

**DRAFT MINUTES OF THE MEETING OF THE SECRETARY OF STATE
FOR TRANSPORT'S HONORARY MEDICAL ADVISORY PANEL ON
DRIVING AND DISORDERS OF THE CARDIOVASCULAR SYSTEM**

THURSDAY, 4 OCTOBER 2007

Present:	Dr H Swanton	Chairman
	Dr M Anderson	
	Dr J Burns	
	Dr M Griffith	
	Dr D Holdright	
	Dr A Kelion	
	Dr P Schofield	
	Mr G Venn	
Lay Members:	Mr P Tait	
	Mr R Yates	
Ex-officio:	Dr T Jagathesan	Consultant in Aviation Medicine
	Dr T Carter	Chief Medical Officer, DfT
	Dr H G Major	Senior Medical Adviser, DVLA
	Dr I Perez	Medical Adviser, DVLA
	Dr B G R Wiles	Medical Adviser, DVLA
	Mrs Sarah Bamford	Drivers Policy Group, DVLA
	Dr J Hanley	Panel Secretary/Medical Adviser, DVLA

1. Apologies for Absence

Apologies were received from Dr L Read and Dr S Evans.

2. Welcome to ARIF presenter(s)

The Chairman welcomed Dr C Hyde, Director of ARIF and Scientific Director of WMHTAC.

3. Confirmation of Panel members re-appointments

The following Panel members have been re-appointed for a further 5-year term:

Dr M Anderson
Dr M Griffith
Dr D Holdright

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Dr H Swanton (Chairman)
Dr L Smith
Professor A Bradbury
Dr M Schofield

4. Outstanding items from deferred meeting of 29 March 2007

4.1 Minutes of the Panel meeting on 28 September 2006.

These were agreed as factually accurate and whilst there was some surprise at the number of licence holders with an ICD (6,500), the current implantation rate of 69 per million of the population coupled with number of years such devices have been implanted for, supported the likelihood of this figure being accurate.

4.2 Minutes of the Secretary of State's Honorary Medical Advisory Panel Chairmen's meeting on 7 February 2007.

i) Dr Swanton congratulated Dr T Carter on his book 'Fitness to Drive' which has now been published and is also available on the DfT website (<http://www.dft.gov.uk/pgr/roadsafety/drs>).

ii) The Panel Chairman drew the members' attention to the presentation given by Graham Pendlebury, Director of Road and Vehicle Safety Strategy Division which confirmed that medical incapacity leading to road traffic accidents is very uncommon. Dr Major advised the Panel that of some 3200 police notifications to DVLA where a medical condition seemed likely to have caused or contributed to accident, preliminary analysis suggests that 57 of such cases were attributed to a heart condition.

iii) Health and Driver Licensing Review.

Issue of the public consultation document is anticipated before the end of 2007. It is envisaged that a minimum period of 3 months will be made available for the consultation process .

4.3 Draft Annual Report.

This was accepted as an accurate record of the Panel's considerations and activities over the period January to December 2006.

5. ARIF literature searches

5.1 These 2 searches arose from discussions around heart failure (Group 2 licence) and implantable cardioverter defibrillators (Group 1 licence) at the September 2006 Panel meeting.

5.2 Search 1: LVEF and exercise testing

It had not been clear from discussion of earlier evidence if completion of 3 stages of the standard Bruce protocol would also effectively identify those whose left ventricular ejection fraction (LVEF) was less than 40%. Anecdotal case evidence suggested that it might not.

ARIF were requested to identify evidence that determines what proportion of persons with an LVEF of less than 40% could complete 3 stages of the standard Bruce protocol. They were also asked to identify any additional aspect(s) that might predispose a person who had undergone coronary artery bypass grafting (CABG) to increased risk of a sudden cardiac event despite an LVEF equal to or greater than 40%.

The ARIF research data had been circulated to the Panel members prior to the meeting and the feedback had been included in the Panel meeting papers to facilitate discussion.

Dr C Hyde, Director of ARIF and Scientific Director of WMHTAC guided the Panel through the ARIF report.

