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Safe Driving for the Mature Adult: Selected Issues

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Case Study

Safe Driving for the Mature Adult: Selected Issues

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Educational Objectives

1. Examine issues related to aging and driving assessment.
2. Review Virginia's Mature Drivers Study.
3. Discuss the levels of care for prevention of driving disability and resources available at each level.
4. Explore the impact of medications and substances (both prescribed and not prescribed) on driving ability.

Background

The baby boomer generation is entering retirement years living longer and being more active than any previous generation. These older adults are expressing a desire and an expectation that they will remain mobile in their community and enjoy the associated freedoms that come from driving for as much of their lifespan as possible. At the same time, regardless of profession, most service providers will be working with older adults in the next several decades. So, understanding the public health implications of an aging population and applying levels of prevention are essential to reducing injuries among older drivers.

Virginia's Mature Driver Initiative

Anticipating the increase in the number of mature drivers in the Commonwealth, and recognizing the need to help older drivers stay safe on Virginia's roadways and prevent crashes, in January 2013, Chairman Joe May, House Transportation Committee, and Chairman Stephen Newman, Senate Transportation Committee, charged the Department of Motor Vehicles (DMV) with examining the research and data available to determine whether the Commonwealth should adopt additional criteria in current license renewal requirements, as a means of assessing mature drivers' capability to remain safe on the road as they age.

The request from Chairmen May and Newman was in response to the Federal Highway Safety Program Guideline (#13) issued by the National Highway Traffic Safety Administration (NHTSA, 2012). This advises that each state, based on its own demographics, should develop a comprehensive highway safety program for older drivers in an effort to reduce crashes, injuries, and death. Consequently, DMV established the Mature Drivers initiative, with an executive oversight committee and a stakeholder committee to study the issues outlined in the charge letters from Delegate May and Senator Newman. The Commissioner of the DMV led the executive oversight committee, which included representatives from other state agencies and institutions of higher education. DMV staff provided the administrative support. The stakeholder committee comprised more than 30 additional participants who contributed expertise from their respective fields, including various health professions, senior care agencies, state agencies, law enforcement, insurance, safety organizations and concerned citizens.

Inside This Issue:

The Work of the Committees

The stakeholder committee was tasked to examine three main topic areas and each became a focused subcommittee: driver licensing requirements, the DMV medical review process, and existing outreach and education resources. The three subcommittees compiled extensive research and relevant data from other states and requested assistance from leading researchers in the area of traffic safety, such as the National Highway Traffic Safety Administration, The University of Virginia, and TransAnalytics, LLC. The subcommittees met repeatedly throughout the year, compiling findings for the DMV. The DMV issued its full report, *Mature Drivers Study – 2013 Report*, in November 2013 with an appendix of over 20 pages of suggested legislation. The Report's Executive Summary is at: http://leg2.state.va.us/DLS/h&sdocs.nsf/5c7ff392dd0ce64d85256ec400674ecb/61e49ff4b0fa765485257c37007334b0?OpenDocument

Key Findings

The Mature Drivers Study led the DMV and other agencies to adopt the philosophy of function rather than age as a determining factor when deciding when an individual should continue to drive. Drivers may be safe or unsafe behind the wheel at any age. In general, younger, more inexperienced drivers tend to have the worst driving records, and experienced, middle-age drivers tend to have the best. Compared with younger drivers whose motor vehicle crashes are frequently related to inexperience or risky behaviors, crashes by older adult drivers tend to be related to the slowing of reaction time and visual processing speeds (NHTSA, 2009b). Contributing factors in motor vehicle crashes by older adults include failure to heed signs, keep in lanes, and grant the right-of-way and improper left-hand turns (Owsley et al., 2013). These issues may be related to difficulties judging the distance and speed of other vehicles and determining the space and time needed to execute a maneuver.

It is clear that driving skills tend to decline as a driver ages (Owsley et al., 2013). An identifiable decline is especially noted in mature drivers who take certain medications or have conditions associated with the aging process, such as vision problems, cognitive changes, or diseases that diminish physical agility (Ball, Roenker, et al., 2006; NHTSA, 2009a; Substance Abuse and Mental Health Services Administration, 2012). Declines that occur, however, tend to happen in different drivers at different times.

