

College guidelines on electroconvulsive therapy: an update for prescribers

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Abstract This article is intended to update prescribers of electroconvulsive therapy (ECT) on the key points of the revised edition of the Royal College of Psychiatrist's *ECT Handbook* (due to be published in 2005). The two most important tenets that influenced the revision were that evidence from systematic reviews and appraisals was balanced with expert judgement based on clinical experience, and that both prescribers and practitioners should strive to reduce further the cognitive adverse effects of treatment. The article concentrates on revised guidance regarding the indications for ECT, important elements of the process of informed consent, and the prescription of treatment, i.e. choice of electrode placement and the frequency and total number of treatments.

The revised edition of *The ECT Handbook* (Royal College of Psychiatrists, 2005) will appear about 3 years later than anticipated. The initial reason for the delay was to await the results of two important systematic reviews sponsored by the Department of Health before the last general election. The first of these concerned the efficacy and safety of electroconvulsive therapy (ECT) and the second concerned the perspective of consumers or patients. Subsequently and separately, a Health Technology Appraisal of ECT in the treatment of depressive illness, mania, schizophrenia and catatonia was commissioned by the National Institute for Clinical Excellence (NICE). The Royal College of Psychiatrists, through its Special Committee on ECT, was one of the stakeholders in the appraisal. It became clear in the autumn of 2002 that NICE intended to recommend restrictions on the indications for ECT, particularly in the treatment of depressive illness. The College lodged an official appeal, but this was dismissed (National Institute for Clinical Excellence, 2003a). It would not have been desirable for either practitioners or their patients that the College guidelines be published only to be contradicted within a few months by guidance from NICE. It was therefore decided that extra time be spent on developing and including guidance for prescribers and practitioners that would enable them to accommodate their practice to the discrepancy between advice from the College and from NICE.

Findings from systematic reviews

The major findings of the review of efficacy and safety were that there was as substantial a body of evidence to support the short-term efficacy of ECT as a treatment for depressive illness and that it had superior efficacy to antidepressant drug treatment. One caveat was that none of the randomised comparisons had included treatment with newer dual-action antidepressant drugs. The superior efficacy of bilateral over unilateral treatment was confirmed, but there was no evidence that ECT given three times a week gave a better outcome than treatment twice a week (UK ECT Review Group, 2003).

The major and salutary finding of the review of patients' perspectives on ECT was that at least one-third reported significant memory loss after treatment (Rose *et al*, 2003). The NICE Appraisal Committee later commented that it had taken special note of the evidence from users that cognitive impairment after ECT often outweighed their perception of any benefit from it (National Institute for Clinical Excellence, 2003b). This was the main factor that led the Appraisal Committee to recommend that the use of ECT be restricted to situations in which all other alternatives had been exhausted or where the nature of the mental illness was considered to be life-threatening. The College's Special Committee on ECT felt that these concerns had to be heeded and therefore one of the important

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Box 1 Tenets that have influenced the revised College guidelines

- Balance evidence from randomised controlled trials with expert judgement based on clinical experience
- Anticipate changes to mental health legislation:
 - mentally competent patients can now refuse ECT
- Salience of informed consent:
 - discussion of patient's perception of illness severity
 - patient's preference from various treatment options
 - discussion of the benefits/costs of unilateral v. bilateral ECT
- Importance of minimising cognitive adverse effects:
 - encourage the initial use of unilateral ECT in illness that is not life-threatening
 - refinements to the administration and monitoring of treatment (for the ECT practitioner)

tenets that influenced the revision of *The ECT Handbook* was the importance of minimising cognitive adverse effects. Other tenets are listed in Box 1.

Consultation

There were no psychiatrists on the NICE Appraisal Committee but a psychiatrist present at one of its meetings fed back to the College early in the appraisal process that the Committee struggled to understand the place of ECT in contemporary psychiatric practice. This turned out to be a helpful observation. The first edition of *The ECT Handbook* (Royal College of Psychiatrists, 1995) did make evidence-based statements about the efficacy of ECT in specific conditions, but did not go beyond this to suggest when ECT would be preferred over other treatment options or *vice versa*. Although it was laudable to attempt to advise about the place of ECT among other possible treatments, it was soon realised that expert judgement based on clinical experience would be required to augment the findings from randomised controlled trials and higher levels of evidence. The College's Special Committee therefore consulted psychiatrists with expertise in the application of ECT, encompassing both academic and clinical experience, and involved delegates attending the ECT Practitioners' Day at the King's Fund under the auspices of the College

