

Eye Testing and Road Safety: A PACTS briefing

Summary

The issue of regular eye testing as a means of reducing road accidents is an interesting one, and it is an area in which PACTS would welcome further research. PACTS would support increased promotion and awareness of eye testing. The case for mandatory eye testing, beyond that currently required to gain a driving licence, has not yet been made.

Research

While anecdotal evidence points to vision deficiencies being a cause of a number of accidents, research on this area has been rather inconclusive. Vision impairment is not often identified in reviews of causes of accidents; however this may be due to insufficient recording and information. Driving with impaired vision does seem to be a fairly common occurrence, as noted by a recent European Commission policy document: 'in Spain and the Netherlands, medical checks show that one driver in 10 aged 50, and one driver in six aged 70, drives with their eyesight not properly corrected'[1]. A report for the DfT report suggests, however, that only 2-4% of drivers fail the basic vision test of reading a number plate at a distance of 20 metres[2]. Surveys of drivers involved in accidents in the UK showed that less than 2% failed the test[3].

Ongoing research by Dr Martin Langham of the Transport Research Laboratory has indicated that 60-80% of urban road crashes are caused by drivers who 'look but fail to see'[4]. However, most of this is due to drivers failing to look for long enough or in the right direction, rather than problems with vision.

A basic vision test (involving reading a number plate at a distance of 20 metres) is included with current driving tests, and this test remains an appropriate method of assessing vision[5]. While vision impairment can occur at any age, this is most prevalent among drivers aged 50 or over. Hence, much research has tended to focus on older drivers, and it would make sense for any initiatives on vision testing also to focus on older drivers.

In a literature review on research on aging and driving Hakamies-Blomqvist points to a number of assumptions about the link between vision impairment and road accidents:

Since (1) vision certainly is one of the necessary faculties for safe driving, and (2) several visual functions deteriorate with age, and (3) older drivers were overrepresented in intersection accidents where they failed to see their collision partners in time, age-related changes in vision often were blamed for their accidents.[6]

However, these assumptions have not been borne out by the research. Evans found that 'the greater physical frailty of older individuals explains an important part of their higher rates of injury and fatal accidents'[7], rather than vision impairment, and there is significant evidence to suggest that visually impaired drivers may compensate by driving more carefully or avoiding certain routes or times of day[8]. Measures such as vision testing may thus have limited impact. Hakamies-Blomqvist found:

Those studies in which existing systems have been evaluated have ... failed to show beneficial effects of medical screening of older drivers ... except for small safety benefits for regular vision controls.[9]

Evans further concluded that 'for older drivers, accident risk in fact was a minor issue, and limitations in mobility, due to self-imposed compensatory restrictions in driving exposure, were the real problem'[10].

Current research commissioned by the DfT concurs: 'in general the available evidence ... fails to support the case for radically changed or enhanced visual requirements for drivers' vision. ... At present time there would be no justification for either changing the visual standards required in the present testing procedure or in requiring more regular retesting of driver's vision'[11].

Policy options and conclusions

Three-yearly vision examinations would be costly, either for the driver or for the Treasury, and would probably be unnecessary for the vast majority of drivers. PACTS would not support mandatory three yearly tests unless further research showed them to be necessary.

One option would be to tie vision testing to the renewal of photocard licensing; this could either require or strongly suggest vision testing every ten years. However, driver licensing and training comes under the jurisdiction of the European Commission, and so significant changes such as mandatory eye testing would probably have to be effected at a European level. The European Commission has recently committed itself to 'continue work on reviewing, in light of scientific progress, minimum standards for physical and mental fitness to drive and study of the impact of medical examinations on road safety'[12]. Some form of driving-related vision testing may thus be introduced at a European level.

PACTS would support promotional campaigns on vision testing aimed at drivers, for example at motorway services or through the DSA. PACTS would also favour increased research into links between vision impairment and road accidents, for example including vision data in STATS19 data collected at the site of accidents.

[1] European Commission. 2003. *Saving 20 000 Lives on our Roads: A Shared Responsibility*. European Commission: Brussels. p.22

[2] DfT. 2003. 'Vision and Driving (No.2)'. Available on the DfT website:
http://www.dft.gov.uk/stellent/groups/dft_rdsafety/documents/page/dft_rdsafety_504592.hcsp

[3] Steven Norris MP (personal correspondence).

[4] Langham, Martin. 2003. 'Human Factors in Road Safety Audit'. Conference presentation at IHT International Road Safety Audit Forum 'Preventing Avoidable Death and Injury on Our Roads', 2-3 October 2003, Westminster.

[5] See DfT, op cit.

[6] Hakamies-Blomqvist, Liisa. 1999. 'A Short History of Research on Ageing and Driving', in G B Grayson (ed) *Behavioural Research in Road Safety IX*. TRL: Crowthorne, Berkshire. pp.138-147.

[7] Evans, L. 1991. *Traffic Safety and the Driver*. Van Nostrand Reinhold: New York. Cited in Hakamies-Blomqvist (1999), above.

[8] McDonald, L., Sutcliffe, P., Rabbit, P., Parker, D., Stradling, S., and Dawson, H. 1999. 'Older driver's self-reported habits, behaviours and backgrounds - selected responses to the 'Aging Driver Questionnaire', in G B Grayson (ed) *Behavioural Research in Road Safety IX*. TRL: Crowthorne, Berkshire. pp.160-168.

[9] Hakamies-Blomqvist, op cit.

[10] Evans, op cit.

[11] DfT, op cit

[12] European Commission, op cit.