The Mature Drivers Study noted that the number of older adult drivers is increasing at a rapid pace (3% a year for the next 10 years) and that these adults spend more time behind the wheel than any previous generation. Many (but not all) older adult drivers self-regulate their driving. While driving cessation is inevitable for most adults, it is often associated with poor outcomes such as self-neglect and malnutrition. Care providers need to approach the assessment of older drivers and the recommendation to cease driving with a tiered approach. We know that a mature driver who experiences a motor vehicle crash is much more likely to experience injury or death; this is true for both the driver and the passenger (NHTSA, 2009b; Owsley et al., 2013). The interest of both the driver and the public must be considered when determining fitness to drive.

Legislative Actions

In response to this study, House Bill 771 passed the General Assembly during the 2014 General Assembly session. The bill lowered the age at which drivers are required to renew their licenses in person from 80 to 75, and requires that licenses issued to persons ages 75 or older be valid for no more than five years. It further requires that renewal take place in person (rather than by mail or on-line) every five years and that the individual must take the vision test when renewing. Additionally, judges were given the option to order mature drivers to take a mature driver motor vehicle crash prevention course when adjudicating defendants. The mature driver motor vehicle crash prevention course is a course for persons ages 55 and older that has existed for several years in VA. The legislation became effective January 1, 2015.

The Mature Drivers Study outlines many additional recommendations for raising awareness and conducting outreach to the health care, law enforcement, and community providers. Virginia agencies participating in the study recommended making www.granddriver.net a hub for awareness efforts and resource information.

Levels of Prevention with Driving Disability

The American Geriatrics Society, in partnership with NHTSA, recently published the third edition of *Clinician's Guide to Assessing and Counseling Older Drivers* (American Geriatrics Society & Pomidor, 2016). They recommend adopting a public health injury prevention model to assess and counsel drivers who show diminished capabilities behind the wheel. Efforts should occur at the primary, secondary or tertiary levels depending upon the individual driver.

Primary prevention refers to assessing the older adult and referring him or her to resources that can intervene in order to prevent the loss of driving ability. For instance, the American Automobile Association has an online tool, CarFit, which is useful in keeping skills fresh. It is a program that helps the older adult with modifications that make interface with the vehicle functional. CarFit technicians can be located through either the American Automobile Association or the Virginia Department of Aging and Rehabilitative Services website.

Secondary prevention addresses the issues that may have caused a loss of driving ability. This may mean modifying medication regimens, referring for substance abuse treatment or sending a driver to a rehabilitation specialist who can assist with skill remediation or vehicle modifications. (We discuss secondary prevention in greater detail later.)

Tertiary prevention focuses on the cessation of driving when skills have diminished and are irretrievable. This can be traumatic to a driver because loss of driving represents a loss of independence. When making this recommendation, it is vital to assess for changes in self-care and evidence of depression. Alternative means of transportation should be explored, as should alternative means of obtaining needed services, such as meals on wheels. The Commonwealth of Virginia has developed a website that can point providers and caregivers to resources available: www.granddriver.net.

Some Clinical Risk Factors: "Red Flags" That May Indicate Impaired Driving

A review of systems can reveal symptoms that may interfere with driving. For example, a recent loss of consciousness, reports of confusion, or muscle weakness are all signs that there may be an issue that can interfere with driving. Some of the potential indicators include:

- Recent history of falls
- Impaired sensation in the extremities
- Loss of visual acuity or cuts in the visual field
- Functional impairment in the extremities
- Decreased ability to turn one's head to check the blind spots
- Decline in cognitive ability (executive function, short-term memory)
- Poor judgement
- Distractibility

These and other causes for concern may be reflected in reports from family of friends of a decline in driving ability, such as turning from the wrong lane; pedal confusion; hitting curbs during parking; inappropriate stopping; inappropriate use of turn signals; failure to obey stop lights, stop signs, yield signs; unusual violations; dings or dents in the vehicle; getting lost; driving on the wrong side of the road, and more. Of course, the best predictor of a future crash is a history of a crash.