Box 2 The place of ECT in the treatment of mania

- The treatment of choice for mania is a mood-stabilising drug plus an antipsychotic drug
- ECT may be considered for severe mania associated with:
 - life-threatening physical exhaustion
 - treatment resistance, that is, mania that has not responded to the treatment of choice
- The selection of ECT may be affected by:
 - patient choice
 - previous experience of ineffective and/or intolerable medical treatment
 - previous recovery with ECT

in October 2002. This wider group, the Consensus Group, produced a statement on contemporary indications for the use of ECT, which was presented to NICE in October 2002.

Indications

Mania, acute schizophrenia and catatonia

In the new edition of *The ECT Handbook*, the College's recommendations regarding indications in mania (Box 2), acute schizophrenia (Box 3) and catatonia (Box 4) now go beyond statements about whether or not ECT has efficacy, and also offer guidance on the place of ECT among other treatments. The revision includes a critical appraisal of the evidence base for the efficacy of ECT in schizophrenia that led to the recommendation that ECT be restricted to the treatment of acute schizophrenia, and only then once clozapine has already proven ineffective or intolerable.

The recommendations for these indications are consistent with the NICE guidance (National Institute for Clinical Excellence, 2003b), although the latter does not include other neuropsychiatric conditions such as Parkinson's disease.

Box 3 The place of ECT in the treatment of acute schizophrenia

- The treatment of choice for acute schizophrenia is antipsychotic drug treatment
- ECT may be considered as a fourth-line option, that is, an option for treatment-resistant schizophrenia after treatment with two different antipsychotic drugs and then with clozapine has already proven ineffective or intolerable

Box 4 The place of ECT in the treatment of neuropsychiatric conditions

Parkinson's disease

- ECT is a safe adjunctive treatment for both motor and affective symptoms in people with severe disability despite medical treatment

Catatonia

- The treatment of choice is a benzodiazepine drug; most experience is with lorazepam
- ECT may be indicated when treatment with lorazepam has been ineffective

ECT remains an experimental treatment for disorders such as neuroleptic malignant syndrome, Huntington's disease and treatment-resistant epilepsy

Depressive illness

The College and NICE differ in their recommendations regarding indications for ECT in depressive illness (Boxes 5 & 6). The College suggests indications where ECT may be the treatment of choice or considered as a first-line treatment aside from immediately life-threatening or demonstrably

Box 5 Revised College guidance on ECT in the treatment of depressive illness

- ECT may be the treatment of choice for severe depressive illness when the illness is associated with:
 - attempted suicide
 - strong suicidal ideas or plans
 - life-threatening illness because of refusal of food or fluids
- ECT may be considered for the treatment of severe depressive illness associated with:
 - stupor
 - marked psychomotor retardation
 - depressive delusions and/or hallucinations
- In the absence of the above, ECT may be considered as a second- or third-line treatment of depressive illness that has not been adequately treated by antidepressant drug treatment and where social recovery has not been achieved
- The selection of ECT may be affected by:
 - patient preference
 - previous experience of ineffective and/or intolerable medical treatment
 - previous recovery with ECT

Box 6 NICE guidance on ECT in the treatment of depressive illness

ECT should be used only:

- to achieve rapid and short-term improvement of severe symptoms after an adequate trial of other treatment options has proven ineffective
- when the depressive illness is considered to be potentially life-threatening

ECT is not recommended as a maintenance therapy because its longer-term benefits and risks have not been clearly established

(National Institute for Clinical Excellence, 2003b)

treatment-resistant depressive illness. The College had already argued in its appeal to NICE that it seemed perverse that depressed patients might have to wait until their depressive illness became life-threatening or had failed to respond to other treatments before they would be allowed ECT. The revised College guidance does accept that there is no evidence from a randomised controlled trial to support the efficacy of ECT as a prophylactic treatment, but foresees clinical scenarios where, through a process of informed consent, a patient might choose ECT as the preferred treatment.

