05 - Psychiatric medicines, driving and UK law

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Psychotropic drugs in special conditions CHAPTER 13 Driving and psychotropic medicines Everyone has a legal duty to drive safely and in almost all countries drivers are legally responsible for accidents they cause, whether or not they are under the influence of drugs or alcohol.1 Many factors have been shown to affect driving performance. These include age, gender, personality, physical and mental state and being under the influence of alcohol, prescribed medicines, street drugs or over-the-counter medicines.2,3 Studying the effects of any of these individual factors in isolation is extremely difficult. Some studies have attempted to categorise medicinal drugs according to how they affect driving performance,4 and some have assessed the effect of medication on tests such as response time and attention,5 but these tests do not directly measure ability to drive. As many as 10% of people killed or injured in road traffic accidents (RTAs) are taking psychotropic medication (Table 13.2).5 Patients with personality disorders and alcoholism have the highest rates of motoring offences and are more likely to be involved in accidents.5 In most countries, people whose driving ability may be impaired through their illness or prescribed medication are required to inform their motor insurer. Failure to do so is considered to be ‘withholding a material fact’ and may render the insurance policy void. Effects of mental illness In the UK, severe mental disorder is a so-called ‘prescribed disability’ for the purposes of the Road Traffic Act 1988.6 Regulations define mental disorder as including mental illness, arrested or incomplete development of the mind, psychopathic disorder or severe impairment of intelligence or social functioning. There is an assessing fitness to drive guide.7 Among physical conditions commonly seen in mental illness, licence restrictions may also apply to people with diabetes, particularly if treated with insulin or if there are established micro- or macrovascular complications. In the USA, regulations related to driving and mental health disorders vary somewhat from state to state (see US Department of Motor Vehicles website [www.dmvusa.com] for each state). Many people with early dementia are capable of driving safely.8,9 In the UK, all drivers with new diagnoses of Alzheimer’s disease and other dementias must notify the Driver and Vehicle Licensing Agency (DVLA).8 The doctor may need to make an immediate decision on safety to drive and ensure that the DVLA is notified.10 There are no data to support ongoing driving assessments as a way of maintaining driving ability or improving road safety of drivers with dementia.11,12 In the

USA, some states mandate that doctors report a diagnosis of dementia but in others the issue may only arise on licence renewal. Interestingly, states in which reporting is mandatory have a relatively lower rate of dementia diagnosis.13 Psychiatric medicines, driving and UK law Most countries prohibit the use of a range of illicit substances when driving. In the UK drug–driving law gives threshold blood concentration for eight drugs associated with illicit use (with a zero tolerance approach – the threshold is set to reveal any recent use) and eight medicinal drugs.14 For the latter group, Table 13.3 gives the legal limit and expected plasma concentrations in clinical use.

922 The Maudsley® Prescribing Guidelines in Psychiatry CHAPTER 13 Table 13.2 Psychotropics and driving. Drug group Effect Alcohol Alcohol causes sedation and impaired co-ordination, vision, attention and information processing. Alcohol-dependent drivers are twice as likely to be involved in RTAs and offences than licensed drivers as a whole,5 and a third of all fatal RTAs involve alcohol-dependent drivers.5 Young drivers who use alcohol in combination with illicit drugs are particularly high risk.15,16 Antiseizure medications Initial, dose-related adverse effects may affect driving ability (e.g. diplopia, ataxia and sedation). In most countries there are strict rules regarding epilepsy and driving that over-ride considerations of medication effects. Carbamazepine has minor adverse effects on driving.17,18 Lamotrigine may have limited effects on driving ability.19 Valproate may not increase the risk of RTAs.20 Antidepressants People who are prescribed an antidepressant have an increased risk of being involved in an RTA.21 SSRIs may have some advantages over TCAs but driving ability is still diminished compared with healthy individuals,22 suggesting that depression itself may make a major contribution.23,24 SSRIs tend not to impair driving in healthy volunteers.25–27 In remitted patients on SSRIs, driving performance may likewise not be impaired.28 Initiation effects caused by mirtazapine diminish to an extent when it is given as a single dose at night but many people experience substantial hangover which can impair driving.29 Effects may disappear in chronic treatment.30 Trazodone also appears to impair driving ability31 – a review of 27 studies suggested that only trazodone among antidepressants afforded an increased risk of RTAs.32 Agomelatine and venlafaxine may actually improve driving performance.33 Vortioxetine has no effect.30 Intranasal esketamine seems to have no effect on driving ability 8 hours post-dose34 or the day after.35 Antipsychotics Sedation and EPSEs can impair co-ordination and response time.2 A high proportion of patients treated with antipsychotics may have an impaired ability to drive.36,37 One study found patients with schizophrenia taking atypical antipsychotics or clozapine performed better in tests of skills related to car driving ability than patients with schizophrenia taking FGAs,38 but 25% of all patients were severely impaired with respect to driving skills. SGAs seem to cause less impairment than FGAs39 and are preferred. Hypnotics and anxiolytics Benzodiazepines cause sedation and impairment of attention, information processing, memory and motor co-ordination, and along with opiates are the medicines most frequently implicated in RTAs.32,40 When used as anxiolytics and hypnotics, benzodiazepines, zopiclone and zolpidem are associated with an increased risk of RTAs.40 There is some gender variation in the pharmacokinetics of zolpidem with females having higher drug plasma concentrations than males for any given dose; the driving ability of females may therefore be particularly impaired.3 Zolpidem may additionally be associated with automatism and ‘sleep driving’.41 Zaleplon and the newer hypnotics acting at melatonin or serotonin receptors have not been found to have any negative residual effects on driving ability.42,43 Orexin receptor antagonists (suvorexant and lemborexant), available in some countries, appear not to impair driving the day after being taken.44,45 There is some evidence that daridorexant impairs driving ability during the first few days of use.46 Lithium Lithium may impair visual adaptation to the dark2 but the implications for driving safety are unknown. Many patients treated with lithium can be

shown to be unfit to drive19 although the exact contribution of lithium is difficult to determine. Elderly people who take lithium may be at increased risk of being involved in an injurious RTA.47 Lithium causes a greater degree of driving impairment than lamotrigine.39 Methylphenidate Some studies have demonstrated that reaction time is longer in patients with ADHD, which may in turn be associated with increased driving risks.48 Other studies have found that methylphenidate improved driving performance in adults with ADHD,49 again suggesting that illness may make a bigger contribution to fitness to drive than the specific pharmacology of the treatment.49 Opioids Opioids have major adverse effect on the risk of RTAs.50 Buprenorphine and methadone reduce driving ability at low doses in non-addicts.51 EPSEs, extrapyramidal side effects; RTAs, road traffic accidents; TCAs, tricyclic antidepressants.

Revision #1
Created 2026-01-04 20:18:23 UTC by Omar Ayman
Updated 2026-01-04 20:18:23 UTC by Omar Ayman