Our Vision
To provide every patient
with the care we want
for those we love the most

Norfolk and Norwich University Hospitals NHS
NHS Foundation Trust

Driving and Diabetes

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The Sheriff of Edinburgh

- “The possession of a driving license is a privilege, not a right and that individuals with diabetes have a responsibility to take precautions to drive safely”

Background

- Driving is a complex task requiring high levels of concentration, visual-spatial awareness, and cognitive function in a rapidly changing environment
- Counter regulatory mechanisms activate when the blood glucose drops to 3.7mmol/L or less
- Cognitive dysfunction begins to occur when the blood glucose drops to less than 3.0mmol/L

Heller S Medicine 2006;33(3):107 - 10

Background

- Hypoglycaemic unawareness increases with
  - Increased duration of diabetes
  - Frequent, recurrent hypoglycaemia
- However, cognitive dysfunction remains an issue after hypoglycaemia correction
- Low blood glucose levels have been shown to impair driving skills

Cox D Diabetes Care 2000;23(2):163 - 70
McCrimmon RJ Brain 1996;119:1277 - 87
Cox D Diabetes Care 2003;26(8):2329 - 34

DVLA Guidelines on Diabetes and Driving

- Do not drive if blood glucose is less than 4.0 mmol/L
- Only resume driving 45 minutes after blood glucose has returned to normal
- To check blood glucose before driving (even on short journeys) and test regularly (every 2 hours) on long journeys
- If blood glucose is 5.0 mmol/L or less, take a snack before driving

http://www.dft.gov.uk/dvla/medical/ataglance.aspx

Hypoglycaemia and Crash Risk

- Unrecognised hypoglycaemia – especially frequent – and hypoglycaemic unawareness are significant potential hazards and crash risks

- A history of severe hypoglycaemia (resulting in LOC) is associated with a doubling of crash risk over the preceding 2 years

Shaw K Pract Diab 2011;28(9):375-376

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Mail on Sunday 21st August 2011

Million drivers face losing licence under EU diabetes diktat

By **Jenny Hope**
Medical Correspondent

UP TO one million people with diabetes could lose their driving licences because of harsh new European rules classifying them as unfit to drive.

Experts claim the 'unnecessarily strict' changes will affect hundreds of thousands who have been driving for decades without problems.

They say the rules amount to a blanket ban on diabetics taking insulin who occasionally have 'hypos' – episodes of hypoglycaemia, or low blood sugar, which may cause blackouts if not countered with a sugary snack.

Under a new definition of the rules to meet an EU directive, a diabetic who has two hypos in a year – even while in bed – will end up banned from driving.

The charity Diabetes UK has protested to the Department for Transport about the changes, due to take effect in October.

It has told officials that up to a million people with type 1 and type 2 diabetes who use insulin could be 'negatively affected' by the changes, but says there is no evidence that drivers with diabetes pose a greater risk than others.

The charity fears the Driving and Vehicle Licensing Agency (DVLA) is applying the EU directive far more strictly than other countries.

In fact some diabetics have found the DVLA is already using the new interpretation to ban them from the roads.

Simon O'Neill, of Diabetes UK, said the new DVLA definitions of 'severe' and 'recurrent' hypoglycaemia threatened a blanket ban for many.

Up until now, severe hypos were defined as episodes where another person was needed to administer carbohydrate or take other actions during waking hours to assist the diabetic.

'Will have an unfair impact'

The new definition used by the DVLA also includes hypoglycaemia when the individual is asleep.

Mr O'Neill said the EC Directive itself does not specify nocturnal hypoglycaemia, yet the DVLA has chosen to include it in assessing fitness to drive.

He added: 'We believe nocturnal hypoglycaemia has no medical basis of relevance to driving.'

Professor Geoff Gill, professor of diabetes at Aintree University Hospital, Liverpool, said a tighter definition of hypoglycaemia was unnecessary as the current system required drivers to report when they had an episode they could not manage alone.

He said: 'We're not looking for a softer option, we don't want people driving who are a danger. This is about an interpretation of the rules that will unfairly impact on the lives of many diabetics.

'It could mean that people with diabetes who have been driving safely for years will lose the right to drive under these changes.

'They won't only be people who use the car to drive to the shops or a football match, but those who depend on driving for their livelihoods.'

A DVLA spokesman said: 'We aim to strike the right balance – making sure that only those who are safe to drive are allowed on our roads, while at the same time avoiding placing unnecessary restrictions on people's independence.

