



GUIDELINES FOR ASSESSING FITNESS FOR BLUE LIGHT DRIVING

July 2013

Faculty of Occupational Medicine
3rd Floor, New Derwent House
69-73 Theobalds Road
London
WC1X 8TA
www.fom.ac.uk

Guidelines for assessing fitness for blue light driving

Introduction

There is currently no accepted definition of blue light driving other than the obvious one of driving a vehicle with blue lights. This is, however, clarified below. The Board of the Faculty of Occupational Medicine has therefore approved guidelines for occupational physicians who give advice to organisations that employ blue light drivers who can drive outside a number of limitations. In developing these guidelines the Faculty is aware that the different approaches being taken by different organisations raise the prospect of an employee being prevented from driving in one organisation and then permitted to drive by a neighbouring one. This variance may therefore not only have a profound impact on the career of an individual but may give rise to legal challenges for employers. The Faculty's view is that, to balance the demands of equality legislation and driver safety, it is necessary to undertake careful individual risk assessment of drivers.

Blue light driving

The types of vehicle which can carry a blue light and the warning beacons and sirens which are allowable are laid out by legislation including the Road Vehicles Lighting Regulations. Many blue light drivers are able to drive their vehicles with a standard Group 1 ("car") licence although some, such as those who drive large fire appliances, need a Group 2 licence by law.

Not all vehicles with a blue light or siren are permitted to be driven outside the regulations. However drivers of police, fire and ambulance service vehicles or of vehicles being utilised by these services, such as search and rescue (and certain others such as Special Forces¹), are permitted to:

- treat a red light as a give way sign;
- drive the "wrong" side of a keep left bollard;
- drive faster than the speed limit;
- drive on a motorway hard shoulder (even against the traffic).

However these drivers are not permitted to:

- ignore a no entry sign;
- drive in the wrong direction down a one way street;
- cross a solid white line (except in the same circumstances as any other driver);
- ignore flashing warning signs at fire stations or level crossings.

There are other circumstances where rules can be disregarded which are down to the driver's professional judgement.

Other blue light drivers, such as those in mountain rescue teams and HM Coastguard, are **not** permitted to disregard traffic regulations. The legislation is complex but often refers to or amends

the Road Traffic Regulation Act 1984. Helpful advice can be found via the UK emergency vehicle website.²

In addition to these differences there are clearly varying demands put upon the driver by factors such as the heterogeneous nature of the vehicles, driving conditions and the frequency and distance of the driving.

The Road Safety Act 2006, if fully enacted, will restrict blue light driving to individual drivers who have undergone approved training. However this part of the regulations (Section 19) is undergoing consultation.³

The current situation

Blue light driving is referred to by the Driver and Vehicle Licensing Agency (DVLA) in its document "At a Glance"⁴ and medical advice is given to the DVLA by panels of senior medical practitioners eminent in their field. The UK does not operate in a vacuum however and on occasions changes are made to comply with European legislation. The current version of "At a Glance" states:

"Responsibility for determining the standards, including medical requirements, to be applied to police, ambulance and health service vehicle drivers, over and above the driver licensing requirements rests with the individual Police Force, with the NHS Trust, Primary Care Trust or Health Service body in each area."

Later in the appendices direct reference is made to diabetes mellitus:

"The Secretary of State's Honorary Medical Advisory Panel on Diabetes and Driving has recommended that drivers with insulin treated diabetes should not drive emergency vehicles. This takes account of the difficulties for an individual, regardless of whether they may appear to have exemplary glycaemic control, in adhering to the monitoring processes required when responding to an emergency situation."

But it goes on to give this caveat:

"The advice of the Panels on the interpretation of EC and UK legislation, and its appropriate application, is made within the context of driver licensing and the DVLA process. It is for others to decide whether or how those recommendations should be interpreted for their own areas of interest, in the knowledge of their specific circumstances."

This has led to various approaches being taken so that in neighbouring police forces one can find officers with insulin dependent diabetes driving under blue light conditions in one force, whereas they are not permitted to do so in the other.

The differing licensing requirements also lead to apparent inconsistencies. A firefighter driving an appliance to a fire will be required to have a Group 2 licence because of the vehicle weight, whereas the senior officer who overtakes the vehicle on the way will be driving there at high speed with blue lights on and yet may only have a Group 1 licence. Even more complicated is the

situation with the many different vehicles used by the ambulance service; a driver picking up patients could be required to hold a licence to drive B, C-1 or D-1 vehicles, necessitating different standards of fitness. A driver with diabetes could drive B and possibly C-1 vehicles (if they met the requirements). An emergency response driver in a modified estate car would only need a Group 1 licence with less demanding DVLA criteria for those with diabetes.

