When to give up driving?

Pat McKenna gives a personal perspective from 20+ years of assessing fitness to drive

Driving mostly relies on complex neuropsychological processes way below conscious awareness or control. These processes become impaired in normal ageing and neuropathology, compromising fitness to drive. The reduction in skill usually goes undetected by drivers who, nonetheless, have responsibility to inform the DVLA of any change in their status. 

Neuropsychological testing alongside on-road assessment is now routinely requested by the DVLA in determining fitness to drive for those cases brought to their attention. However, there are now more than a million drivers aged over 80, and 66,000 aged over 90. The idea of age-related driving impairment meets with various forms of cultural denial, precluding any objective discussion of how and when retirement from driving could or should become normal.

Are there adequate safeguards for determining whether a driver is still safe to drive?


Medical Standards of Fitness to Drive: http://www.dft.gov.uk/dvla/medical/ataglance.aspx

I n 1989, when I first began assessing fitness to drive at Rookwood Hospital in Cardiff, I was a 41-year-old clinical neuropsychologist with a cutting-edge knowledge of brain organisation, honed from intensive clinical and research application at the National Hospital for Neurology and Neurosurgery in London under the expert tutelage of Elizabeth Warrington. The task in hand was clear – map those neuropsychological functions essential to driving and use a battery of tests of those functions to determine whether a person’s driving ability had been affected, then compare the results with actual performance on-road carried out by a qualified driving instructor. The result was the publication of the Rookwood Driving Battery in 2009.

Developing the Rookwood Driving Battery

The process of development was far more difficult than I had envisaged, mostly because there is no objective criterion for determining fitness to drive. At root, it is a medical opinion – the opinion of a doctor at the DVLA who mostly relies on the opinion of a GP or consultant, or, for more difficult decision making, a referral to a driving assessment centre or the Driving Standards Agency for an on-road test. To help guide this process, the DVLA’s booklet on medical criteria for fitness to drive grows increasingly complex each year (52 pages long now) as doctors struggle to give a satisfactory framework for determining whether a named condition impacts on driving safety. This is too often a thankless task because a medical condition cannot per se dictate whether a person is able to drive or not.

Using the gold standard on-road performance criterion is just as difficult, because there is no agreed cut-off in the very wide grey area of compromised ability beyond the opinion of the assessor. Instructors are not trained in the rigours of scientific objectivity and differ in their interpretation and tolerance of perceived risk. Even within our tight practice at Rookwood, there was a mild but significant difference over three phases within the six-year period in scores on-road, but no difference in scores on cognitive tests or age of clients. This fluctuation was detecting mild swings in degrees of leniency in that grey area of decision making.

Forum, the association of driving assessment centres throughout Britain, is still in the process of attempting to standardise assessment practice in driving centres and establish training in recognising neuropsychological deficits that impact on driving skill. Within our own centre, it had already taken a year of intensive teamwork in and out of the car before I was happy that the on-road test was standardised, with criteria established to back ‘opinion’ so we could begin collecting data. By the end, I knew that the cognitive battery was a more reliable instrument than the on-road assessment. I also knew that although the on-road test gave the battery the highly desired ‘ecological validity’, this gold standard test was far from cast-iron. No amount of objectivity can allow for the vagaries of the traffic to reveal the risk an individual presents on-road, and the wider input of family and healthcare team can sometimes be crucial in weighing risk in this multifactorial process of decision making. One such example is the driver with an acquired brain injury who is recklessly disinhibited with anger management issues on-road but behaves impeccably within the structured direction an assessor provides.

There were three main categories of


brain pathology in our 543 drivers presenting for assessment: in descending order, stroke (right hemisphere group larger than the left); dementia; and acquired brain injury. But this still did not account for over 40 per cent of our clients. Diagnosis was not always precise, radiological evidence was often lacking, and a label was not a good guide to degree and locality of damage to brain systems. A stroke might be a slightly larger incident within a vascular dementia, and co-occurrence of pathologies is not uncommon in older age.

