Diabetes, epilepsy and fitness to drive

It is important for GPs and patients alike to be aware of the guidelines surrounding driving with a medical condition, write Maeve Chestnutt and Kilian McGrogan.

**The announcement by the driver and vehicle** Licensing Agency (DVLA) in the UK that it would be making changes to the regulations on people with diabetes driving heavy goods vehicles effective from October 2011 prompted a survey in our practice. We surveyed the number of patients in the practice who had a documented discussion on the implications of their medical condition on their fitness to drive, in particular patients with diabetes and epilepsy.

### European regulations

The European Council Directive 91/439/EEC on driving licences,\(^1\) the so-called `Second Directive`, came into force on July 1, 1996. This contains details on minimum health criteria for fitness to drive. In July 2006 the Second European Working Group on Diabetes and Driving, working as advisor to the Driving Licence Committee of the EU, found that healthcare professionals are often unaware of the criteria used to evaluate the driving fitness of people with certain medical conditions.\(^2\) It also noted a lack of clarity among patients and physicians on where the onus of responsibility lies in relation to notification of fitness to drive to licensing authorities and insurance bodies.\(^2\)

The EU Diabetes Working Group\(^2\) concluded that more emphasis should be placed on the responsibilities of licensing authorities, healthcare professionals and drivers themselves in relation to medical reporting and licensing. It suggested that licensing authorities should provide more information to physicians and drivers, and recommends that healthcare professionals should advise patients on the possible implications of their illness and its pharmacological treatment on their ability to drive safely. The working group also proposes that drivers should “honestly assess their driving capabilities with regard to their medical condition and treatments, and act appropriately”.\(^2\) These recommendations should be applicable to all groups of patients regardless of their medical condition.

The legal obligations for drivers with epilepsy are made much clearer by the EU Epilepsy Working Group than those for drivers with diabetes. The Epilepsy Working Group\(^6\) places the onus of responsibility of reporting on drivers themselves. It does not place the healthcare professional under obligation to report the patient to the authorities. It recognises that forcing the physician to report the patient works adversely to road safety. It leads to an interference in the patient-doctor relationship, causing under-reporting of seizures and ultimately interferes with treatment. The group recommends legal protection for doctors in relation to reporting and non-reporting of patients. If these recommendations are initiated into EU and national law as suggested, it would be beneficial to extend them to include all medical conditions.

### The situation in Ireland

In Ireland, the Road Safety Authority’s *Sláinte agus Tiomáint – Medical Fitness to Drive Guidelines* (updated in February 2013) outline the conditions for driver licence issuing in relation to various illnesses.\(^3\) These conditions are summarised based on group 1 vehicles (cars, motorcycles, mopeds and tractors). Of interest to us were those conditions pertaining to diabetes and epilepsy. New guidelines are due early next year for group 2 vehicles (those with capacity for more than eight passengers and heavy goods vehicles). Until then the previous RSA guidelines *Medical Aspects of Driver Licensing: A Guide for Registered Medical Practitioners 2010*, should be used for group 2 drivers.

### Diabetes

In the 2010 guidelines, the RSA states that drivers with diabetes as a group are at an increased risk of having a motor crash. It notes that hypoglycaemic episodes pose the most risk to drivers, although hypoglycaemia does not explain all of the increased risk.\(^3\) Many people with diabetes will be treated with oral hypoglycaemic drugs or insulin, which can provoke hypoglycaemia, resulting in temporary adverse effects on functional abilities, and in some cases can result in loss of consciousness. A study by Cox showed that starting at moderate hypoglycaemia (BG 2.6 +/- 0.28mmol/l), there was an impairment of driving capacity.\(^4\) About 44% of people with diabetes in this study did not react to these driving impairments and indicated they would drive in these circumstances. Graveling et al found that about 60% never tested blood glucose before driving and 38% never carried a blood glucose meter when driving. Most participants said they would stop driving to treat a hypo, but only 14% would wait more than 30 minutes to drive again.\(^5\)