In 2008, the Association of Local Authority Medical Advisers' (ALAMA) police group came to a consensus view on how to approach the risk assessment of driving fitness in police drivers. They proposed using the DVLA group standards as a yardstick but also giving consideration to relevant factors in the individual case. The police service is at an advantage in this case as their drivers all undergo training and have at least rudimentary medical screening (often at the time of training).

Factors affecting safety

Medical fitness is of course only one of the factors that impact on driving safety. Safe driving requires:

- effective and reliable control of the vehicle;
- capacity to respond to the road, traffic and external clues;
- knowledge of and a willingness to follow the "rules of the road";

all of which can be affected by medical factors (amongst others). Other factors include:

- road conditions including adverse weather conditions, road congestion and reduced visibility;
- the vehicle, including its performance;
- driver training improving driver performance;
- other driver factors such as fatigue, alcohol, medication, distractions, age, previous experience and so on.⁵

Risk reduction

The DVLA guidelines, while not specifically designed for the purpose of assessing blue light drivers, are nonetheless the statutory criteria for the assessment of driving fitness standards for licensing. The Faculty of Occupational Medicine advises occupational physicians to use the Group 2 guidelines as a yardstick for drivers who are permitted to drive outside some of the traffic regulations. However if the individual is only permitted to use beacons and sirens in order to warn traffic, so that if necessary their passage can be expedited, then a Group 1 licence is sufficient.

Should a driver in the first group (those permitted to drive outside the regulations at times) not meet the Group 2 standards, then the occupational physician will need to carry out an individual risk assessment in order to inform the employing organisation's decision on whether to permit driving under blue light conditions. For the purpose of these guidelines and future publications this is known as the "Group 2 minus" approach.

It is not practicable to give detailed guidelines for all conditions here. In part this is because of all the variables involved (including the effects and severity of the condition(s), type of vehicle, nature and frequency of driving, etc). For example, a police driver may drive under blue light conditions rarely (instances have been recorded of an officer only driving with blue lights once a month for a short distance). Conversely a road policing officer could spend the majority of his/her shift behind the wheel and use blue lights a number of times.

It is likely that medical supervision is likely to decrease the risk in certain medical conditions by ensuring that disease control is optimal and that medication is complied with and, for example, secondary organ damage detected early. This is an area of study that would benefit from further examination.⁶ For example, medical supervision of a driver being treated for sleep apnoea by checking up on compliance with the use of preventative devices (continuous positive airways pressure machines) and the use of a sleepiness scale, such as the Epworth sleepiness scale, is likely to minimise risk.

Following up an individual with diabetes treated with insulin, to check blood sugar monitoring, check for absence of hypoglycaemia and monitoring pre-driving glucose checking, should minimise the risk of a severe episode occurring. See Appendix 1 for a more detailed approach. Assessment must take into account the motivation to comply with the treatment regimen and the reliability of the driver as well as the technical aspects of disease control. It is likely that the creation of a set of criteria for each case, including regular follow up by occupational health, will reduce risk so far as is reasonably practicable.

Consideration should be given to whether the driver's duties could be changed unexpectedly, for example in the event of a critical incident. However this should not be regarded as a way of excluding a driver with a disability on the basis of "what if". A suitably balanced approach should be made to the risk assessment and the exploration of ways to mitigate risk.

An annual risk of sustaining a seizure after head injury of 2% has been employed for some considerable time as the maximum level accepted for holding Group 2 licences (with a 20% risk for Group 1). A similar approach can be employed in other conditions and indeed the DVLA use the Bruce Protocol exercise test in order to evaluate the risk of ischaemic heart disease (for those known to have pre-existing cardiac disease). Care must be taken not to make assumptions regarding risk as research reveals excellent results from interventions such as the discovery that those who had undergone coronary artery bypass grafting had unexpectedly excellent survival rates (10 year survival rate for those undergoing single vessel, internal mammary artery grafting was 93.4% in one large study⁷ while others suggest 78% or more after 7 years for a wider group⁸).

In the emergency services it is less likely for the occupational physician to come across many conditions in this context, partly because the nature of the job rules them out. Angina, for example, is very rarely seen in a police officer who is being assessed for a response driving post. However some of the other occupational groups that could be included in this group of blue light drivers may have medical conditions that will involve the occupational physician carrying out risk assessments for a wide spectrum of conditions. However, it should be stressed that the assessment of workers suffering from more than one condition concurrently requires particular care. In particular the temptation to assess each factor in isolation should be resisted.

