. These are described by Beyer et al.[6]

Stimulus Dose Strategies, continued

Another approach uses a formula to guide dosage using the patient's age. Starting treatments with half the patient's age is recommended.[4] For example, if a patient is 60 years old, ECT is initiated at 30% of the maximum output deliverable by the device, then gradually the dose is increased as the ECT course progresses. Starting ECT at three-quarters of the patient's age is also possible.

Finally, some practitioners offer high, fixed-dose, right unilateral ECT for all patients.

Unresolved, and under active research, remains the effect of individual pulse morphology, which can be altered on some devices (MECTA SR II, JR II, Spectrum 5000Q, and Thymatron System IV).

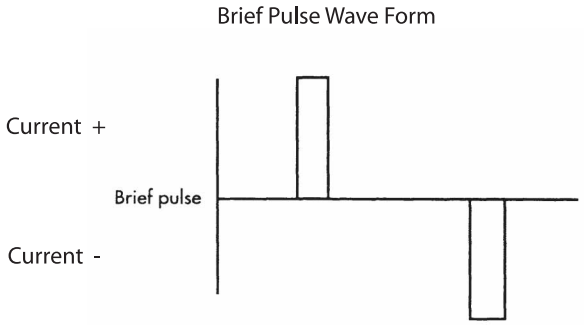

Figure 4: Brief Pulse Wave Form (From *The Practice of Electroconvulsive Therapy*, 2nd ed., p. 1401.) www.appi.org
Used with permission.

Shortened pulse width (0.5 msec or less) and longer pulse trains have now been linked with increased efficacy in research studies.

Debate also continues on the optimal dose of electricity above seizure threshold. Previously, 2.5 times threshold was considered adequate for unilateral ECT. Some authors[5] recommend 5 to 6 times threshold. However, this is technically not viable for many practitioners, given the maximum output deliverable by current devices; 1.5 to 2.5 times threshold for bilateral ECT (frontotemporal placement) is generally accepted.

Seizure Monitoring

Central to the delivery of safe and effective ECT is the assurance that

- A seizure has indeed occurred.
- The seizure is generalized to both hemispheres.
- The seizure is of adequate intensity to actually bring about symptom recovery.
- Unnecessary cognitive side effects are avoided.

Several parameters are observed to help with these clinical judgements:

EEG Activity

It was previously believed that seizure length in ECT reflected seizure adequacy; it was thought a seizure should be at least 25 seconds long in order to be effective. It is now clear that seizure time is less important than seizure intensity. Although many factors can affect seizure expression, current evidence suggests that the following are associated with better clinical outcomes

- Higher amplitude spike and wave activity.
- Sharp post-ictal suppression. (Numbers correspond to those in Figure 5 below.)

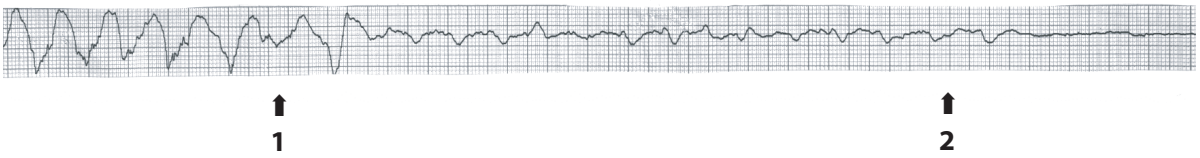

Figure 5: EEG Activity associated with better clinical outcomes. Used with permission of Dr. C. Gosselin

The current recommendations for EEG electrode placement sites are minimally one-channel (left side for right-unilateral ECT), but preferably two-channel frontal mastoid placement

- At the frontal site, 1 to 3 inches above the eyebrow on the mid pupillary line.
- At the mastoid site, over the hair-free mastoid bone, directly behind the ear.

Skin should be cleaned with alcohol, dried, +/– use of an abrasive gel for optimum recording. Pediatric disposable ECG electrodes work well.

Ictal motor activity (optional)

The motor component of a seizure can be monitored using the cuff method. The distal portion of a limb (preferably the ankle) can be blocked from receiving muscle relaxant by inflating a blood pressure cuff above the ankle to a pressure 100 mm Hg above the systolic pressure before ECT (i.e., 250 mm Hg). The cuff should be placed on the same side of the electrodes for unilateral ECT to ensure generalization. This technique is performed before the delivery of the muscle relaxant. The cuff should be deflated immediately following the seizure to avoid ischemia.

Seizure Monitoring, continued

The benefit of this method is evidence of a generalized seizure in the event of a faulty EEG. Limitations are that

- Tonic/clonic seizure activity stops before seizure activity ceases in the brain, i.e., motor component timing is not useful in measuring the true total seizure time.
- This technique is not appropriate for patients with skin or some musculoskeletal diseases such as severe osteoporosis, deep vein thrombosis, and sickle cell disease.

Cardiovascular Response

ECT affects the brain and the cardiovascular system. With the initial parasympathetic and then sympathetic outpouring that results from the seizure itself, brief but impressive falls and rises in blood pressure and heart rate occur. Continuous ECG monitoring as well as repeated blood pressures and oximetry before, during, and after the procedure are of vital importance.

Missed or Aborted Seizures

After a stimulus in ECT, it is possible that no seizure is elicited, or that a brief response (less than 15 seconds) results. It is unlikely that most patients can expect to benefit from a seizure of this short duration, although it is described that some inherently undergo brief seizures (e.g., 17 sec.), with nevertheless clear and progressive recovery. Possible causes of missed or aborted seizures are

- Excessive impedance from poor skin contact.
- Hypercarbia from inadequate ventilation.
- Hypoxia.
- Dehydration.
- Medications (typically benzodiazepines and anticonvulsants).
- Insufficient stimulus.

Possible remedies for missed or aborted seizures are to

- Review the "dynamic impedance" reading, which is elicited by the ECT device. If it is too high, examine and correct skin preparation, gel application, and/or electrode positioning.
- If not too high, restimulate at 50 – 100% above the original dose:
  - If a seizure is missed, wait 20 seconds before restimulating to ensure a delayed response will not occur (rare).
  - If a seizure is aborted, wait 45 seconds before restimulating to overcome the refractory period.
  - A third stimulus under the same anesthetic may be tried at a higher dose still, after another 45–second time lapse, and after it is ensured that no additional anesthetic and muscle relaxant needs to be given.
- Review the other factors above, such as correct hydration and electrolyte balance. Oxygenate adequately and ventilate vigorously prior to the next stimulus. If possible reduce or discontinue medications that may hinder the ECT, Flumazenil 0.5 to 1.0 mg iv can be used during the anesthetic for patients receiving high-dose benzodiazepines that cannot be altered. This can be followed by IV midazolam administration in the PAR to avoid withdrawal symptoms.
- Note that caffeine sodium benzoate, 500 to 2000 mg iv (or orally one-hour pre ECT with sips of water), can lengthen seizure time.

Prolonged Seizures

The APA ECT Task Force defines a prolonged seizure as greater than 180 seconds. The British Royal College of Psychiatrists defines it as 120 seconds. Prolonged seizures may lack a motor component; this is one of the most compelling arguments in favour of EEG monitoring in ECT. Possible remedies are to

- Abort the seizure with a benzodiazepine (diazepam, midazolam), or with an anticonvulsant anaesthetic agent (thiopental) intravenously.
- Intubate if necessary.

Evaluation of Individual Courses of Treatment

Before an index course of ECT treatment, each patient should have a treatment plan specifying criteria for remission. The patient's symptoms should be documented before a course of treatment in order to be able to assess progress in specific target symptoms during treatment. A baseline clinical global impression or the use of a rating scale like the Hamilton Rating Scale for Depression may be helpful.

Clinical assessment should be performed and documented by the attending physician before the course of ECT, and weekly during the course of ECT. If performed, cognitive assessments should be done at least 24 hours after the ECT treatment.

The total number of ECT treatments required by a patient should be guided by the patient's degree and rate of clinical improvement, and the development and severity of cognitive adverse effects. The frequency of ECT treatments should be guided by the severity of illness and the development and severity of adverse effects.

Evaluation of Individual Courses of Treatment, continued

Frequency and Number of Treatments

It is usual practice to do 2 or 3 ECT treatments per week, administered on non-consecutive days. In a major depression, a course of ECT usually consists of 6-12 treatments.

The use of daily treatments may be useful early in the treatment course when rapid response is important, such as mania, catatonia, high suicide risk, and severe inanition. With bilateral treatments, prolonged daily treatments increase the risk of cognitive impairment; the use of frequent treatment regimens has not been justified.

The use of multiple ECT (the delivery of more than one adequate seizure per treatment session) is not recommended.

For those patients who have improved with ECT treatments, the ECT treatment course should be ended or tapered as soon as it is evident that a maximum response has been attained.

If confusion or marked deterioration in cognitive functioning occurs associated with ECT, consider the following remedies

- Review potential medical and medication causes.
- Reduce treatment frequency (e.g., from 3 treatments per week to 1 – 2 treatments per week).
- Reduce the stimulus dose.
- Change electrode placement from bilateral to right unilateral.
- Suspend treatments until cognitive functioning improves.

If there is a slow or minimal clinical improvement after 6 – 10 treatments, the indication for continued ECT should be reassessed. If the decision is to continue with ECT treatments, consideration should be given to optimize ECT technique by

- Increasing the stimulus intensity.
- Changing from unilateral to bilateral electrode placement.
- Reducing or removing medication that may decrease response (e.g., benzodiazepines, anticonvulsants, propofol).

If repeated courses of ECT are necessary, the cognitive effects associated with prior treatment courses should be taken into consideration. If cognitive deficits are persistent and severe, a cumulative effect can occur with subsequent ECT treatments, especially with bilateral electrode placement.

It is recommended that after 15 ECT treatments, a formal reassessment be done, including a second opinion.

Evaluation of Individual Courses of Treatment, continued

Lack of Response to ECT

Patients should not be considered ECT failures or non-responders until they have had at least 10 treatments, and attempts have been made to optimize ECT response by

- Increasing the stimulus intensity.
- Changing electrode placement.
- Reducing or stopping medications that may effect response by effecting the seizure threshold (e.g., benzodiazepines, anticonvulsants, propofol).
- Changing medication strategies.

