



Statement on Electroconvulsive Therapy (ECT)

Position statement CERT01/17

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STATEMENT ON ELECTROCONVULSIVE THERAPY (ECT)

INTRODUCTION

This statement describes the Royal College of Psychiatrists Committee on ECT and Related Treatments recommendations on the use of ECT and covers its use in depression and in other clinical conditions and situations. The first section is on depression and starts with a re-iteration of the recommendations of the most recent NICE Guideline on the use of ECT in depression. This is followed by a brief review of the evidence base for the use of ECT in depression with an account of modes of administration and cognitive effects of ECT. The second section is a brief review of the evidence base for the use of ECT in other clinical conditions and situations. The conclusion describes the committee's recommendations on the indications for ECT in the management of patients. It broadly concurs with the NICE's recommendations but is more robust in its recommendations regarding the elderly, more explicit on the place of ECT in management and more up to date regarding the evidence on cognitive side effects. However, the current evidence base for ECT is not sufficiently detailed to allow certainty about the sequencing of ECT within a patient's management plan but is sufficiently robust to be confident about efficacy in the clinical situations discussed.

A. USE OF ECT IN DEPRESSION

1. NICE GUIDELINES ON USE OF ECT IN DEPRESSION

The 2009 NICE Guideline for Depression (CG90: National Collaborating Centre for Mental Health, 2010) made the following recommendations about ECT: -

1.10.4.1 Consider ECT for acute treatment of severe depression that is life-threatening and when a rapid response is required, or when other treatments have failed.

1.10.4.2 Do not use ECT routinely for people with moderate depression but consider it if their depression has not responded to multiple drug treatments and psychological treatment.

1.10.4.3 For people whose depression has not responded well to a previous course of ECT, consider a repeat trial of ECT only after:

- reviewing the adequacy of the previous treatment course and
- considering all other options and
- discussing the risks and benefits with the person and/or, where appropriate, their advocate or carer.

1.10.4.4 When considering ECT as a treatment choice, ensure that the person with depression is fully informed of the risks associated with ECT, and with the risks and benefits specific to them. Document the assessment and consider:

- the risks associated with a general anaesthetic
- current medical comorbidities
- potential adverse events, notably cognitive impairment
- the risks associated with not receiving ECT.

The risks associated with ECT may be greater in older people; exercise particular caution when considering ECT treatment in this group.

1.10.4.5 A decision to use ECT should be made jointly with the person with depression as far as possible, taking into account, where applicable, the requirements of the Mental Health Act 2007. Also, be aware that:

- valid informed consent should be obtained (if the person has the capacity to grant or refuse consent) without the pressure or coercion that might occur as a result of the circumstances and clinical setting
- the person should be reminded of their right to withdraw consent at any time
- there should be strict adherence to recognised guidelines about consent, and advocates or carers should be involved to facilitate informed discussions
- if informed consent is not possible, ECT should only be given if it does not conflict with a valid advance decision, and the person's advocate or carer should be consulted.

1.10.4.6 The choice of electrode placement and stimulus dose related to seizure threshold should balance efficacy against the risk of cognitive impairment. Take into account that:

- bilateral ECT is more effective than unilateral ECT but may cause more cognitive impairment

- with unilateral ECT, a higher stimulus dose is associated with greater efficacy, but also increased cognitive impairment compared with a lower stimulus dose.

1.10.4.7 Assess clinical status after each ECT treatment using a formal valid outcome measure, and stop treatment when remission has been achieved, or sooner if side effects outweigh the potential benefits.

1.10.4.8 Assess cognitive function before the first ECT treatment and monitor at least every three to four treatments, and at the end of a course of treatment.

1.10.4.9 Assessment of cognitive function should include:

- orientation and time to reorientation after each treatment
- measures of new learning, retrograde amnesia and subjective memory impairment carried out at least 24 hours after a treatment.

If there is evidence of significant cognitive impairment at any stage consider, in discussion with the person with depression, changing from bilateral to unilateral electrode placement, reducing the stimulus dose or stopping treatment depending on the balance of risks and benefits.

1.10.4.10 If a person's depression has responded to a course of ECT, antidepressant medication should be started or continued to prevent relapse. Consider lithium augmentation of antidepressants.

2. EVIDENCE FOR ECT IN DEPRESSION

The Royal College of Psychiatrists similarly holds that ECT is a well-established and safe treatment option for depressed patients with an inadequate response to or poor tolerability of antidepressant treatment and concurs with NICE's recommendations for consent and monitoring of ECT. The main and most up to date evidence regarding ECT's efficacy and side effects is reviewed below.

ECT involves the induction of a therapeutic seizure by the application of electrical current under general anesthesia and muscle relaxation. It is prescribed as a course and is usually administered 2 times per week. Gangadhar and Thirthalli (2010) reviewed the evidence on ECT frequency and concluded that twice weekly ECT offers the best balance between therapeutic outcome and adverse effects. The length of a course varies but is usually for between 6 and 12 treatments, although, occasionally, some patients may require more. It is the most effective