Despite a search of 548 articles there was no single study that answered directly the question 'what proportion of persons can successfully complete stage 3 of the Bruce protocol with an LVEF of less than 40%'. Using the available data and calculating the probability by an indirect means, only a very small percentage with a history of ischaemic heart disease or suspected of having heart disease (excluding those with diabetes mellitus or who had undergone coronary artery bypass grafting) who had an LVEF of less than 40%, were able to complete 3 stages of the standard Bruce protocol. None of those who were diabetic or who had undergone CABG could achieve this standard if the LVEF was less than 40%.

The additional risk factors predisposing those who had undergone CABG to a sudden cardiac event excluding those with an LVEF of less than 40%, were diabetes mellitus, age, perioperative myocardial infarction, preoperative intra-aortic balloon pump, dyslipidaemia, endocarditis and carcinoma.

The Panel remained concerned that whilst exercise testing and LVEF are independent predictors of a sudden cardiac event, LVEF is the better predictor of such.

It was observed during discussion that 60-70% of deaths following CABG (outside the acute surgical period) occur in hospital as a result of arrhythmia or cardiac failure and that the LVEF may not be routinely measured post operatively despite the potential benefits from treating impaired LVEF. The lack of consistent post operative LVEF measurement may reflect local availability of echocardiography facilities.

Conclusion

The Panel advised therefore that when there is uncertainty about the LVEF being 40% or more from the information available then formal evaluation of this should occur prior to exercise testing.
in all who have undergone CABG.

5.3 Search 2: ICD implants and incidence of “shocks”

At the September 2006 meeting it had been concluded that there was no literature known to the Panel members that might support a reduction in the currently advised period of time off driving following an ICD implant.

To be sure that this was so, ARIF were requested to determine if there was information available on the incidence of ‘shock’ therapy at 1, 3 and 6 months post ICD implantation.

Additional aspects of the search were:

- i) what proportion of ‘shock’ therapy is incapacitating?
- ii) what is the incidence of further incapacitating shocks over the subsequent 2 years when either:
 - a) there has been no change in anti-arrhythmic medication
 - b) when anti-arrhythmic medication has been introduced or previous treatment increased
 - c) an interventional procedure (eg. ablation) has occurred.

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Dr C Hyde, Director of ARIF and Scientific Director of WMHTAC guided the Panel through the ARIF report.

The search for the incidence of ‘shock’ therapy at 1, 3 and 6 months from the date of ICD implantation had not revealed any information that would allow a reduction in the currently recommended period of time off driving. Significant numbers of shocks occurred within the first 3 and 6 months. The published studies, however, related to ICDs implanted from late 1993 to 1999. The Panel members did not think that the increasing sophistication of the devices over subsequent years had likely altered the pattern of ‘shock’ therapy. The risk of ‘shock’ therapy at 6 months was considered to be less than 20% per annum ie. at a level that allows Group 1 licensing (car/motorbike) to occur. Incapacity is said to occur in approximately 20% of ‘shocks’ delivered. It was observed during discussion that this level of incapacity may be higher in those in whom the ICD has been implanted for primary prevention, this being due to the severity of the underlying cardiac condition.

Conclusion

The Panel could not advise any change to the current guidelines for those who had an ICD implanted. Any alteration to the current guidelines will require further data supporting such change.

The remaining unanswered questions can only be answered by a prospective study.

6. Myocardial perfusion imaging

The Panel had first discussed the potential risk of ionising radiation used in this and other radiological investigations at the November 2004 meeting. Further discussion had occurred in September 2006 when comparisons were made of the radiation exposure from various routinely used cardiac investigations or procedures. The conclusion then was that the absolute long-term risk attributable to such was very small. At the current time approximately 350 Group 2 licence holders or applicants undergo myocardial perfusion imaging each year.

The discussion of ‘risk’, both short and longer term was widened to include the 3 main tests (treadmill exercise testing, myocardial perfusion imaging and stress echocardiography), used in the clinical setting and by DVLA specifically in the risk assessment of that person’s liability to a sudden and disabling cardiac based event.

It was agreed that whilst tests have the potential to cause an adverse event, when this is compared to the level of risk from the underlying cardiovascular condition, the increased level of risk is of a low order of magnitude. It was observed that despite the small potential radiation risk from myocardial

perfusion imaging, this has not prevented the use of this test being repeated every 5 years (or less) in the assessment of those with stable ischaemic heart disease in the USA.