There are no clear strategies in treatment choices for ECT treatment non-responders. Some ECT practitioners try

- Psychotropic medication trials, different agents than before, or combinations.
- ECT and psychotropic medication.
- A different type of ECT: high-dose bilateral ECT treatment.

References

1. American Psychiatric Association Task Force on Electroconvulsive Therapy. The Practice of Electroconvulsive Therapy. 2nd edition. Washington, DC, American Psychiatric Press, 2001
2. Lawson JS, Inglis J, Delva NJ, Rodenburg M, Waldron JJ, Letemendia FJ. Electrode placement in ECT: cognitive effects. Psychological Medicine 1990; 20:335–344
3. Swartz CM. Asymmetric bilateral right frontotemporal left frontal stimulus electrode placement for electro convulsive therapy. Neuropsychobiology 1994; 29:174–178
4. Petrides G, Fink M. The "half-age" stimulation strategy for ECT dosing. Convulsive Therapy 1996; 12:138–146
5. Boylan LS, Haskett RF, Mulsant BH, Greenberg RM, Prudic J, Spicknall K, Lisanby SH, Sackeim HA. Determinants of seizure threshold in ECT: benzodiazepine use, anesthetic dosage, and other factors. Journal of Electroconvulsive Therapy 2000; 16:3–18
6. Beyer, J, Weiner, RD, Glenn, MD. Electroconvulsive Therapy: A Programmed Text, 2nd edition; APA, 1998

Chapter 5

MANAGEMENT OF ADVERSE EFFECTS

Postictal Delirium

Some patients develop postictal delirium following ECT. This is associated with marked agitation, disorientation, poor response to commands, and a sympathetic response. Bilateral electrode placement, high-intensity stimulation, and pre-existing cerebral impairment may increase risk for postictal delirium. It may take patients 5 - 45 minutes to recover. They are often amnesic for the episode. There is a risk of injury to the patient or staff due to marked agitation or thrashing. Depending on the severity of the symptoms, postictal delirium can be managed supportively, with reassurance or pharmacologically, with intravenous or intramuscular benzodiazepine agents (e.g., midazolam), or intravenous haloperidol.

If postictal delirium is recurrent or severe, it can be managed prophylactically with the use of the above agents after the onset of spontaneous respiration.

Cognitive Changes

The presence and severity of confusion and changes in cognitive functioning should be monitored during a course of ECT by reviewing nursing notes, bedside assessment of orientation and memory, and/or standardized testing such as the Folstein Mini-Mental Status Examination.

Assessment should be carried out before ECT and at least weekly throughout the index course. Cognitive assessment should be performed whenever possible at least 24 hours following an ECT treatment.

If there is a substantial deterioration of cognitive functioning during an ECT course, the physician administering ECT should

- Review the contributions of concomitant medications or the patient's medical status.
- Consider changing from bilateral electrode placement to right unilateral electrode placement during treatment.
- Consider decreasing the stimulus dosage.
- Change the interval between treatments; for example, if treatment frequency started at 3 times a week, decrease it to 1–2 times a week.
- Consider suspending a course of treatments.

If cognitive changes persist after completion of the course of ECT, a plan should be made for post-ECT follow-up, assessment and management.

Treatment Emergent Hypomania/Mania

A hypomanic or manic switch can occur during a course of ECT. In 1992, Angst and Angst[1] published a retrospective study of 1,057 hospital admissions between 1920 and 1981. They found that 12% of those diagnosed as endogenous depression and treated with ECT switched to hypomania. In the group diagnosed as psychotic depression, 10% switched to hypomania with ECT, and in the psychotic bipolar depressed patients, 32% switched to hypomania with ECT. The switch to mania or hypomania occurred more often in bipolar patients, or with patients with a family history of bipolar disorder.

There are no present established treatment guidelines for treating hypomanic or manic symptoms that occur following ECT treatments. Strategies can range from

- Stopping ECT and treating the manic symptoms with a mood stabilizer and/or antipsychotic.
- Suspending further treatments and observing the patient.
- Continuing ECT treatment to treat both the manic and depressive symptoms.

Delirium with euphoria, or "organic euphoria,"[2] can occur following ECT. This is characterized by confusion, disorientation and cognitive impairment. There is an associated silly, inappropriate quality to the patient's mood. This is usually a transient state lasting a few hours to days. Recovery can be facilitated by[4]

- Increasing the time between treatments.
- Decreasing the stimulus intensity.
- Changing from bilateral to unilateral electrode placement.

Other Adverse Effects

If there is any sudden onset of new risk factors, or worsening of the risk factors identified pre-ECT, these risk factors should be evaluated before the next ECT treatment. The patient's complaints concerning ECT should also be considered.

References

1. Angst J, Angst K, Baruffol I, Meinherz-Surbeck R. ECT-induced and drug-induced hypomania. Convulsive Therapy 1992; 8:179–185
2. Devanand DP, Sackeim HA, Decina P, Prudic J. The development of mania and organic euphoria during ECT. Journal of Clinical Psychiatry 1988; 49:69–71
3. Fink M, Kahn RI. Behavioral patterns in convulsive therapy. Archives of General Psychiatry 1961; 5:30–36
4. American Psychiatric Association Task Force on Electroconvulsive Therapy. The Practice of Electroconvulsive Therapy. 2nd edition. Washington, DC, American Psychiatric Press, 2001, Chapter 5.

Chapter 6

DOCUMENTATION OF INDIVIDUAL COURSES

Documentation of the Course of ECT

The Head of the Department of Psychiatry is responsible to ensure that there are policies in place to support adequate documentation of ECT. Documentation is an important aspect of ECT in order to provide the basis for continued assessment and reassessment of the patient's progress, and to provide a guide to effective treatment.

Documentation of the Course of ECT, continued

Before an Index ECT Course

The attending psychiatrist should document the following items in the patient's chart; the treating psychiatrist should confirm that they are documented

- Indications for ECT referral.
- Assessment of benefits and risks.
- Mental status, including target symptoms and base line cognitive functioning (e.g., Folstein Mini-Mental State Examination).
- Signed consent document.
- Charting recording the process of establishing informed consent.
- Appropriate physical evaluation within 10 days before starting an inpatient course of treatment, and 30 days before the start of an outpatient course of ECT.
- Pertinent laboratory investigations. Although there are no routine requirements for investigations, and investigations are patient- and hospital-specific, it is recommended that an EKG be done for patients over 45 years old.
- Consultation reports as indicated (anesthetic or medical).

Checklists are encouraged. The following examples appear at the end of this chapter

- UBC Mood Disorders Centre ECT Checklist (see Appendix A).
- Vancouver Hospital ECT Therapy Treatment Record (see Appendix B).
- Riverview Hospital Pre-ECT Medical Checklist (see Appendix C).
- St. Joseph's General Hospital ECT Checklist (see Appendix D).

Before a Maintenance Series of ECT

Before beginning a maintenance series of ECT, the treating psychiatrist should confirm that the patient's clinical record includes documentation of the following material

- Indications for maintenance ECT
- A signed consent form at least every 6 months or 15 treatments
- Charting of the elements of the informed consent process.

Documentation of the Course of ECT, continued

Between ECT Treatment Sessions (Index or Maintenance)

The attending physician should chart in the patient's clinical record at least weekly during an index ECT course. The charting should contain information about therapeutic response and adverse effects. Cognitive effects can be determined by reviewing the nursing notes, and through bedside assessment of orientation and/or memory, and/or autobiographical memory. The use of standardized testing such as the Folstein Mini-Mental State Examination can be helpful. Cognitive assessment should be done and recorded at baseline before ECT, and one week following the last ECT treatment in an index course. For maintenance, cognitive assessment should be done as a baseline prior to starting, and monthly thereafter.

There should also be communication between the attending and treating physicians. The forms at the end of this chapter are examples of what can be used

- Maintenance ECT Record (see Appendix E).
- Riverview Hospital ECT Progress Records (see Appendix F).

Using such forms, the attending physician can fax information back to the treating physician about the progress of the patient between ECT treatments and any development of adverse effects.

If 15 ECT treatments are exceeded in an index course of treatment, a second opinion should be documented on the chart justifying the provision of further treatment. With maintenance ECT, documentation of therapeutic response and cognitive effects should occur either before each treatment, or at least monthly, if the patient is stable and treatments occur more than twice per month.

Documentation of the Course of ECT, continued

At the Time of Each ECT Session

For each treatment session, at least the following information should be documented in the patient's clinical record

Pre-Treatment

- Baseline vital signs
- Medication, including dosage given before entering the treatment room.
- Any changes in risk factors, presence of adverse effects, or complications, should be noted in the chart before treatment.

Treatment

- Vital signs taken during treatment.
- Notes from the anesthetist describing the patient's condition while in the treatment.
- Medication given in the treatment, including dosage.
- Stimulus electrode placement (bilateral, right unilateral, left unilateral).
- Stimulus parameter settings for each stimulus.
- Seizure duration, noting whether motor or electroencephalographic, the quality of the EEG seizure, and the quality of suppression of the EEG seizure.
- Any adverse effects or complications that occur during treatment, and the steps taken to deal with them, charted by the treating psychiatrist.

Post-Treatment

- Vital signs post-treatment.
- Medication given post treatment, including dosage.
- Notes from the anesthetist describing the patient's condition in recovery.
- Notes from the recovery nurse, anesthetist, or treating psychiatrist documenting occurrence and management of any complications during recovery.
- The patient's condition on leaving the recovery area.

It is useful to keep a copy of treatment information for outpatients in the outpatient clinic treatment area, especially a copy of the consent, and data on electrode placement, stimulus parameters, seizure duration, anesthetic record, and adverse effects.

Documentation of the Course of ECT, continued

Following Completion of the Index ECT Course or Maintenance ECT Series

The attending physician should enter the following information in the clinical record

- A summary of overall therapeutic outcome and adverse effects experienced as a result of the ECT course or series, and the rationale for choice of endpoint
- A plan for post-ECT clinical management and any plans for follow-up of adverse effects.

The attending physician may find the form "Riverview Hospital ECT Outcome Evaluation" useful as an example, which appears at the end of this chapter. (See Appendix G.)

References

American Psychiatric Association Task Force on Electroconvulsive Therapy. The Practice of Electroconvulsive Therapy. 2nd edition. Washington, DC, American Psychiatric Press, 2001.

