


Screening and Management of Age and Medically-Related Driving Impairments


Linda Hill, MD, MPH

UC-San Diego Training, Research and Education for Driving Safety (TREDS)

Clinical Assessment of the Older Patient for Driving Fitness & Physician Mandated Reporting

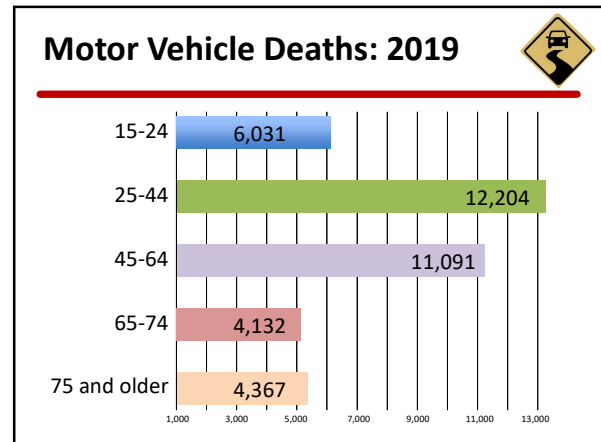
Ryan Moran, MD, MPH
UCSD Division of General Internal Medicine

 CALIFORNIA OFFICE OF
TRAFFIC SAFETY

 TREDS
TRAINING, RESEARCH AND EDUCATION FOR DRIVING SAFETY

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Older Adults and Driving

Older adults often outlive their driving abilities

- Men by 6 years
- Women by 10 years

Driving cessation was found to be associated with significant decreases in quality of life, increased morbidity, and increased mortality:


- Reduced physical and social functioning (Edwards 2009)
- 5 times more likely to be admitted into long term care, even controlling for marital status and co-habitation (Chihuri 2015)
- Increased mortality
- Decline in productive engagement (work, paid, or volunteer) (Curl 2014)
- Twice the risk of depression (Chihuri 2016)

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What About Aging and Driving?

Problems related to age can include

- Reduced vision
- Cognitive impairment
- Decreased strength
- Other medical conditions and medications can impair driving



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Vision Changes with Aging

Reduction in Visual Acuity

- Uncorrectable visual impairment between 65 and 69 is only 1.1%
- 24% of those over 80 years of age are visually impaired after their best correction attempt (Klein 2013)

Reduction in Visual Fields

- Those with visual field loss in both eyes had crash rates two times higher than those with normal visual fields
- Nearly one in seven adults over 65 years of age displayed abnormal visual fields

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Cognitive Impairment

Cognitive impairment is often age-related and under-diagnosed

Alzheimer's dementia prevalence rates rise significantly with age:

- 65 - 74 years: **3%**
- 75 - 84 years: **17%**
- Greater than 85 years: **32%**

Other studies report:

- Only 50% of individuals with Alzheimer's dementia have the diagnosis in the Medicare database
- Outpatient testing protocols only had sensitivity of 0.4 (Borson 2006)

Alzheimer's Association Report 2020

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Reduced Strength and Frailty



Aging can affect strength and frailty due to

- Muscle mass reduction
 - Increase in bone fragility
 - Diseases such as arthritis
- Frailty increases crash risk
 - Seniors are at risk for increased injury compared to younger drivers of similar accidents
 - The passengers with older drivers also tend to be older adults; frail and at increased risk of injury or fatality

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Medical Conditions and Driving



Driving is influenced by other medical conditions

- Cardiovascular
- Neurological
- Metabolic
- Musculoskeletal
- Respiratory
- Psychiatric
- Substance Abuse
- Other Conditions
e.g., Hearing Loss, Cancer, Anesthesia and Post Surgery



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CA License Renewal Policy



Individuals 70 years of age and older

- Must renew license in-person
- License is renewed for **five** years if vision and written tests are passed and there are no signs of cognitive impairment
- A "limited term" license may be issued for one to two years if a medical problem exists but is not severe enough to stop driving (e.g., mild dementia)