short-term treatment for major depression and significantly more effective than sham ECT and antidepressants (UK review group, 2003, Pagnin et al, 2004). ECT is effective for severe and resistant forms of depression including those with psychosis and/or psychomotor retardation. Remission (recovery to previous state of well-being) rates of around 60–80% have been reported when it is used as first line treatment in a severe depressive episode and remission rates are even higher in psychotic depression (Petrides et al, 2001). Remission rates are also high in the elderly who also show a more rapid response (Spaans et al, 2016). In resistant depression, when multiple previous treatments have failed, a remission rate of 48% with ECT has been reported (Heijnen et al, 2010). Reports from ECTAS and SEAN (the Royal College of Psychiatrist's bodies that monitor ECT in England & Wales and Scotland respectively) confirm these findings and indicate the effectiveness of ECT as currently administered in the UK. In urgent situations, bilateral ECT should be administered as it works faster than high dose unilateral ECT (Kellner *et al* 2010). Despite its effectiveness in the acute episode, without maintenance treatment the relapse rate is extremely high (over 80%) in the 6 months after successful ECT. This can be significantly reduced by either pharmacotherapy, including the combination of nortriptyline and lithium, or continuation ECT and it has been shown that such continuation ECT is not associated with adverse memory outcomes (Smith et al, 2010, Brown et al, 2014). However, despite this, the overall relapse rate remains 30–50% and more effective strategies for relapse prevention following ECT are urgently needed. Uncontrolled studies have shown that maintenance ECT is an effective strategy in the longer term for reducing the frequency of relapse and recurrences of depression and further studies are awaited (Brown et al, 2014)

ECT as currently administered in the UK under the supervision of ECTAS (In England and Wales) and SEAN (in Scotland) is very safe and conducted to high standards with considerable attention to stimulus dosing, EEG monitoring and recovery. Studies have shown that ECT is associated with a good return to health-related quality of life (Rosenquist et al, 2006). Cognitive effects are the main limitation to the wider use of ECT, particularly the occasional acute confusion shortly after the treatment, retrograde amnesia and some losses in autobiographical (personal) memory longer term. Other aspects of the memory are either unchanged or improved (Semkovska and McLoughlin, 2010). Recent

research from Wales has shown that repeated courses of ECT do not lead to cumulative cognitive deficits (Kirov et al, 2016). Right unilateral electrode placement, compared with the traditional bi-temporal placement, may minimize episodic and autobiographical memory deficits (Semkovska et al, 2011, Fraser et al, 2008). It has recently been shown that high dose right unilateral ECT was equally effective compared with bi-temporal placement but with better recall of autobiographical information (Semkovska et al, 2016).

3. ECT IN OTHER CONDITIONS/SITUATIONS

Anderson and Reti (2008) reviewed the use of ECT in pregnancy in 339 published cases. They reported at least partial response of depressive symptoms in 84% of cases and concluded that the risks to foetus and mother are low. In 2014 the NICE Guideline for antenatal and postnatal mental health were published (CG192). It was recommended that ECT be considered for pregnant women with severe depression, severe mixed affective states or mania, or catatonia, whose physical health or that of the foetus was at serious risk. The Guideline stated that if a pregnant woman with bipolar disorder developed mania while taking prophylactic medication the dose of the prophylactic medication and adherence should be checked, the dose increased if the prophylactic medication was an antipsychotic and the medication changed to an antipsychotic if she was taking another type of prophylactic medication. If there was no response and the woman had severe mania, lithium should be considered and then ECT considered if there was no response to lithium. There is evidence that depression may respond better to ECT in the post-natal period than in other circumstances, with more rapid and complete remission of mood and psychotic symptoms (Reed et al, 1999).

A recent RCT from Norway showed improved outcomes when patients with treatment resistant bipolar depression who had failed to respond to antidepressants were given a course of unilateral ECT (Schoeyen et al, 2015). There are no RCTs of ECT in mania but a large number of retrospective and prospective studies have shown that ECT is an effective treatment for mania (ECT handbook, 2013). There is weak evidence that ECT is effective in schizophrenia but it may have a place in the management of some patients. A recent systematic review and meta-analysis assessed the proportion of patients with Treatment Resistant Schizophrenia (TRS) that responded to ECT augmentation of clozapine

and concluded that ECT may be an effective and safe augmentation strategy in TRS. A higher number of ECT treatments may be required than is standard for other clinical indications (Lally et al, 2016). ECT may be considered as a first line treatment in life threatening catatonia and is effective in less severe cases of catatonia that have not responded to medication (ECT handbook, 2013).

CONCLUSIONS

The Royal College of Psychiatrists publish a Handbook in which the above evidence for ECT and recommendations for its practice are discussed in more detail (ECT Handbook, 2013). In the light of the up to date evidence reviewed above, the 2013 Handbook recommendations for the indications for ECT have been updated. Our position is outlined below: -

ECT IS A FIRST-LINE TREATMENT FOR PATIENTS (including the elderly):

- where a rapid definitive response for the emergency treatment of depression is needed
- with high suicidal risk
- with severe psychomotor retardation and associated problems of compromised eating and drinking and/or physical deterioration
- who suffer from treatment-resistant depression that has responded to ECT in a previous episode of illness
- who are pregnant with severe depression, or severe mixed affective states, mania or catatonia and whose physical health or that of the foetus is at serious risk
- who prefer this form of treatment
- with life threatening malignant catatonia

ECT IS A SECOND-LINE TREATMENT FOR PATIENTS (including the elderly):

- with treatment-resistant depression
- who experience severe side-effects from medication
- whose medical or psychiatric condition, in spite of other treatments, has deteriorated to an extent that raises concern
- with persistent or life-threatening symptoms in severe or prolonged mania

ECT IN SOME CIRCUMSTANCES FOR PATIENTS:

- with bipolar depression
- with post-natal psychosis
- with treatment resistant schizophrenia
- with treatment resistant catatonia
- with frequent relapses and recurrences of depression (maintenance)

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