### Epilepsy

Drivers with epilepsy are at increased risk for motor vehicle crashes because of a seizure, the underlying condition causing seizures or the side-effects of antiepileptic drugs. The RSA states: “Epileptic attacks are the most frequent cause of medical collapse at the wheel”.\(^6\) It explains that the odds of crashing are markedly reduced with long seizure-free intervals. Annual risk of seizure recurrence is less than 2% after eight years and less than 1% after 10 years.
of group 2 vehicles generally have longer driving times and
general population seizure risks of 0.05% a year. Drivers
years. This latter figure is still 20 times greater than the
more guidance on other complications of diabetes such as
diabetes. In contrast to the 2010 guidelines which only
1) place the emphasis on hypoglycaemia which, of course,
treated with diabetes should demonstrate an
understanding of the risk of hypoglycaemia, regular
Driving licences shall not be issued to, nor renewed
for, applicants or drivers who have recurrent severe
hypoglycaemia or/and impaired awareness of
hypoglycaemia
Drivers with diabetes should demonstrate an
understanding of the risk of hypoglycaemia, regular
Glucose monitoring and adequate control of the
Renal, visual, peripheral neuropathy
Patients treated with other medications, or not treated
with medication, are not required to notify the driving
license authority
Group 2 (C, CE, C1, C1E, D, DE, D1, or D1E) vehicles:
• Consideration may be given to issuing permits/licences
to persons with diabetes. Such permits or licences
should be issued subject to competent medical opinion,
and to regular medical review, undertaken at intervals
of not more than three years
• When treated with medication which carries a risk of
inducing hypoglycaemia, the following criteria applies:
– No severe hypos in the previous 12 months
– The driver has full hypoglycaemia awareness
– The driver must show adequate control of the
condition by regular blood glucose monitoring, at least
twice daily and at times relevant to driving
– The driver must demonstrate an understanding of the
risks of hypoglycaemia
– There are no other debarring complications of diabetes
– A severe hypoglycaemic event during waking hours,
even unrelated to driving should result in the issuing
of advice not to drive and should give rise to a
reassessment of the licensing status

| Table 1: RSA guidelines for drivers with diabetes |

- **Group 1 (A, A1, A2, AM, B, EB, or W) vehicles:**
  - Insulin-treated drivers are to be sent a detailed letter of explanation about their licence and driving by the licensing authority
  - Patients treated with insulin and/or hypoglycaemics will be issued with a one or three year licence provided they have not had more than one episode of hypoglycaemia requiring assistance of another person within the preceding 12 months
  - Patients with gestational diabetes who are treated with insulin for more than three months or whose treatment continues more than three months after delivery should notify the licensing authority
  - Driving licences shall not be issued to, nor renewed for, applicants or drivers who have recurrent severe hypoglycaemia or/and impaired awareness of hypoglycaemia
  - Patients treated with other medications, or not treated with medication, are not required to notify the driving licence authority

- **Group 2 (C, CE, C1, C1E, D, DE, D1, or D1E) vehicles:**
  - Consideration may be given to issuing permits/licences to persons with diabetes. Such permits or licences should be issued subject to competent medical opinion, and to regular medical review, undertaken at intervals of not more than three years
  - When treated with medication which carries a risk of inducing hypoglycaemia, the following criteria applies:
    - No severe hypos in the previous 12 months
    - The driver has full hypoglycaemia awareness
    - The driver must show adequate control of the condition by regular blood glucose monitoring, at least twice daily and at times relevant to driving
    - The driver must demonstrate an understanding of the risks of hypoglycaemia
    - There are no other debarring complications of diabetes
    - A severe hypoglycaemic event during waking hours, even unrelated to driving should result in the issuing of advice not to drive and should give rise to a reassessment of the licensing status

Road Safety Authority guidelines

The updated RSA medical fitness to drive guidelines 2013 describe the conditions for issuing and reissuing of driving permits to drivers diagnosed with diabetes. These are largely taken from the EU guidelines which were implemented in September 2010. The RSA guidelines (see Table 1) place the emphasis on hypoglycaemia which, of course, applies to those patients who are on medications for their diabetes. In contrast to the 2010 guidelines which only briefly mention other complications of diabetes as having a prohibitive role in driving, the 2013 guidelines provide more guidance on other complications of diabetes such as retinopathy and renal disease. Perhaps, future revisions will give more prominence to further complications of diabetes, such as retinopathy and peripheral neuropathy.