Occupational physicians may find it useful to refer to risk assessment advice for other occupations such as the Maritime and Coastguard Agency's guidance for approved doctors (those approved to carry out medicals for seafarers).⁹ The American College of Occupational and Environmental Medicine has published detailed guidelines on the management of various medical conditions in law enforcement officers (available to its members). While reflecting a health care system that is in some ways different from the one in the United Kingdom (in particular in the much higher use of complex investigations and technological approaches to disease management) their guidelines may be of interest to practitioners in this field.

The likely impact of the individual risk assessment approach

A gradual trend towards harmonisation of the assessment of fitness for blue light driving will have a differing effect on each organisation depending upon their current approach. Those that do not currently screen drivers are likely to have to deal with the consequences of detecting hitherto unknown issues. This will need to be dealt with sensitively and there is the possibility of a cross-over period and perhaps the use of "grandfather rights". Conversely other organisations that have applied a blanket approach based on Group 2 licence standards are likely to have a number of drivers requiring risk assessment and perhaps subsequent supervision by occupational health. It is likely that the pool of available drivers will increase and it is hoped there will be a positive effect upon operational resilience.

This approach will enable organisations to discharge their duty of care towards their employees and it is to be hoped that by taking a balanced approach to assessment of the risks of driving, other benefits will be apparent such as minimising the necessity for Employment Tribunals.

Future developments

It is likely that future developments in the management of disease will bring about significant changes to the management of risk. Current technology allows real time monitoring of physical parameters such as blood sugar, pulse and blood electrolytes and, while this is limited to specialised uses at the moment, it is likely to be extended and could have significant advantages, in particular the management of blood glucose levels in insulin dependent diabetics.

The paucity of accessible research in the causes of accidents in the emergency services highlights a possibly valuable area for study.

Summary

The assessment of fitness to drive of members of the emergency services is best based upon a "Group 2 minus" approach, using the "At a Glance" guide as yardstick, followed by an individual risk assessment carried out by an occupational physician familiar with the role.

This will need to take into account:

- the nature of the medical condition and other patient factors, such as the number of years that the patient has had it, its degree of progression, and impact upon day-to-day function;
- the driver's management of his/her condition and motivation;
- the availability, and likely mitigating effect, of treatment and medical supervision;
- any other relevant co-morbidity;
- the nature, frequency and duration of driving;
- the type of vehicle.

REFERENCES

(All web addresses below accessed 17 July 2013)

- 1 *The Road Traffic Exemptions (Special Forces) (Variation and Amendment) Regulations 2010.*
<http://www.legislation.gov.uk/ukxi/2011/935/made>
- 2 UK Emergency Vehicles website
http://www.ukemergency.co.uk/index.php?option=com_content&view=article&id=52&Itemid=61#ble
- 3 *Road Safety Act 2006*
<http://www.legislation.gov.uk/ukpga/2006/49/contents>
- 4 DVLA. *At a glance - Guide to the current medical standards of fitness to drive.* Swansea: DVLA, 2013.
<https://www.gov.uk/current-medical-guidelines-dvla-guidance-for-professionals>
- 5 Royal Society of Medicine. *Fitness to drive: A guide for health professionals.* London: RSM Press, 2006.
<http://www.rsm.ac.uk/media/pr221.php>
- 6 Svoren BM et al. Reducing acute adverse outcomes in youths with type 1 diabetes: A randomized, controlled trial. *Pediatrics* 2003; 112 (4): 914 -922
<http://pediatrics.aappublications.org/content/112/4/914.abstract>
[The only paper of relevance found when searching Pubmed, JSTOR, Web of Science, UCL Lib Catalogue and Medline using the terms: medical follow up; preview; frequency of consultation; management; and terms such as risk mitigation, adverse effects, etc.]
- 7 Loop FD et al. Influence of the internal-mammary-artery graft on 10-year survival and other cardiac events. *N Eng J Med* 1986;314: 1-6
<http://www.nejm.org/toc/nejm/314/1/>
- 8 Wu C et al. Long-term mortality of coronary artery bypass grafting and bare-metal stenting. *Ann Thorac Surg* 2011; 1992(6): 2132-2138.
<http://www.sciencedirect.com/science/article/pii/S0003497511015724>
- 9 Maritime and Coastguard Agency. *Guidance for approved doctors.* Southampton: MCA.
http://www.dft.gov.uk/mca/mcga07-home/workingatsea/mcga-healthandsafety/mcga-medicalcertandadvice/mcga-dqs-shs-seafarer_doc_inf/ad_guidance.htm

APPENDIX 1: Medical risk assessment for blue light drivers with diabetes mellitus with treatment regimes that may lead to hypoglycaemia

Preliminary Assessment

The potential driver should be under the care of a diabetologist or other physician with expertise in the management of diabetes. A report should be obtained from that physician (this should specifically address the history of the preceding three years or since diagnosis if that is more recent).