Enns MW, Reiss JP. Electroconvulsive therapy. Canadian Journal of Psychiatry 1992; 37:671–686

List of Chapter 6 Appendices

Appendix A:
ECT Check List, which is revised from the UBC Mood Disorders original

Appendix B:
Electroconvulsive Therapy Treatment Record, Vancouver Hospital & Health Sciences Centre, Department of Psychiatry. (Two-sided form listed as Page 1 and Page 2 in this document.)

Appendix C:
Riverview Hospital Pre-ECT Medical Checklist.

Appendix D:
St. Joseph's General Hospital, Comox, British Columbia. Electroconvulsive Therapy Checklist.

Appendix E:
Maintenance ECT Record. This document was created for the Electroconvulsive Therapy Guidelines by Dr. M.L. Donnelly. (Two-sided form listed as Page 1 and Page 2 in this document.)

Appendix F:
Outpatient ECT Progress Record Riverview Hospital.

Appendix G:
ECT Outcome Evaluation Riverview Hospital.

All of these documents may be used where appropriate to be helpful, as long as the origins are cited.

ECT Checklist

NAME:_____ SEX:_____
DOB:_____PHN:_____
HOSPITAL_____

UBC MOOD DISORDERS ECT CHECKLIST (Revised)

PRIMARY DIAGNOSIS:
- ☐ Major Depressive Disorder
- ☐ Bipolar Disorder, Depressed
- ☐ Bipolar Disorder, Manic
- ☐ Schizophrenia
- ☐ Schizoaffective Disorder
- ☐ Parkinson's Disease
- ☐ Other (please specify):

INDICATIONS FOR ECT: (check all that apply)
- ☐ Rapid response needed
- ☐ Acute suicidality
- ☐ Physical deterioration
  - ☐ Refractory to medications
- ☐ Other (please specify):

PREVIOUS ECT RESPONSE: ☐ Not applicable ☐ Good response ☐ Limited or no response

PATIENT: ☐ Voluntary ➡➡ ☐ Risks/benefits explained ➡ ☐ Patient consent signed
STATUS: ☐ Involuntary ➡➡ ☐ Second opinion completed ➡ ☐ Medical director consent signed (± patient consent)

PRE-ECT WORKUP: ☐ Physical Examination ☐ Lab ☐ ECG (if necessary)
☐ Anaesthesia consult ☐ ECT orders written

OUTCOME MEASURES	**PRE-ECT**	**POST-ECT (at time of new consent for maintenance, either 6 months or 15 treatments)**
Folstein Mini-Mental State Exam		
Clinical Global Impression	☐ Not at all ill ☐ Borderline ill ☐ Mildly ill ☐ Moderately ill ☐ Markedly ill ☐ Severely ill ☐ Extremely ill	☐ Very much improved ☐ Much improved ☐ Minimally improved ☐ Not improved ☐ Worse
Hamilton Depression Rating Scale (optional)		
17-item		
7-item		
24-item total		
Beck Depression Inventory (optional)		
Geriatric Depression Scale		
or Other Depression Scale		

REASON ECT STOPPED: ☐ Maximum Benefit ☐ Adverse Effects ☐ Limited or no response

From UBC Mood Disorders Centre. Used with permission.

VANCOUVER HOSPITAL & HEALTH SCIENCES CENTRE

DEPARTMENT OF PSYCHIATRY

ELECTROCONVULSIVE THERAPY TREATMENT RECORD

TO BE COMPLETED BY PSYCHIATRIST

DATE _____ NURSING UNIT _____

MR. MRS. MRS _____ UNIT NUMBER _____

SURNAME _____ GIVEN NAME _____

DOCTOR _____ (FOR VANCOUVER CENTRE ONLY)

SEX _____ AGE _____

Psychiatric Diagnoses _____

_____ 2nd Psychiatric Opinion Yes ☐ No ☐

Medical Diagnoses _____

_____

Medications _____

_____

Anaesthesia Classification ASA _____ Anaesthesia Consult Available Yes ☐ No ☐

History of Previous ECT _____

Allergies _____

PRETREATMENT CHECKLIST

Physical exam within preceeding 7 days recorded on chart ☐

CBC	☐	ECG	☐	Consent - Patient	☐
Electrolytes	☐	Mental Status Exam	☐	Consent - Family	☐
		Videotape Orientation (optional)	☐	Consent - Medical Director	☐

OUTCOME EVALUATION

To be completed at the termination of the course of ECT.

Number of treatments administered in total _____ number bilateral _____ number unilateral _____

Date of first treatment _____ Date of last treatment _____

RESULTS

Complete recovery	☐	Moderate Improvement	☐	No Change	☐
Marked Improvement	☐	Some Improvement	☐	Worse	☐

WHY WERE THE TREATMENTS STOPPED?

Patient was fully recovered ☐ No improvement occurred after a normally therapeutic trial ☐ Patient refused further treatment ☐

☐ Complications (specify nature) _____

SIGNIFICANT ISSUES FOR FUTURE CONSIDERATION

_____

_____

_____

_____

Treatment # _____ Date: _____ Pretreatment B.P. _____ P. _____	Pre-Op Medication and Anaesthesia _____ Anaesthetist	ECT Treatment Record and Comments	Bilateral ☐ Unilateral Rt ☐ Left ☐ Seizure Time (in sec.) _____ _____ Psychiatrist

Treatment # ______ Date: ______ Pretreatment B.P. ______ P. ______	Pre-Op Medication and Anaesthesia ______ Anaesthetist	ECT Treatment Record and Comments	Bilateral ☐ Unilateral Rt ☐ Left ☐ Seizure Time (in sec.) ______ ______ Psychiatrist
Treatment # ______ Date: ______ Pretreatment B.P. ______ P. ______	Pre-Op Medication and Anaesthesia ______ Anaesthetist	ECT Treatment Record and Comments	Bilateral ☐ Unilateral Rt ☐ Left ☐ Seizure Time (in sec.) ______ ______ Psychiatrist
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Treatment # ______ Date: ______ Pretreatment B.P. ______ P. ______	Pre-Op Medication and Anaesthesia ______ Anaesthetist	ECT Treatment Record and Comments	Bilateral ☐ Unilateral Rt ☐ Left ☐ Seizure Time (in sec.) ______ ______ Psychiatrist

Clinical Indications:

Major Depression
- ☐ Delusion Depression
- ☐ Suicidal
- ☐ Dehydration/↓ intake
- ☐ Lack of response to meds
- ☐ Previous Positive Response

Schizophrenia
- ☐ Lack of response to meds
- ☐ Catatonic subtype
- ☐ Depressed mood
- ☐ Previous positive response

Mania
- ☐ Lack of response to meds
- ☐ Mixed state
- ☐ Delirious mania

Others
- ☐ Lack of response/intolerant of meds
- ☐ Mood disorder 2^{o} medical condition
- ☐ Psychosis 2^{o} medical condition
- ☐ Catatonia 2^{o} to medical condition
- ☐ NMS

Medical Diagnoses: _____

_____

_____

_____

Allergies: _____

_____

Anesthesia Consultation:
Anesthetic ASA Class: _____
Pre-ECT meds ordered by:
Anesthesiologist ☐ Yes ☐ No
Physician ☐ Yes ☐ No

Current medication: (attach copy of mar sheet)

YES
- ☐ Physical exam within 7 days and charted
- ☐ Mental Status Exam

	ORDERED	DATE OF TEST
CBC (within 30 days)	☐	_____
Electrolytes (within 30 days)	☐	_____
EKG within 7 days	☐	_____
Spinal X-ray as clinically indicated	☐	_____
Chest X-ray as clinically indicated	☐	_____

ECT previously given: ☐ Yes ☐ No
Most recent ECT record on chart ☐ Yes ☐ No
Response to previous ECT treatment: _____

_____

_____

_____

_____

Psychiatric opinion: 1 ☐ 2 ☐

... by Dr. _____ date: _____
... by Dr. _____ date: _____

INPATIENT: Involuntary ☐ Voluntary ☐

CONSENT:	Yes	No
- Given by patient	☐	☐
- Deemed (Mental Health Act)	☐	☐
- Involved Family consulted	☐	☐
- Involved Family agreed	☐	☐

OUTPATIENT CONSENT:
- Consent/given by patient ☐
- Incapable: arranged ☐
- C.L.A.S. notified TSDM ☐

CHARTING:
- Psychiatric History ☐
- Rationale for ECT ☐
- Current Assessment of Cognitive Functioning ☐
- Mood/psychosis/behavioural scales (as applicable) completed ☐
- Info provided to patient and/or family about ECT ☐

Doctors orders written?

Starting date: _____

Starting ECT
- Unilateral : Right ☐ Left ☐
- Bilateral : ☐

Physician: _____
Date: _____

RIVERVIEW HOSPITAL

PRE-ECT MEDICAL CHECKLIST

RVH 3725 - 06/01: SF-RVH-618

PATIENT IDENTIFICATION AREA

St. Joseph's
GENERAL HOSPITAL
COMOX, BRITISH COLUMBIA

ELECTROCONVULSIVE THERAPY CHECKLIST

Pre-ECT Workup

1. History and Physical Examination (within two weeks) ( )
2. Lab work
   - CBC ( )
   - Urinalysis ( )
   - BUN (patients over 65 only) ( )
   - ECG - Date: _____ ( )
3. Date of last chest x-ray (or spinal x-ray): _____

ECT Checklist

Date / Treatment	1st	2nd	3rd	4th	5th	6th
1. Consent	( )	( )	( )	( )	( )	( )
2. History & physical report present	( )	( )	( )	( )	( )	( )
3. NPO after midnight	( )	( )	( )	( )	( )	( )
4. Hospital attire (gown)	( )	( )	( )	( )	( )	( )
5. Dentures/Jewellery/hairpins - removed	( )	( )	( )	( )	( )	( )
6. Name Band on	( )	( )	( )	( )	( )	( )
7. Voided	( )	( )	( )	( )	( )	( )
8. T. _____ P. _____; R. _____; B.P. _____	( )	( )	( )	( )	( )	( )
9. Blue card on chart	( )	( )	( )	( )	( )	( )
10. ECT sheets/anaes/ - on chart	( )	( )	( )	( )	( )	( )
11. ECT cart up to PAR on evenings	( )	( )	( )	( )	( )	( )
Initial RN/RPN						