Case Study #1

Mr. Jones is a 68-year old man who drove a tractor trailer for 40 years. He gave up his Commercial License two years ago after suffering a stroke and has not driven his personal vehicle since. The stroke left him with decreased visual ability and weakness on the left side of his body. His physician recognizes that his ability to drive may be affected by both his vision and physical limitations, and that his cognitive function will also need to be evaluated. Dr. West refers Mr. Jones to a Certified Driving Rehabilitation Specialist who is able to perform a comprehensive evaluation of driving ability and recommend vehicle modifications. In this case, Mr. Jones demonstrates intact cognition, but the specialist notes that the left-sided weakness impairs Mr. Jones' ability to use a turn signal and turn his head. The specialist arranges for Mr. Jones to have a turn signal adaptor and additional mirrors added to his vehicle. Mr. Jones then spends 10-12 hours with the specialist adapting his driving to the equipment. He is referred to a vision specialist to ensure that his vision still meets State Code requirements. Once cleared by the specialist and his physician, Mr. Jones contacts DMV to arrange for

testing. He is successful with both the knowledge and road skills examinations and, therefore, receives his driver's license with the restrictions for an automatic transmission and adaptive equipment.

General Recommendations for Secondary Interventions

When an older adult has difficulty maintaining driving ability, there are a number of approaches that may remedy the condition. Perhaps there is an underlying medical condition that can be treated. Both acute and chronic conditions can affect driving. For example, a driver with insulin dependent diabetes has a chronic condition and, with proper care, can operate a vehicle safely. If, on the other hand, this same driver has a history of poor control and multiple hypoglycemic episodes, the driver is at high risk for an acute event. Driving may need to be curtailed while he or she improves self-care and reduces the risk of an acute episode.

A complementary approach is to isolate and identify specific functional deficits to determine the sources of deficit, and then to correct the source, if possible. For example, if reaction time is slowed and a medication is identified as a possible cause, it may be possible to change the medication, reduce the medication or consider eliminating the medication. If the functional deficit can be addressed through vehicle modifications, such as hand controls or a left foot accelerator, refer the individual for a driving evaluation with a Certified Driving Rehabilitation Specialist. For acute or episodic illnesses like a seizure disorder, clinical judgment and specialist input are advised. See related Virginia DMV policies on the DMV website: www.dmv.virginia.gov/drivers/#medical/index.html.

It's important to talk openly with older adults we are close to about the risks and having a plan for when driving cessation becomes necessary. Monitor the individual and make referrals for evaluation when a decline is evident. Move to the tertiary level and advise against driving if an individual's skill loss becomes irreversible and is incompatible with safe driving. The publication cited earlier, *A Clinician's Guide to Assessing and Counseling Older Drivers*, contains a section on communicating with drivers and their families.

Medications and Driving

Medications are especially relevant in any discussion of older drivers, for older adults often have one or more chronic health conditions which necessitate prescriptions and older bodies can present special challenges to the intended outcomes of various drugs. The impact of multiple comorbidities in the driver is the subject of ongoing research. What is known is that some conditions have been associated with driving impairment because of both symptoms and treatment, for instance, orthopedic injury treated with opioids. Older adults often not only take more medications but also are more susceptible to unwanted side effects. The Beers Criteria lists medications that can be inappropriate for the older adult and should not be used or, if taken, should be monitored closely. First developed by Dr. Mark Beers in 1991 and subsequently maintained by the American Geriatrics Society, the list identifies medications that are potentially inappropriate for older adults. The list is useful when checking a driver's medications. While the Beers List is complicated, being intended for health care professionals, those who care about older drivers with declines in their driving ability, should be aware of it and include it in discussions with the driver's health care providers. A sample can be found at: www.pharmacist.com/node/84786.

Adverse effects of certain medications, such as drowsiness, can affect the ability to focus and drive safely. Whenever a new medication is prescribed or the dosage of a current medication is changed, it is important to educate the individual about the drug and have him or her avoid driving until the effects of the drug are known. Older adults are particularly vulnerable during medication changes because they may already have delayed reaction time or cognitive processing speed and the combination of existing physical or cognitive losses with medication induced losses can lead to seriously impaired driving. Whenever possible, clinicians should select medications that will not affect driving performance. Also, when prescribing new medications, clinicians should always consider the individual's existing medication profile of prescription and nonprescription medications. Additionally, even older adults should be screened for substances that are not prescribed such as alcohol. Drugs in combination may produce interactions together that would not normally

impair driving individually.

