What is all the Buzz Around DOSCI Older Driver Screening? Let's Take a Closer L◉◉k

Joan Somes PhD, RN, NRP

https://www.transparentpng.com/details/bee-clipart-honey-bee-bee-honey-bee-transparent-free-for_29278.html

Funding for the work on older driver safety comes from a MN Dept of Public Safety/ Office of Traffic Safety grant awarded to the Minnesota Emergency Nurses Association (MN ENA)

EMERGENCY NURSES ASSOCIATION
Minnesota State Council

www.minnesotaena.com

https://www.shutterstock.com/image-vector/cartoon-one-woman-band-642125509

Driving requires:

Physical ability

- Strength & flexibility of neck, arms, & legs
- Ability to see, hear, & feel information
- An intact nervous system to send & receive messages between the brain, arms, and legs

Cognitive ability

- Ability to process sensory information
- Sort out distractions
- Respond in an appropriate & timely manner

Driving requires:

Physical ability

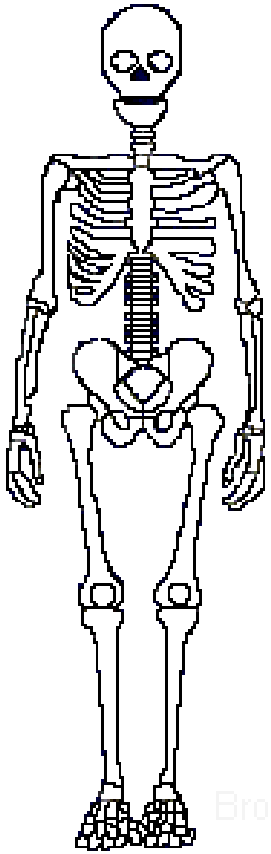
- Strength & flexibility of neck, arms, & legs
- Ability to see, hear, & feel information
- An intact nervous system to send & receive messages between the brain, arms, and legs

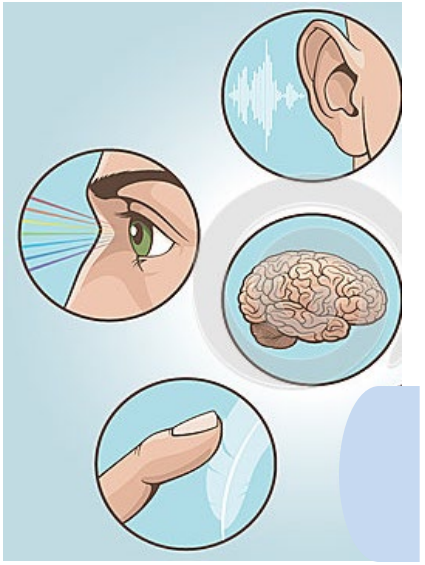
Cognitive ability

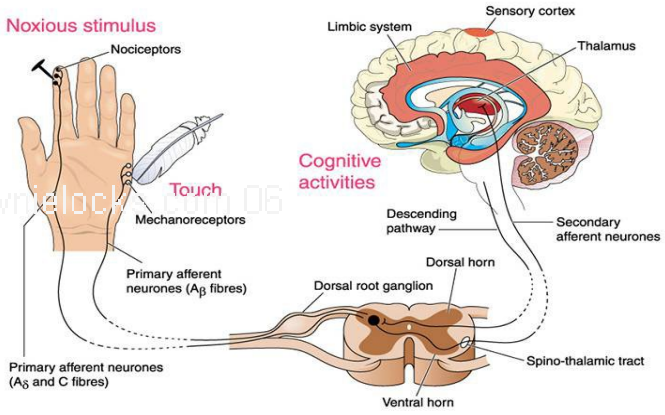
- Ability to process sensory information
- Sort out distractions
- Respond in an appropriate & timely manner

But the Body is Affected by Aging

- Muscle strength & flexibility
- The ability to sense feeling in feet/hands
- Eyes (vision) & ears (hearing)
- Brain's ability to process sensory information from eyes, ears, nerves
- Reaction time
- Pain with movement







Driving can be affected:

- Lack of strength/flexibility to brake /accelerate
- *Not knowing* if foot is on gas or brake
- Difficulty turning head to check traffic
- Slower response in emergent braking situations
- Missing auditory/visual warnings about their driving

Clinician's Guide to Assessing and Counseling Older Drivers, 4th Edition* **Alice Pomidor – editor New York , 2019 The American Geriatrics Society & NHTSA https://geriatricscareonline.org/FullText/B047/B047_VOL002_PART001_SEC004_1?p

Ability to process information

(Sights – Sounds – Sensations – Situations)

(AKA "Cognition")

also start to diminish

Age related cognitive changes tend to have a slow onset. Many learn how to hide & compensate for them.

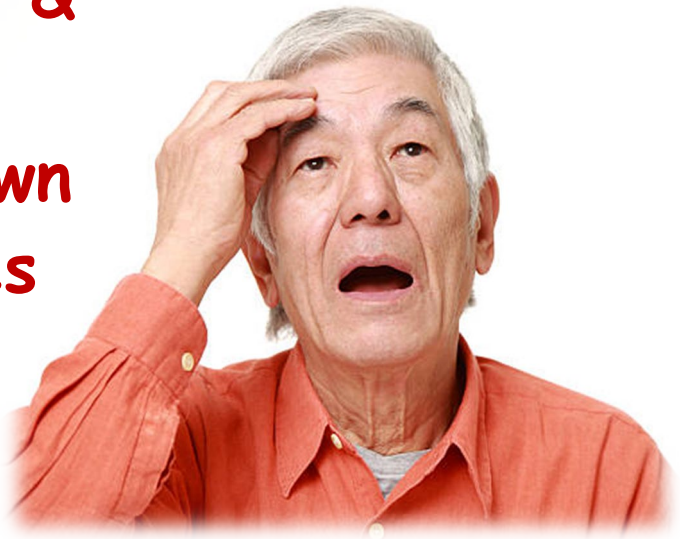
Signs of cognitive slowing typically appears:

- age 65-74 ~ 2.4% of people
- age 75 – 84 ~ 11% of people
- > age 85 ~ 34-50% of people

COVID has added a new dimension to this!

