How to assess and counsel the older driver

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ABSTRACT

Suggesting that a patient stop driving is never easy, yet taking no action may result in deadly consequences. Open communication with the patient and the family in the office setting can help physicians assess risk for a driving accident. The physician can then decide if further assessment and perhaps rehabilitation will benefit the patient. Working with the family and involving community resources to secure alternative forms of transportation may also be needed.

If the patient must stop driving, break the news sensitively

A 79-YEAR-OLD MAN comes to his physician for a routine office visit. During the visit, the patient's daughter takes the physician aside to ask her to urge him to stop driving.

The daughter relates that in the past few years, the patient has had increasing difficulty recognizing faces and names, managing his investments, and driving. Although he has never had an accident, he has come close, and his daughter no longer allows her children to ride with him when he drives. The patient claims he drives only short distances, drives safely, and has no other option for transportation.

Additionally, if he were not able to drive, his independence would be threatened—and so would his wife's. As often happens, his wife gave up driving may years ago and is no longer able to drive.

The patient had a coronary artery bypass graft 4 years previously and takes aspirin, atorvastatin, meclizine, and acetaminophen with diphenhydramine for sleep. He appears robust, although he has some difficulty with arthritis in his hip, and has a basically normal neurologic examination.

What should the physician do?

PERSONAL INDEPENDENCE VS PUBLIC SAFETY

This case, which was real (I was the physician), illustrates the difficulty of balancing a patient's independence with the potential risk to public safety when that patient's cognitive impairments appear to be compromising his or her ability to drive.

Driving is more than just a means of transportation in America. To many, the car is a symbol of independence, social and economic status, and personality. Loss of driving privileges is associated with diminished mobility, decreased socialization, and depression.

This paper offers some advice on how to approach this sensitive topic.

MORE OLDER DRIVERS

The number of older people in our country is increasing—and the number of older drivers is increasing even more. In 1985, 80% of men over age 70 and 40% of women in that age group were licensed to drive; by 1995 the numbers had risen to 85% of men and 55% of women.[1] And as the current baby boomers age, *all* older men and women are expected to be licensed.

Many more men than women continue driving past age 85, perhaps because of their role as the family's or neighborhood's transportation provider. Sixty percent of men, compared with 20% of women, are still driving at this age.

OLD DOES NOT EQUAL DANGEROUS, BUT MAY EQUAL AT-RISK

Advanced age should not automatically be equated with dangerous driving, because most older drivers are quite capable drivers.

Drivers age 65 and older actually have the lowest per capita crash rate; 16-year-old drivers have the highest.[2] However, the number of crashes per mile driven increases with age after 65, as does the fatality rate per capita and per mile. The oldest drivers, those in the 85 years and over group, have the highest fatality rates per capita among all drivers, including teenagers. The fatality rate per mile in the 85 years and older drivers is comparable to or greater than that of the teenagers as well.

The per-mile fatality rate for drivers ages 70 and over increased 50% from 1985 to 1995, despite a 2% decline in fatalities for all drivers of all ages during the same period.

PATTERNS OF ACCIDENTS

The type of driving difficulties that cause crashes and the conditions in which crashes occur are different for older drivers. Accidents involving older drivers tend to happen during daylight, in good weather, at low speeds, and close to home. They do not usually involve alcohol and often occur at intersections in which the older person is attempting to make a left-hand turn.[2] Two or more vehicles are typically involved in these accidents, and the older person is much more likely to be found at fault by the investigating officers.[3]

Common driving problems in older drivers include[4]:

- Difficulty changing lanes
- Difficulty backing up
- Inaccurate turning at intersections
- Poor judgment about right-of-way at intersections
- Impaired interpretation of visual and spatial clues and traffic signs.

PHYSIOLOGIC CHANGES THAT CONTRIBUTE TO ACCIDENTS

Age-related changes that may make driving more difficult include:

Impaired vision, eg, diminished visual acuity, narrowed visual fields, diminished pupillary accommodation, and diminished dynamic acuity (the ability to track a moving object).

Hearing loss. Presbycusis may occur due to either aging or long-term exposure to urban noise.

Impaired joint mobility. Arthritis affects the activities of daily living of half of older people. Pain in the neck, back, or hips may limit strength and range of motion, making it difficult to maneuver a car.

Neurologic impairment. Prolonged reaction time may affect some older drivers' ability, particularly those who also have deficits in strength or movement.