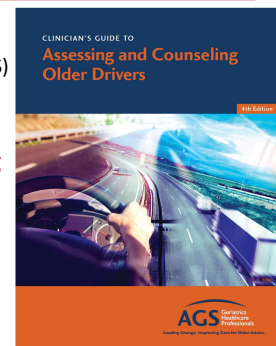
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Clinician's Guide

American Geriatrics Society (AGS)

"Clinician's Guide to Assessing and Counseling Older Drivers"

Quick screening & referral tool



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VISION



Testing for Visual Acuity

- Use the 10-foot Snellen chart or 20-foot Sloan low vision letter chart
- Measure each eye separately, then both together
- Use glasses if worn by patient to get best correctable vision

Impaired Peripheral Vision Results

- Unseen hazard from far left or far right
- Unseen stop light suspended over an intersection
- Weaving while negotiating a curve or driving too close to parked cars



Ralph Larson, 95, takes an eye test while completing a driving test at the Hillcrest DMV.

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STRENGTH



Range of Motion – REQUIRED

- Requires clinical judgment on the degree of impairment; must identify treatable conditions, including arthritis and inadequate pain management

Rapid Pace Walk

- Instruct the patient to walk 10 feet, turn around, and walk back, in 8 seconds or less to pass

OR Get Up and Go

- Patient sits in a straight-backed chair, rises, walks ten feet, returns and sits down. Assessed on scale of 1-5 for slowness, staggering or abnormal movement

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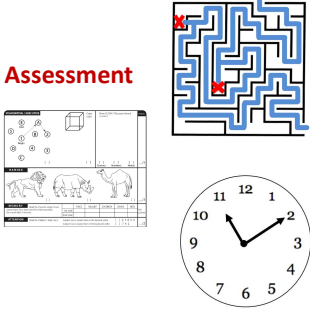
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COGNITION

- **Timed Maze Task**
- **Montreal Cognitive Assessment**
- **Clock Drawing**
- **Trail Making Test**



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Screening Tools

VISION: Conduct tests 1 and 2

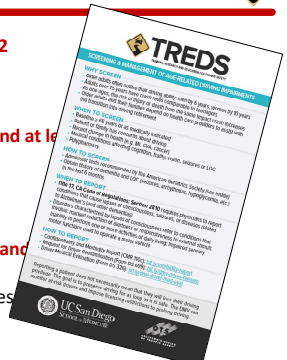
1. Visual Acuity
2. Visual Fields

STRENGTH: Conduct test 1 and at least 2 of 2-4

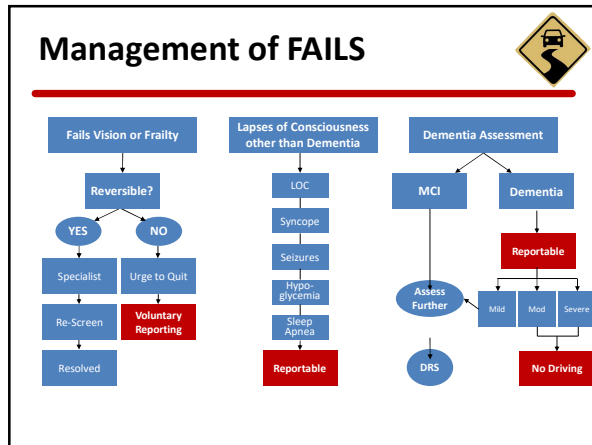
1. Range of Motion
2. Rapid Pace Walk
3. Get Up and Go

COGNITION: Conduct test 1 and at least 2 of 2-4

1. Maze Test
2. Montreal Cognitive Assessment
3. Trail Making B
4. Clock Drawing



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Counseling Older Patients

- Explain the assessment results and the patient's level of functioning
- Involve the patient in the decision-making process
- Develop a plan to involve family and friends
- Address alternative transportation
- Use the term "driving retirement"