Changes Seen Due to Cognition:

- Easily distracted /overwhelmed by stimuli, high traffic & unusual traffic patterns
- Difficulty judging distance & speed of other vehicles
- Difficulty staying within own lanes, especially turn lanes
- Decreased ability to recognize & correct for unsafe situations
- Trouble reading street/road signs
- Issues with way-finding / getting lost



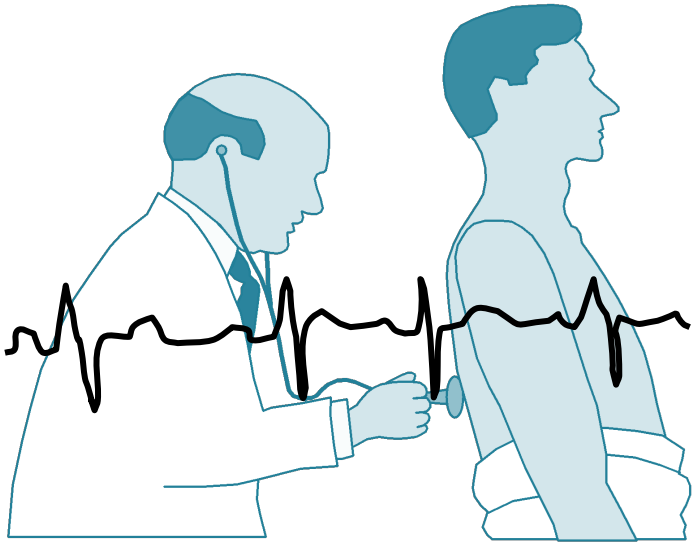
Clinician's Guide to Assessing and Counseling Older Drivers, 4th Edition* **Alice Pomidor – editor New York , 2019 The American Geriatrics Society & NHTSA https://geriatricscareonline.org/FullText/B047/B047_VOL002_PART001_SEC004_1?p

NO TURN ON RED 6AM-9AM MON-FRI
CAUTION
Park PL 4100
SPEED CHECKED BY RADAR
NO SKATEBOARDING OR ROLLERBLADING
SPEED LIMIT 25
NO PARKING ON BRIDGE
WRONG WAY
ONE WAY
STREET SWEEPING 3rd MONDAY EVERY MONTH 7AM - 10AM

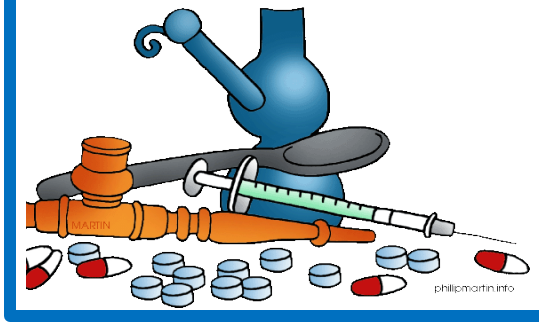
LEFT TURN YIELD ON GREEN

RAMP CLOSED

Medical conditions & medications can also affect driving ability



Physical and cognitive impairment associated with aging can lead to driving errors, or indicators, similar to those seen when someone is driving under the influence of drugs or alcohol!



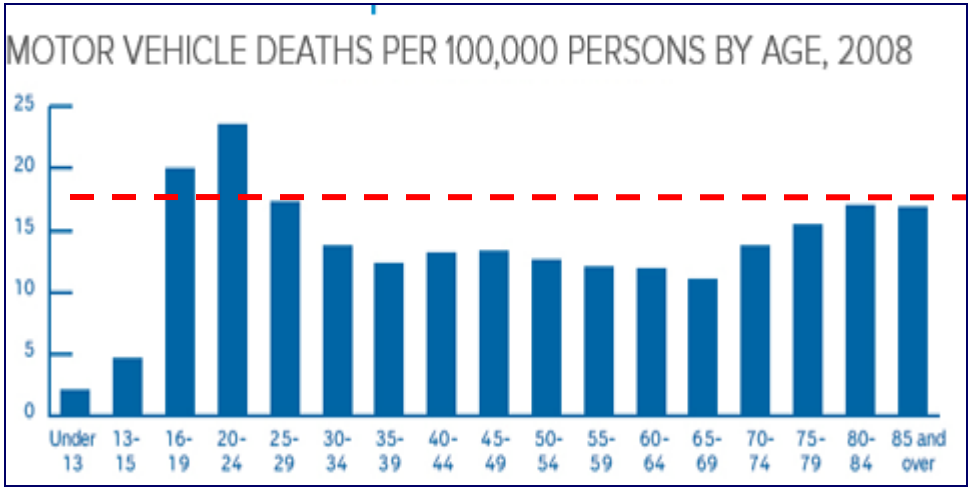
Hill, L., Rybar, J , Stowe, J., Jahns J. Development of a curriculum and roadside screening tool for Law enforcement identification of medical impairment in aging drivers (2016) Injury Epidemiology 3:13 DOI 10.1186/s40621-016-0078- 3 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4858548/pdf/40621_2016_Article_78.pdf
North American Conference on Elderly Mobility Driver Screening and Assessment Collaboration Between Law Enforcement and Public Health Organizations: The Cognitive Assessment Tool (2019) https://safety.fhwa.dot.gov/older_users/noteworthy/ch2.cfm
Pomidor, A. ed: *Clinician's Guide to Assessing and Counseling Older Drivers, 4th Edition* 2019 New York

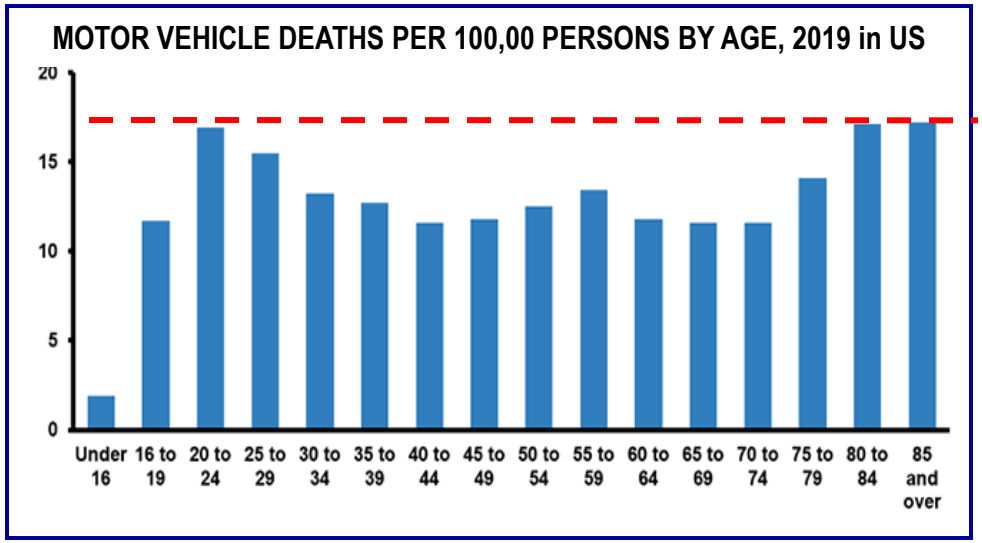
Driving behaviors that may be due to physical/cognitive impairment

