

## **Medical fitness to drive and our ageing population: should we abolish medical testing in older drivers?**

Driving is a universal skill that is imperative to daily life all over the world. According to the National Institute on Aging, there are more than 41 million licensed drivers aged 65 and older on the roads in the United States, and this figure is up from 26 million 20 years ago.<sup>1</sup> In addition, figures from the Driver and Vehicle Licensing Agency in the UK show that over 4.5 million of the 39 million holding driving licenses are aged over 70.<sup>2</sup> Ireland also has a large number of drivers aged over 70. We have an ageing population and in the coming years, there will be more older drivers on the road than ever before. In order to prepare for this demographic change in population, it is critical that we engage in discussions on road safety and mobility amongst older drivers.

There are many advantages to being able to drive, especially as you age. It maintains independence and mobility. It prevents older people from having to rely on relatives to allow them to carry out daily tasks. It is widely known that older people who give up driving are more likely to suffer with physical and mental health problems. As a consequence, the cessation of driving is associated with a decline in quality of life.<sup>3</sup> Due to the reasons outlined above, there has been more emphasis placed on preserving mobility amongst older drivers in recent years. It has become vital that we rethink our road safety policies for older people and find solutions to existing problems that prevent older people from being able to remain on the roads and drive safely.

Despite the many advantages that driving a car brings to the ageing individual, there can also be challenges to our driving ability as we age. These challenges can put ourselves or others in danger and they can sometimes warrant cessation of driving completely. Such age-related problems include slower reaction times and reflexes, loss of hearing or vision, diseases such as arthritis, dementia or stroke, and other factors such as the cumulative effects of certain medications.<sup>4</sup> In addition, older people can suffer with multiple conditions or conditions that affect multiple body systems, further adding to the risk of poor driving

ability.<sup>4</sup> With our ageing population, it is therefore understandable that some people ponder the question of whether our older drivers are safe to keep on the roads.

There is currently no upper age limit for driving in Ireland. Under current legislation, drivers must renew their license every three years once they turn the age of 70. With it, there must be an accompanying fitness to drive certificate from their GP along with a certificate showing that they passed an eye test.<sup>5</sup> Similar legislation exists in the UK where drivers must renew their license every three years once they turn the age of 70.<sup>6</sup> The assessment of fitness to drive amongst older people can also take place if a particular health problem has been identified.<sup>7</sup> *Sláinte agus Tiomáint* (2018) are the guidelines published by the Road Safety Authority which are updated regularly and support medical professionals in assessing medical fitness to drive. These guidelines aim to reduce the harm inflicted to people by serious car crashes and also place significant emphasis on mobility.<sup>4</sup>

The difficulty in assessing fitness to drive in older people lies in the fact that the age at which issues arise and you may need to stop driving varies for everybody. An 80-year old may be perfectly safe on the roads in comparison to a 65-year old who has had a couple of recent near crashes due to impaired reflexes. Many older drivers do not know that their driving is unsafe until it is too late. They have often been driving for many years and do not see any problem with their driving. In addition to this, they do not seek professional advice about their medical fitness to drive even if they are aware that they have started having difficulties on the road. The role of the general practitioner in assessing medical fitness to drive is challenging as it is often difficult to find a balance between mobility and safety in our population of ageing drivers.<sup>8</sup> The *Sláinte agus Tiomáint* guidelines suggest that rather than using chronological age in assessing fitness to drive, we should instead use functional ability, such as 'Activities of Daily Living' e.g. personal care, cooking, cleaning etc.<sup>4</sup> Each situation needs to be assessed individually and with specific diseases/conditions, medical professionals can refer to the guidelines to aid them in making a decision about a patient's medical fitness to drive.