In relation to epilepsy, the RSA guidelines (see Table 2) recommend that fitness to drive shall be certified for a limited period only. It stresses the importance of identifying the person’s specific epilepsy syndrome and seizure type so that a proper evaluation of their driving safety can be undertaken. The proper implementation of these rules is of major importance. Ultimately, public safety is the primary goal; however individual mobility rights should not be violated if there is no special risk to public safety. There

| Table 2: RSA guidelines for drivers with epilepsy |

All drivers with epilepsy should be under annual licence review until they are seizure-free for at least five years.

- **Group 1 vehicles:**
  - A three year licence will normally be issued
  - In all cases where epilepsy is diagnosed the driver must notify the driver licensing authority
  - The applicant who has had a provoked epileptic seizure because of a recognisable provoking factor (other than alcohol, illicit drug use, sleep deprivation or structural abnormality) that is unlikely to recur at the wheel can be declared able to drive on an individual basis
  - The applicant who has had a first unprovoked epileptic seizure can be declared able to drive after a period of six months without seizures
  - Patients can be declared fit to drive after a one-year period free of further seizures
  - The patient who has never had any seizures other than seizures during sleep may be considered for a one year licence as long as this pattern has been established for a period which must not be less than one year
  - An annual licence may be issued to the patient who has never had any seizures other than those which have been demonstrated exclusively to affect neither consciousness nor cause any functional impairment for a period of one year
  - The patient must be advised to notify the driver licensing authority in the case of a breakthrough seizure in established epilepsy
  - The patient should be advised not to drive during the period of withdrawal from medications and for a period of six months after cessation of treatment

- **Group 2 vehicles:**
  - The applicant who has had a provoked epileptic seizure because of a recognisable provoking factor that is unlikely to recur at the wheel can be declared fit to drive on an individual basis
  - A person with a structural intra-cerebral lesion should not be able to drive until the epilepsy risk has fallen to at least 2% per annum
  - Seizures associated with alcohol or drug misuse, sleep deprivation or structural abnormality, are not considered provoked seizures for licensing purposes. Similarly reports of seizures as a side-effect of prescribed medication do not automatically imply that such events will be considered as provoked
  - Seizures occurring during an acute exacerbation of multiple sclerosis or migraine need to be assessed on an individual basis
  - The applicant who has had a first unprovoked epileptic seizure can be declared able to drive once five years’ freedom from further seizures has been achieved without the aid of antiepileptic drugs. Drivers with recognised good prognostic indicators may drive sooner

- In all cases where epilepsy is diagnosed the driving licence permit must be revoked if there is no special risk to public safety.
is a lot of variety in the groups of patients with diabetes and epilepsy (stability of the condition, type of treatment, presence of complications, level of patient education etc). Ideally, these are all factors which should be taken into account when assessing fitness to drive.

It would appear that most drivers are not familiar with the legal issues concerning driving and the criteria used to evaluate the driving abilities of people with certain medical conditions. Many patients have never discussed the influence of their medical condition on their driving abilities with their doctors. Cox et al reported that half of the type 1 drivers and three quarters of the type 2 drivers had never discussed hypoglycaemia and driving with their physician.6 More attention should be given to the continuous education of healthcare professionals on the importance of discussing this.

In the 2013 Medical Fitness to Drive guidelines, the RSA more clearly delineates the roles and responsibilities of the patient, healthcare professional and the licensing authority itself. Irish and EU law assigns patients with the responsibility of reporting any illness or injury which may affect their driving ability at the time that it arises. The guidelines also underline the importance of adherence to treatment and honesty within the patient–doctor relationship. The role of the healthcare professional is to assess a patient’s sensory, motor and cognitive ability to drive. It is also their role to advise the patient on the impact of their illness on their ability to drive.