- Driving on wrong side of road / weaving
- Nearly hitting pedestrians, cyclists, other cars
- Difficulty making left turns or getting into correct lane when turning
- Turning in front of, or failing to yield to oncoming traffic
- Inappropriate / delayed stops
- Driving too slow/fast
- Scratches/dents on garage door, mailbox, etc

Age of road-related deaths has shifted

In 2008, more teens & young adults were dying in the crashes.
By 2019, older drivers died at a rate similar to those in their 20's and at a higher rate than teen drivers!

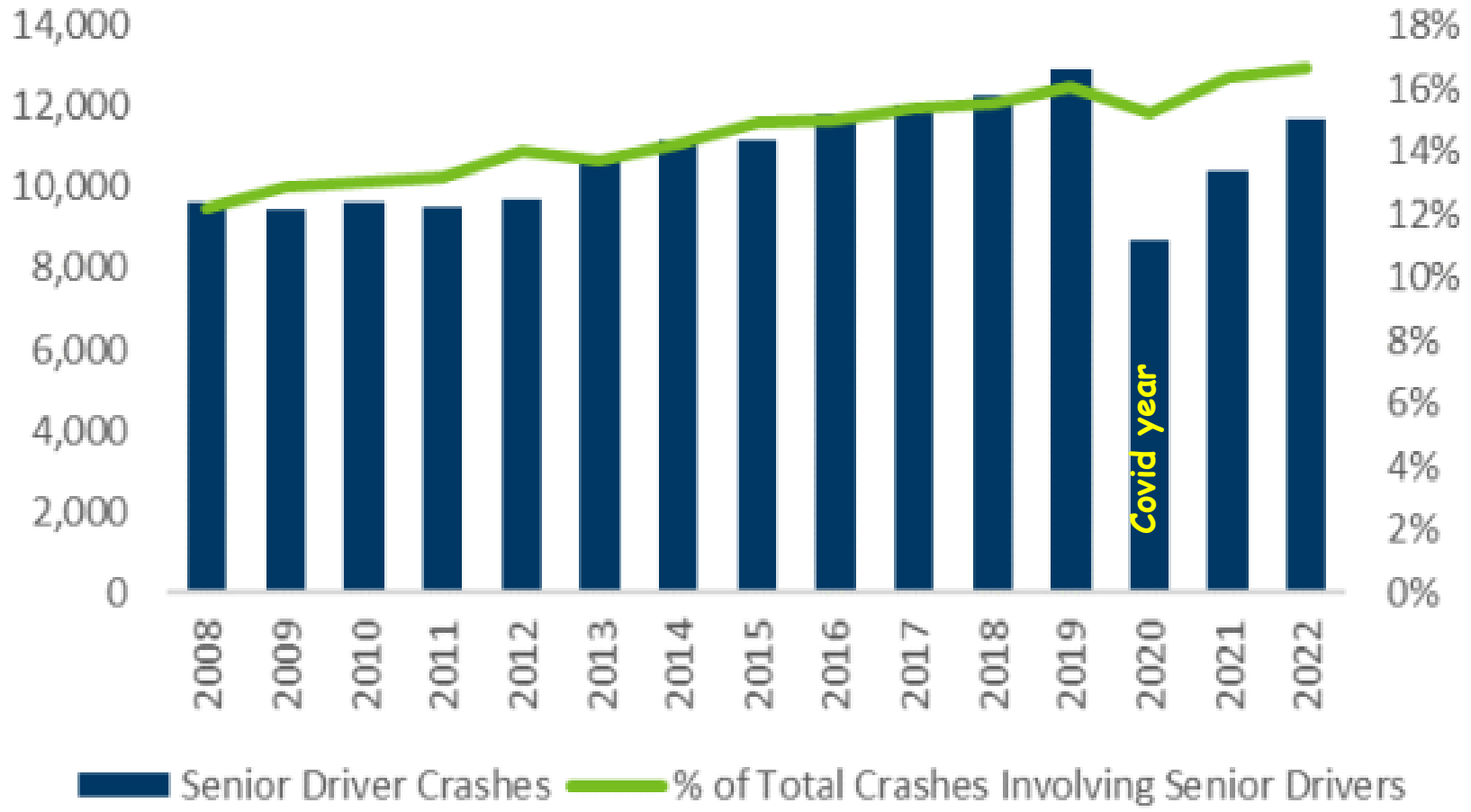




Following a slight dip in 2020 (COVID-related?) numbers are increasing again in 2021-2024!

*https://www.iii.org/article/background-on-older-drivers **https://www.iihs.org/topics/fatality-statistics/detail/older-people
Institute for Insurance Information (III) report of fatalities by age for 2019