Conclusion

It was agreed that DVLA should, with Panel members input, produce an information leaflet that explains why the licence holder or applicant is required to undertake a particular test and provides some description of the procedure and an easily understood explanation of any immediate or longer term 'risks.'

7. Hypertrophic cardiomyopathy (HCM) – Re-licensing requirements – Group 2 licence

For this discussion the Panel were provided with a statement of the current licensing and re-licensing requirements and how these had evolved since the Panel meeting in April 1997. The matters for debate were the frequency of and the investigations required at review.

Conclusion

It was agreed that review should usually occur every 3 years with further exercise testing, unless this has already been performed as part of his/her usual regular follow-up. Additional information should be sought from the supervising cardiologist to ensure the remaining (re)licensing criteria can be met.

8. Pressure wire studies – Group 2 licence

Coronary pressure derived fractional flow reserve (FFR) is an invasive index used to identify a stenosis responsible for reversible ischaemia. This investigation has been well validated against stress echo and myocardial perfusion imaging (MPI) studies. Whilst to date, only a few such studies have been submitted to DVLA as part of an individual's assessment for (re)licensing, it seems likely that this information will become increasingly available.

The Panel were asked to consider that if the fractional flow reserve was greater than 75%, was there a need for further assessment by way of either stress echocardiography or myocardial perfusion imaging?

Conclusion

The consensus view that a fractional flow reserve of greater than 75% could be accepted without the need for further investigation, other aspects aside.

9. Cardiac Assessments – Group 2 licence

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The Panel members were advised of the current processes used by DVLA to request cardiac assessments which include clinical evaluation, exercise testing, (stress) echocardiography and myocardial perfusion imaging. Whilst DVLA has in place a network of centres that carry out stress echocardiography and myocardial perfusion imaging with agreed costs, access and reporting times, there are parts of the the country that are not served by this network. Delays in completing the assessment may arise in these areas. Such delay in reaching a licensing decision may have implications from a social and economic viewpoint for the drivers as well as road safety considerations.

Two commercial organisations have approached DVLA offering to provide a single point of contact service within a defined timeframe.

The Panel considered the information provided by the 2 organisations. Some concerns were expressed by individual Panel members including:

- i) Appropriate access to patient records
- ii) standard of assessment and reporting format
- iii) DVLA must have a secure mechanism for dealing with reports from these assessments that clearly indicate the person concerned requires urgent specialised further evaluation or treatment. The Panel were reassured that current DVLA practice is to inform the general practitioner and/or relevant consultant when such information is received.

DVLA will consider these points carefully before undertaking any pilot evaluations. The Panel was advised that should DVLA decide in time to contract out part or all of the cardiac assessments, all interested parties will have to submit to a competitive tendering process.

10. Cases

None for discussion.

11. Research update

The Panel were provided with an update by the Chief Medical Officer, Dr T Carter on current areas of Department for Transport research. The items of relevance to this Panel were:

Across specialities projects

- i) The project investigating the attitudes of health professionals to give fitness to drive advice to the public has been completed; a series of

reports on the different studies undertaken as well as an overall report are in preparation.

- ii) A pilot study aiming to quantify the role of medical factors in accident involvement by examining medical histories of drivers involved (and not involved) is being investigated as part of the Department's 'On The Spot' road crash investigation project. Ethical approval is being progressed.

Cardiology

- i) The study using the 'MINAP' database of admissions to NHS hospitals with myocardial infarction is in progress. The results will be used to provide an up-to-date assessment of the risk of the recurrence of infarctions. Current licensing criteria are largely based on older data before many of the current therapies were available.
- ii) An expert workshop on the risks of future sudden incapacity from vascular events in those with pre-existing risk factors, is to be held in November 2007.

12. Dates of next meetings for 2008 (Spring and Autumn)

The date of the Spring meeting is 6 March 2008 and the Autumn meeting has been arranged for 2 October 2008.

13. Any other business

The Forum of Mobility Centres has extended an invitation to Panel members to see an assessment at a centre and time most convenient to them.

DR J G G HANLEY MB BS MRCP(UK)

Panel Secretary

Medical Adviser, DVLA

15 October 2007