Box 7 lists suggestions to prescribers about how to accommodate their practice while this discrepancy between guidance from the College and NICE continues. The key here is that appropriate treatment decisions are made for the individual patient through the process of valid informed consent. The systematic review by Rose *et al* (2003) has emphasised that patients who have previously been treated with ECT have the experience to decide whether to trade off the immediate benefit with the potential for later problems such as retrograde amnesia. Patients who have never been treated with ECT have no such personal experience, and greater circumspection would be required here. The prescription of unilateral ECT would be particularly apposite (see Prescription below).

Treatment resistance

NICE recommends as a general principle that ECT be used only after an adequate trial of other treatments has proven ineffective, if the illness is not considered life-threatening. No guidance is offered on what can be regarded as adequate other treatments for any of the conditions appraised.

The most common contemporary indication for ECT is treatment-resistant depressive illness (Duffett

Box 7 Suggestions for accommodating prescription practices to the discrepancy between College and NICE guidance in depressive illness

- Divergence would occur only if ECT were used:
 - if the episode was not potentially life-threatening or severe
 - if the episode was not demonstrably treatment resistant
 - as continuation or maintenance treatment
- Health professionals should make decisions appropriate to the individual patient, in consultation with the patient and/or guardian or carer
- The NICE guidance in itself does not have legal jurisdiction over clinical practice
- Any deviation from the NICE guidelines would require a documented assessment of potential risks and benefits and the patient's true valid informed consent
- An informal second opinion may be helpful in controversial indications
- Prescribers ought to exercise particular circumspection in depressed patients who have never before been treated with ECT (they have no personal experience to enable them to weigh the benefits and costs of ECT)
- The balance between immediate benefit and longer term-risk of distressing retrograde amnesia can be moved in favour of benefit by the use of unilateral ECT
- Valid and documented patient preference may support divergence from the guidance

et al, 1999; Scottish Electroconvulsive Therapy Audit Network, 2002), and it is particularly disappointing that NICE offers no guidance on this. However, the College's revised *ECT Handbook* does contain advice on what constitutes treatment resistance in depressive illness, suggesting options in addition to ECT for its management. These are based on the earlier evidence-based guidelines of the British Association for Psychopharmacology (Anderson *et al*, 2000). In the absence of an urgent need for treatment, ECT is not regarded as the second-line treatment of choice (Box 8).

Traditionally, it was held that ECT is a highly efficacious treatment for depressive illness irrespective of whether or not that illness had already failed to respond to antidepressant drug treatment. This belief has been challenged by well-conducted prospective research in the USA (see van den Broek *et al*, 2004), which suggested that among contemporary patients with depression, a history of a failure

Box 8 Treatment failure in depressive illness

- Initial treatment failure may be defined as a lack of recovery after a course of an antidepressant drug given at a proven effective dose for at least 6 weeks
- Elderly patients may take longer to respond to antidepressant drug treatment
- A switch to an antidepressant drug with a different mode of action is the preferred second-line treatment where there is no urgent need for treatment (see Box 6)
- If the depressive illness persists with antidepressant treatment, several options are available:
 - add an augmenting agent such as lithium carbonate
 - switch to an MAOI for patients with atypical illness
 - adjunctive cognitive-behavioural therapy or similar
 - ECT

to recover with antidepressant drug treatment reduced the likelihood of recovery with subsequent ECT. These findings in the USA have not been replicated in The Netherlands (van den Broek *et al*, 2004) or in Scotland (Husain *et al*, 2004). This suggests that the prediction of the likelihood of recovery with ECT cannot be based on treatment resistance alone. Patients in whom the index illness has proved resistant to medical treatment may also have a history of previous recovery with ECT. Episodes of treatment-resistant illness also last longer and it is not clear whether it is treatment resistance itself or the longer duration of the index illness that may be associated with a reduced likelihood of recovery with ECT. The literature is, however, consistent in that the majority of patients who have already failed to recover with antidepressant drug treatment can subsequently recover with ECT.