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Driving Retirement

- Acknowledge that the patient has suffered a loss
 - If necessary, assess the patient for symptoms of depression and make appropriate referrals
- Explain that driving retirement is for their safety and the safety of others
- Help the patient view the 'positives'
- Discuss possible legal/financial consequences
- Send a follow-up letter to the patient and family

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CA Title 17 Section 2806-2810

"Every physician and surgeon shall report...every patient at least 14 years of age or older whom the physician and surgeon has diagnosed as having a case of a disorder characterized by **lapses of consciousness.**"

Mandatory reporting of conditions that may progress in severity and are associated with 'lapses of consciousness'

- Narcolepsy, Sleep Apnea
- Abnormal metabolic states (e.g. severe hypoglycemia)
- Epilepsy
- Dementia, Alzheimer's Disease
- Brain Tumor
- Syncope

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Provider Liability

- Physicians are considered negligent if they do not inform patients of medications and medical conditions that can impair driving
 - Physicians may be held liable for civil damages if they clearly failed to report an impaired driver who causes a MVC
 - Immunity is granted to the physician if the patient is reported prior to an MVC
- Document all referrals, recommendations, conversations, and reports (e.g., copy of a driver retirement letter and "do not drive" prescription)



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Litigation Against Physicians

Three California cases against physicians who failed to report a patient for Lapse of Consciousness: each unreported patient later experienced an episode while driving that resulted in a death or injury to occupants of other cars

- The first case resulted in a plaintiff verdict of 1.9 million dollars and litigation expenses exceeding \$900,000
- The second case was settled for \$475,000 (along with \$73,000 in expenses)
- The third case was dismissed, but legal expenses were in excess of \$179,000

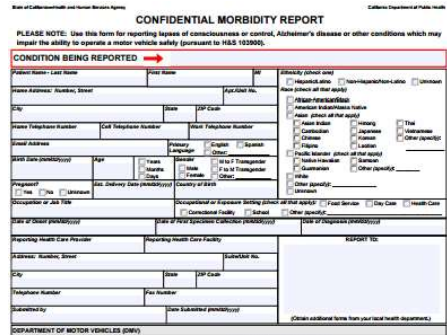
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Reporting Responsibility

- ED Physician: often the first person to see someone with a lapse in consciousness
- Hospitalist: may be the first get a history of recent lapse in consciousness when that is not the presenting complaint
- Primary Care/Specialist: more likely to have contact with patient, and have a detailed history

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CMR Form 110c



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DMV Form DS699

REQUEST FOR DRIVER REEXAMINATION

INSTRUCTIONS:

- Complete this form if you wish the Department of Motor Vehicles (DMV) to reevaluate a driver's ability to drive safely.
- Sign this request in the signature block provided. Anonymous reports will not be considered unless you are an immediate family member. You may request that your name not be revealed to the individual being reported. Confidentiality will be honored to the fullest extent possible.
- Take your completed request to any DMV office or mail to: DMV, Driver Safety Office (see addresses below for your local office.)

NAME OF PERSON BEING REPORTED (PRINT NAME, LAST, FIRST, MIDDLE INITIAL) Calvin Californian
 BIRTHDATE (MM/DD/YYYY) 01-01-1923
 HOME TELEPHONE NUMBER (AREA CODE) (619) 555-2222
 VERIFIED LOCAL PHONE NUMBER (IF AVAILABLE)
 ADDRESS (STREET, CITY, STATE, ZIP CODE) 1234 Rural Route Road San Diego CA 92000

DRIVER'S CONDITION—Check all appropriate boxes below. Please use the space below to provide specific details, if known, about the driver's medical (physical or mental) condition such as name of disease or illness, any medications taken, etc.

DRIVER BEHAVIOR—Check appropriate boxes for driving problems you have observed. (Use space below if needed for additional comments.)