MAINTENANCE ECT RECORD

NAME:_____

DOB: _____ SEX:_____ AGE:_____

PHN: _____

			SYMPTOMS BEING MONITORED					
Date of Assessment	Date of Last ECT	# of Last ECT	Weight	Appetite	Energy Level	Mood	Comments Generally About Functioning	Name of Assessor
		1						
		2						
		3						
		4						
		5						
		6						
		7						
		8						
		9						

MAINTENANCE ECT RECORD

NAME:_____

DOB: _____ SEX:_____ AGE:_____

PHN: _____

			SYMPTOMS BEING MONITORED					
Date of Assessment	Date of Last ECT	# of Last ECT	Weight	Appetite	Energy Level	Mood	Comments Generally About Functioning	Name of Assessor
		10						
		11						
		12						
		13						
		14						
		15						

Created by Dr. M.L.Donnelly

Date: _____

Family Physician/Community Psychiatrist Report:

Caregiver Report:

Pre-ECT Nurse Assessment:

ECT Psychiatrist Assessment and Recommendations:

RIVERVIEW HOSPITAL

OUTPATIENT ECT PROGRESS RECORD

PATIENT IDENTIFICATION AREA

RVH : SF-RVH-

Clinical Indication(s): _____

Target Symptoms: _____

_____

_____

_____

ECT COURSE

Date of First Treatment: _____ Date of Last Treatment: _____ No. of Index Tx: _____

Bilateral: ☐ Unilateral: Right ☐ Left ☐ No. of Maintenance Tx: _____

Was electrode placement changed during course: Yes ☐ No ☐

Comments: _____

_____

_____

_____

OUTCOME OF ECT COURSE

If course completed:

Therapeutic outcome

- ☐ Patient improved. (Please provide copy of mood/psychosis/behavioural scales completed)
- ☐ No improvement
- ☐ Partial improvement (changes in scores)
- ☐ Effects on memory

Comments: _____

_____

_____

If course not completed:

- ☐ Patient refused further treatment
- ☐ Medical complications (explain) _____

_____

_____

_____

- ☐ Other (explain) _____

_____

_____

RECOMMENDATIONS FOR FUTURE ECT:

_____

_____

_____

_____

_____

_____

_____

_____

Attending Physician's Signature

RIVERVIEW HOSPITAL

ECT OUTCOME EVALUATION

RVH 3782 - 05/01: SF-RVH-810

Original: Patient's Chart
Duplicate: To ECT Service

PATIENT IDENTIFICATION AREA

Chapter 7

CONTINUATION AND MAINTENANCE ECT

General Considerations

Traditionally when treating major depression, once remission of symptoms has been achieved, the 6-month period thereafter is described as the "continuation phase" of treatment, while treatment beyond the 6 months is classified as the "maintenance phase."[1] The continuation phase represents the period of particular vulnerability for re-emergence of symptoms, and pharmacotherapy is often recommended. In practice, it is difficult to distinguish between relapse (symptoms re-emerging during the continuation phase) and recurrence (symptoms re-emerging in the maintenance phase), thus this delineation may be less clinically useful.[2] This period of vulnerability may be longer in the elderly, ranging from 12 months[3] to 2 years.[2,4] Longer treatment for at least 2 years can also be appropriate for other vulnerable groups with major depression associated with chronic episodes, severe or life-threatening episodes, psychotic episodes, difficult to treat episodes, [3] episodes or greater, and frequent episodes (2 episodes or greater in 5 years).[2]

continued . . .

General Considerations

A number of studies have found high rates of relapse or recurrence in the 6- to 12-month period post-ECT, particularly without adequate continuation pharmacotherapy for depression.[5] Appropriate continuation pharmacotherapy can significantly reduce these rates. Continuation ECT (C-ECT), extending for the 6 to 12 months after acute ECT treatment, and maintenance ECT (M-ECT), extending beyond the C-ECT period, appear to be effective in preventing relapse and recurrence in all conditions with primary indications for use,[6] such as depression, mania, and schizophrenia. (See "Primary Indications for Use" in Chapter 3.) It can also be effective for Parkinson's disease.[7,8]

However, few prospective studies have compared C-ECT or M-ECT alone with pharmacotherapy. One recent study concluded ECT alone did not confer any advantage over continuation pharmacotherapy at 6 months in pre-ECT labelled "medication resistant" patients (50% relapse rate), but the comparison group was literature-based.[9] On the contrary, M-ECT combined with medication over one year for those with major depression or schizoaffective disorder conferred better outcome prospectively than pharmacotherapy alone.[10] Finally, a recent retrospective case controlled series yielded a similar beneficial result of C-ECT combined with medications.[11] This finding also appears to apply to an older group of patients (mean age 70) from an older, naturalistic study.[12] In conclusion, retrospective data and clinical experience strongly indicate there can be a clear benefit from C-ECT or M-ECT in certain cases; more prospective data are needed to confirm this observation.

Recommendations for Use

According to the APA Guidelines,[13] after a successful index course of ECT, continuation of ECT should be considered when

- Pharmacotherapy has been ineffective or unsafe in preventing relapse or recurrence.
- The patient (or substitute decision-maker) prefers to continue with ECT, and is willing to comply with the overall treatment plan, including behavioural restrictions associated with outpatient ECT.

Sparse data currently available indicate C-ECT or M-ECT combined with pharmacotherapy provides better outcomes than ECT or pharmacotherapy alone in selected patients. Further research, including the results of the ongoing 5-year NIMH-funded Consortium for Research in ECT (CORE), continuation ECT vs. pharmacotherapy prospective trial, will help clinicians decide whether single or combination treatment would be the most effective.

Some of those who remain well with C-ECT will benefit further from M-ECT. The duration of M-ECT to prevent recurrence is unclear, but there may not need to be a limited duration specified, or maximum number of M-ECT treatments, in those who particularly have "a strong history of recurrent illness, or when present or past attempts to stop or taper continuation treatment have been associated with return of symptoms."[13]

Process and Evaluation

C-ECT and M-ECT are typically given as outpatient treatments, ranging from weekly to monthly. Some will be maintained at less frequent intervals, such as every 6 to 8 weeks. Consent, technique, and evaluation, as covered in other chapters here, are issues to be tailored to the outpatient. It is suggested that

- The responsibility between the attending physician and ECT practitioner regarding who should monitor for target symptoms and cognitive function, and how consent should be obtained and renewed, should be clear for each case. In most instances, these would be the attending physician's responsibilities.
- The overall treatment plan should be reviewed and consent should be obtained at least every six months.[13]
- A register of patients undergoing ECT is helpful. A readily-accessible site where consents can be stored and brought up with each treatment is optimal.
- A discussion of the frequency of treatments and anticipated tapering schedule is strongly suggested before starting C-ECT. One tapering schedule suggests weekly ECTs for 1 month, biweekly ECTs for 2 months, and monthly ECTs for 3 months. Because of the vulnerability for relapse in the continuation phase of treatment, one might **not** need to taper ECT at such a prescribed frequency. Instead, the schedule of ECTs could be guided by each individual's clinical condition and his or her history of relapse when attempts have been made in the past to taper continuation treatment.

Special Considerations: Dementia and ECT

There may be some patients undergoing ECT (i.e., demented, brain injured, or minors) who may be incompetent to consent for C-ECT or M-ECT, but not commitable under the *Mental Health Act*. In these cases consent from a substitute decision-maker must be obtained, as set out in the *Health Care (Consent) and Care Facility (Admission) Act or the Mental Health Act*.

Of particular interest are those with co-existing dementia and depression, since there is considerable overlap in symptoms associated with the diagnosis of each. Disturbances in mood and affect seem to be more specific for mood disorder rather than motivational or vegetative symptoms.[14] Scales such as the Geriatric Depression Scale can aid in diagnosis in the presence of mild to moderate dementia,[15] particularly if there are reliable informants around. Complicating the issue further is that an index course of ECT may have a positive effect on general agitation in those with dementia,16 as well as benefiting those demented with major depression,[17] paralleling the efficacy of SSRIs for treating anxiety or some behavioural disorders associated with dementia.[18]

These factors should be taken into account before embarking on C-ECT or M-ECT in those patients with dementia. Clearly there will be those who attain a clear benefit in mood and affective symptoms, with improvement in function or social interaction. However, there will be those who become more placid due to less-specific effects of ECT, or due to a progression of dementia itself. Thus, finding alternative pharmacologic or non-pharmacologic maintenance treatments other than ECT would minimize risk of treatment in the long term. While C-ECT or M-ECT is considered a safe treatment in dementia, and there is no evidence for alterations of brain structure from contemporary ECT,[19] there are no data available to indicate whether M-ECT can or cannot adversely influence the cognitive deterioration in dementia. Therefore, for those with dementia, it is suggested that

- There must be significant benefit observed with an acute course of ECT before recommending C-ECT or M-ECT. There must be clear documentation of the indication for C-ECT or M-ECT, and the symptoms targeted.
- The risks and benefits of C-ECT or M-ECT are specifically discussed with the patient or the patient's substitute decision-maker, and documented.
- For those deemed to be incompetent to consent, a second psychiatric opinion is advisable, preferably from a geriatric psychiatrist, addressing both the clinical issues and the competency to consent issue.
- A review of the treatment plan and the need to continue ECT should be done every 6 months, including a re-evaluation of cognitive function and a discussion of this with the patient or the patient's substitute decision-maker.

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Chapter 8

NURSING CONSIDERATIONS

Recommendations on Nursing Responsibilities

ECT is provided in a variety of settings in British Columbia hospitals. The following section outlines recommendations regarding nursing responsibilities in instances where the hospital in question has a designated suite for the delivery of ECT, and when the hospital delivers ECT in the OR, PAR, or ER.

Staffing for a designated ECT Suite

Treatment Coordinator

Qualifications

- RN/RPN with training in the use of ECT.

Responsibilities

- Book and schedule treatments.
- Contact outpatients to advise them of their treatment time.
- Provide education and support to outpatients and families as required.
- Assemble charts for outpatients.
- Ensure ECT equipment is available at the treatment area.
- Ensure treatment medications and emergency medications are available and current.
- Set up the treatment room.
- Assign designated nursing staff to specific roles during the treatment.
- Provide emergency interventions as required.
- Facilitate and organize orientation of new staff to ECT.
- Facilitate and organize in-service educational programs related to ECT.
- Develop guidelines for the nursing care of patients having ECT.
- Participate in the development of patient education materials.