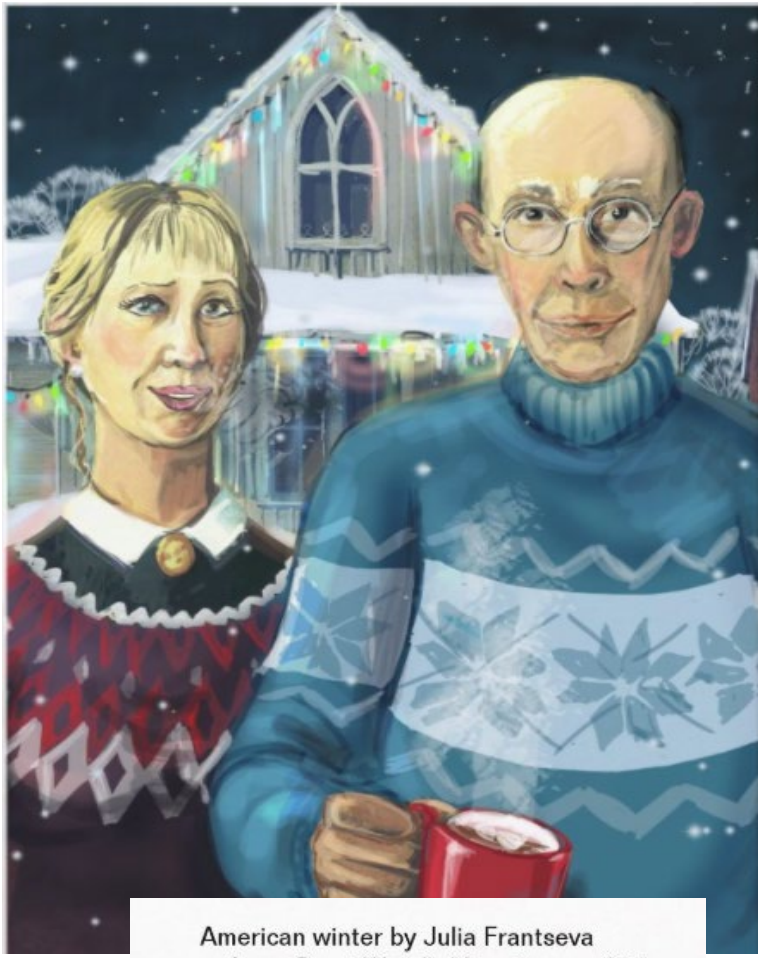
In Minnesota, numbers dropped during COVID, but are rising again



From: 2022 MN Crash Facts

*does not include bike or peds

https://dps.mn.gov/divisions/ots/reports-statistics/Documents/2022a-crash-facts.pdf



American winter by Julia Frantseva
a parody on Grant Wood's "American gothic"

Number of MN Drivers age 65 & older have increased by over 195,600.

Injuries in adults age 65+ almost doubled

2001 – 2496 injuries (8%)
2022 – 4779 injuries (20%)
2023/2024 – numbers not released yet

Deaths in adults age 60+ also increased

2007:102 of 510 deaths (20%)
2020: 81 of 394 deaths (20%)
2022:127 of 444 deaths (27%)
2023:126 of 402 deaths (31%)
2024:166 of 479 deaths (35%)

MNCrash facts for2013 https://dps.mn.gov/divisions/ots/reports-statistics-and-data/crash-facts-reports

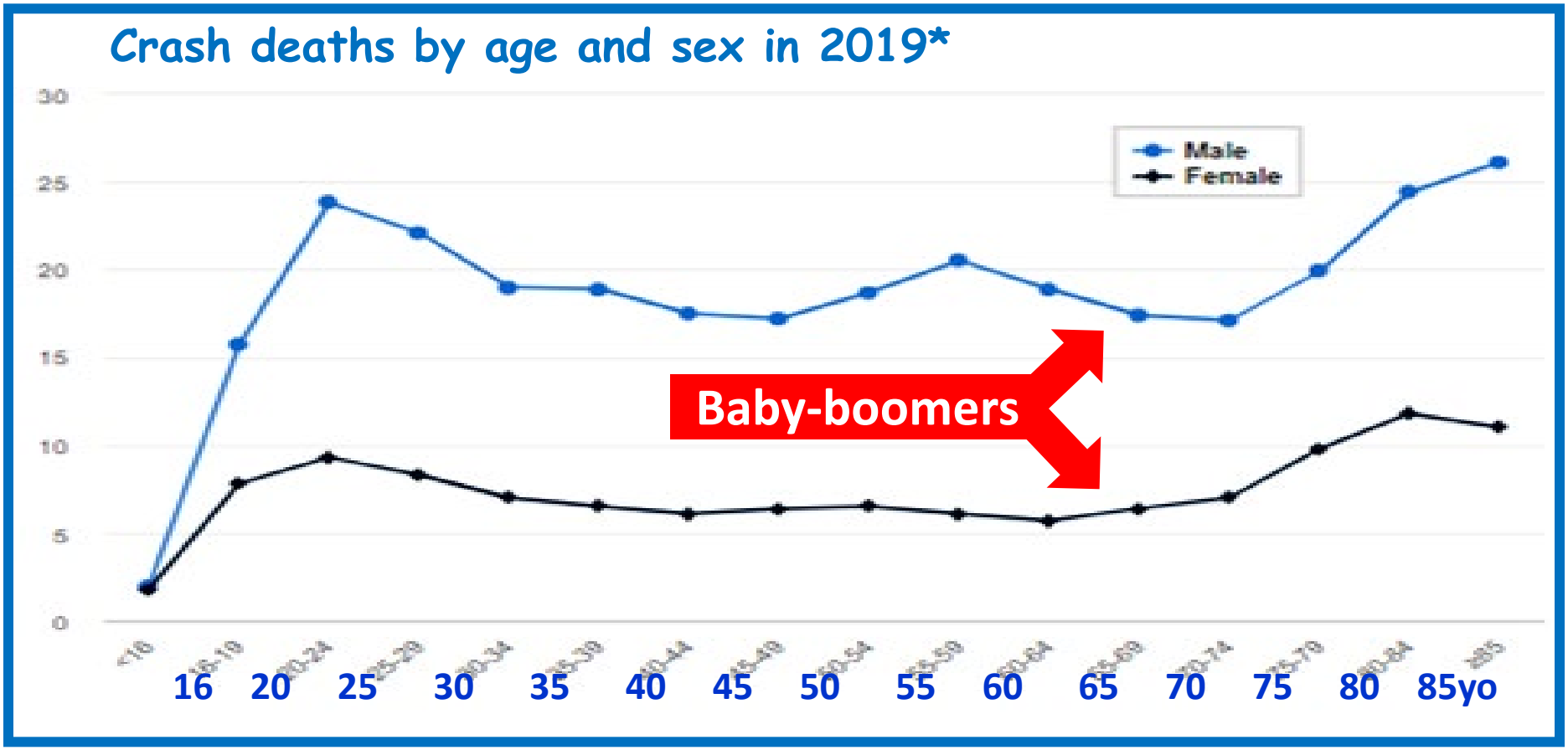
https://www.leg.state.mn.us/docs/2018/mandated/181000.pdf

https://dps.mn.gov/divisions/ots/reports-statistics/Documents/2018-crash-facts.pdf

Minnesota Motor Vehicle Crash Facts, 2017 - 2019 Minnesota Motor Vehicle Crash Facts 2019 (mn.gov)

Thanks to Brian Harmon @DPS for additional statistics

Being age 75 or older is associated with higher risk of death when in a crash!