Prescription

Electrode placement

It is the selection of electrode placement by the prescriber that has the most profound effect on the cognitive adverse effects of ECT. Patients treated with bilateral ECT take significantly longer to become reoriented after an individual treatment (Sackeim *et al*, 2000) and are at greater risk of prolonged disorientation (Sackeim *et al*, 2000). The risk of the loss of autobiographical memories was emphasised as a particular concern in the systematic review of

patients' perspectives on ECT. Such gaps in memory, or retrograde amnesia, covering the months, or occasionally years, before the course of ECT are more likely to persist 2 months after treatment with bilateral ECT (Lisanby *et al*, 2000). The College's Special Committee on ECT appreciated that many practitioners in the UK were sceptical about unilateral treatment because of earlier experiences of limited efficacy of unilateral ECT given with an inadequate electrical stimulus. Unilateral ECT with attention to stimulus dosing can be an efficacious treatment for a substantial proportion of patients with depression (Sackeim *et al*, 2000), albeit that there will continue to be some who will not recover even with high-dose unilateral ECT, but who subsequently recover with bilateral ECT (Sackeim *et al*, 2000).

Frequency of treatment

The recommendation remains that the optimal frequency for both bilateral and unilateral ECT is twice a week. The frequency may be reduced to, say, weekly to manage treatment-emergent cognitive adverse effects, or as the course of treatment nears completion.

Number of treatments

The recommendation remains that a set number of treatments should not be prescribed at the start of a course of ECT. The patient should be assessed after each treatment to see if further treatments are necessary. If no clinical improvement is seen at all after six properly given bilateral treatments, then the course should be abandoned as lacking efficacy. The management of patients who have shown definite but slight or temporary improvement with early treatments is more complex, but it may be worth continuing up to 12 bilateral treatments before abandoning ECT. As noted above, some patients do not respond even to high-dose, unilateral ECT, but subsequently respond to bilateral ECT. The ineffective unilateral treatments should be disregarded in the assessment of the need for further bilateral treatments.

Psychotropic drug treatment during and after ECT

Two systematic reviews on these topics were specially commissioned for the revision of *The ECT Handbook*, and it is disappointing to report that there are still few data available from randomised controlled trials.

Before ECT

Wherever clinically possible, the concomitant prescription of a benzodiazepine drug should be avoided during a course of ECT. If a hypnotic drug is indicated, a small dose of a sedative antipsychotic may be preferred to a benzodiazepine. Nevertheless, it would be incautious suddenly to stop prescribing a long-established benzodiazepine a few days before a course of ECT, because there is a risk of a dramatic lowering of seizure threshold. It may be better to continue the drug initially, perhaps in reduced dosage. Abrupt discontinuation of an antidepressant before ECT should also be avoided, particularly one with a short half-life or one of the serotonin specific reuptake inhibitors (SSRIs), because of the risk of discontinuation symptoms. Another reason is that there have been case reports of prolonged cerebral seizure activity putatively linked to the abrupt discontinuation of an antidepressant, usually an SSRI. A special note is required about non-selective monoamine oxidase inhibitors (MAOIs). Traditionally, there has been concern about the administration of any general anaesthetic to patients taking such a drug in case a pressor drug were required to treat peri-operative hypotension. This is not of practical relevance to ECT and the available evidence does not suggest any other reason that an MAOI need be discontinued before treatment. Nevertheless, it is prudent that the anaesthetist be informed if a patient might have taken an MAOI drug within 2 weeks of the start of a course of ECT. The co-administration of lithium is not a contraindication to ECT. If an anti-epileptic drug is prescribed to treat epilepsy, then its prescription should continue. If an anti-epileptic drug is used as a mood stabiliser, then no evidence-based recommendation can be made; on balance, it may be better to continue prescription during the course of ECT (see below).

After ECT

It has been established for more than 30 years that there is a high risk of relapse in the first few weeks after successful ECT if patients are left untreated. It has been a long-standing recommendation that the minimum requirement after successful ECT is continuation medical treatment with an antidepressant drug at a full therapeutic dose for at least 6 months. In depressive illness, there is evidence that ECT is reserved for treatment-resistant illnesses and this might suggest that continuation medical treatment would be routine after ECT. Surprisingly, there have been reports from North America that this practice is not routine, although it is not clear whether this is a problem of prescription or adherence. The recommendation for 6 months of

continuation treatment must be seen as the bare minimum, and certainly 12 months of continuation treatment has been recommended as routine practice in late-life depressive illness (Baldwin *et al.* 2003). It is probably better to prescribe an effective antidepressant drug and/or mood stabilising drug before the end of a course of treatment, if only to provide adequate early continuation treatment. Most contemporary patients treated with ECT suffer from recurrent illness and are therefore likely to be candidates for longer-term prophylactic treatment as well as continuation treatment. Evidence-based recommendations for prophylactic treatment are available for depressive illness (Anderson *et al.* 2000), bipolar disorder (Goodwin, 2003) and schizophrenia (American Psychiatric Association, 1997).