Treatment/Recovery Room Nursing Staff

Qualifications

- RN with critical care training or at least recent medical-surgical experience.

Responsibilities

- Assist the treatment room coordinator in the treatment area as directed.
- Monitor patients in the post-anesthetic recovery room.
- Provide emergency interventions as necessary.
- Determine when to notify the anesthetist and/or the treating physician.
- Arrange for the patient's transfer back to the inpatient ward or for discharge when he or she is stable. (See the section "Pre- and Post-ECT Outpatient Nursing Care.")
- Provide reassurance and support to patients.

Staffing for ECTs Performed in the OR, PAR, or ER

Recommendations

- Ideally, designate a member of the nursing staff from the psychiatric unit as coordinator of the ECT program, and designate at least 2 members of the nursing staff in the treatment area to be responsible for the ECT treatments.
- Provide training for above staff members (according to training guidelines).
- Ensure designated staff is assigned to the treatment area.

Responsibilities

Psychiatric Unit Staff

- Provide education and support to patients and families.
- Ideally, accompany patients to the treatment area and remain with them until treatment begins.
- Attend the recovery area to assist with agitated patients as required.

See the section "Pre and Post-ECT Inpatient Nursing Care" for further details.

Staff in Pre-/Post-ECT Waiting Areas (Day Care Surgery)

See the section "Pre and Post-ECT Outpatient Nursing Care."

Coordinator of ECT Program

- Book and schedule treatments.
- Contact outpatients to inform them of their treatment time.
- Provide education and support to outpatients and families as required.
- Assemble charts for outpatients.
- Ensure ECT equipment is available at the treatment area.
- Facilitate and organize orientation of new staff to ECT.
- Facilitate and organize inservice educational programs related to ECT.
- Develop guidelines for the nursing care of patients having ECT.
- Participate in the development of patient education materials.

Staffing for ECTs Performed in the OR, PAR, or ER, continued

Treatment/Recovery Room Nursing Staff

- Set up the treatment area.
- Ensure treatment medications and emergency medications are available and current.
- Assist anesthetist/treating physician as necessary.
- Monitor patients in Post Anesthetic Recovery area.
- Provide emergency interventions as necessary.
- Determine when to notify the anesthetist and/or treating physician.
- Arrange for the patient's transfer back to inpatient ward or for discharge when he or she is stable.

Pre- and Post-ECT Outpatient Nursing Care

Goals of Nursing Care

The patient will

- Understand the need for having ECT, the possible side effects and the procedures to be carried out.
- Experience minimal physical side effects and psychological discomfort from ECT.
- Have his/her safety maintained before, during, and after ECT.

Interventions

Treatment Coordinator

When Referral for ECT Is Received

- Ensure the patient's clinical record is up-to-date and includes the following
  - Referral and booking forms.
  - Progress notes from the referring psychiatrist.
  - Current medication list.
  - ECT treatment records.
  - Nursing progress notes.
  - Current consent form.
- Assess and arrange for education required, including family members as necessary.

Pre- and Post-ECT Outpatient Nursing Care, continued

Interventions, continued

Staff in the Pre-/Post-Treatment Waiting Room

Pre-ECT

- Receive the patient in the designated area and ensure all necessary forms are with the chart.
- Collect baseline clinical data, including VS and mental status.
- Complete the ECT/Pre-Op checklist.
- Ensure prescribed pre-ECT medications have been taken.
- Ensure the patient has been NPO
  - for treatments given in the morning: from midnight
  - for treatments given later in day: according to hospital policy (no food for 5-6 hours, and only clear fluids up to 2 hours before the treatment).
- Assist the patient to change into hospital attire, according to hospital policy.
- Assess the patient's level of anxiety.
- Give the patient reassurance and support.
- When possible, ensure a staff member or responsible adult is available to remain with the patient before entering the treatment area.
- Ensure the patient voids before entering the treatment area.
- Assess the patient's potential for incontinence. Suggest wearing disposable briefs **only if necessary,** and with all geriatric patients.

Post-ECT

- Provide the patient with light breakfast/fluids.
- Give the patient reassurance and support.
- Assess the patient's vital signs and level of orientation before discharge.
- **Ensure that the patient is accompanied by a responsible adult when leaving** the treatment facility post-ECT, and will be escorted home.
- Instruct the patient and the accompanying adult regarding the need to
  - Be aware of possible side effects from the treatment or the anesthetic.
  - Report any untoward reactions to the attending physician.
- **Instruct the patient not to drive a vehicle for 24 hours.**
- Ensure the patient's personal effects go with him or her.

Pre- and Post-ECT Outpatient Nursing Care, continued

Staff in Treatment and Recovery Areas

See the section "Nursing Responsibilities in Treatment Areas."

Documentation

Complete ECT Nursing Record and Nursing Progress Notes, including any untoward events.

Pre- and Post-ECT Inpatient Nursing Care

Interventions

Pre-ECT

When ECT is ordered

- Assess the education required, including family members as necessary.
- Implement the education plan.
- Document the education carried out and its outcome.
- Ensure facility-appropriate chart forms are on patient's chart, including
  - The consent form..
  - Checklists.
  - Record of anesthesia.
  - Record of ECT.

The Day before ECT

- Assess the patient's physical and mental status.
- Commence the ECT/Pre-Op checklist.
- Encourage and/or assist the patient with personal hygiene, especially hair-washing.
- Encourage the patient to express concerns and feelings about his/her condition and ECT.
- Maintain NPO from midnight. **Remove *all* food and fluids from the bedside.**

Pre- and Post-ECT Inpatient Nursing Care, continued

Interventions, continued

The Morning of ECT

Complete the ECT/Pre-Op checklist.

- Confirm NPO has been maintained with the patient (according to outpatient guidelines).
- Assess the patient's potential for incontinence. Encourage the patient to void immediately before leaving ward. Suggest wearing disposable briefs **only if necessary**, and with all geriatric patients.
- Assess the patient's level of anxiety.
- Give the patient reassurance and support.
- When possible, accompany the patient to the treatment area.
- When possible, remain with the patient to provide support until he or she enters the treatment room

Post-ECT

On the patient's return to the ward

- Assess the patient's physical and mental status.
- Take the patient's blood pressure, pulse, and respirations within 5 min. of his or her return to the ward.
- Assess the frequency of observation required based on the patient's return to Pre-ECT vital signs and level of consciousness (e.g., q 15 min., q 30 min., q 1 hr).
- Assess the safety of the patient's environment and his or her readiness to ambulate and to swal low before giving morning medication and breakfast.
- Assess and document any side effects of the treatment.
- **Ensure the patient is accompanied when leaving the ward any time up to 24 hours post-ECT.**
- **Instruct the patient not to drive a motor vehicle for 24 hours post-ECT.**
- **Alert the patient's family and friends of the need for supervision for a minimum of 24 hours post-treatment.**

Documentation

Complete the following documentation

- Pre-treatment assessment data and interventions.
- Patient/family education, including their response to the education.
- Post-treatment assessment data and interventions.

Nursing Responsibilities in Treatment Areas

Nursing Care Goal

The patient will have safety maintained immediately before, during and following ECT.

Directives

A patient will be assessed for transfer/discharge from the recovery room post-ECT when

- The pre-and post-ECT scores correspond using a Post-Anesthetic Discharge Scoring System (see Appendix A). This form is part of the patient chart.
- The patient's vital signs are ±20% of baseline.

Inpatients

A recovery room nurse may transfer a patient to the unit of origin when the patient achieves the above patient specific discharge criteria. A physician will assess patients not meeting the discharge criteria in order for them to be transferred.

Outpatients

It is recommended that facilities providing outpatient ECT develop a policy statement and procedures that will address the discharge process of patients from the Post-Anesthetic Recovery room. Such a policy with corresponding procedures ought to include

- Criteria to be met before discharge (see above) using the discharge protocol form.
- Who may discharge the patient (e.g., a nurse certified to discharge the patient).
- Whom to call if a patient does not meet the discharge criteria.

A doctor's order for discharge is required if the above policy is not in place.

Interventions

The following interventions are suggested as guidelines and may vary according to hospital-specific policies, procedures, or practices.

In the Treatment Room

- Ensure all equipment is available (see Chapter 4, "Technique, Equipment, and Evaluation).
- Ensure that all required chart documentation is accurate and complete.
- Review the ECT checklist.
- Confirm that pre-ECT medications have been taken.
- Assist the patient onto the stretcher.
- Establish intravenous access according to the treating physician's order and facility practice.
- Pre-ECT, assess and record the patient's
  - Level of consciousness.
  - Respiratory status.
  - Muscle strength.
  - Skin color.

Nursing Responsibilities in Treatment Areas, continued

- Check and record BP and P pre-ECT.
- Cleanse electrode placement sites with alcohol swabs.

Interventions, continued

In the Treatment Room, continued

- Attach ECG and EEG electrodes.
- Attach the oximeter sensor.
- Record O_2 saturation on room air.
- Assist the anesthetist as required.
- Apply the BP cuff to limb as directed, and inflate 220 mm/hg before the injection of succinylcholine.
- Assist with the placement of ECT electrodes.
- Assist the treating physician with the treatment by holding the electrodes in place, and triggering the electrical stimulus.
- Apply gentle pressure on the patient's legs and arms to protect limbs from injury.
- Deflate BP cuff when the EEG has indicated seizure activity has stopped.
- Post seizure, record BP, pulse, and O_2 saturation.
- Remove the oximeter sensor, ECG leads, and EEG leads when directed.
- Assist in turning the patient to the post-anesthetic position.
- Assist with transferring the patient to the recovery room.

In the Recovery Room

- Prepare the recovery room for receiving patients post treatment
  - Check the wall suction and oxygen.
  - Check the pulse oximeter.
  - Test the patient monitoring system (if in PAR/ER).
- Receive a verbal report from the treatment room nurse and anesthetist.
- Commence 0_2 at 6–10 liters/min.
- Attach the oximeter.
- Check and record the patient's level of consciousness, respiratory status, muscle strength, and skin color
  - On admission.
  - Q5 minutes until it is equal to the pre-ECT score.
  - On discharge if more than 15 minutes have elapsed since the last recording.