There is certainly a stigma surrounding older drivers in Ireland. There is a degree of ageism in this country where many people assume that older people are more dangerous and pose a risk to the safety of others when they are on the road. This stigma however may be incorrect. In fact, older people often have admirable safety records.<sup>9, 10</sup> Recent research has disputed this age old stigma and shown that older drivers may in fact be safer on the roads than their younger counterparts. In a Swansea University study conducted in 2016, it was found that drivers aged 70 were involved in three to four times fewer accidents than men aged between 17-21.<sup>11</sup> This study found that older drivers compensated for their declining powers through a variety of mechanisms, including driving more carefully and slowly, leaving larger gaps and choosing better weather and quieter times to travel. Furthermore, researchers who looked at STATS19 dataset in the UK (which documents circumstances of road traffic accidents) found that the collision rate per mile driven between the ages of 30 and 75 is almost flat and between the ages of 75 and 85, there is only a small increase in the rate.<sup>11</sup> The fact that there is only a small increase in collision rate per mile driven as you age suggests that older people display adaptive behaviour and perhaps compensate for their decline in reaction times and reflexes. This research supports the idea that older people are indeed safe drivers and that the stigma surrounding older people and their abilities on the road needs to end.

Due to the emergence of different bodies of evidence suggesting that older people are in fact safe drivers, the question exists whether there is a need at all for medical tests once you hit a certain age. Research has suggested that stringent medical testing of older people will not make the roads any safer, contrary to what people believe. There have been a few studies comparing licensing procedures in various European countries. In Finland, it is similar to Ireland in that licensing renewal begins at age 70 and they require regular medical check-ups. Sweden, on the other hand, have no age-related legislation regarding renewal of licenses. In comparing both practices, it was found that there was no reduction in crashes on the road as a result of the Swedish practice.<sup>12</sup> Interestingly, however, Finland had a higher rate of fatalities in elderly road users than Sweden. The authors suggested that this could be a result of older pedestrians and cyclists on the roads who have had their license taken off them.<sup>12</sup> Similar conclusions have also been reached in Australia, where there is no

difference in road crashes amongst older drivers between different states that exhibit different licensing practices.<sup>13</sup>

Despite the evidence above, there has been recent research to suggest that more stringent eye testing may actually improve road safety. A study conducted in Florida showed that the introduction of visual acuity testing significantly reduced motor vehicle crashes in over 80 year olds.<sup>11</sup> Furthermore, a 2015 Swiss study showed that testing saccadic eye movements was an efficient method for screening older people and predicting their ability to drive.<sup>14</sup> In this study, elderly drivers who were not fit to drive performed badly on antisaccade and visuovisual interactive saccade testing.

The question of whether we should abolish medical fitness to drive testing amongst older people cannot yet be answered conclusively. Fitness to drive testing amongst older people is a complex issue that requires more research before new policies can be brought into legislation. More discussions about whether and under what circumstances older people must stop driving must occur as soon as possible. The above research however suggests that we may need to begin thinking about removing some aspects of the strict fitness to drive testing we have here in Ireland at the age of 70 and instead, focus more on comprehensive eye-testing. Along with eye-testing, we should carry out more in-depth testing when there has been a new diagnosis of certain illnesses e.g. cataracts or dementia. In addition, if a particular problem is brought to our attention by relatives e.g. progressive loss of memory, delayed reaction times etc., we should also carry out more in-depth testing.<sup>6</sup> The latest *Sláinte Agus Tiomáint* guidelines place more emphasis on keeping drivers on our roads, and by abolishing the regular testing of drivers at age 70, older drivers may be able to stay on the roads for longer.<sup>4</sup>

Both the European Commission and the UK have recently developed reports on the topic of medical fitness to drive amongst older people which medical professionals may refer to for information. *ElderSafe* was the report produced by the European Commission in 2014 that provides information and new insights about the safety and mobility of older drivers.<sup>5</sup> This report outlines some recommendations to enhance the safety and mobility of older people

on the roads, while also supporting continued driving for as long as drivers are deemed medically fit. The guidelines say that license restrictions should not be based on age nor on the diagnosis of any particular diseases, but rather 'on a judgement of health and functional abilities required for safe driving.'<sup>5</sup> The guidelines also encourage the provision of safe road environments and education to create better awareness of age-related conditions that may affect driving ability. Furthermore, the European Commission recommend designing an 'age-friendly' vehicle with advanced vehicle technologies and driver assistance features to improve driving safety in older people.