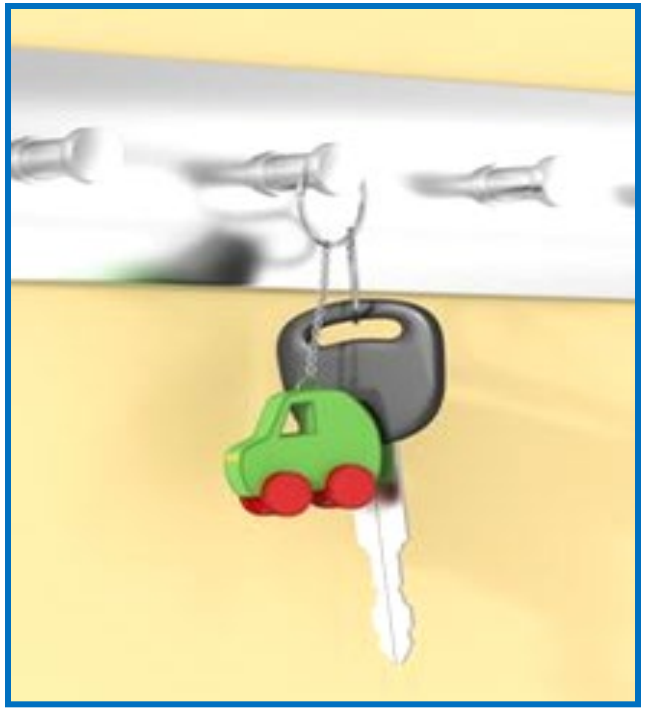


*Per 100, 000

https://www.iihs.org/topics/fatality-statistics/detail/older-people

Many drivers decide to retire from driving about age 75 due to self-recognized:

- ↓ vision
- ↓ strength & mobility
- ↓ cognition
- ↑ medical conditions
- ↑ medications that affect driving



However – we all age & accept aging differently, some better than others!

And what if they don't, won't can't?

And what if you are concerned about someone's driving?

It is usually easy to describe the physical challenges that may affect someone's driving, but how do you measure cognitive ability?

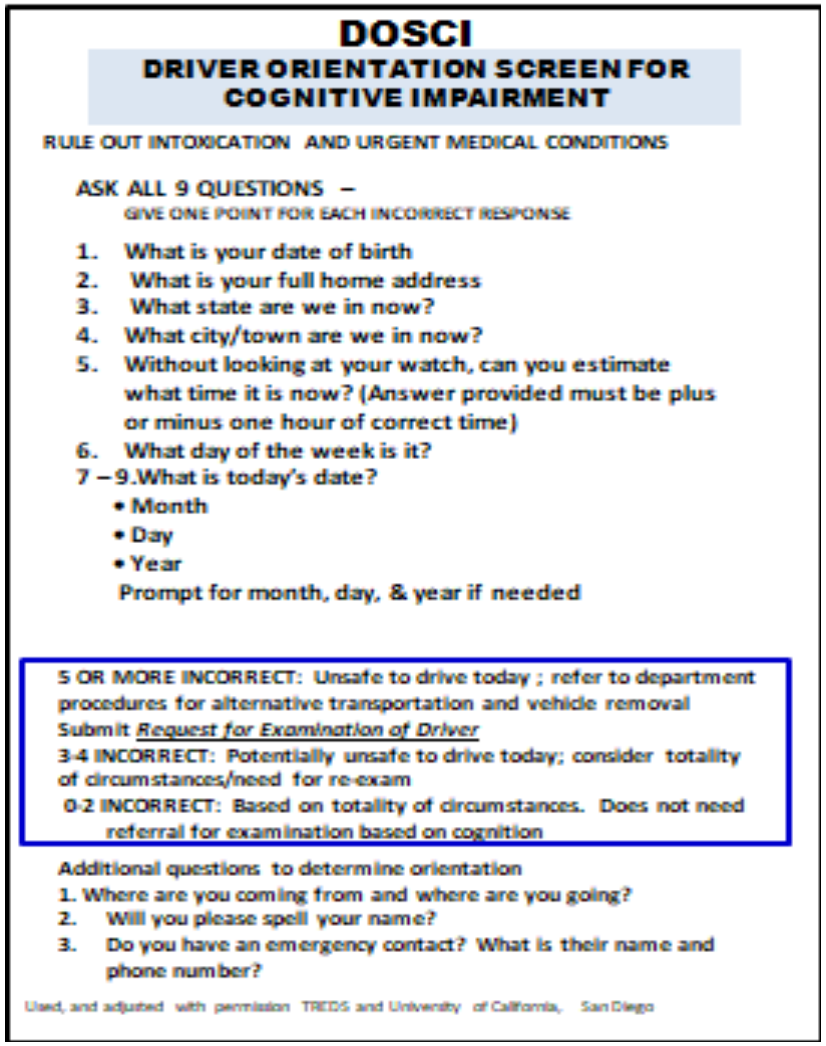
https://png.pngtree.com/png-clipart/20230825/original/pngtree-parkinson-disease-symptoms-infographic-information-parkinson-flatulence-vector-png-image_10672874.png

DOSCI* Objectively "measures" a driver's cognitive ability

*Driver Orientation Screen for Cognitive Impairment

DOSCI adjusted for Minnesota*

- DOSCI maybe be used for any age pedestrian, bicyclist, or motorist.
- Questions do not need to be asked in order & may be worked into the conversation.
- All 9 questions must be asked to create a score.
- Each answer is 1 point.
- The 3 "bonus" questions provide additional helpful information about the driver's cognition.



DOSCI

DRIVER ORIENTATION SCREEN FOR COGNITIVE IMPAIRMENT

RULE OUT INTOXICATION AND URGENT MEDICAL CONDITIONS

ASK ALL 9 QUESTIONS –
GIVE ONE POINT FOR EACH INCORRECT RESPONSE

1. What is your date of birth
2. What is your full home address
3. What state are we in now?
4. What city/town are we in now?
5. Without looking at your watch, can you estimate what time it is now? (Answer provided must be plus or minus one hour of correct time)
6. What day of the week is it?