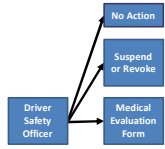
You may use the space below to further describe the driver's condition or behavior which lead you to believe this driver should be reevaluated by DMV. *Driving poses a serious safety risk to the patient due to...*

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Report Made to DMV

Driver Safety Officer (DSO) may

- Take No Action
- Suspend or Revoke License (effective four days from mailing notice)
- Provide Medical Evaluation Form (due within 7-21 days)

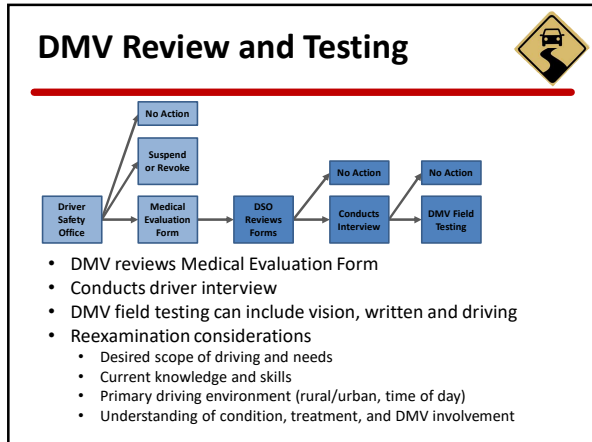


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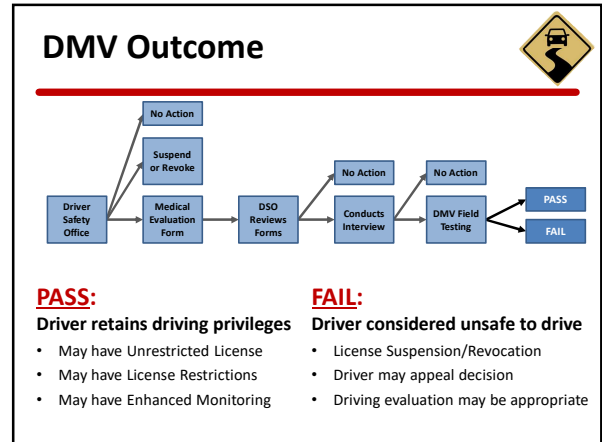
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Online Tutorial

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tredsims.ucsd.edu

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Resources at treds.ucsd.edu

Health Professionals
Screening patients for conditions that affect driving

[READ MORE](#)

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Training Videos from TREDS

- Counseling and Referral
- Driving Rehabilitation Specialist
- Physician Mandated Reporting of Drivers in California
- Clinical Screening and Assessment
- Physician Mandated Reporting of Drivers in California

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Pocket Guides for Clinicians

- Screening & Management of Age-Related Driving
- Medications and Driving
- Cannabis & Driving
- A Guide for Clinicians and Drivers
- Regulatory and Reporting of Drivers in California

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Options and Opportunities for Concerned Older

- **Adults Driving Instructors**
 - Can identify bad habits and offer tips for safer driving
- **Driver Rehabilitation Specialist**
 - Evaluate driving skills, Provide retraining, Prescribe adaptive equipment
 - Often not covered by insurance
- **Senior Driver Ombudsman**
 - Often works with people with disabilities, strokes, head injuries, etc.



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TREDS Older Driver Program




DRIVE SAFER
DRIVE LONGER

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AAA Foundation LongROAD Study

Purpose: To understand and meet the safety and mobility needs of the nation's growing population of older adult drivers



LongROAD Study Sites

- **Prospective cohort**
 - Age 65-79 at baseline
- **Multisite**
 - CA, CO, MI, NY, and MD
- **In-vehicle data recording device**
- **Longitudinal**
 - Baseline assessment
 - Annual follow up (in-person and phone)

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Thank You!

Training, Research and Education for Driving Safety

University of California, San Diego
9500 Gilman Dr. #0811
La Jolla, CA 92093-0811

Tel: (858) 534-8386
Fax: (858) 534-9404

Website: treds.ucsd.edu
Email: treds@ucsd.edu

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