In the UK, the 'Older Drivers Task Force' was created in 2014 also as a response to an ageing population of drivers. According to this report, the number of drivers over 85 will double to 1,000,000 by 2025.<sup>15</sup> The task force aims to remove the obstacles to safe driving and thus, they produced a report with seven main recommendations to aid in preparing for the change in the number of older drivers. These recommendations include raising mandatory self-declaration to age 75, providing evidence of recent an eye test at 75 to the Driver and Vehicle Licensing Agency, carrying out more research on the statistics about older people and driving safety, and other recommendations similar to the ElderSafe report such as better road design, alternatives to driving yourself, safer vehicles and schemes which allow older drivers to refresh their skills in a safe and non-judgemental environment.<sup>15</sup>

Here in Ireland, we would benefit greatly from looking at the above reports by the European Commission and the UK's Older Driver Task Force to improve safety and mobility in older drivers. Many of the recommendations we can adopt into our own national system in order to improve road safety and mobility in older people. In addition to re-thinking medical fitness to drive testing, we need to find solutions for certain problems that older drivers face that may allow them to keep driving for longer. For example, older drivers have been found to be overrepresented in causing collisions when turning right across traffic, perhaps as a result of time pressure and taking a longer time to think.<sup>11</sup> Instead of taking older drivers off the road, this problem could be managed by improving roads, changing junction designs and reducing speed limits. If we change our infrastructure, it may be possible to make life easier for older people on the roads.

Some studies have shown that restrictive licenses could be another effective mechanism in increasing driver safety without significantly impacting their mobility.<sup>16</sup> Such licenses could restrict drivers from driving at night, further than a certain distance or further than a specific location.

In addition to the above, self-declaration could in years to come replace rigid medical testing. With self-declaration, it is your responsibility to report a new diagnosis of any illness to the licensing agency. As doctors and healthcare professionals, we may also be able to help patients in self-declaration by educating them about the symptoms of certain diseases and empowering them to make their own decision about when they should seek advice or stop driving altogether. If a doctor finds themselves in a situation where a patient rejects their advice about driving, they should be informed that they can notify the gardaí. Families should also be aware that they can also notify the gardaí if they notice that a family member has started to drive dangerously.

Along with providing solutions to lengthen the amount of time older drivers can stay on the road, we need to also provide solutions to prevent the decline of quality of life in older people who are forced to give up their license. A potential answer to this lies in driverless cars.<sup>11</sup> These cars could provide new opportunities for older people to maintain independence and mobility and smooth out the transition of driving cessation. In other countries, the design of age-friendly cars is beginning. In Japan, Honda have designed a minicar called the 'N-Box' which has features including error-detecting pedals, automatic emergency brakes and moveable seats. Initially designed for younger people, this cheaper and safer car is now in high demand amongst the ageing population of Japan due to the features of the car that help ameliorate some of their challenges, including reduced reaction times.<sup>17</sup> In addition to this new car, Honda are also trying to develop artificial intelligence systems in cars that alert drivers when they are engaging in unsafe driving through steering wheel vibrations, flashing icons on the dashboard and other sounds.<sup>17</sup> Cars such as these, if brought into Ireland, could aid in improving driving safety in older drivers and reduce the physical and emotional problems that come with driving cessation.

As driverless cars may not be introduced in this country for a number of years, there are other things we can do such as providing more help to older people on how to plan ahead by looking at alternative modes of transport before they stop driving. Research has suggested that people who plan ahead are better prepared for the change and adapt well to life 'beyond the car'.<sup>18</sup> In a study from 2013, people who failed to plan driving cessation reported a lower quality of life. Therefore, it has been suggested that more support be given to older people in planning ahead if they have to give up driving. We, as current and future medical professionals, should learn from this and encourage patients to begin thinking about driving cessation at a younger age to prevent the negative effects that some people experience when they stop driving abruptly.<sup>18</sup> The assistance of occupational therapists could indeed be of value in circumstances like this to help older people make the change.<sup>4</sup>

In summary, there is evidence to support the abolishment of stringent medical fitness to drive testing, focusing however on more comprehensive eye testing. Evidence suggests that older drivers are generally safe drivers and in some countries where testing is the standard of practice, there has been no improvement in the number of road collisions in older people. As a society, we must do our utmost to reject the stigma associated with older drivers as our population is rapidly ageing and the cessation of driving can be associated with serious physical and mental problems. Future efforts in traffic medicine should focus on attempting to improve the mobility of older drivers while also improving driver safety. As medical professionals, we can play an important role in these efforts by educating patients on when and under what circumstances to consider driving cessation.

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