OLDER PEOPLE MORE VULNERABLE

Compared with a younger person with a similar injury, an older person is five to six times more likely to die as a result of a traffic accident, for a variety of physiologic reasons[5]:

Diminished physiologic reserve. The older heart has less response to catecholamines, and elderly people are not as able to fight off infection. Head trauma causes much more functional debility, morbidity, and mortality. The brain shrinks by 10% between the ages of 30 and 70, and degenerative diseases may subject the brain to more injury. It may also take longer for physicians to recognize subdural hematoma in this population.

Chronic disease. Diseases of the heart, kidneys, and pulmonary systems compromise the older person's ability to recover from automobile injuries.

Osteoporosis. People of advanced age are more apt to sustain fractures.

Older people are up to six times more likely to die of a given traffic injury

APPROACH TO PATIENTS

An older patient with suspected difficulty driving needs to be interviewed thoroughly, yet delicately.

History taking

In taking the history one should document:

- Accidents
- Changes in habits or personality
- Use of seatbelts
- Chronic medical conditions such as diabetes, epilepsy and other central nervous

system conditions, and obstructive sleep apnea
- Use of prescription and over-the-counter medications that might interfere with concentration
- Alcohol use; driving-while-intoxicated infractions
- Functional limitations in activities of daily living or instrumental activities of daily living.

The impact of not driving on the patient's quality of life should be taken into account. Ask about the importance and uses of driving in the patient's life. Seek the family's input: a visually impaired driver may not be aware of near-accidents, and a cognitively impaired person may not realize that his or her driving is hazardous.

Physical examination

Vision can be evaluated with a Snellen visual acuity chart.

Hearing can be tested with the whisper test: the physician stands behind the patient and whispers a short series of numbers into each ear while covering the other ear. The patient then repeats the numbers.

Musculoskeletal integrity can be checked with range-of-motion tests.

Neurologic integrity can be evaluated by considering sensory issues and motor disease. Patients with impaired proprioception who do not know where their feet are in space will have trouble using the car pedals.

Cognitive problems can be elucidated with the Folstein Mini-Mental State Examination (MMSE),[6] paying particular attention to the design copy portion,[7] or by having the patient draw a clock with the hands set at a specified time. Selected laboratory tests may rule out reversible causes of cognitive impairment or toxic levels of drugs.

Neurosensory deficits can be explored in terms of metabolic abnormalities. Imaging studies may be useful.

Pain needs to be evaluated in terms of arthritis or range-of-motion impairments. Again, imaging studies may be appropriate.

Multivariate predictors of risk

Even if physical or cognitive limitations are established, it may not be possible to determine in the office whether they impede the patient's ability to drive. For example, patients with Alzheimer disease do not have a higher risk of accidents in the first 3 years after diagnosis compared with other people their age after correcting for other chronic conditions.

Studies suggest certain patient characteristics are associated with self-limitation of driving, driving cessation, and adverse driving events. These include dementia, a score of less than 24 on the MMSE, being unable to draw intersecting pentagons on the MMSE, heart disease, or one or more adverse driving events in the preceding year.[7,8] Other findings such as limitation in range of movement of the neck, limitations in ambulation, foot abnormalities, and visual impairment have been studied as well.[9,10]

Driving assessment

Driving simulators may help evaluate older drivers' ability, but they may have a training effect, and older people who are not computer-literate may find them intimidating. Nothing approaches the efficacy of a behind-the-wheel evaluation. Some large institutions, such as The Cleveland Clinic, have a formal driving evaluation program run by certified occupational therapists. This type of evaluation can measure the effect of specific cognitive or physical deficits on driving.

Pain may interfere with driving by limiting strength and range of motion

The initial evaluation takes 2 to 4 hours and includes both a clinical evaluation and a behind-the-wheel session to assess observational skills and the ability to control speed, change lanes, turn (particularly left turns at intersections), cope with urban traffic, and park properly. It costs about $500 and requires a prescription from a physician. Additional time for assessment or rehabilitation may raise the cost to more than $1,000. Medicare reimburses the initial evaluation at roughly $125; the patient usually is responsible for only $20 to $25.

On the basis of the evaluation, the occupational therapist will recommend that the patient either resume driving with no restrictions, have his or her vehicle fitted with adaptive equipment, undergo 2 to 16 hours of rehabilitation, or refrain from driving.

Counseling the patient

Unfortunately, many older couples are "grounded" when the husband loses his driving privileges. Optimally, older couples should be counseled early on that both the husband and wife should share driving responsibilities. That way, if one should become disabled, the other can continue to keep the family unit independent.

If a patient needs to stop driving, the news needs to be presented slowly and sensitively. Receiving such information is not easy, particularly if the older person did not anticipate giving up driving. People move through change at their own speed, and some who are forced to stop driving go through a difficult transition involving depression, isolation, or feelings of helplessness. The news needs to be given in the same way it would be delivered to a patient who is given the diagnosis of cancer or HIV.

