Another look at visual standards and driving

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BMJ 2000;321;972-973
doi:10.1136/bmj.321.7267.972

young adults that starting drug treatment for life in people in their 30s costs up to £1m ($1.4) per year of life extended.[15] Until the price of statins comes down a lot, this is not a reasonable expenditure of medical resources.

Of course, people who are well off can ignore concerns of cost. In a world that allows statins to be bought over the counter, they could also bypass the need to persuade a physician to prescribe them. But the problems of deciding who should be treated and how to monitor adverse effects underscore the wisdom of the Food and Drug Administration's conclusion to leave decisions about taking statins in the hands of healthcare providers.

However, this does leave us with the obligation to do it right. Many people who could substantially benefit from statins are not getting them, perhaps due to a lack of understanding by physicians or to organisational and fiscal policies that do not support prevention.[4 16] It is time to get serious about identifying and removing these obstacles. Physicians must do a better job of following practice guidelines for using statins to treat undesirable cholesterol concentrations in people at substantial risk of coronary events over 10 years, including most patients with a history of coronary disease and a good many (mostly older) people who may soon develop it.

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Another look at visual standards and driving

Better tests are needed to determine driving ability

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The law in the United Kingdom requires that a car driver must be able to read, in good daylight with the aid of corrective lenses if necessary, a vehicle number plate containing letters and figures 79.4 mm high at a distance of 20.5 metres. This is a test of binocular static visual acuity and corresponds to a geometric visual angle of 6/15 Snellen acuity. (In the United States this translates into the equivalent of the 20/20 notation, in which the measurement is expressed at a test distance of 20 feet rather than 6 metres as in the Snellen notation. In other parts of Europe people use both the Snellen notation and a system of expressing the visual angle as a decimal fraction—for example 6/6 = 1 6/12 = 0.5 6/60 = 0.1. The rest of the world uses the Snellen notation.) Because of differences in letter types the driving visual test is clinically similar to a Snellen acuity of approximately 6/10.[1]

These tests should be performed with both eyes open because the acuity of the better eye when tested separately is often different from the binocular visual acuity. This is the result of interactions in the visual cortex between the input from each eye. The lack of equivalence between performance in the Snellen acuity test and the number plate test is highlighted in the paper by Currie et al (p 990).[2] The paper also emphasises how this discrepancy causes different healthcare professionals to give drivers widely conflicting advice about their driving fitness based on measurements of visual acuity.

The Royal College of Ophthalmologists in the United Kingdom has recommended that the minimum visual field permissible for safe driving is at least 120° on the horizontal meridian with no significant field defect within 20° of fixation. When a driver who is visually impaired fails to meet these standards and is advised to give up driving it is difficult to justify this restriction of freedom on the basis of scientific literature. Retrospective studies of large numbers of drivers show only a weak association between a reduction in static visual acuity[3–6] and increased crash rates. No significant increase in collision rates generally exists when 6/12 is used as a cut-off point to predict the ability to drive safely.[3 4 7]

Studies that have examined visual field loss and the history of drivers' crashes have also failed to show a significant relationship.[3 4 6–8] These negative findings may partly be explained by the unsophisticated methods used to assess the visual field,[3 4 8] poorly controlled testing conditions[8] and failure to adjust for the

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amount of miles that a person drives.[6 8] When modern methods were used to examine the visual field of 10 000 drivers, severe binocular field loss was associated with a 100% increase in crash rates.[9] Unfortunately, these authors did not define "severe binocular field loss." This association between peripheral field loss and increased crash frequency has been confirmed by some investigators[5] but not others.[6 7]

It is difficult to establish the relation between visual impairment and crash rates because visually impaired drivers tend to restrict their driving habits and change their behaviour to compensate for their visual loss.[8 10 11] Crashes are fortunately rare events with multiple causes, and the effects of a driver's visual impairment are dwarfed by other factors such as the annual mileage driven**,** the driver's age, inattention, intoxication, and speeding. Furthermore, it is unsurprising that it is difficult to predict crash rates from measures of static visual acuity and the peripheral visual field since these indices do not reflect the visual, perceptual, and cognitive complexity of the driving task. There is some evidence that relicensing policies based on measurements of static acuity and visual field reduce accidents on the road.[12] However, many drivers who fail these requirements are at no greater risk of being involved in a crash than a road user who is not visually impaired. Although the relationship between reduced acuity, visual field loss, and crash rates is weak, relaxing the requirements further cannot be justified because it would lead to a small increase in crash frequency. As the population ages so the incidence of visual impairment will increase, and with it the number of drivers who are unfairly debarred.[4–7]

The solution to this problem lies in the use of cognitive and perceptual tests that are better predictors of crash involvement. These may take the form of more sophisticated tests of vision,[5 7] driving simulator assessments,[12] driving tests on the road,[13] or other objective measures of performance.[14] In a retrospective study of an older population a test of central processing time, divided attention, and peripheral discrimination abilities within the central part of the visual field correlated highly with crash frequency over the preceding five years.[5] A further prospective study shows that over a three year follow up a poor performance in this test was associated with a doubling in the relative risk of crash involvement.[7] No association was found between visual acuity or field measurements and crash rates for the same population.

In the short term the low cost, widespread acceptance, and availability of static visual acuity and perimetric measures justifies their use. But other tests should be developed to help determine the driving ability of people who do not meet the current standards and, when appropriate, allow them to retain their licences.

Meanwhile the Driver and Vehicle Licensing Authority in the United Kingdom should monitor and audit the results of the current visual requirements. It should collect data to confirm that there is at least some benefit for society from the devastating effect that removal of a driving licence can have upon a visually impaired individual.

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Headaches after diagnostic dural punctures

Smaller, atraumatic needles and protocols for early treatment should reduce morbidity

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In a dural puncture a needle is passed through the dura mater into the cerebrospinal fluid within the spinal canal. It is commonly performed and is indicated for diagnostic lumbar puncture, spinal anaesthesia, myelography, and intrathecal chemotherapy. The most common adverse event after the procedure is a headache. This occurs in about a third of patients after diagnostic lumbar puncture in an ambulatory setting with a 20 or 22 gauge standard Quincke bevel spinal needle.[1]

The aetiology of the headache from the dural puncture is most likely related to the hole left in the dura after the needle has been withdrawn. This allows the cerebrospinal fluid to leak out of the subarachnoid space, which depletes the "cushion" of fluid supporting the brain and its sensitive meningovascular covering, resulting in gravitational traction and the classic headache, which is made worse when the patient is upright and relieved on lying down.[2] The headache, the onset of which is often delayed for 24 to 48 hours, usually lasts for one or two days and is frequently severe enough to immobilise the patient.[3] Rarely, it can persist for a year or more and if untreated can predispose to subdural haematomas.[4 5] In one survey of 14 people