7 – 9. What is today's date?
- Month
- Day
- Year

Prompt for month, day, & year if needed

5 OR MORE INCORRECT: Unsafe to drive today ; refer to department procedures for alternative transportation and vehicle removal
Submit *Request for Examination of Driver*
3-4 INCORRECT: Potentially unsafe to drive today; consider totality of circumstances/need for re-exam
0-2 INCORRECT: Based on totality of circumstances. Does not need referral for examination based on cognition

Additional questions to determine orientation
1. Where are you coming from and where are you going?
2. Will you please spell your name?
3. Do you have an emergency contact? What is their name and phone number?

Used, and adjusted with permission TRDS and University of California, San Diego

*From the Driver Orientation Screen for Cognitive Impairment – DOSCI developed by Univ. of CA – San Diego used and adjusted with permission because Minnesota does not have a "priority" re-exam and to incorporate Minnesota related resources

The Questions

Rule out: INTOXICATION AND URGENT MEDICAL CONDITIONS

ASK ALL 9 QUESTIONS -
GIVE ONE POINT FOR EACH INCORRECT RESPONSE

1. What is your date of birth
2. What is your full home address
3. What state are we in now?
4. What city/town are we in now?
5. Without looking at your watch, can you estimate what time it is now? (Answer provided must be plus or minus one hour of correct time)
6. What day of the week is it?

7 – 9. What is today's date?

- Month
- Day
- Year

Prompt for month, day, & year if needed

Bonus points – spell name, where going to/coming from, phone number of family

*From the Driver Orientation Screen for Cognitive Impairment – DOSCI developed by Univ. of CA – San Diego

What do the DOSCI scores mean?

Answers all but one or two questions correctly = cognitively intact.

Driver should be able to absorb road information, follow the rules of road, make good decisions, & drive in safe manner.

*Hill, L. Law Enforcement's Role in Older Driver Safety - Instructor Manual. University of California San Diego (instructor training in May 2019)

What do the DOSCI scores mean?

Answers all but one or two questions correctly = cognitively intact.
Driver should be able to absorb road information, follow the rules of road, make good decisions, & drive in safe manner.

3-4 answers wrong = may be slightly confused.
May be having trouble interpreting or processing what is being said, asked, or traffic information.
May be situational, driving now is probably unsafe!

*Hill, L. Law Enforcement's Role in Older Driver Safety - Instructor Manual. University of California San Diego (instructor training in May 2019)

What do the DOSCI scores mean?

Answers all but one or two questions correctly = cognitively intact.
Driver should be able to absorb road information, follow the rules of road, make good decisions, & drive in safe manner.

3-4 answers wrong = may be slightly confused.
May be having trouble interpreting or processing what is being said, asked, or traffic information.
May be situational, driving now is probably unsafe!

5 or more answers wrong = highly confused and this is most likely not new. Driver will likely have difficulty controlling the vehicle, following roadway information, responding to traffic threats, may end up lost/dead.
It is best for all if they don't drive at this time & recommend completion of Request for Examination of Driver Form.

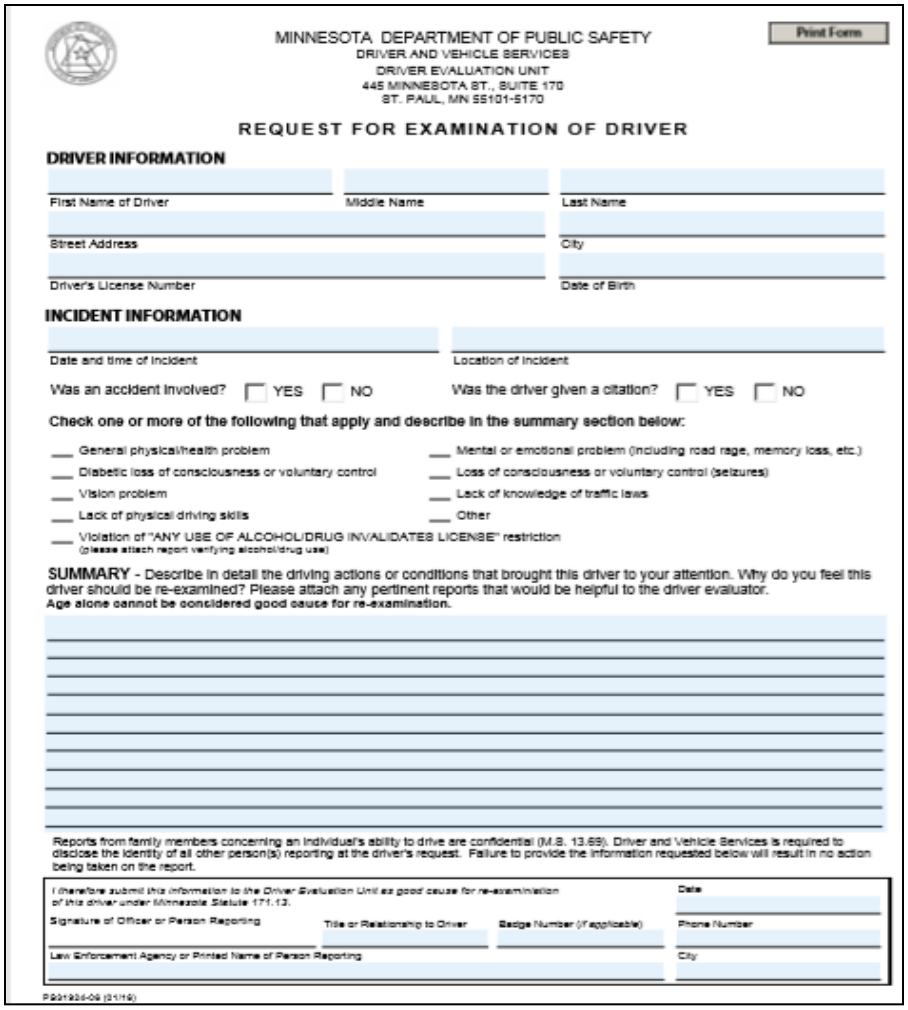
*Hill, L. Law Enforcement's Role in Older Driver Safety - Instructor Manual. University of California San Diego (instructor training in May 2019)

Options when concerned

- Ask about driving
- Arrange for ride now
- Recommend non-driving options
- Provide resources
- Request referral for evaluation by DRS/OT
- Make *all* safe now

- Report driver to DVS using "Request for Examination of Driver" form

"Request for Examination of Driver"



MINNESOTA DEPARTMENT OF PUBLIC SAFETY
DRIVER AND VEHICLE SERVICES
DRIVER EVALUATION UNIT
445 MINNESOTA ST., SUITE 170
ST. PAUL, MN 55101-5170