Gaps in the evidence

Unfortunately, there is a lack of relevant clinical research to inform the management of the continuation phase of treatment in patients with depression who were originally prescribed ECT because the index illness had not responded to antidepressant drug treatment. There is one school of thought that ECT brings about neurochemical changes that make a depressive illness more likely to respond to antidepressant drug treatments, including those that have not previously been effective. Other commentators disagree and recommend that after successful ECT, a switch be made to a different class of antidepressant drug rather than reintroduce a drug from a class that has already proved ineffective. It may be prudent to assume that such patients, like those who suffer from recurrent depressive illness, are candidates for an augmentation strategy as well as continuation treatment with an antidepressant drug.

Conclusions

Perhaps the most important lesson is that we do not have enough of the right kind of evidence to resolve the debate about the appropriate contemporary use of ECT. One desirable outcome would be the instigation of relevant collaborative research between patients and prescribers into the short- and medium-term benefits and risks of ECT in depressive illness. This would be in everyone's best interest, but only time will tell whether it happens.

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MCQs

- 1 **The systematic reviews sponsored by the Department of Health found that:**
 - a there was substantial evidence for the short-term efficacy of ECT in depressive illness
 - b ECT was more efficacious than antidepressant drug treatment in the short term
 - c bilateral ECT was more efficacious than unilateral treatment
 - d ECT given three times a week was more efficacious than treatment twice a week
 - e at least one-third of patients report significant memory loss after ECT.

2 Concerning indications for ECT:

- a NICE recommends that ECT be used only for severe and treatment-resistant illness
- b the revised guidance from the College is consistent with this advice
- c NICE also recommends that ECT be used only for acute illness and not as a prophylactic treatment
- d this too is consistent with the revised College guidance
- e the revised College guidance is that, in the absence of an urgent need for treatment, ECT would not ordinarily be a first- or second-line treatment for depressive illness.

3 Where treatment-resistant depressive illness is the indication for ECT:

- a patients will already have been treated with a therapeutic dose of an antidepressant drug for a minimum of 4 weeks
- b ECT is to be regarded as the second-line treatment of choice
- c the majority of patients recover with ECT
- d bilateral electrode placement is the treatment of choice
- e continuation treatment after successful ECT may appropriately include an augmentation strategy as well as treatment with an antidepressant drug.

4 The choice between unilateral and bilateral electrode placement:

- a affects how long patients take to become reoriented after a single treatment
- b affects the risk of prolonged disorientation after a single treatment
- c affects the risk of persistent retrograde amnesia
- d should, where possible, be part of the process of informed consent
- e can be switched over a course of treatment, depending on clinical improvement and/or tolerability.

5 Concerning psychotropic drug treatment and ECT:

- a if a hypnotic drug is indicated, a small dose of a sedative antipsychotic may be preferred to a benzodiazepine
- b an antidepressant drug with a short half-life should be tapered and discontinued quickly before ECT
- c the co-prescription of lithium is a contraindication to ECT
- d efficacy is enhanced by the prescription of continuation antidepressant drug treatment before the end of a course of ECT
- e many contemporary patients will be potential candidates for long-term prophylactic treatments.

The Royal College of Psychiatrists

Practitioners' Day in Electroconvulsive Therapy (ECT)

Friday 22 April 2005, Edinburgh

AM Session - Guest Speaker: **Dr Harold Sackeim, Chief, Department of Biological Psychiatry, New York State Psychiatric Institute, USA**

PM Session - Guest Speaker: **Professor Richard Weiner, M.D., Ph.D. Professor of Psychiatry, Duke University Medical School and Chief, Mental Health Service Line, Durham VA Medical Center, USA**



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MCQ answers

1	2	3	4	5
a T	a T	a F	a T	a T
b T	b F	b F	b T	b F
c T	c T	c T	c T	c F
d F	d F	d F	d T	d T
e T	e T	e T	e T	e T