'We must apply European medical standards but we consider every case individually and refuse licences only where absolutely necessary.'

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THESE RULES ARE TOTALLY ILLOGICAL

'Safe': Shirley Mathias

AFTER 52 years of trouble-free driving, Shirley Mathias lost her licence in April.

Mrs Mathias, 74, who has used insulin to control type 1 diabetes all her life, is one of the first victims of new rules on hypos.

She said: 'I check my blood sugar before every journey and take precautions during car trips such as having glucose tablets available.

'The last thing I want to be is a danger to myself or other road users but I'm no more or less risky than I was six months ago. My consultant agrees I'm a safe and responsible driver and appealed on my behalf without success.'

Mrs Mathias, a former journalist who lives in a village near Swindon, added: 'It's limited my lifestyle as it's hard to get public transport in the evenings.

'But other people who need to drive for a living will be in real trouble if they lose their licence because of these totally illogical restrictions.'

OK, So It's a Minefield

- The current DVLA guidance is not easy to understand

Version 1

MEDICAL IN CONFIDENCE

DIAB3

DIAB3

(Rev Aug 11)

Questionnaire to assess your patient's medical fitness to drive Group 1

1. Please tell us the type of diabetes your patient has. Type 1 ☐ Type 2 ☐ Other ☐

2. Please tell us the date your patient was last seen for this condition. MM ☐ YY ☐

3. Please tell us the date of your patient's next appointment (if known) MM ☐ YY ☐

4. Please tell us how your patient's diabetes is currently treated and the date treatment started.

	Yes	No	MM	YY
a) Insulin?				
b) Other Injectable treatment?				
c) Tablets?				

	Yes	No
5 Does your patient regularly monitor their blood glucose levels?		
a) Does your patient monitor their blood glucose levels before driving?		
6. Does your patient have a clear understanding of diabetes and the necessary precautions for safe driving?		
7. Has your patient had any recurrent episodes of hypoglycaemia within the last 3 months?		

If Yes, please give details: ______________________________

____

____

	Yes	No
8. Has your patient had more than one episode of hypoglycaemia in the last 12 months which required the assistance of another person?		
9. Is your patient unable to detect the onset of hypoglycaemia because of a total absence of warning symptoms?		

DIAB3

10. Does your patient have evidence of impaired awareness of hypoglycaemia? Yes ☐ No ☐

If Yes, please give details of the symptoms of hypoglycaemia which are experienced

____

____

11. Does your patient currently have any significant visual problem affecting both eyes? Yes ☐ No ☐

If Yes, please give details : ______________________________

____

____

12. Does your patient have a limb disability sufficient to affect safe driving? Yes ☐ No ☐

If Yes, please give details of the disability: ________________________

____

____

13. Is there any other medical condition which would affect safe driving? Yes ☐ No ☐

If Yes, please give details: ______________________________

____

Is there an Invoice to follow? Yes ☐ No ☐ Is there a VAT Invoice to follow? Yes ☐ No ☐

Signature: ____________________

Name: ____________________

Date: ____________

Phone No: __________________

GMC No: ____________________

ADDRESS STAMP

Please enter the payee details i.e. the name of the person/organisation that the fee is made payable to

Name (in capitals) ____________________________________

Vision

- Poor visual acuity is prescribed as a relevant disability for the purposes of Section 92 of the 1988 Road Traffic Act thus;
  - *“the inability to read in good light (with the aid of corrective lenses if necessary) a registration mark fixed to a motor vehicle and containing letters and figure 79.4mm high at a distance of 20.5 metres”.*
- This corresponds to a binocular visual acuity of approximately 6/10 on the Snellen chart
- The number plate standard is absolute in law and is not open to interpretation

Categories

- P – Mopeds up to 50 cc
- A – Motorbikes
- B – Motor vehicles with a maximum authorised mass of up to 3,500 kg, no more than eight passenger seats, with or without a trailer - weighing no more than 750 kg
- C1 – Vehicles weighing between 3,500 kg and 7,500 kg, with or without a trailer - weighing no more than 750 kg

http://www.direct.gov.uk/en/Motoring/DriverLicensing/WhatCanYouDriveAndYourObligations/DG_4022547