Print Form

REQUEST FOR EXAMINATION OF DRIVER

DRIVER INFORMATION

First Name of Driver | Middle Name | Last Name

Street Address | City

Driver's License Number | Date of Birth

INCIDENT INFORMATION

Date and time of incident | Location of incident

Was an accident involved? ☐ YES ☐ NO Was the driver given a citation? ☐ YES ☐ NO

Check one or more of the following that apply and describe in the summary section below:

___ General physical/health problem
___ Diabetic loss of consciousness or voluntary control
___ Vision problem
___ Lack of physical driving skills
___ Violation of "ANY USE OF ALCOHOL/DRUG INVALIDATES LICENSE" restriction (please attach report verifying alcohol/drug use)
___ Mental or emotional problem (including road rage, memory loss, etc.)
___ Loss of consciousness or voluntary control (seizures)
___ Lack of knowledge of traffic laws
___ Other

SUMMARY - Describe in detail the driving actions or conditions that brought this driver to your attention. Why do you feel this driver should be re-examined? Please attach any pertinent reports that would be helpful to the driver evaluator.
Age alone cannot be considered good cause for re-examination.

Reports from family members concerning an individual's ability to drive are confidential (M.S. 13.69). Driver and Vehicle Services is required to disclose the identity of all other person(s) reporting at the driver's request. Failure to provide the information requested below will result in no action being taken on the report.

I therefore submit this information to the Driver Evaluation Unit as good cause for re-examination of this driver under Minnesota Statute 171.13.

Date

Signature of Officer or Person Reporting | Title or Relationship to Driver | Badge Number (if applicable) | Phone Number

Law Enforcement Agency or Printed Name of Person Reporting | City

PS01924-09 (01/10)

Not an automatic loss of license!

- ❑ Cannot be issued based only on age
- ❑ Submitter's name may, or may not be "protected"
- ❑ Only first step in process

Forms with most impact were:

- ❑ Specific
- ❑ Descriptive
- ❑ Citation issued*
- ❑ Legible*

https://dps.mn.gov/divisions/dvs/forms-documents/Documents/DL-Request-Examination-of-Driver.pdf

Each state has a version of the "Request for Examination of Driver" form

* Per interview with Driver Evaluation Unit personnel

Road taken when "Request for Examination" form submitted [1]

Request for Examination sent to DVS* by:
- Law enforcement
- Physician /nurses/OT
- General public

DVS checks driving record for citations

DVS notes already aware of "driver at risk" due to medical conditions

Based on description of incident on form:

Option 1
Letter requesting second brief screening of driver with/at DVS Medical Unit office

Option 2

Form "filed"

Dear…..
You have 30 days to respond to DVS or will lose driving privileges

*DVS – Driver & Vehicular Services

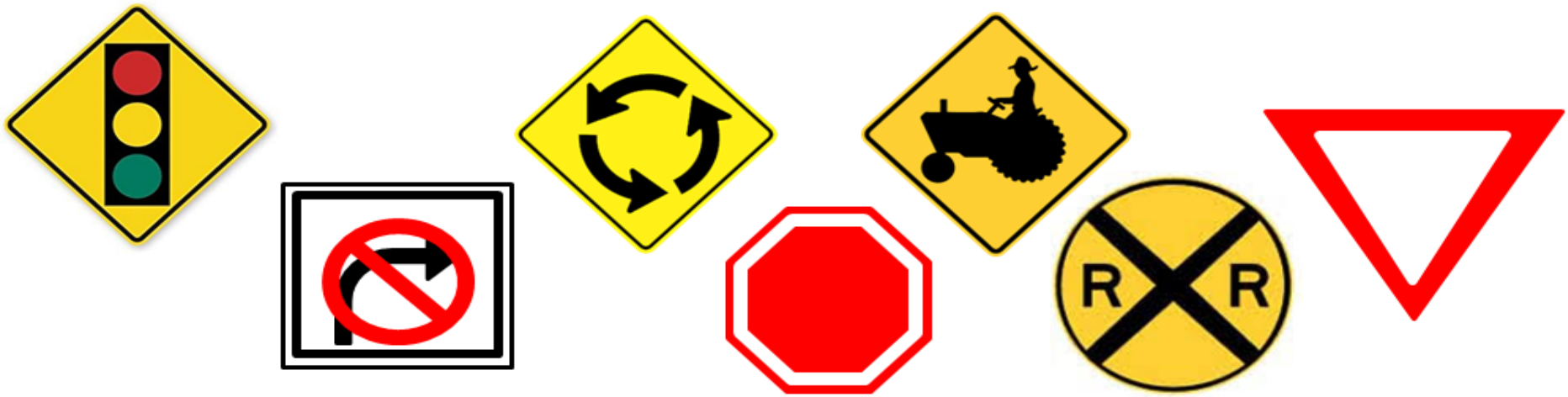
1. Per MN state statute

Brief screening by DVS medical unit

Lay-person's perspective of driver's physical & cognitive abilities

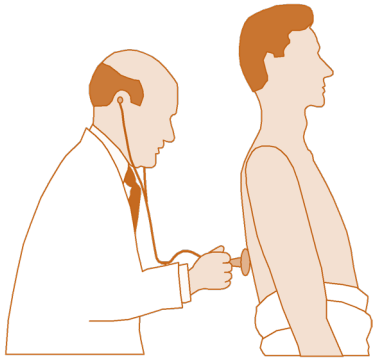
- Walk/move
- Respond to questions
- Appear alert
- Recognize road signs

May request a medical evaluation



MD evaluation: if "medically safe to drive" – sent back to DVS

Pass! Monitor condition may need to re-test



No medical issue - clear to re-test

Consult with Certified Driving Rehab Specialist prior to retesting

FAIL! MD recommends "no driving"

DVS follows MD's note. Doctor must state "unsafe to drive". DVS determines type and amount of testing needed.

Driver Rehabilitation Specialist (DRS) & Occupational Therapist (OT)

- Check physical skills*
- Check cognitive skills*
- Check driving skills*
- Recommend devices that assist safer driving*
- List limitations that would decrease risks when driving *
- Make recommendations

DRS evaluations* help identify safety options that help keep drivers safe & independent. Evals usually require MD "prescription" for insurance purposes.