Nursing Responsibilities in Treatment Areas, continued

Interventions, continued

In the Recovery Room, continued

- Check and record BP, P, and R
  - On admission.
  - Q5 minutes until vital signs are ±20% of baseline.
  - On discharge if more than 15 minutes have elapsed since the last recording.
- Check and record O_2 saturation
  - On admission.
  - Q5 minutes until $O_2 > 95$.
  - Before discharge if more than 15 minutes have elapsed since the last recording.
- Assist the patient to expel the artificial airway prn.
- Administer suction if required.
- Discontinue O_2 as indicated by the patient's condition, and check O_2 saturation on room air.
- Elevate the head of the stretcher.
- Check the patient's
  - Mouth and teeth for injury.
  - ECT electrode sites for redness and/or blistering.

Notify the physician and treatment room nurse if you note an injury, and complete an incident report as appropriate.

- Re-orient the patient to person, time, and place.
- Reassure the patient that treatment is over.
- Discontinue intravenous access.
- Notify the ward and accompanying adults that the patient is ready to be discharged from the recovery room.
- **Ensure the patient's personal effects go with him or her.**
- Give a verbal report to the ward nurse or, in the case of an outpatient, to the accompanying adult.

Documentation

Complete the ECT/PAR Nursing Record, including any untoward events.

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NAME:_____ SEX:_____
DOB:_____PHN:_____
HOSPITAL_____

POST-ANESTHETIC DISCHARGE SCORING SYSTEM

SCORE	CRITERIA	ADM	POST ECT	5 MIN	5 MIN	DIS
Resp.						
2	Breathes deeply or coughs					
1	Dyspnea or limited breathing					
0	Apnea/Airway requires attention					
O2 Sat						
2	>95%					
1	90-95 %					
0	< 90%					
LOC						
2	Fully awake					
1	Arousable on calling					
0	No response					
Circ						
2	BP ± 20% preanaesthetic level					
1	BP ± 20-50% preanaesthetic level					
0	BP ± 50% preanaesthetic level					
Color						
2	Normal/Pink					
1	Pale, dusky, blotchy, jaundiced					
0	Cyanotic					
Strength						
2	Hand grasps strong					
1	Hand grasps weak					
0	No movement					
	TOTAL SCORE					

Chung, F. **Are Discharge Criteria Changing?** Journal of Clinical Anesthesia, Vol 7, No 6, 1995, pp 500-506.

Chapter 9

ANESTHESIA GUIDELINES

Requirements

All anesthesia providers must adhere to the *Guidelines to the Practice of Anesthesia* recommended by the Canadian Anesthesiologist's Society (revised edition 2000).[1] These guidelines address minimum requirements pertaining to

- the role of an anesthesiologist in patient care
- facility and equipment requirements in the anesthetizing location and recovery area.

Anesthetizing locations outside an accredited hospital operating room suite must follow the "British Columbia College of Physicians and Surgeons policy for non-hospital medical/surgical facilities."[2]

When anesthesia practitioners do not have the necessary equipment or staff's lack the necessary training or skills to safely and efficiently administer general anesthesia for electro-convulsive therapy and attend to the potential complications, or when the patient's medical condition dictates, a prudent practitioner should refer the patient to another practitioner or facility to provide optimal care.

Pre-Anesthetic Period

Anesthesia Consultation/Evaluation

An anesthesia consultation/evaluation should be requested before the first ECT, or during maintenance ECT when there is a significant change in the patient's medical status or medications. All patients with an ASA rating of 3 or above should have a consultation. The objectives of a consultation are to

- Determine the indication for ECT and any specific requirements that pertain to the proposed ECT therapy.
- Determine the history of anesthetic course during any prior ECT.
- Identify risk factors that may increase perioperative risk, and to take or suggest measures that would try to minimize that risk, including obtaining opinions from other consultants, laboratory, or investigative testing that may be deemed appropriate from the history and physical examination of the patient. Where risks are considered to be high, cancellation of the proposed procedure may be in the patient's best interests.

During the evaluation,

- A written report should be provided, documenting history and physical status, ASA classification, and specific concerns that may impact the proposed treatments and/or affect patient outcome.
- Pre-operative modification of antidepressant drugs should be discussed with the attending psychiatrist.
- Pre-operative orders to be administered before each treatment should be provided.

Pre-Operative Laboratory Testing

- No routine laboratory investigations are necessary; ordering of laboratory tests should be guided by the presence and severity of medical risk factors.
- It is suggested that practitioners follow the BC guidelines to electrocardiograms and pre-operative testing.[3]
- The potential for drug interaction and the autonomic instability that may manifest itself during ECT treatments should guide the clinician to consider obtaining baseline investigations that may not necessarily follow the BC guidelines to ECG and laboratory testing.
- Hospital or treatment facilities may define their own guidelines, depending on their specific circumstances.

Pre-Anesthetic Period, continued

Oral Intake

Minimum duration of fasting should be

- 8 hours after a meal that includes meat, fried, or fatty foods.
- 6 hours after a light meal (such as toast and a clear fluid).
- 2 hours after clear fluids.

If necessary, patients should be maintained on a level of observation sufficient to ensure compliance.

Should risk factors for aspiration be present, the anesthesiologist may elect to prolong the patient's NPO status, and pre-operatively prescribe a prokinetic agent such as metoclopramide, an H2 receptor blocker such as ranitidine, or a non-particulate antacid such as sodium citrate. This would be ordered in the pre-operative orders.

Patients at risk for relative dehydration should have an intravenous commenced early in the pre-operative period.

All diabetics should have a baseline glucometer reading performed. Thereafter, if indicated, a dextrose containing intravenous should be commenced.

Pre-Anesthetic Period, continued

Medications

Most regular medications should be continued during a course of ECT. They may be given with a sip of water the morning of treatment. (See "Psychotropic Medications during ECT" in Chapter 4.)

Physiological Changes During ECT

- Application of the electrical stimulus results in vagal stimulation regardless of whether a seizure is induced. The most apparent effect of this parasympathetic discharge is bradycardia. Asystole may occur, particularly in younger patients or individuals that have pre-existing cardiac conduction defects, or medications that affect conduction, such as beta-blockers.
- Seizure induction results in a sympathetic discharge with release of catecholamines and a resultant tachycardia and hypertension. The rate/pressure product increases dramatically; this may place the myocardium at risk for ischemia.
- Post seizure, baroreceptor-induced bradycardia may occur.
- During the seizure, cerebral blood flow increases markedly, oxygen extraction increases, and glucose metabolism increases.
- Cerebral autoregulation may be impeded, resulting in increased intracerebral pressure.
- Cardiac arrhythmias are frequent, but are usually self-limiting.
- Post-operative electrocardiographic changes showing ST-segment deviation and T wave inversion suggestive of subendocardial ischemia have been reported.
- Systolic performance of the left ventricle has been shown to be transiently impaired in patients not felt to be at risk for cardiac ischemia.
- Intraoccular and intragastric pressure increases.

The aforementioned physiological changes that may occur during ECT, coupled with the administration of anesthetic agents, is what places patients "at risk" for ECT. It is these factors that necessitate a complete evaluation of risk at the time of the anesthetic consultation. These risks must be balanced against those associated with medication use.

The Anesthetic Period

Unique Considerations

- Current ECT practice requires a general anesthetic.
- Neuromuscular blockade is necessary to attenuate the musculoskeletal manifestations of the seizure and to enable airway control and patency to permit ventilation and oxygenation.
- The selection of drugs and doses should be individualized to account for each patient's unique requirements.
- Potential drug interactions with antidepressants (e.g., MAOIs, lithium) must always be considered.
- Seizures persisting for more than 180 seconds should be considered prolonged, and should be terminated pharmacologically.

The protection of the teeth and oral structures requires special attention

- The electrical stimulus results in direct stimulation of the masseter, pterygoid, and temporalis muscles, causing an abrupt clenching of the jaw, despite muscle relaxation.
- A flexible bite-block should be used to distribute the force of the jaw contracting, to enable protection of the teeth and other oral structures.
- All patients, including edentulous patients, require a bite-block to be inserted.
- Partial dentures may remain in as a support to protect single or vulnerable teeth.
- The patient's chin should be supported to keep the jaw tight against the bite-block during the stimulus.
- A plastic airway (e.g., Guedel-type) should not be used as a bite-block.

The Anesthetic Period, continued

Procedure

- Perform equipment check, and ensure emergency drugs and apparatus are present, available, and functional.
- Ensure that stretcher is capable of Trendelenberg positioning.
- Review the patient's chart, including prior ECT anesthetic records.
- Ensure that the patient has an understanding of the proposed anesthetic.
- Discuss the planned procedure with the attending psychiatrist, including
  - Unilateral or bilateral electrode placement.
  - The necessity to titrate stimulus intensity.
  - The necessity to utilize proconvulsant drugs.
  - The requirement for limb isolation to observe motor manifestations of seizure.
  - The need for relative hyperventilation.
- Establish intravenous access via an indwelling canula.
- Ensure monitors are attached, and obtain a baseline recording of parameters.
- Administer anesthetic drugs, ensuring adequate pre-oxygenation, airway control, and placement of the bite-block.
- Administer intermittent positive pressure ventilation with 100% oxygen until the electrical stimulus, and continue post-stimulus until spontaneous and regular breathing are resumed.
- Ensure electrical isolation and support the mandible in occlusion before the stimulus.
- Ensure the patient's positioning is optimal to ensure his or her safety.
- When the patient is adequately anesthetized and haemodynamically stable, and muscle relaxation is optimized (90 seconds for succinylcholine), the ECT stimulus may be applied.
- During and immediately post stimulus, special attention must be directed to
  - Oxygenation and ventilation.
  - Hemodynamic stability. The blood pressure cuff should be cycled every 1–2 minutes. (A manual cuff may be required to record pressure, since the automatic cuff's cycle time and accuracy may be impeded by wide fluctuations in the blood pressure or by the presence of tachy or brady dysrrhymias).
- When the seizure has terminated, both in terms of motor and EEG evidence and hemodynamic stability is achieved, the patient may be placed in the lateral position to maintain airway patency.
- Once the patient is stable, rousable, and maintains spontaneous ventilation, he or she may be transferred to the recovery area. Oxygen should be administered by facemask during transit.
- The course of the anesthetic should be recorded.

The Anesthetic Period, continued

Anesthesia Drugs

The ideal induction agent would provide a short induction time that assured complete amnesia/unconsciousness throughout the period of muscle relaxation, including the seizure, while providing rapid titratability, hemodynamic stability, and a rapid recovery profile. It should have minimal to no effect on the seizure threshold, duration, or propagation of the seizure.

