Driving and the doctor: awareness of current driving regulations for cardiovascular conditions amongst doctors and nurses

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Abstract

Many common cardiovascular conditions preclude patients from driving for a period of time. These regulations often affect previously fit people and may have far-reaching consequences for an individual. The doctors caring for these patients are responsible for informing them of any relevant driving restrictions. We present a survey of general physicians' and cardiac specialist nurses' understanding of the current Driver and Vehicle Licensing Authority (DVLA) regulations. Overall, there is a limited knowledge of driving regulations among physicians as a group (36% correct responses). In contrast to their poor knowledge with respect to cardiovascular conditions (30% correct), a far higher proportion of physicians knew when a patient could return to driving following an epileptic seizure (76%, p<0.001). Consultants fared better than their junior colleagues, with 41% of questions answered correctly; specialist cardiac nurses had a correct response rate of 57% for cardiac events. Most of the wrong responses overestimated the duration of the restrictions, suggesting a conservative attitude to advice offered.

Key words: automobile driving, cardiovascular diseases, transient ischaemic attack, seizures, clinical nurse specialists.

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Introduction

Death and disability arising from road traffic accidents are a major concern to society. A wide range of common cardiovascular conditions may impair an individual's ability to drive a motor car. Patients are required to stop driving following certain acute medical events. In the UK the Driver and Vehicle Licensing Authority (DVLA) is responsible for granting driving licences and reviewing them in the light of illness. Detailed advice is available to medical practitioners, describing regulations for patients with specific medical conditions. This information is regularly updated and it is widely available in print or on the DVLA website (www.dvla.gov.uk).[1] It is the responsibility of the physicians caring for patients to inform them of any driving restrictions.

Failure to follow these recommendations has many implications, putting pedestrians, other drivers and the patient themselves at risk. Insurance cover may be invalid even if the patient is unaware of the recommendations. Doctors may be held responsible if appropriate advice is not given: they need to be well acquainted with the DVLA advice for the common conditions that they are likely to see.[2,3] Patients who have previously been fit and well and who depend on driving for their livelihood may be particularly affected by these restrictions.

We carried out a questionnaire-based survey to assess doctors' and nurses' knowledge of current driving regulations.

Method

In November and December 2002, structured forced multiple choice questionnaires were distributed to physicians in general medical specialities, including cardiologists, and to nurses with an interest in cardiovascular medicine (specialist cardiac nurses and those working on Coronary Care Units or specialist cardiology wards). The doctors and nurses worked at three large NHS Trusts (two large District General Hospitals in Reading and Norwich, and a teaching hospital with a large general medical take – The City Hospital, Nottingham). The questionnaires were anonymous but were completed in the presence of one of the investigators.

Participants were asked when a patient could resume driving a domestic car following six common cardiac events: ST segment elevation myocardial infarction (STEMI), troponin-positive (high-risk) acute coronary syndromes (ACS), troponin-negative (low-risk) ACS, unexplained loss of consciousness, implantation of a permanent pacemaker; and following coronary angioplasty (PTCA). Permitted answers were: at discharge, one week, four weeks, six weeks, one year or never.

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Table 1. Awareness among doctors and nurses of current driving regulations for patients following admission to hospital

Medical condition		Earliest time at which patient can resume driving						
		At discharge	1 week	4 weeks	6 weeks	6 months	1 year	Never
Acute STEMI	D	0.8%	1.5%	37%	55%	4.6%	0.8%	0%
(4 weeks)	N	0%	0%	90%	10%	0%	0%	0%
ACS troponin-positive	D	6.9%	7.7%	39%	43%	1.5%	0.7%	0%
(4 weeks)	N	3.4%	3.4%	82%	10%	0%	0%	0%
ACS troponin-negative	D	40%	25%	14%	17%	0.7%	0%	0.7%
(At discharge)	N	41%	41%	17%	0%	0%	0%	0%
Unexplained LOC	D	12%	5.4%	17%	10%	18%	33%	3.1%
(6 months)	N	3.4%	10%	10%	0%	17%	34%	10%
Pacemaker insertion	D	13%	24%	25%	24%	7.7%	2.3%	2.3%
(1 week)	N	6.9%	52%	24%	17%	0%	0%	0%
Angioplasty and stent	D	5.4%	22%	35%	32%	5.4%	0%	0.8%
(1 week)	N	3.4%	62%	21%	14%	0%	0%	0%
Transient ischaemic attack	D	17%	11%	28%	22%	13%	6.1%	0.8%
(4 weeks)								
First epileptic seizure	D	1.5%	0.8%	3.8%	3.0%	8.5%	76%	3.8%
(1 year)								

Correct minimal duration of driving limitation is shown in italics.

Key: ACS = acute coronary syndrome; LOC = loss of consciousness; N = nurse responses (n=21); D = doctor responses (n=130); STEMI = ST segment elevation myocardial infarction; TIA = transient ischaemic attack. Blank responses not included in table. Cardiac nurses were not asked about TIA or epileptic type seizure.

Physicians were also asked when a patient could resume driving after a transient ischaemic attack (TIA) and a first epileptic-type seizure.

Statistical comparisons were made using the χ^2 test.

Results

Questionnaires were completed by 130 doctors (39 consultants, 22 specialist registrars (SpR), 39 senior house officers (SHOs), 20 pre-registration house officers (PRHOs) and 10 staff grades), and by 29 specialist nurses. Overall, physicians answered correctly only 36% of the time. Consultants performed significantly better than their junior colleagues (41% *vs.* 33%, p=0.01).

There was wide variation in the level of knowledge for the various conditions (table 1). All grades of doctors had a far better awareness of the driving regulations following a first epileptic-type seizure (minimum one year ban from driving), with 76% answering correctly (p<0.001). However, a small but significant proportion (5%) thought such a patient could return to driving within a month of discharge. In contrast, only 18% knew that a patient could not start driving until six months after an otherwise unexplained loss of conciousness (LOC).