Tests within the battery targeted crucial skills needed to drive in visual analysis (shape and space perception, and visual attention); in praxis skills (carrying out hand movements and rule-bound action) and in executive function (self-monitoring and correction, vigilance, dividing and switching attention) – all at simple levels that present little difficulty for the intact brain. Though many of these tests had some existing normative data, I thought it important to gather a large sample of control data on the battery as a whole and essential to collect norms for the increasingly older adult population, many of whom still drive. So, as well as 195 adult volunteer drivers aged 20–69 with a mean age of 42 (McKenna et al., 2004), control data on the battery as a whole was also collected on 202 older adults aged 70–96 with a mean age of 81 (Rees et al., 2008).

Neurological pathology reduces driving skill far more than doctors think. Our group of drivers with neurological pathology who passed the on-road assessment and were allowed to continue driving were still functioning significantly below the control group, not just on the cognitive battery, but also on-road (McKenna & Bell, 2007). So they were poorer drivers than normal, but still considered safe to drive. ‘Safe/unsafe’ drivers do not, in the real world, fall into discrete categories – they lie along a continuum. The correlation between the on-road driving scores and the Rookwood battery score was .67, which is remarkably high for data comparing two diverse sets of complex human behaviours (desk top activities with driving a car in traffic).

Driving behaviour also changes with age, which was found to be a significant factor independent of pathology in our on-road results, and older drivers failed more frequently than younger. On the basis of our experience, we eventually changed the route for drivers over 70 (with the DVLA’s blessing) so that very complex urban layouts were avoided. In reality many older adults increasingly tend to drive in localities they know well, to their local supermarket and in daylight and in quiet periods.

Compared to the assessment of an on-road drive, the assessment of cognitive impairment is a much easier and more objective exercise, with the weight of a huge evidence base from clinical tests and neuropsychological research. Using simple, relatively IQ-free tests of basic functions, it was possible to articulate a degree of impairment in individual functions and overall cognitive resource, which spoke directly to someone’s safety on-road. In some cases, the results would stand alone in deciding whether someone could drive safely and, in others, where the result of an on-road drive was ambivalent, they proved to be the decisive factor.

**Insight into driving behaviour**

Without the use of tools such as the Rookwood Driving Battery, we are left with ‘common sense’ as the mainstay of decision making – the common sense of the driver who is actually the person legally responsible to inform DVLA of any reason why they may be unsafe to drive. We would hear the mantra ‘I would be the first to say if I were not safe to drive’ most weeks, when in reality most of us will be the last to know when we are unsafe to drive. This is perhaps particularly the case with men. Within our volunteer control group, one third of our older women had never driven, another third still drove, and the remaining third gave up voluntarily. Nearly all the men were still driving. In our assessment centre, many men would voice the sentiment ‘if you take away my driving, you take away my life’. Driving means a lot to men, perhaps more than to women although evidence is lacking.

What other sources could we rely on? The common sense of the GP or consultant who is an ally of the patient and shares sympathy for the role of driving in identity and independence? Or the cultural common sense of us all as drivers? The reality is that we have poor insight into our own and others’ driving behaviour.

The psychoanalytic model proposed by Leon James (2002) is instructive here. Most of us start driving at 17 years of age when we have admirable reflexes, sharp eyesight and hearing and excellent proprioception. At this stage, many of us feel invincible and drive, according to the psychoanalytic model, with the developmental ego of a toddler, cutting people up, speeding and taking risks as we relish our skill and competence. Later this *oppositional* stage progresses to the *defensive* stage, when we are proud of our tempered and honed skill and ability but very aware of the shortcomings of other drivers. Frank McKenna (1993) reports in a survey of 20,000 drivers caught for speeding, all bar 4 per cent thought they were better-than-average drivers. Finally, for the few, a realistic and mature stage of *supportive* driving ability is achieved when the penny drops that this activity is actually a group activity – we are all driving together in tolerant harmony, with sympathy and understanding replacing criticism and assuming the worst. The ‘idiot’ is someone who has made a mistake, maybe in a hurry, distracted or distressed – whatever the need, the approach is to work with and complement rather than oppose.

**The effects of ageing**

‘Ageing’ is not something that happens after 60. We are all ageing every day – the changes can be measured decade by decade in speed of processing and flexibility in responding. We also lack insight into our waning senses and speed of processing as we age.