Methohexital

Methohexital was the most frequently-used induction agent for ECT, but is no longer available.

Sodium Thiopentone (Pentothal)

- Sodium thiopentone is the current drug of choice in some treatment facilities.
- This barbiturate increases the seizure threshold in a dose-dependent fashion.
- Repeat dosing may cause a prolonged recovery period.
- It is difficult to titrate to assure unconsciousness.

Propofol (Diprivan)

- A dose of 0.75 – 1.5 mg/kg results in a significant reduction of the magnitude of hemodynamic changes that accompany ECT.
- Propofol induces cerebral vasoconstriction, reduces cerebral blood flow and intracranial pressure, and decreases cerebral metabolic rate.
- Anticonvulsant action reduces seizure duration significantly.
- It is not shown to change therapeutic outcome compared to pentothal or methohexital.
- There is pain on injection, which can be reduced by injecting into a fast-running intravenous placed into a larger bore vessel. (Lidocaine should not be added to propofol, since it will increase the seizure threshold.)
- Propofol shows no benefit in the recovery profile compared to barbiturates (ECT use).

Muscle relaxants

- Muscle relaxants are used to minimize risk of a skeletal injury during seizure.
- Complete paralysis is neither desirable nor necessary, but should be tailored to the patient's need.
- A peripheral nerve stimulator allows a more accurate estimation of paralysis than clinical estimation.

The Anesthetic Period, continued

Succinylcholine

- Succinylcholine is the relaxant of choice in a dose of 0.5 – 1.0 mg/kg.
- Optimal relaxation occurs once all fasciculations have stopped.
- If a repeat dose be required, an anticholinergic agent should be given before the succinylcholine, to reduce the potential for asystole.
- Contraindicated in conditions with neurological deficit, malignant hyperthermia, hyperkalaemia, burns, atypical pseudocholinesterase, or cholinesterase inhibition.

Anticholinergic Agents

- Atropine in a dose of 0.3 – 0.6 mg iv. or glycopyrrolate 0.2 – 0.4 mg iv. may be used to decrease the bradycardia associated with the stimulus.
- Anticholinergic agents should be administered intravenously in sufficient time (1 – 3 minutes) before the stimulus to attenuate the vagal effects on the heart.
- They are recommended during the first treatment where the incidence of subconvulsive stimuli is higher while the convulsive threshold is evaluated.
- Glycopyrrolate may be a preferable drug in the elderly, since it is less likely to cause tachycardia and has a reduced incidence of postictal delirium compared to atropine.

The Anesthetic Period, continued

Post-Anesthetic Period

- Communicate any medical or anesthetic concerns to the recovery area nurse.
- Ensure the patient's airway, breathing, and circulation continues to remain stable, and administer supplemental oxygenation if required.
- Remain in the recovery area to receive the initial set of vital signs from the PAR nurse, including
  - Respiratory rate.
  - Pulse rate and rhythm.
  - Blood pressure.
  - Oxygen saturation.
  - Level of consciousness.
- Chart and sign anesthetic drugs and dosages PAR, noting comments regarding any complications and/or suggestions for changes for future ECT sessions on the anesthesia record.
- Either discard contaminated needles, syringes, and airway equipment in the appropriate containers, or send them to CSD for cleaning.
- Diagnose and treat abnormalities in vital signs and other complications, including, but not limited to
  - Postictal delirium.
  - Headache.
  - Nausea and vomiting.
  - Bronchospasm.
  - Angina.
  - Hypo/hyperglycemia in diabetic patients.
- Note serious complications in the chart and/or communicate them to the patient's physician.

The patient's medical condition is the anesthetist's responsibility until the patient is discharged from the PAR. Discharge from the PAR is a responsibility of the anesthetist, delegated to the PAR nurses who use established discharge criteria according to the "ECT Nursing Record." To be discharged from the PAR, the patient must be free of complications and have his or her vital signs returned to baseline.

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Chapter 10

TRAINING AND PRIVILEGING FOR HEALTH CARE PROFESSIONALS

Introduction

The goal of training and privileging systems is to ensure that practitioners possess the knowledge and skills required to provide safe and effective treatment. This is even more important in the case of ECT, given the controversy and negative perceptions that surround ECT.

It is the responsibility of the authority providing the ECT service (usually a health authority) to ensure that professionals who provide the services have the necessary knowledge, skills and attitudes to provide safe and effective treatment in an environment that is empathetic to the needs of patients and their significant others. "Privileging" is the process where the chief of psychiatry or medicine assesses the knowledge and skills of a medical practitioner who wishes to be involved with the ECT treatment team, and decides to grant that privilege to the practitioner. A similar process should occur with nurses involved in ECT, where the director of nursing or other nursing authority ensures that the nurses working in the ECT service have the necessary knowledge, skills and attitudes, although this may not be formally known as "privileging".

Introduction, continued

In addition to professionals involved in direct administration of ECT who should go through a formal privileging system or its equivalent, a number of others need competence in aspects of ECT. For example, psychiatrists or general practitioners who prescribe ECT but do not provide it, and nurses on units where people receive ECT, need considerable knowledge about its indications, effects, side effects, patient education issues, and the like. While the health authority does not need a special ECT privileging system for these people, it does have a responsibility to ensure that professionals are competent and keep up with developments in the field.

Privileging and training are closely linked. Basic training is received before entering practice and subsequently is the basis for developing and maintaining the knowledge, skills, and attitudes that privileging requires. While the health authority is not responsible for preparing students in nursing and psychiatry, their feedback to professional schools in areas such as the delivery of ECT may be helpful for preparing students. In addition, health authorities along with the professions have a responsibility for ensuring that practitioners keep up-to-date on developments in ECT. This chapter includes lists of the knowledge and skills that should be considered in establishing privileging criteria for ECT.

Competencies Required

ECT has evolved into a complex medical procedure that requires interaction among many health care providers. To accomplish the successful outcome of electroconvulsive therapy, it is necessary for entire teams to stay abreast of the advances in the practice of ECT. This includes referring physicians, attending nurses, and staff of the ECT service, including staff in the receiving area, treatment area, post-operative recovery area, and the outpatient post-discharge area. Staff should be trained in the historic aspects of ECT as well as advances in technique, including stimulus dosing, electrode placement choices, physiological modifications of induced seizures, and physiological monitoring during ECT and in the recovery area, as well as post-ECT care on the ward or in outpatient clinics.

Physicians who do ECT need to have mastered the following knowledge levels or compentencies

- Indications for the use of ECT.
- Risk-benefit assessments.
- Patient selection and evaluation.
- Consent procedures for both voluntary and involuntary patients.
- Preparation of patients.
- Types and use of ECT equipment.
- Techniques of ECT administration.
- Anesthetics and muscle relaxants.
- Airway management and oxygenation.
- Bite-blocks and nerve stimulators.
- Electrode placement.
- Stimulus parameters and dosing, including the concept of threshold.
- Monitoring of EEG and motor convulsions.
- Electrophysiological monitoring of heart rhythms and blood pressure.
- Management of missed and prolonged seizures.
- The concept of inadequate seizure.
- Emergency use of ECT.
- Management of medical emergencies during ECT.
- Documentation of inter-ECT interval progress.
- Evaluation of therapeutic outcomes and side effects, in particular, cognition.
- The use of maintenance ECT.
- Post-ECT medication management, particularly to prevent relapse and recurrence.

Competencies Required, continued

Family physicians and psychiatrists referring patients for treatment need to know

- Indications for the use of ECT.
- Risk benefit assessments.
- Patient selection and evaluation.
- Consent procedures for both voluntary and involuntary patients.
- Documentation of inter ECT interval progress.
- Evaluation of therapeutic outcomes and side effects, in particular cognition.
- Post-ECT medication management, particularly to prevent relapse and recurrence.

To address recruitment and continuing education issues in remote or rural hospitals, a customized locaL continuing education program for interested physicians should be considered. The continuing education course should not only bring the knowledge and practice to contemporary standards, but should help form linkages with major teaching hospitals. Policies should be developed to refer patients to teaching hospitals if problems are encountered in the treatment process.

Continuing education programs should include both didactic lecture or seminar components and practical hands-on training with a mentor.

Privileging Physicians

The head of the department of psychiatry (or equivalent) should be responsible for privileging functions, including appointments, re-appointments, monitoring, performance appraisals, and recommendations for privileges to practice ECT. Privileges for ECT practice should be reviewed every second year.

It is recommended that privileges for the administration of ECT should be restricted to Royal College certified psychiatrists trained in ECT practice, whenever possible. Where trained psychiatrists are not available, another physician with an interest in psychiatry could be specifically trained in the modern practice of ECT to meet regional needs. In situations where the treating practitioner is a trained physician other than a psychiatrist, a mandatory psychiatric consultation should be required for every patient before ECT commences.

In determining whether a psychiatrist should be privileged for the ECT service the person responsible should use as a basis this Guideline including skills and knowledge outlined in this chapter, although it is difficult to get an agreement about what constitutes a basic minimum requirement for the practice of ECT and for the maintenance of competence. It is, however, recommended, that ECT practitioners must keep up with developments in the field in terms of research, advances in technique, and evolving indications for the use of ECT, as well as maintaining an active ECT practice on an bi-annual basis.

Training Nurses

Nurses play an important role in the delivery of electroconvulsive therapy, from patient and family education and preparation before treatment to follow-up and support for patients and family after treatment is given. Education about ECT needs to be included as part of basic nursing education. For those nurses entering the field of psychiatry, more extensive education needs to be provided. The following recommendations for training and orientation are intended to provide guidelines for schools of nursing and for hospitals providing psychiatric treatment.

Health Authority

General Nursing Staff
Nursing orientation should include an overview of ECT, including its history, indications, and potential risks.

Nursing Staff Working in Psychiatry and in Treatment Areas and Recovery Rooms
Nursing orientation in Psychiatry should include

- The history of ECT.
- Indications for and potential risks of ECT.
- Pre-ECT evaluation and medical review.
- Informed consent procedures.
- ECT technique.
- Information to be included in patient and family education.

In addition, nursing staff working in treatment areas and recovery rooms should have orientation, which includes nursing participation in ECT treatment and post-anesthetic recovery (including management of emergency situations).

