



You Asked About...

Should this forgetful elderly patient drive?

Mrs. Smith was an 84-year-old widow. Returning from dinner at her son's house, she drove along a route that was familiar to her. While making a right-hand turn, she hit a young woman. Witnesses testified there was noise and shouting, yet despite the ruckus, Mrs. Smith continued driving to her driveway, almost a kilometre away. The young woman had been dragged under the car and was found dead. Evidence suggested that she did not die immediately, and continued to shout. Mrs. Smith did not recognize what had happened until she was informed by the police.

Could this accident have been prevented by screening elderly drivers for dementia?



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According to 2002 statistics, there are about 950,000 Canadians who are 80 years of age or older. A reasonable assumption is that one third might have diagnosable dementia, meaning there are potentially over 300,000 drivers who might be demented.

The factors for determining a driver's competence are the following: disorders of consciousness; impaired use of arms and legs (or spine); impairment of special senses; and impaired cognitive function. Dementia would fall under the category of impaired cognitive function, however, there are two primary issues physicians need to consider when determining a patient's cognitive function (Table 1).

Table 1

Issues to consider when evaluating cognitive function

1. How does the physician evaluate fitness to drive in someone with dementia?
2. Should screening for dementia in seniors become standard, along with vision *etc.*, when licence renewal comes up?

What are the criteria for screening patients for dementia?

According to Sackett, Straus et al's *Evidence-Based Medicine*, the following questions need to be considered in determining whether a patient should be screened for a disorder, presuming a valid diagnostic test is available (Table 2).

It is not clear, however, if all these factors apply in the diagnosis of dementia.

Table 2

Questions to consider to determine screening

- Does early diagnosis lead to improved survival and/or quality of life?
- Are the diagnosed patients willing partners?
- Is the time and energy well spent?
- Does the frequency and severity of the disorder warrant the effort and expense?

Do we have valid tests?

Tests that differentiate safe demented drivers from unsafe demented drivers are not necessarily valid as screening tools, as they often have too many false positives. Furthermore, the minimal state exam seems to be a poor screening tool for driving and dementia, therefore making it unwieldy as a screening tool for a ministry of transport.

At the moment, some of the current "hot" tests are tests of visual attention, commonly the Trails

Table 3

Steps to determine cognitive function

- Establish diagnosis of dementia;
- Perform the Clock Drawing Test;
- Perform the Trails Tests, A and B;
- Collaborative history concerning executive function; and
- Testimony from passengers.



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Test, which is used to measure sustained attention and sequencing. There are probably many other tests available to identify poor drivers, but which ones are practical for society? Steps that a family physician can take to aid in determining a driver's cognitive function are listed in Table 3.

Of course, the gold standard for determining a driver's competence is a road test. There is also the valid and reliable DriveAble assessment, which is used for drivers at risk because of dementia.

Is it worth the effort to screen patients?

The risk of diagnosed Alzheimer's disease has also been considered, but numerous articles confirm that there is little extra risk to road safety from

patients with very early dementia. If the clinical dementia rating (CDR) is ≥ 1 , then risk increases. Table 4 shows the percentage of drivers on the road according to their CDR. Finding an appropriate measurement is difficult. Should it be crashes per person, which would then change danger CDR to > 1 , or crashes per vehicle miles travelled?

We can also draw on the experience of the Scandinavians. In Finland, there is a separate policy for driver's licence renewal over age 70, which requires a doctor's certificate. In Sweden, however, there are no special terms for the elderly to renew a driver's licence. Comparison stud-

Table 4

Percentage of drivers according to their CDR

Cognition	Number	% Driving
Normal	162	78%
CIND	287	67%
CDR = 0.5	96	46%
CDR = 1	98	22%
CDR > 1	23	4% (one)

CDR: clinical dementia rating

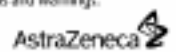
CIND: cognitive impairment not dementia)

Adapted from the Journal of the American Geriatrics Society, 2000.

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ies have shown no differences in the number of elderly patients dying in car crashes in Finland and Sweden. Also, more elderly die as pedestrians and cyclists in Finland than Sweden. Is it possible this is a result of taking away licences?

At this time, there is no clear evidence that doctors should be part of any licence renewal screening process, as even in Finland doctors were not given any specific directions for issuing certificates for licence renewal to their patients.

This answer was prepared by Barry Goldlist, MD, FRCPC, AGSF, FACP, professor, division of geriatric medicine, University of Toronto, and staff, University Health Network, and chief, geriatric medicine, Toronto Rehabilitation Centre, Toronto, Ontario. CME

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