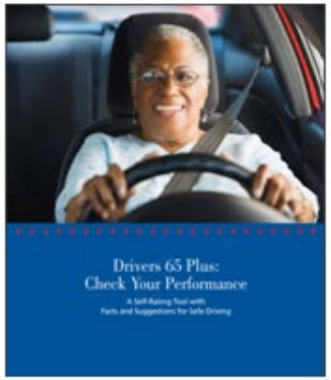
Driving is not an "all or none" thing....

it is a balance of:

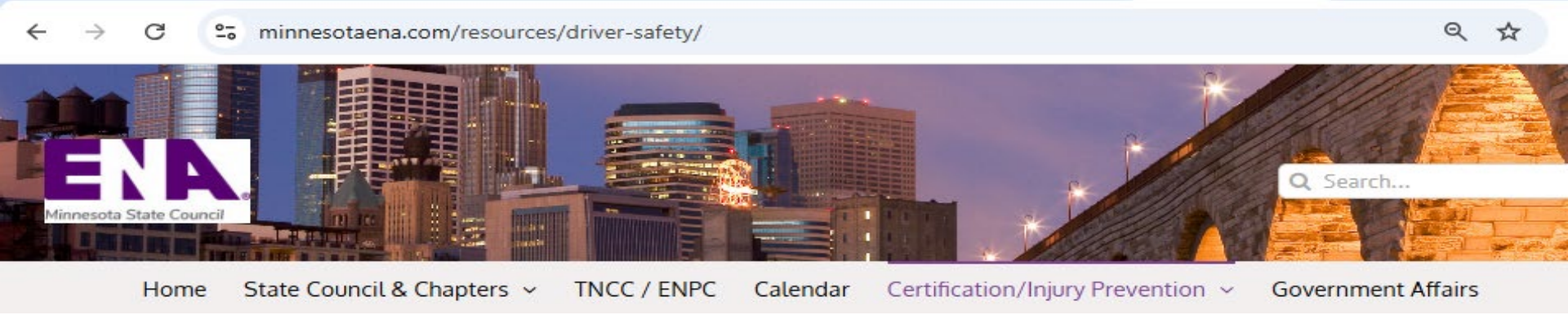
independence versus safety

DOSCI is one part, teaching safe driving tips is another

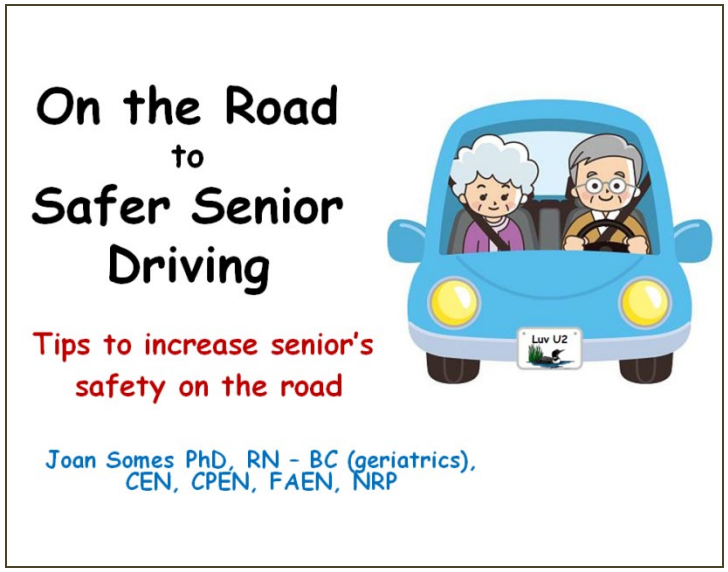
Safer Senior Driver Resource File



Available at: www.minnesotaena.com



2024, created 9 YouTube videos (10-15 minute in length)



Found on:

MN Emergency Nurses Association website

www.minnesotaena.com

pink safe driver button

1-Series Overview:
https://youtu.be/4nsiN13Jojo

2-Aging Can Affect Driving:
https://youtu.be/qWovHvhZDFE

3-Crash Data:
https://youtu.be/SWTQ8jOLlJs

4-Keeping the Keys:
https://youtu.be/TNiAim5Mngs

5-Giving up the Keys:
https://youtu.be/FzAc9EAZ1E4

6--Medications:
https://youtu.be/w2k35gbXBs8

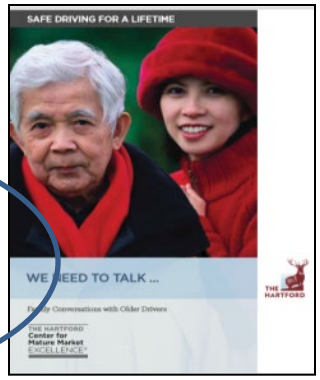
7-Strenghtening Driving Muscles:
https://youtu.be/fKr0P25RwxI

8-Car Fit:
https://youtu.be/FFL30gfq50A

9- OT and Driver Rehabilitation Specialists

Resources

www.minnesotaena.com

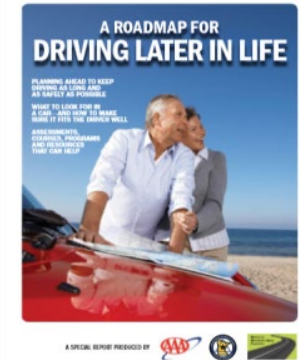


"We Need to Talk" and other booklets that address older driver safety put out by the Hartford Foundation. The link to these is: Publications on Aging | Home & Car Safety Guides | The Hartford Other booklets include: The Road Ahead, In the Driver's Seat -A Guide to Vehicle Safety Technology, At the Crossroads – discussions related to Alzheimer's and driving. All can be down-loaded free

ChoRUS
Clearinghouse for Older Road User Safety

https://www.roadsafeseniors.org/

the MN DPS website "Older Driver" page. https://dps.mn.gov/divisions/ots/older-drivers/Pages/default.aspx describes actions one can take as they age and remain safe. Can be down-loaded free



The American Occupational Therapy Assoc.
https://www.aota.org/Practice/Productive-Aging/Driving.aspx

National Institute on Aging

https://www.nia.nih.gov/health/older-drivers

NHTSA https://www.nhtsa.gov/road-safety/older-drivers

AARP Driving Assessment Resources for Older Drivers (aarp.org)

AAA Senior Driver Safety & Mobility – AAA Exchange

CDC Centers for Disease Control and Prevention https://www.cdc.gov/transportationsafety/older_adult_drivers/index.html

nsc www.nsc.org

MyCarDoesWhat? an nsc program

Someswasblackhole@gmail.com