The counseling session should begin with the delivery of a small bit of information, leaving time for the information to be absorbed and understood. When the patient appears to understand and accept it, more information can be given.

Medicare reimburses the initial driving evaluation at about $125

LEGAL IMPLICATIONS

Laws vary from state to state regarding the reporting of someone with a disease or illness that interferes with driving. Many states mandate the reporting of anyone who has a "lapse of consciousness," which usually implies a seizure disorder. For the last decade, California has gone a step further to include Alzheimer disease under the "lapse of consciousness" heading.[11]

Most states, however, do not have such a mandate and do not guarantee the confidentiality of anyone who makes such a report. This means that if you notify the bureau of motor vehicles that a patient is an unsafe driver, the department officials will contact the patient and inform him or her of your report. The patient is then required to have his or her physician fill out a medical form and to report for a driver's test. Obviously, such a system endangers the physician-patient relationship.

In addition, most states do not provide legal immunity for the physician reporting the driver to the state. The opposite is also true for the physician not counseling or reporting an impaired driver, as illustrated by the 1983 California appellate court decision *Myers v Quesenberry*.[13] In this case, the jury found in favor of the plaintiff after the doctor did not put his recommendation for not driving in writing and the patient had an accident that caused a fatality. The family of the person who was killed then sued the physician and won the case.

Ohio has no procedure for confidential, voluntary reporting by healthcare professionals and offers them no immunity from prosecution. Voluntary reporting can thus be hindered by fear of endangerment of the physician-patient relationship or by fear of legal action on the part of the patient.

Missouri may have the best approach to the problem. In that state, any physician, therapist, nurse, chiropractor, social worker, or psychologist can sign a form identifying a person whom they feel cannot safely operate a motor vehicle, regardless of age.[13] The health care provider who reports the diagnosis and expected duration of the disability is immune from legal prosecution and remains anonymous to the patient. State officials then contact the patient and ask him or her to report for a driver's test or to provide further medical information.

It is important to consider alternatives, be informed about the laws of your state, and put your recommendations in writing for the patient.

CASE CONTINUED

In the case of the patient mentioned earlier, I discontinued the meclizine, which can cause dizziness and loss of concentration in older people. I also suggested using simple acetaminophen but in a higher dose, rather than acetaminophen with diphenhydramine, if arthritis pain interfered with sleep.

At subsequent visits, I continued to discuss the problem with him and his family, and suggested options such as pharmacies with home delivery, meals on wheels, and a provide-a-ride senior transportation service. Despite efforts to streamline his medications and optimize his pain control, his driving habits were still wor-

risome. He and his family met with a social worker to investigate an assisted living situation. Eventually, I referred him for a driving evaluation through occupational therapy, and he was told to stop driving.

REFERENCES

1. **American Association of Motor Vehicle Administration. www.aamva.net.** Accessed October 14, 2001.
2. **National Highway and Traffic Safety Administration. www.nhtsa.dot.gov.** Accessed October 14, 2001.
3. **Rehm CG, Ross SE.** Elderly drivers involved in road crashes: a profile. Am Surg 1995; 61:435-437.
4. **Taira ED, editor.** Assessing the driving ability of the elderly: a preliminary investigation. New York: The Haworth Press, 1989.
5. **Mandavia D, Newton K.** Geriatric trauma. Emerg Med Clin North Am 1998; 16:257-274.
6. **Folstein MF, Folstein SE, McHugh PR.** Mini-mental state: a practical method for grading the cognitive state of patients for the clinician. J Psychiatr Res 1975; 12:189–198.
7. **Gallo JJ, Rebok GW, Lesikor SE.** The driving habits of adults aged 60 years and older. J Am Geriatr Soc 1999; 47:335–341.
8. **Vijtanen M, Johansson K, Bogdanovic N, et al.** Alzheimer changes are common in aged drivers killed in single car crashes and at intersections. Forensic Sci Int 1998; 96:115–127.
9. **Marottoli RA, Cooney LM Jr, Wagner R, Doucette J, Tinetti ME.** Predictors of automobile crashes and moving violations among elderly drivers. Ann Intern Med 1994; 121:842–846.
10. **Marottoli RA, Richardson ED.** Confidence in, and self-rating of, driving ability among older drivers. Accid Anal Prev 1998; 30:331–336.
11. **California Health and Safety Code, Section 103900(d) and California Vehicle Code Section 12800(g).**
12. **Myers v. Quesenberry,** 193 Cal Rptr 733, 1983.
13. **Missouri Revised Statutes,** Chapter 302. Section 302.29.

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