Appointing Nurses

Ensuring Qualified Nursing Support
Management for mental health acute care services within health authorities should ensure job descriptions and qualifications, hiring processes and orientation are developed to ensure effective and supportive nursing care for patients receiving ECT services (see Chapter 8, "Nursing considerations"). Nurses require ongoing orientation sufficient to provide care that is based on current best evidence. Program and individual evaluations are provided to support nurses to achieve nursing practice standards and to implement changes when required.

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Chapter 11

QUALITY ASSESSMENT

It is recommended that each hospital providing ECT appoint an ECT Director to oversee the effective provision of ECT at that hospital, including

- the availability of patient and family education materials
- appropriate clinical care of patients
- monitoring of ECT as a therapy
- privileging of physicians to perform ECT.

Program Quality Improvement (QI Initiatives)

The purpose of quality assurance or improvement programs is to improve outcomes. It is only by critically looking at our work that we may objectively identify areas for possible improvements. Improved outcomes include

- Better staff training.
- Better information being received by patients, families, and other decision-makers.
- Reduction in side effects.
- Improved patient satisfaction.
- Improved patient outcomes regarding symptom reduction.

Monitoring of ECT should be the responsibility of the health authority, through quality improvement initiatives defined by designated psychiatric quality improvement teams. The following are recommendations for activities for quality assurance and/or improvement.

- As part of a QI process, an annual review should include one or more of the following
  - Documented consent.
  - Pre-ECT checklists.
  - ECT treatment forms.
  - Side effects and complications.
  - Basic treatment outcomes.
  - Patient and family education activities.
- A review of nursing and physician training, as well as privileging of ECT, should occur every second year.

Information to Be Kept by Health Authorities (HA)

The following information is considered essential for HAs to maintain, in order to understand their own appropriate use of ECT as a therapy, and for potential inter-hospital comparisons by the Ministry of Health Services. There should be a record of the following variables for each individual patient

- Age.
- Sex.
- Personal Health Number.
- Whether this is an index course or maintenance course of ECT.
- Whether this is an inpatient or outpatient.
- Dates of treatment.
- Names of the attending physicians and their professional degrees (family physicians or psychiatrists).
- Any side effects or complications that occurred during the course of ECT.
- The primary diagnosis as a reason for requiring ECT.
- The indications for ECT.
- A statement about previous ECT response.
- Whether the patient was voluntary or involuntary.
- Elements of pre-ECT workup completed.
- Basic outcome measures, including a cognitive scale, the clinical Global Impression Scale, a depression scale, and a patient satisfaction measure (qualitative or quantitative).
- The reason ECT is stopped.
- The number of unilateral and bilateral treatments.
- Treatment location (name of hospital).

Information to Be Kept by Health Authorities (HA), continued

Appendices A–D at the end of this chapter show sample forms and slightly-revised checklists from the UBC Mood Disorders Centre for index and maintenance courses of ECT.

Having maintained these individual records, Health Authorities should be able to collate the following data for inter-unit and inter-regional comparisons when required

- The number of inpatients and outpatients per year having an index course of ECT.
- The number of patients having maintenance ECT each year on an inpatient or outpatient basis.
- The age range and distribution of ECT treatment by sex.
- The average number of treatments for an index episode.
- The average number of treatments per year, per person, for maintenance ECT.
- A list of the primary diagnosis of the patients undergoing ECT.
- A list of complications related to ECT.
- Basic outcome measures.
- Reasons for stopping ECT.

Sample Form for Index Course of ECT

NAME:_____ SEX:_____
DOB:_____PHN:_____
HOSPITAL_____

INDIVIDUAL ECT RECORD: INDEX COURSE: COMPLETED ON DISCHARGE
Inpatient ☐ or Outpatient ☐

Dates of Treatments:	(+ Bil/Uni)	Dates of Treatments:	(+ Bil/Uni)
1._____	_____	9._____	_____
2._____	_____	10._____	_____
3._____	_____	11._____	_____
4._____	_____	12._____	_____
5._____	_____	13._____	_____
6._____	_____	14._____	_____
7._____	_____	15._____	_____
8._____	_____	Total Unilateral_____	Total Bilateral_____

Name of Physicians Monitoring Effects of ECT (Attending) — Professional Degree (Family Phys./Psych.)

_____ _____
_____ _____
_____ _____

Adverse Reactions and Complications:

_____
_____
_____
_____
_____
_____
_____

REASON ECT STOPPED: ☐ Maximum benefit ☐ Adverse effects ☐ Limited or no response

From UBC Mood Disorders Centre. Used with permission.

Sample Checklist, Index Course

NAME:_____ SEX:_____
DOB:_____PHN:_____
HOSPITAL_____

UBC MOOD DISORDERS ECT CHECKLIST (Revised)

PRIMARY DIAGNOSIS:
- ☐ Major Depressive Disorder
- ☐ Bipolar Disorder, Depressed
- ☐ Bipolar Disorder, Manic
- ☐ Schizophrenia
- ☐ Schizoaffective Disorder
- ☐ Parkinson's Disease
- ☐ Other (please specify):

INDICATIONS FOR ECT: (check all that apply)
- ☐ Rapid response needed
- ☐ Acute suicidality
- ☐ Physical deterioration
- ☐ Refractory to medications
- ☐ Other (please specify):

PREVIOUS ECT RESPONSE: ☐ Not applicable ☐ Good response ☐ Limited or no response

PATIENT: ☐ Voluntary ➡➡ ☐ Risks/benefits explained ➡ ☐ Patient consent signed

STATUS: ☐ Involuntary ➡➡ ☐ Second opinion completed ➡ ☐ Medical director consent signed (± patient consent)

PRE-ECT WORKUP: ☐ Physical Examination ☐ Lab ☐ ECG (if necessary) ☐ Anaesthesia consult ☐ ECT orders written

OUTCOME MEASURES	**PRE-ECT**	**POST-ECT (at discharge or one week post-discharge, or 15 treatments of maintenance)**
Clinical Global Impression	☐ Not at all ill ☐ Borderline ill ☐ Mildly ill ☐ Moderately ill ☐ Markedly ill ☐ Severely ill ☐ Extremely ill	☐ Very much improved ☐ Much improved ☐ Minimally improved ☐ Not improved ☐ Worse
Hamilton Depression Rating Scale (optional)		
17-item		
7-item		
24-item total		
Beck Depression Inventory (optional)		
Geriatric Depression Scale or Other Depression Scale		

From UBC Mood Disorders Centre. Used with permission.

Sample Form for Maintenance Course of ECT

NAME:_____ SEX:_____
DOB:_____PHN:_____
HOSPITAL_____

INDIVIDUAL ECT RECORD: MAINTENANCE COURSE

Inpatient ☐ or Outpatient ☐

Dates of Treatments:	(+ Bil/Uni)	Dates of Treatments:	(+ Bil/Uni)
1._____	_____	9._____	_____
2._____	_____	10._____	_____
3._____	_____	11._____	_____
4._____	_____	12._____	_____
5._____	_____	13._____	_____
6._____	_____	14._____	_____
7._____	_____	15._____	_____
8._____	_____	Total Unilateral_____	Total Bilateral_____

Name of Physicians Monitoring Effects of ECT (Attending)	Professional Degree (Family Phys./Psych.)
_____	_____
_____	_____
_____	_____

Adverse Reactions and Complications:

_____
_____
_____
_____
_____
_____

From UBC Mood Disorders Centre. Used with permission.

Sample Checklist, Maintenance Course

NAME:_____ SEX:_____
DOB:_____ PHN:_____
HOSPITAL_____

UBC MOOD DISORDERS ECT CHECKLIST (Revised)

PRIMARY DIAGNOSIS:
- ☐ Major Depressive Disorder
- ☐ Bipolar Disorder, Depressed
- ☐ Bipolar Disorder, Manic
- ☐ Schizophrenia
- ☐ Schizoaffective Disorder
- ☐ Parkinson's Disease
- ☐ Other (please specify):

INDICATIONS FOR ECT: (check all that apply)
- ☐ Past failure on medications
- ☐ Past history of response to maintenance ECT
- ☐ Other (please specify):

PREVIOUS ECT RESPONSE: ☐ Not applicable ☐ Good response ☐ Limited or no response

PATIENT: ☐ Voluntary ➡➡ ☐ Risks/benefits explained ➡ ☐ Patient consent signed

STATUS: ☐ Involuntary ➡➡ ☐ Second opinion completed ➡ ☐ Medical director consent signed (± patient consent)

OUTCOME MEASURES	**PRE-ECT**	**POST-ECT (at time of new consent for maintenance, either 6 months or 15 treatments)**
Folstein Mini-Mental State Exam		
Clinical Global Impression	☐ Not at all ill ☐ Borderline ill ☐ Mildly ill ☐ Moderately ill ☐ Markedly ill ☐ Severely ill ☐ Extremely ill	☐ Very much improved ☐ Much improved ☐ Minimally improved ☐ Not improved ☐ Worse
Hamilton Depression Rating Scale (optional)		
17-item		
7-item		
24-item total		
Beck Depression Inventory (optional)		
Geriatric Depression Scale or Other Depression Scale		

From UBC Mood Disorders Centre. Used with permission.

Feedback: Electroconvulsive Therapy

Guidelines for Health Authorities in British Columbia.

August 2002

The Electroconvulsive Therapy: Guidelines for Health Authorities in British Columbia document will be periodically updated. To assist in this process, please answer any or all of the following questions and send it to the address shown at the bottom of this form.

Thank you for your assistance.

1. Is this a useful document? Will it assist you in planning, delivering and evaluating Electroconvulsive Therapy in your region Briefly explain your response.

2. Please identify errors and identify any additional issues you would suggest for the next edition.

3. Does the document as a whole provide clear and appropriate guidelines for developing or improving ECT services?

Feedback: Electroconvulsive Therapy

4. Are the suggestions for data elements to be kept for Quality Improvement (QI) Purposes (on page?) complete? Do you have any concerns about being able to collect and analyse this data?

5. Additional comments: (Please attach another page if you need more space.)

Name _____

Position _____

Health Authority _____

Address _____

Phone _____

Fax _____

E-Mail _____

Please return to: Mental Health and Addictions, Ministry of Health Services, 1515 Blanshard Street, Victoria, BC V8W 3C8

Mheccu

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