Categories

- C – Vehicles over 3,500 kg, with a trailer up to 750 kg (if the trailer and vehicle weight more than 12,000 kg then it is a C1+E or C+E)
- D1 – Vehicles with a minimum of nine and a maximum of 16 passenger seats, with or without a trailer - weighing no more than 750 kg
- D – Any bus with more than eight passenger seats, with a trailer up to 750 kg

http://www.direct.gov.uk/en/Motoring/DriverLicensing/WhatCanYouDriveAndYourObligations/DG_4022547

Categories

- F – Agricultural tractors
- G – Road rollers
- H – Tracked vehicles
- K – Mowing machine or vehicle controlled by a pedestrian

There are different subcategories for each as well

http://www.direct.gov.uk/en/Motoring/DriverLicensing/WhatCanYouDriveAndYourObligations/DG_4022547

The Rules as they Currently Stand - Diet Treated Diabetes

- Neither Group 1 (cars and motorbikes) nor group 2 (Light Goods Vehicles / Passenger Carrying Vehicles (previously known as Public Service Vehicle) need to tell the DVLA unless they have specific problems, e.g. diabetes related eye disease affecting visual acuity

http://www.dft.gov.uk/dvla/medical/ataglance.aspx

The Rules as they Currently Stand - Tablets with a Risk of Hypoglycaemia

- These include SU's and glinides
- Group 1 (cars and motorbikes)
  - Must not have more than 1 severe hypo (i.e. requiring 3rd party assistance) within the last 12 months
  - They should measure their blood glucose levels at times relevant to driving to enable detection of hypoglycaemia
- DVLA does not need notification, unless they have hypos or for other medical reasons

http://www.dft.gov.uk/dvla/medical/ataglance.aspx

The Rules as they Currently Stand - Tablets with a Risk of Hypoglycaemia

- Group 2 – LGV / PSV
  - Must have had no severe hypos in the preceding 12 months
  - Full hypoglycaemia awareness
  - Dose CBG readings at least twice a day and at other times relevant to driving
  - Understands the risks of hypoglycaemia
  - No other complications, e.g. visual field defects

http://www.dft.gov.uk/dvla/medical/ataglance.aspx

The Rules as they Currently Stand - Tablets with a Risk of Hypoglycaemia

- Blood glucose should be tested in the first 2-3 months of initiation of SU treatment because this is when the potential for hypoglycaemia is greatest
- It is the lowest doses, early in the treatment that cause most hypos
- Annual prevalence of 7% hypos on SU's

The Rules as they Currently Stand - Tablets That do not Cause Hypoglycaemia or Non Insulin Injections

- Group 1 (cars and motorbikes)
  - DVLA does not need to be informed

- Group 2 (LGV / PSV)
  - License may be held as long as there are no other problems, e.g. low visual acuity
  - Drivers are advised to monitor their blood glucose regularly and at times relevant to driving

http://www.dft.gov.uk/dvla/medical/ataglance.aspx

The Rules as they Currently Stand - Insulin

- Group 1 (cars and motorbikes)
- People who are on insulin to treat their diabetes
  - They MUST inform the DVLA they are on insulin
  - They MUST recognise symptoms of hypoglycaemia (we'll come back to that one later)
  - The MUST NOT have had more than 1 episode of severe hypoglycaemia within the last 12 months (I'll come back to this) – backdated to September 2010
  - They MUST meet the appropriate visual standards
  - They have their license for 1, 2 or 3 years

http://www.dft.gov.uk/dvla/medical/ataglance.aspx

The Rules as they Currently Stand - Insulin

- Group 2 – LGV / PSV
  - Drivers with insulin treated diabetes are barred from holding this form of license – unless the license was issued prior to 1st April 1991 where each case is dealt with on an individual basis (subject to a satisfactory report from the patients' consultant)
  - In 2001, there was a change allowing 'exceptional cases' to hold C1 or C1E licenses – allowed to drive small lorries

http://www.dft.gov.uk/dvla/medical/ataglance.aspx

Temporary Insulin Treatment

- e.g. GDM, post MI, people on insulin trials
  - If they have had 1 episode of severe hypoglycaemia (i.e. requiring 3rd party assistance) then they do NOT need to notify the DVLA but should stop driving voluntarily
  - The patient needs to tell the DVLA if treatment goes on for more than 3 months
- They are legally barred from holding a Group 2 license but may reapply when off insulin

http://www.dft.gov.uk/dvla/medical/ataglance.aspx

Frequent Hypos

- Group 1 (cars and motorbikes)
  - Cease driving until satisfactory control is re-established, with a GP / consultant report

- Group 2 (LGV / PSV)
  - Barred from holding a license (same rules as if they were on insulin)

