Aging and Medically At-Risk Drivers in the Workplace: Insight & Resources

Gina Pervall and Nanette Schieke
Maryland Dept of Transportation
Motor Vehicle Administration
www.mva.Maryland.gov/olderdriversafety
MARYLAND’S OLDER & MEDICALLY AT-RISK DRIVER SAFETY PROGRAM

Empower drivers with knowledge, tools & resources to continue driving as long as safely possible
PROGRAM ACTIVITIES

- Statewide Strategic Program Action Plan
- Collaboration with national partners and researchers
- Statewide Symposiums – with plenary sessions and exhibits/demos showcasing MD programs
- Professional Development Training – law enforcement, social workers, engineers, & medical professionals
- Outreach to communities and organizations
MAIN POINT: PLAN FOR YOUR TRANSPORTATION

- Consider important **skills** necessary for driving
- Realize higher **risks** as we age – with likely health issues – **BUT** know many risks can be moderated with a **network of resources**; and
- Understand options to stay mobile if and when we have to **transition** from driving

MARYLAND DEPARTMENT OF TRANSPORTATION
Maryland Licensed Drivers By Age - Comparison of 2000 to 2020

98% growth; almost 665,000 in 2020

216% growth; almost 24,000 in 2020
AGING IN THE WORKFORCE

- Overall work-related fatalities down, but **fatalities for older workers** have increased
- Potentially more risk serious/fatal injury in workplace for **older adults**
- Gerontologists say injuries from: gradually worsening vision and hearing, reduced response time, balance issues, chronic medical or muscle or bone problems, like arthritis
- Older worker accidents, 2011 to 2015:
  - Fall-related fatalities rose 20%
  - Contact with objects and equipment increased 17%
  - Transportation accidents increased 15%
  - Fires and explosions decreased by 8%

Aug 2, 2017, Workplace accident death rate higher for older workers, Associated Press
Complex Competing Tasks While Driving

- Comparing what you see with past experiences
- Recalling the directions to your destination
- Judging time & distance
- Prioritizing visual images
- Constantly making snap decisions
- Guessing what other drivers will do
- Juggling competing tasks
Aging Drivers – Likely Crash Types

- **Turning** left at an intersection with a stop sign.
- **Turning left** at an intersection on a green light without a dedicated green turn arrow.
- Turning right at a **yield** sign to merge with traffic at speeds of 40 - 45 mph.
- **Merging** onto a highway from a ramp that has a yield sign.
- **Changing** lanes on a road that has four or more lanes.

Source: NHTSA, Safety in Numbers (Dec 2013)
Medical Review Process

- Medical Advisory Board since 1947
- Driver Wellness & Safety Division – Nurse case reviewers
- Focus on functional ability - not age or condition …with an individual review of fitness to drive

85% with medical reviews kept their license

Outcomes may include:
- License restrictions
- Adaptive Modifications
- Approval with No Restrictions
- Suspension

Who Makes Referrals to MVA?
- Professionals
  - clinicians, law enforcement
- Concerned citizens
  - neighbors, friends and family
- Self-reports medical condition
MARYLAND’S RESOURCE
GUIDE FOR AGING DRIVERS

- Concise, easy-to-follow booklet
- Focus on primary issues & messages
- Checklists & charts for personal use
- Plenty of local resources

Download online at
www.mva.maryland.gov/olderdriversafety
ADAPTIVE DRIVER ASSISTANCE SYSTEMS

- Drivers didn’t learn to drive on cars equipped with ADAS
- Safety features with different brand names among mfgs
- Phrasing may give false impression - leads to over-reliance
- Not always clear to driver when systems disengaged / disabled
POTENTIAL EDUCATION TOOLS

- MyCarDoesWhat.org (National Safety Council)
- Smart Driver TEK, aarp.org/findaworkshop (AARP & The Hartford/MIT Age-Lab)
- https://www.iihs.org/topics/advanced-driver-assistance (Insurance Institute of Highway Safety)
- nhtsa.gov/equipment/driver-assistance-technologies (USDOT National Highway Traffic Safety Administration)
- Car-Fit.org
SEAT BELT POSITIONING

STEERING WHEEL POSITION

CARFiT
Helping Mature Drivers Find Their Safest Fit

PROPER MIRROR POSITION

POSITION OF HEAD RESTRAINT

TRANSITIONS
Driving Continuum – Network of Resources

Recognizing Change / Options
- Self-assessment
- Driver Refresher Course
- Professional evaluation
- Medication assessment
- Warning signs

Plan for future changes before it becomes a concern

Major life change
- Medical issue/surgery
- Traffic ticket or crash

MDOT MVA Medical Review

Transition from Driving
- Planning alternative transportation needs & options
- Types of rides
- Intervention / Insistently Unsafe

