57 - Electroconvulsive therapy and psychotropic dr

Electroconvulsive therapy and psychotropic drugs

384 The Maudsley® Prescribing Guidelines in Psychiatry CHAPTER 3 Electroconvulsive therapy and psychotropic drugs Psychotropics are often continued during ECT. Some agents, such as antidepressants,1,2 enhance its efficacy. Table 3.9 summarises the effect of various psychotropics on seizure duration during ECT. There are few well-controlled studies in this area and recommendations should be viewed with this in mind. The choice of anaesthetic agent may profoundly affect seizure duration3,4 as well as the severity of post-ictal confusion and ECT efficacy.5,6 Somewhat against expectation, the use of ketamine or esketamine7,8 as an anaesthetic does not ultimately improve outcome with ECT,9 although ketamine may provide short-term improvement of depressive symptoms at the early stages of ECT.10 Aside from concurrent medication, there are many factors that influence seizure threshold and duration.11 Caffeine reduces seizure threshold and can be used to enable or prolong seizures in ECT.12 Flumazenil has similar effects.13 ECT frequently causes confusion and disorientation. More rarely, it causes an acute confusional state or delirium. Concurrent lithium may increase the risk of delirium.2 Agitation may also occur.14 The use of dexmedetomidine seems to reduce the risk of post-ECT agitation.15 There have been a few reports of serotonin syndrome when serotonergic medications have been used with ECT.16–18 Close observation is essential. Very limited data support the use of thiamine (200mg daily) in reducing post-ECT confusion.19 Some drugs have been investigated for improving the cognitive adverse effects of ECT.20 Supporting evidence is of a low (memantine, liothyronine) or a very low quality (acetylcholinesterase inhibitors, piracetam, melatonin).20 None is recommended. Paracetamol21 or ibuprofen may be used to prevent headache;22 intranasal sumatriptan23 can be used to treat it. Table 3.9 Effect of psychotropic drugs on seizure during electroconvulsive therapy. Drug Effect on ECT seizure duration Comments24–27 Antipsychotics2,28–31 Variable; increased with phenothiazines and clozapine Others; no obvious effect reported Few published data but widely used. Phenothiazines and clozapine are perhaps most likely to prolong seizures. Some suggest withdrawal before ECT. Safe concurrent use has been reported (particularly with clozapine,32,33 which is now usually continued). ECT and antipsychotics appear generally to be a safe combination. Few data on aripiprazole, quetiapine and ziprasidone, but they also appear to be safe. One case series24

suggests that antipsychotics increase post-ictal cognitive dysfunction. Antiseizure medication2,35,36 Reduced If used as a mood stabiliser, continue but be prepared to use higher energy stimulus. Some units omit one or more doses before ECT. If used for epilepsy, their effect is to normalise seizure threshold. Interactions are possible. Valproate may prolong the effect of thiopental and carbamazepine may inhibit neuromuscular blockade. A small RCT found no difference between carbamazepine and valproate in seizure duration, seizure threshold and cognition outcomes. Lamotrigine has been associated with shorter seizure duration and reduced remission rates in one cohort study.37

Depression and anxiety disorders CHAPTER 3 Table 3.9 (Continued) Drug Effect on ECT seizure duration Comments24–27 Barbiturates Reduced All barbiturates reduce seizure duration in ECT but are widely used as sedative anaesthetic agents. Thiopental and methohexital may be associated with cardiac arrhythmia. Benzodiazepines38 Probably reduced. Mixed evidence and clinical implications unclear.37–39 All may raise seizure threshold and so should be avoided where possible. Many are long-acting and may need to be discontinued some days before ECT. Benzodiazepines may also complicate ECT anaesthesia and reduce efficacy of ECT.37 If sedation is required, consider hydroxyzine. If benzodiazepine use is very long term and essential, continue and use higher stimulus, bilaterally. Bupropion2 Possibly increased Epileptogenic in higher doses so could increase seizure duration. In practice, appears to be well tolerated with ECT. Duloxetine40,41 Not known One case report suggests duloxetine does not complicate ECT. Another links its use to ventricular tachycardia. Lithium2,42,43 Possibly increased Conflicting data on lithium and ECT. The combination may be more likely to lead to delirium and confusion. Some authorities suggest discontinuing lithium 48 hours before ECT. In the UK, ECT is often used during lithium therapy but starting with a low stimulus and with very close monitoring. The combination is generally well tolerated. Note that lithium potentiates the effects of non-depolarising neuromuscular blockers such as suxamethonium. Concomitant use of thiopentone or propofol with lithium treatment lowers seizure threshold.44 MAOIs2,45 Minimal effect Data relating to ECT very limited but long history of ECT use during MAOI therapy. MAOIs probably do not affect seizure duration but interactions with sympathomimetics occasionally used in anaesthesia are possible and may lead to hypertensive crisis. Transdermal selegiline seems safe.46 MAOIs may be continued during ECT but the anaesthetist must be informed. Beware hypotension. Mirtazapine47 Minimal effect; small increase Apparently safe in ECT and, like other antidepressants, may enhance ECT efficacy. May reduce post-ECT nausea and headache. SSRIs1,2,48 Minimal effect; small increase possible Generally considered safe to use during ECT. Beware complex pharmacokinetic interactions with anaesthetic agents. Isolated case reports of serotonin syndrome with fluoxetine and paroxetine with ECT.49,50 TCAs51 Possibly increased Few data relevant to ECT but many TCAs lower seizure threshold. TCAs are associated with arrhythmia following ECT and should be avoided in elderly patients and those with cardiac disease. In others, it is preferable to continue TCA treatment during ECT. Close monitoring is essential. Beware hypotension and risk of prolonged seizures. Venlafaxine52 Minimal effect at standard doses Limited data suggest no effect on seizure duration but possibility of increased risk of transient asystole with doses above 300mg/day.2 Clearly epileptogenic in higher doses. ECG advised. MAOI, monoamine oxidase inhibitor; TCA, tricyclic antidepressant.

Revision #1
Created 2026-01-04 20:15:33 UTC by Omar Ayman
Updated 2026-01-04 20:15:33 UTC by Omar Ayman