Knowledge was more consistent concerning advice for patients with acute coronary syndromes (ACS) and myocardial infarction (MI). Only 37% were aware that a patient should stop driving for four weeks following an MI, although 92% gave nearly the correct answer, suggesting a ban from driving for either four or six weeks. Results were similar for patients with troponin-positive ACS, who are also prevented from driving for four weeks. In this case 39% of respondents were totally correct and 82% answered four or six weeks. A higher proportion knew that patients could return to driving straight away after a troponin-negative ACS, but the results were more disparate: more than one third of respondents said that the patient would not be permitted to drive for at least four weeks.

The awareness of driving regulations for common cardiac conditions among nurses working in specialist cardiac areas was much greater (overall 57% correct, p=0.01). Among these nurses, 90% knew exactly when a patient could return to driving following a myocardial infarction, and 82% for patients with a troponin-positive ACS. Even when they were wrong, their responses were very close to being correct. The only exception was for unexplained LOC, where the nurses performed as badly as the doctors.

Doctors had a particularly poor knowledge of when a patient was permitted to drive following pacemaker insertion (24% correct) or PTCA (22% correct). Indeed, 12% thought pacemaker insertion precluded a patient from driving for at least six months and nearly three quarters responded that patients should not drive for at least four weeks after PTCA. Again, specialist nurses performed better, with more than half providing the correct answers.

The question relating to patients who had suffered a tran-

sient ischaemic attack (TIA) was also answered badly: only 28% of responses were correct, although consultants did perform much better (40% correct, p=0.04). A total of 17% of doctors would let a patient drive immediately on discharge following a TIA whilst 20% thought such patients were prohibited from driving for at least six months.

Discussion

The last study on a similar scale was performed more than 10 years ago and showed very poor knowledge of driving regulations amongst doctors, although it was hampered by low response rates in a postal survey.[3] Since then there have been massive changes in the teaching, practice and focus of medicine, with greater emphasis on the social and economic impact of disease on patients and better use of nurses with specialised knowledge. It is, therefore, heartening to see a relatively high degree of awareness of the driving regulations for patients suffering common conditions such as cardiac chest pain or seizures. Importantly, although the correct response rate was low, the respondents generally overestimated rather than underestimated the length of restrictions associated with these medical conditions. This cautious attitude is a safe approach, although it may have significant socio-economic implications for the individual who has been stopped from driving for too long.

Knowledge of the driving regulations is now an integral part of the new PACES examination for membership of the Royal College of Physicians. It is disappointing that those physicians who are about to take this exam or who have recently passed it (the SHOs and SpRs) did not perform better. Indeed, the consultants were the ones with the most accurate knowledge. Previous studies have not shown this difference in knowledge between different grades, but have shown a greater awareness of driving regulations among general practitioners. It is often too late to advise patients about driving regulations once they have left hospital and returned home.

We were surprised at the proportion of doctors and nurses who answered correctly, or nearly correctly the question about when a patient could return to driving following a troponin-positive acute coronary syndrome. There is currently much confusion and debate among medical and nursing teams about the exact definition of a myocardial infarction.[4] The DVLA avoids the debate and gives identical advice for both myocardial infarctions and ACS with a raised troponin. The participants in this study appeared to take a similar view.

Transient ischaemic attacks are common. These patients are often seen by junior doctors, and may be discharged rapidly from emergency units with instructions to attend the next TIA clinic. Failure to advise a patient not to drive following a TIA has already resulted in the prosecution of at least one doctor.[3]

Physicians were largely unaware of the driving regulations for patients undergoing angioplasty or pacemaker insertion. Although it might be felt that such knowledge regarding specific procedures is the realm of the specialist, these patients are often cared for by a general medical team. An overly pessimistic view of returning to driving may dissuade patients from undergoing treatments that are likely in fact to improve their safety on the road.

There has been a massive increase in the role of nurses in recent years. Those working in specialist cardiac areas appear to have an extremely good awareness of regulations concerning patients within their own field.

The very high level of awareness of the driving regulations with respect to epilepsy in comparison to other conditions has been noted previously, although the reasons are not clear.[3,5] It may reflect differences in training or prejudices about the perceived high risk of epileptics causing road traffic accidents, or the likelihood of patients with cardiovascular conditions being drivers.

Key messages

- It is incumbent on the treating physician to advise patients about relevant driving regulations at the time of hospital discharge
- The DVLA publishes strict guidance for returning to driving after many cardiovascular and medical conditions, not just MI and epilepsy
- There is currently no difference in the regulations for MI and high-risk ACS
- Physicians, cardiologists and general practitioners need to be aware that patients may not have been correctly advised about driving on discharge from hospital
- The most up-to-date regulations can be viewed at www.dvla.gov.uk

Conclusion

Doctors have imperfect knowledge of the driving regulations for patients with some common conditions such as acute coronary syndromes, myocardial infarction and epileptic seizures. They are even less aware of the rules for other common medical conditions, including TIAs and unexplained loss of consciousness, or following common cardiac procedures for which they refer their patients. Lack of awareness of the driving regulations and failure to advise patients correctly not only puts the health and financial security of that patient at risk, but also the safety of his relatives and the general public. Although it is important that patients should not drive until they are medically safe to do so, it is equally important for doctors to give correct advice and not inappropriately deny their patients the freedom that driving provides. Many patients who are prevented from driving become increasingly isolated, and this has an adverse impact on their physical and mental wellbeing.

Ultimately, all doctors are responsible for advising their patients appropriately. If they are unable to do so then specialist nurses are well placed to provide assistance.

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