Evaluation of the Elderly Driver

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Facts Regarding Elderly Drivers

• There are 35 million Americans 65 and over (13% of the US population)

• Expected to double by 2030

• Drivers 55 and over comprise 28% of the population
  (Pellerito, 2006)
Accidents and Elderly Drivers

• 7000 elderly drivers die in accidents each year. This number has increased by 39% in the last 10 years
• Car accidents are the leading cause of accidental deaths for people 65-74 years old
• Drivers 75 and older experienced accidents at a rate second only to new drivers
Risk Factors with Elderly Drivers

• Chronic or new medical conditions secondary to injury, illness or the aging process often result in decreased cognition, movement, vision and hearing with decreases and individual’s ability to drive safely
Cognition

• Dementia is the most common cognitive impairment
  – 11.6% in people 65 and over
  – 47.8% in people 85 and over

• Stroke is another contributing factor
  – 58% don’t resume driving secondary to residual cognitive affects
Physical Abilities

• Aging leads to decreased:
  – Strength
  – Coordination
  – Reaction time
  – Range of motion
  – Trunk mobility
Sensory Condition

• Hearing Deficits
• Sensation/numbness
• Changes in vision
  – Cataracts
  – Glaucoma
  – Macular degeneration
  – Diabetic changes
  – Neglect after a CVA
Why Do a Driving Evaluation

• A physician may request an evaluation after a medical setback

• If a doctor has been asked to fill out paperwork from the DMV they usually will have an evaluation done prior to filling out that paperwork

• The DMV may require a medical evaluation prior to being eligible for license renewal/testing
Reason for Referral (con’t)

• To help family feel better
• To avoid lawsuits
• Receive recommendations about driving safely longer
  – Adaptive equipment
  – Only during daylight hours
  – Specific geographical locations
  – Drivers training
Driver Evaluation Programs

• Association of Driver Rehabilitation Specialists (ADED)
  – Provide measurement of a standard of current knowledge desirable for individuals practicing driver rehabilitation
  – [www.driver-ed.org](http://www.driver-ed.org)
    • Membership directory
    • CDRS Directory
Evaluation Process
Clinical Portion

• Intake
  – Past medical history
  – Driving history
  – Reason for referral
  – Driving goals
  – Medications
Clinical Eval (cont)

• Visual testing
  – Far acuity
  – Phoria
  – Depth perception
  – Peripheral vision/total arch of vision
  – Color vision and near acuity only for CDL

• Road signs and related question
Clinical Eval (cont)

• Trail making part A and B
  – Used to assess ability to multitask information

• Motor Free visual Perception Test (MVPT)
  – Spatial relationships
  – Visual discrimination
  – Figure-ground
  – Visual memory
  – Visual closure
Clinical Eval (cont)

• Mini-Mental State Examination
• Montreal Cognitive Assessment (MoCA)
  – Visuospatial
  – Memory
  – Attention
  – Language/abstraction/delayed recall
• Doron Driving Simulator
  – Reaction time
  – Cue recognition
  – Threat recognition
  – Crash avoidance
On the Road Assessment

• Areas assessed:
  – General operation of the vehicle, control of the vehicle in the lane while in motion, use of turn signals and turn bays, making turns and checking the blind spot, speed control while driving, the ability to initiate and make stops in an appropriate amount of time and the ability to make safe lane changes
On the Road (con’t)

– They are also tested in overall judgment when driving, knowledge of rules of the road and the ability to follow through with the rules of the road

– The route attempts to simulate their goals and challenge any potential deficits noted.
Possible Recommendations

• Driving without restriction
• Restricted driving recommended
  – Distance -Demographic area
  – Speed -Adaptive equipment
  – Daylight only
• Driver training
• Driving not recommended
• Follow up evaluation
Composition of Patient’s Evaluated

- Cognition: 24%
- Stroke: 20%
- Head Injury: 15%
- Other: Musculoskeletal: 9%
- Other: Neurological: 15%
- Congenital: 6%
- Spinal Cord Injury: 5%
- Mental Illness: 5%
- Misc: 1%
- CC: 0%
Stroke

- Pass
- Fail
- Restricted Driving
- Training
Other: Neurological

- Pass
- Fail
- Restricted Driving
- Training
Other: Musculoskeletal

- Pass
- Fail
- Restricted Driving
- Training
Warning Signs

- Feeling nervous or fearful while driving
- Dents and scrapes on the car (garage, fences, mail box, etc.)
- Friends or relatives don’t want to ride with them
- Other drivers honking
- Easily distracted
- Doesn’t observe signs, signals or other traffic
- Needs instruction from passengers
- Slow or poor decision making
Warning Signs (con’t)

- Easily frustrated or confused
- Frequently gets lost, even in familiar areas
- Inappropriate driving speeds (too fast or slow)
- Poor position or wide turns
- Slowed reaction times
- Reports of near misses
- Drifting across lane marking
Driving Resources

• National Highway Traffic Safety Administration (www.nhsta.dot.gov)
  – Offers info about traffic safety
  – Physician’s Guide to Assessing and Counseling Older Drivers

• Nebraska Department of Roads (www.nebraskatransportation.org/intermodal/transit-dir/index.htm)
  – Information on the transit directory for the state of NE broken down into 93 counties
Resources (con’t)

• www.seniordrivers.org
  – AAA Foundation for Traffic Safety
  – Measuring driving skills
  – Keeping safe and driving longer
  – Planning for continued mobility when you can no longer drive

• Occupational Therapy and Driving
  – www.aota.org/olderdriver/

• Association for Driver Rehabilitation Specialists
  – www.driver-ed.org
References


• Pellerito, Joseph Michael, Jr., *Driver Rehabilitation and Community Mobility*. Mosby, Inc., St. Louis, MO. 2006

• www.aarp.org