An employee with type 1 diabetes should have been stable on their insulin regime for at least 6 months. A person with type 2 diabetes taking insulin should have had a stable regime for at least 3 months.⁽ⁱ⁾

First and periodic assessment

Medical

Is control of diabetes stable within the agreed safe limits? (90% of glucose readings between 4-10 mmol/l⁽ⁱⁱⁱ⁾ on regular testing & HbA1c of less than 64 mmol/mol)?⁽ⁱⁱⁱ⁾ There should be evidence of sufficiently frequent blood glucose estimation depending on the type of diabetes. Care should be taken as some areas in the UK have decreased the frequency of testing.^(iv)

A careful history of the incidence of hypoglycaemic symptoms should be sought. A driver with a history of a hypoglycaemic attack requiring assistance within the preceding year should be excluded from driving unless there is a clear and avoidable reason.^(v)

Can the individual recognise symptoms of hypoglycaemia (and demonstrate an understanding of how to control low blood sugar)? Correlate this with the glucose level measured during the attack (if available). Hypoglycaemia that is not noticed until the blood sugar is very low would be cause for concern (below approximately 3.5 mmol/l^(vi)) and should be sought for on the logs.^(vii)

Is there a reliable record of blood sugar monitoring? The use of a recording glucose meter with a memory to allow review is **strongly** recommended.

An updating annual report should be obtained from the specialist diabetologist.

Are there any complications or long-term sequelae? If long term complications are not being screened for, this should be addressed.

Are there any other health conditions?

What is the visual acuity of the employee? Visual fields should be checked if there has been any laser surgery or if there are any other indications.

Is the employee aware of factors that may lead to their condition becoming unstable (for example intercurrent illness, obesity or excess alcohol consumption)?

Individual

Does the individual have a good understanding of diabetes and its management?

The employee must agree to check blood sugar before undertaking blue light driving **without exception**. They must be able to take meal breaks when appropriate and have access to a snack.

Is the individual well motivated to follow the guidelines?

Is the individual likely to comply with all medical advice?

Is the individual aware of what to do if the blood sugar falls below 4.0 mmol/l (ie, to take a snack and not drive for about 60 minutes)? Do they know that it may take some time for cognitive function to return to normal?^{(viii)(ix)} Prophylactic carbohydrate is recommended if the blood sugar is less than 5.0 mmol/l.

Manager

Is the manager aware of the importance of regular checks regarding the individual's glycaemic control on a shift-by-shift basis? Will this be accommodated?

Is the manager aware of the need for regular updating of the risk assessment via a regular medical assessment? Will this take place?

Is the manager aware of the potential effects on operational capacity if the individual has either a concurrent medical condition or an acute destabilisation in their diabetic status? Has this been accounted for in planning?

Is the manager aware of the need to take regular refreshment breaks and the requirement not to drive if the pre-driving check reveals low blood sugar? Will those breaks take place?

The use of insulin pumps

Work carried out by the National Police Diabetic Association^(x) and by Dorset Police revealed no significant practical issues with the wearing and using of insulin pumps in police officers (with regard to the wearing of uniform, body armour or other equipment). However the use of a pump implies that the occupational physician should check some additional factors, including:

- appropriate understanding of the pump and its use and prompt recognition of malfunction;
- any history of injection site infections;
- a back-up plan in case of malfunction or other reason to suspend use of the pump.

The assessment of diabetic complications

The presence of a complication need not necessarily preclude further driving but should be regarded as a warning and the occupational physician should be aware of the possibility that the

driver may be deliberately running their blood sugar high. A careful individual assessment should be made of the effect of the complication upon driving.

The implementation of an individual risk assessment model

The occupational physician may find it helpful to gain commitment from their employing organisation prior to the introduction of this model. Written protocols are likely to be helpful and the use of fact sheets for managers and signed agreements with drivers may improve knowledge and ensure that the driver with diabetes understands the significant commitment they will have to make.