Of note, the guidelines state that it is the role of the healthcare professional to “advise the person of their responsibility to report their condition to the Driving Licensing Authority”.7 The healthcare professional should also report to the licensing authority any patient who poses a risk to the public, and the Irish Medical Council guidelines allow for such a breach of confidentiality. While the 2010 guidelines gave no directions on the recording of advice given to patients about driving ability, the 2013 guidelines recommend that there should be clear documentation in patient files, and provides a sample patient advisory form for this purpose. Whereas the 2010 guidelines expressed a preference for medical review to be made by an endocrinologist in the case of diabetes, and a neurologist in the case of epilepsy,8 the 2013 guidelines assert that assessments of driving ability can be carried out by GPs unless the circumstances of illness are not covered specifically by the standards.7

Drivers with a medical condition are often resistant to making a declaration to the authorities, because they fear that they may receive a driving ban. This misconception plays a major role in the under-reporting of relevant medical conditions. The guidelines state the licensing authority itself should inform members of the public of their responsibility to report any condition which may affect their driving ability, so an extensive media campaign may follow to advise the public of this fact. To date, in the case of both diabetes and epilepsy, as with many other conditions, a lot of patient education comes from general practice. This makes it important for GPs to be aware of the guidelines surrounding driving with a medical condition so that they can inform patients accordingly. The message which is probably of most importance to healthcare professionals is made in the opening pages of the 2013 guidelines, which states that healthcare professionals should keep informed of any changes in healthcare and law in order to fulfil their legal and ethical duties.

Practice survey

At the beginning of our practice survey, a list was compiled of all patients in the practice who had a diagnosis of diabetes or epilepsy. A list of 194 patients with diabetes attending Mercer’s Medical Centre was compiled based on a search for those who were coded on the database, and a search of the most commonly prescribed medications in this practice – insulin, metformin, gliclazide, liraglutide and sitagliptin. Several groups of patients were further excluded from this list; those who had been inaccurately listed due to family history or impaired glucose tolerance (12 patients), those not of legal driving age (four patients), and those who were either once-off visitors to the practice, or had not been seen in the practice for over one year due to relocation or long-term care (33 patients). This left a total of 145 active diabetes patients. Of these patients, 17 were diet-controlled but were left included due to the possibility of them commencing on medications in the future. Of these 145 patients, only five patients had been documented that either driving regulations were discussed or driving license applications were signed.

The list of patients with epilepsy was recently updated by another audit in the practice. The total number of patients in the practice with epilepsy is 40. Several patients were further excluded from this list – those not of legal driving age (four patients) and those who were either once-off visitors to the practice, or had transferred to another practice (two patients). This left a total of 34 active patients with epilepsy. Of these patients, five had it documented in their charts that either driving regulations were discussed or that driving license applications were signed.

Letters were sent to all 179 patients informing them of the RSA guidelines and the obligation of all patients to report their medical status to the relevant licensing authorities and insurance providers. The correspondence advised all of these patients to discuss the guidelines further with their respective doctors if any clarification was required.

This audit had two successful conclusions. It served to inform the medical staff in the practice of the exact guidelines pertaining to licensing of patients with diabetes and epilepsy. In addition, it resulted in informing all of the 179 relevant patients of the guidelines and their responsibilities in reporting in order to benefit their own personal safety and the safety of others.

Feedback

Feedback was low key with little direct comment from patients. It prompted a few patients (six) to make an appointment to specifically discuss the contents of the letter, but most patients chose to bring it up at their next routine appointment. The majority of patients were unaware of the exact regulations relating to their illness and driving, and overall feedback on the exercise was positive.

Clinical staff in the practice also found this a worthwhile exercise, clarifying our role and reassuring us that best practice was being followed.

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References on request