Family Conversations

Driver Wellness
- Education Refresher
- Brain / Physical Fitness
- CarFit
- Driving “Buddy”
MEDICALLY FIT DRIVER

• Ability to: Reason, Remember, React
  • Anticipate safety hazards
  • Make prompt and proper decisions
  • Take action to avoid crashes
MEDICAL RISK FACTORS

Cognitive Limitations
- Poor reasoning

Physical Limitations
- Memory deficits

Visual Limitations
- Slowed reaction time

Medications
PHYSICAL IMPAIRMENT

INCAPACITY TO PERFORM THE PHYSICAL OPERATIONS REQUIRED TO OPERATE A MOTOR VEHICLE

• Degenerative
  • Parkinson’s, Multiple Sclerosis
  • Poor coordination, Weakness

• Musculoskeletal
  • Limb loss, Cerebral Palsy
  • Poor coordination and balance

• Neurological
  • Seizures, Stroke
  • Blackout, Poor balance

• Endocrine
  • Diabetes
  • Low blood sugar, Confused

• Cardiovascular
  • Heart Failure, Arrhythmia
  • Blackout

• Respiratory
  • Sleep Apnea
  • Drowsy/Sleepy, Blackout
MENTAL/COGNITIVE IMPAIRMENT

• Dementia
• Alzheimer’s Disease
• Parkinson’s Disease
• Schizophrenia
• Alcohol Abuse
• Drug Abuse

Lost, Confused and Disoriented, Wrong Direction, Bizarre behavior
VISUAL IMPAIRMENT

• Vision Standards
  • Visual acuity of 20/40 in each eye and field of vision of at least 140 degrees

• License Restrictions
  • Visual acuity 20/40 – 20/70 and/or field of vision 100 – 140 degrees in one eye

• Modified Vision Program
  • Corrected visual acuity between 20/70 – 20/100 or field of vision less than 110 degrees

Glare from sun or car lights
IMPAIRING MEDICATIONS

3000 drivers in AAA LongRoad Study (11/2018)

- 97% take one medication
- 73% take cardiovascular medications
- 70% take CNS agents
- Median number was 7 medications

Prescription bottles in car, New/Multiple Medications
MARYLAND REPORTABLE CONDITIONS

- Diabetes with low blood sugar requiring assistance (6 months)
- Epilepsy
- Seizure
- Heart condition with LOC (6 mos)
- Stroke
- Dizzy spells, fainting, blackout
- Sleep apnea or narcolepsy
- TBI
- Weakness, shaking numbness in ext.
- Visual acuity < 20/70 in at least one eye or FOV < 110 degrees
- Alcohol use problem
- Drug use problem
- Mental condition affecting ability to drive
- Schizophrenia
- Dementia
REFERRAL SOURCES

- Law Enforcement
- Healthcare Professional
- Branch Referral
- Self-Report
- Court Referral
- Concerned Citizen
MEDICAL REVIEW PROCESS

REFERRAL
- Law Enforcement
- Self-Report
- Health Care Providers

MVA REVIEW
- Driver Wellness & Safety Division (DWS)
- Medical Advisory Board

DWS DECISION
Physicians from various specialties

Review medical information of individuals with conditions that can impact their ability to safely drive

Assess medical fitness to drive

Provide advice and recommendations to MVA

Do not make the final decision regarding driving privileges
MEDICAL ADVISORY BOARD

• Advises Driver Wellness and Safety Division
  • Nurse Case Reviewers
    • Triage referrals
    • Impose restrictions
    • Periodically monitor

• Reinstatement Unit (alcohol/drug reviews)

• Ignition Interlock Unit
MAB REVIEW

• Health Questionnaire
• Alcohol/Drug Questionnaire
• Physician’s Report
• DOT Medical Examiner’s Report
• Substance Abuse Evaluation/Treatment
• MVA Tests
  ▪ Law, Vision, Drive, and Functional Capacity Test (FCT)
FUNCTIONAL CAPACITY TEST

• Rapid walk - lower limb mobility

• Motor Free Visual Perception Test (MVPT) - visualizing missing information/spatial relationships

• Trails A – cognitive processing speed

• Trails B – visual search with divided attention

• Delayed Recall – working memory

• Useful Field of View (UFOV®) - visual information processing speed with divided attention
often chosen Incorrectly...

lines cannot be removed

correct!
Which object appeared in the center of the screen?

OR

Car OR Truck
On which spoke did the outside object appear?
MAB RECOMMENDATION

- Qualified to Drive WITHOUT Stipulations
- Qualified to Drive WITH Stipulations
- NOT Qualified to Drive
Aging and Medically At-Risk Drivers in the Workplace: Insight & Resources

Gina Pervall and Nanette Schieke
Maryland Dept of Transportation
Motor Vehicle Administration
www.mva.Maryland.gov/olderdriversafety