Many seemingly innocuous medications can have effects when taken by older adults. A non-exhaustive list of drug classifications that are known to impair driving include: anticholinergics, anticonvulsants, antidepressants, antiemetics, antihistamines, antiparkinson agents, antipsychotics, Benzodiazepines and non-benzodiazepine hypnotics, muscle relaxants, and narcotic analgesics. Of particular concern are benzodiazepines when they are used in conjunction with opioids.

Case Study #2

Anna Smith is a 74-year old woman who is being treated for chronic back pain and insomnia. She is also currently receiving chemotherapy for breast cancer. Her medications list includes opioid pain medication and a sleep aid. In addition, she takes medication for urinary incontinence and mild glaucoma.

DMV receives a report that Mrs. Smith was found unconscious on the side of the road, so it requests a medical report from her physician. Mrs. Smith is adamant that she accidentally took a sleeping pill in the morning instead of at night and that this is the reason she fell asleep behind the wheel. The medical report, however, while citing the medication error, also noted cognitive changes, possibly dementia. DMV asked Mrs. Smith to undergo a knowledge exam, which includes a road sign recognition portion and a section on general knowledge of the rules of the road. After three attempts at taking this examination, she was unable to pass. She was then referred for a driving rehabilitation evaluation which she was unable to pass. As a result, the DMV informed Mrs. Smith that she would no longer be allowed to drive. While the crash may have been related to a medication error, an underlying health condition contributed to the error. Two years later, Mrs. Smith contacted DMV and asked to be reevaluated. She was referred and retook a comprehensive driving evaluation which she completed successfully. She was allowed to retest for her license and was restored. In a later conversation with Mrs. Smith, she reported that once she finished chemotherapy and cut down on the amount of opioid medication, she felt like her "head cleared."

Alcohol and Medications

According to the Substance Abuse and Mental Health Services Administration, substance abuse in the older population is on the rise (SAMHSA, 2012). Clinicians often fail to identify substance abuse, however, because it has not been on their radar. The substance most often abused is alcohol. One serving of alcohol (1.25 oz. liquor, 12 oz. beer, or 5 oz. glass of wine) can impair driving ability in many older adults. Age-related physiological changes such as an increase in body fat and a loss of lean muscle make an older adult more vulnerable to the effects of alcohol. Alcohol consumption can exacerbate a number of health conditions like cirrhosis, malnutrition, GI bleeding, hypertension, and depression. Older adults may be impaired without being aware of it because, while their intake is unchanged, the substance is no longer processed by the body in the same way.

Alcohol is not the only cause of intoxicated driving but it is the most common. Other substances including marijuana, cocaine, opiates, and benzodiazepines may also impair driving skills, especially when used in combination. What may look like a cognitive change may be a substance abuse symptom. According to SAMSA, older adults, contrary to popular belief, do respond to interventions targeting substance abuse issues.

Conclusion

Many older adults can and do drive safely. It is important to keep in mind that every driver is likely to reach a point where it is best to consider retirement from driving. Planning for this eventuality well before it occurs can make the transition to non-driving status easier. Providers of all types should be willing to address this difficult topic with the people they serve.

An individual's diminishing capability behind the wheel should be addressed at different levels of prevention specific to the person's needs. Often, driving cessation is gradual and begins with reduced or restricted driving. Some driving skills can be remediated and the goal should always be to allow for as much independence as is safe. Additionally, some causes of diminished capability can be identified and addressed. Ultimately, however, concerned family members and professionals need to be willing to say "no" to driving when the time comes where it is no longer safe for an individual to drive without risk to his or her own safety and the

safety of others.

Study Questions

1. What factors can affect driving performance as a person ages?
2. What are the key recommendations of the Mature Drivers Study?
3. How do the considerations of an older driver's diminished capabilities affect which interventions to initiate?
4. Are there appropriate referral resources that you can identify?

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