Impaired Hypo Awareness

- No definition given of this
- Group 1 (cars and motorbikes)
  - If confirmed, driving must stop. Driving my resume provided reports show hypo awareness has been regained – confirmed by GP / consultant
- Group 2 (LGV / PSV)
  - Barred from holding a license (same rules as if they were on insulin)

Other Considerations

- People with insulin treated diabetes are recommended not to drive emergency vehicles
  - However, this can be decided on a case to case basis

Applying for a C1 or C1+E license

- C – Vehicles over 3,500 kg, with a trailer up to 750 kg (if the trailer and vehicle weight more than 12,000Kg then it is a C1+E or C+E)
  - No severe hypos in the preceding 12 months
  - Full hypo awareness
  - Understand the risks of hypos
  - Condition must be stable for at least 1 month
  - At least twice daily CBG and at times relevant to driving
  - Yearly diabetes consultant examination, with at least 3 months of CBG measurements checked*
  - No other condition
  - Must sign to comply with doctors directions

"*"? What's "*"?

- Drivers wishing to apply for a C1 or C1+E license must use a meter with a blood glucose memory function
- It means that since October 2011 people previously barred from holding Group 2 licenses may now apply subject to those conditions being met and a medical assessment

This is new

What's the Process?

- Get a form D4 from the DVLA
- See your GP for a general examination (~£100)
- See your diabetes consultant who will complete the C1EXAM questionnaire (~£100)
- License renewal yearly – subject to medical consultants report
- Examinations at 45 years old and then every 5 years

Issues and Concerns

- No definition of ‘disabling hypoglycaemia’ or ‘awareness of hypoglycaemia’
- That drivers experiencing recurrent severe hypos (i.e. 2 or more in any 12 month period) shall have their license revoked or not be issued with a license
- A severe hypo occurring at any time of day or night must be reported and will now lead to driver reassessment

Recurrent and Severe

- Consideration ***is*** given to the circumstances of the help (‘can I have a cup of tea love’ vs. ‘dial 999!’)
- DUK suggests ‘severe hypo’ is defines as “an event requiring assistance of another person to administer actively carbohydrate, glucagon or other resuscitative actions” – not simply where the person with diabetes had a low blood glucose level (which is the danger with self reporting and no inclusion of definition)

Recurrent and Severe

- It used to be that severe hypo's during sleep did not 'count'. Thus this new ruling makes no sense. One would not be driving when one is asleep!

- DVLA is applying a ban from the date of notification of the second attack, until 12 months after the date of the first episode, e.g. if a patient has a severe hypo in April and a second episode in December then the patient is banned from driving until the following April .This is applied irrespective of what time of day they occurred

Recurrent and Severe

- What about if someone is ill, or has changes in sleep pattern and have a hypo?

- The initial assessment will be self reporting. What happens
  - if people make a mistake on the form or
  - if they start to lie on the form?

- What happens when there are severe symptoms but not biochemically hypoglycaemic?

Hypos

- Anyone having a severe hypo at any time of day or night must be reported and will lead to driver reassessment
- Again, the issue of day and night time hypos
- If the doctor doing the evaluation, is the patient’s normal carer, it may interfere with their ‘normal’ relationship, because driving is an emotive issue
- So does an independent doctor do that – and if so, how are they chosen, etc?

Impaired Hypo Awareness

- Defined as total absence of warning signs
- But data shows that cognitive dysfunction occurs at BG levels of <3.5 mmol/L, what happens if someone says ‘oh yes, I know I am going low at 2.9’ – they have not totally lost awareness, but are likely to be unsafe

Impaired Hypo Awareness

- This rule will potentially mean that many pregnant woman on insulin will need to surrender their license because so many of them develop hypo unawareness
- How long will licenses take to be restored once hypo awareness has returned?

Issues and Concerns

- Drivers with impaired awareness of hypoglycaemia (defined as a total unawareness of hypoglycaemia) will not be issued with licenses, nor be able to renew
- The DVLA and DoT estimate that these changes will affect between 700 and 1400 people in the UK
- DUK estimates they will affect ~1 million

What Can You Do?

- The DVLA state that it is the responsibility of health care professionals
  - To advise patients of the possible impact medical conditions and treatments could have on their driving capabilities
- And
  - That drivers should honestly assess their driving capabilities with regard to their medical condition and treatments, and act appropriately

Shaw K Pract Diab 2011;28(9):375-376

Any Questions?