The cumulative effects of ageing on driving are now beginning to be recognised as a safety issue, given our increasing longevity. With age comes reduced visual and hearing acuity, reduced range of movement and muscle power as well as reduced reaction times and cognitive processing speed. There is also
an increased risk of pathologies that affect the brain and sense organs — macular degeneration, small vessel disease, arteriosclerosis, arthritis, parkinsonianism, etc.

Some of the measurement of this process in cognitive function is captured in the comparatively new medical diagnosis of MCI — mild cognitive impairment — and the jury is still out if this is a precursor to dementia. Capturing a bit of the ageing continuum with a label seems more like a cultural form of denial to try and contain it.

So what of my own new status as an older driver retired from professional life? ‘Don’t drink and drive’ becomes ‘Don’t think and drive’ – I must concentrate far more on monitoring what I am doing than on my unbridled stream of thoughts now. Concerned offspring gently insinuate the driving position when we are off somewhere together and chastise me for not looking in my mirror(s) on approaching multi-lane roundabouts when I know that I cannot constantly scan them and look ahead at the whirlwind speed they do. I am wryly amused when my contemporaries rely on the front passenger to monitor traffic from the left when turning right at a junction as if this adds an extra-safety measure to the exercise (and chuckle at the indignation of younger drivers when their older passengers profess the same service). Older friends, a generation or two ahead, slow to snail’s pace around unknown complex road and roundabout layouts to work within the parameters of their information processing capacity, then complain at the impatience of other drivers.

I note the growing complexity of road layouts and traffic control systems, the ever-increasing volume of traffic and the greater power and size of cars. All this becomes far more challenging when travelling abroad. Working at the European level as the BPS member of the Standing Committee on Traffic Psychology within EFPA (European Federation of Psychologists’ Associations), I learned of the added risk cross-boundary driving produced as various nationalities drive in each other’s countries — one of the reasons why Spain, Germany, Austria, etc. have ‘driving psychology’ as a recognised branch within the profession. Our comparatively safer statistics my colleagues put down to Britain being an island. Our isolation though is disappearing — encapsulated for me in a drive to Heathrow just after dawn on the North Circular with a taxi driver from Montenegro so incensed by what he assumed was a ‘drunk’ truck driver who was in the outside (yes) lane weaving back into the middle, that he attempted to drive through the arrowhead between trucks until we, the passengers, shouted at him to pull back.

So we have a real problem in finding the balance between the rights of the driver and the imperative to maximise safety. The actual number of fatalities and serious injuries caused by ‘the older driver’ is not as large as the other category of concern, ‘the younger driver’, but only because they don’t travel as far. The total is still much larger than the rest of the driving population and is highly likely to increase as the population increasingly bulges in these later years. We could be proactive and nest a solution within other imperative needs for a greener and less materialistic society, or we could just wait until the damage is done and correct when it is politically safe to do so. In the former, we could work towards incentives to use (a much improved and cheaper) public transport system, as in Denmark; start changing the message about cars (so they are a bind rather than a status symbol); and that come 65, 70 or 80 years of age (I am still out on what the boundary should be but older than me, of course) a person has earned the right to be chauffeur-driven (much like the very rich and very powerful). If we do manage to accept the concept of retiring from driving at a certain age, this should be with the proviso if you wish to continue, then you just undergo an assessment to check you are still competent to do so. This test would be fit for purpose and not the same as that for young novice drivers.

Driving is a crazy privilege: we control a huge vehicle at speeds the human body is not designed for, relying on senses that can only be ‘guesst’ what is actually out there, a version of reality that is continually being reconstructed from vision, hearing and proprioception. Come nightfall, we lose most of our primary visual sense and on motorways and in rural areas must rely on single beams of glare, artificial light, often blinded by those from oncoming traffic and following cars reflected in the rearview mirror; add the radio, phone and passengers, and our ability to hear and attend to traffic is compromised. Most of the time, we relegate the act of driving to centres in the brain that we don’t, can’t even, control consciously while we attend to our internal stream of thoughts. So – driving is an awesome affair and how we assess fitness to drive in terms of acquired brain pathology and degeneration is far from finished business.
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