NOTES, REFERENCES, ETC

(All web addresses below accessed 17 July 2013)

- i Changes in the dose of insulin are to be anticipated as part of the management of the condition and do not denote "instability". However the introduction of a new drug or class of insulin by the driver should trigger a further period of observation of up to 3 months for a new insulin and two months for the addition of an oral hypoglycaemic by a driver already using insulin.
- ii This figure is a pragmatic range. The lower figure is well researched. The upper limit of 10 mmol/l is a working level aimed at minimising diabetic complications and avoiding cognitive impairment while driving. Eg. Frier BM. Hypoglycemia and driving performance. *Diabetes Care* 2000; 23(2): 148-150.
- iii An employee may seek to run their blood glucose a little high to avoid hypoglycaemia but this should be minimised so far as possible so avoid increasing the incidence of complications of diabetes. Cryer PE et al. Hypoglycemia in diabetes (Technical Review). *Diabetes Care* 2003; 26(6): 1902–1912. <http://care.diabetesjournals.org/content/26/6/1902.abstract>
- iv For those taking insulin at least twice a day or using a pump, the American College of Occupational and Environmental Medicine, in its Law Enforcement Officer's medical guidelines, specifies three to four checks per day before meals and occasionally on rising (a few times per week) and after any possible hypoglycaemic attack. The College also recommends testing twice a day in the morning and at supper time (and after any possible hypoglycaemic attack) for those using one dose of insulin per day plus oral agents or by those on oral agents alone if they are drugs that can cause hypoglycaemia.
- v Eg. Diabetes Control and Complications Trial (DCCT) Research Group, Bethesda, Maryland. Hypoglycemia in the diabetes control and complications trial. *Diabetes* 1997; 46 (2): 271-286. <http://diabetes.diabetesjournals.org/content/46/2/271.abstract?sid=6672d522-d2c8-4083-a628-36c811ba00ef>
- vi Glucometers must meet ISO 15197 but this allows a variation from blood glucose of $\pm 20\%$. Kost G J et al. Evaluation of point-of-care glucose testing accuracy using locally-smoothed median absolute difference curves. *Clin Chim Acta* 2008; 389 (1-2): Pages 31–39. <http://www.sciencedirect.com/science/article/pii/S0009898107005682>
- vii Cox DJ et al. Progressive hypoglycemia's impact on driving simulation performance: occurrence, awareness, and correction. *Diabetes Care* 2000; 23:163–170. <http://care.diabetesjournals.org/content/23/2/163.abstract?sid=0f156557-2263-44d8-a5c9-1f16f9eefaff>
- viii Lindgren M et al. Restitution of neurophysiological functions, performance, and subjective symptoms after moderate insulin-induced hypoglycaemia in non-diabetic men. *Diabet Med* 1996; 13(3): 218-225. [http://onlinelibrary.wiley.com/doi/10.1002/\(SICI\)1096-9136\(199603\)13:3%3C218::AID-DIA25%3E3.0.CO;2-D/abstract](http://onlinelibrary.wiley.com/doi/10.1002/(SICI)1096-9136(199603)13:3%3C218::AID-DIA25%3E3.0.CO;2-D/abstract)
- ix Blackman JD et al. Hypoglycemic thresholds for cognitive dysfunction in IDDM. *Diabetes* 1992; 41: 392-399. <http://diabetes.diabetesjournals.org/content/41/3/392.abstract>
- x National Police Diabetic Association. *The wearing of insulin pumps for operational police duty*. NPDA, April 2009. http://npda.org.uk/wp-content/uploads/2012/12/insulin_pump_report.pdf

APPENDIX 2 : Steering Group members

This group was chaired by Dr David Bulpitt and included the members of the drafting group.

Ambulance Service - Dr Keith Miller
Association of Chief Police Officers - Inspector Paul Taylor
Association of Local Authority Medical Advisers - Dr Ian Griffiths
Association of Local Authority Medical Advisers and St John's Ambulance – Dr John Sorrell
Chief Fire Officers Association - CFO Ian Hayton
Disability Forward Limited - Michelle Valentine
Epilepsy Society - Rona Eade
Fire Brigade Union - Sean Starbuck
Maritime and Coastguard Agency – Dr Tim Carter (also drafting group)
Mountain Rescue - Daryl Garfield
National Police Diabetic Association - Tim Savage
National Police Improvement Agency - Matthew Johnston and Mahmood Mehtar
Police Federation of England and Wales - Andy Dumbiotis
UNISON - Robert Baughan

Drafting Group members

Dr David Bulpitt (Chairman)
Dr Tim Carter
Dr Simon Clift
Dr Heather Major

Assistance with research and the worked example

Dr Ian Griffiths
Dr Andrea Junker
Dr Sam Phillips

Assistance with Appendix 1

Dr Raymond Johnston



Compiled and published by the Faculty of Occupational Medicine

© Faculty of Occupational Medicine