MARYLAND DEPARTMENT OF TRANSPORTATION
MOTOR VEHICLE ADMINISTRATION

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

CHESAPEAKE REGIONAL SAFETY COUNCIL
WEDNESDAY WEBINARS
WEDNESDAY, MAY 27, 2020

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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

Elvis Costello

Ron Howard

John Travolta

Condoleezza Rice

Al Roker

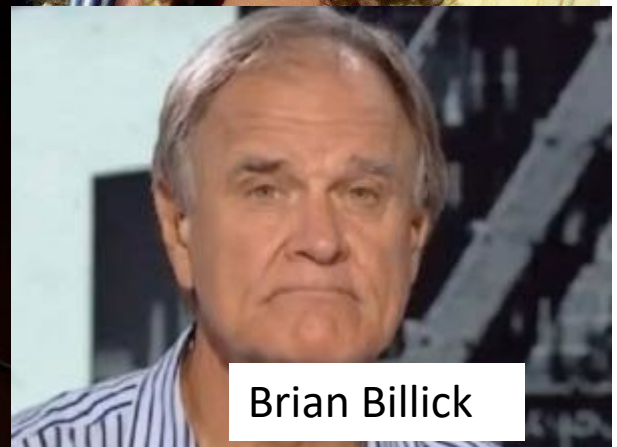
Jackie Chan

Oprah Winfrey

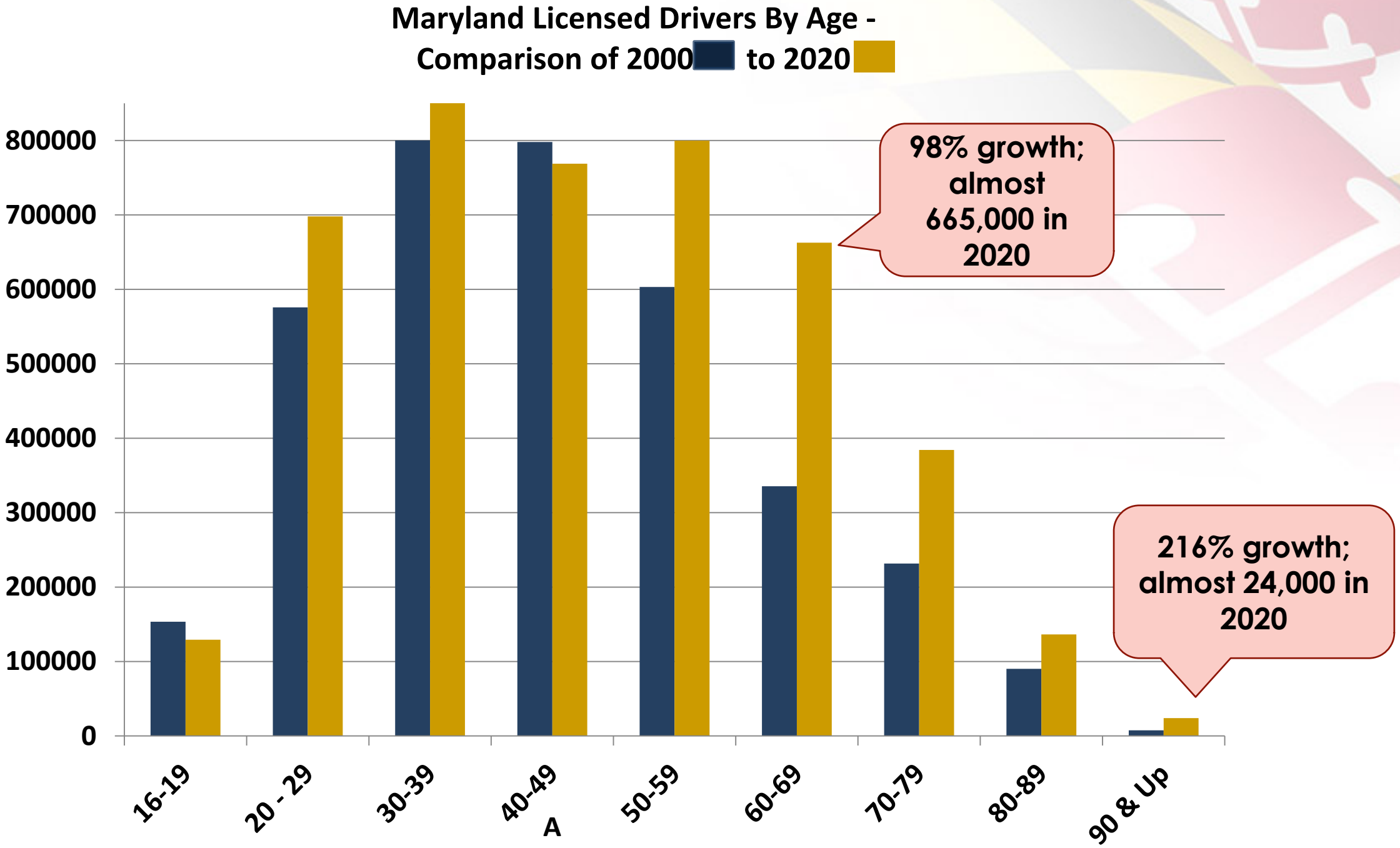
Jerry Seinfeld

Ray Liotta

Denzell Washington


Brian Billick

Dennis Haysbert


Maryland Licensed Drivers By Age -
Comparison of 2000 to 2020
800000
700000
600000
500000
400000
300000
200000
100000
0
16-19
20 - 29
30-39
40-49
A
50-59
60-69
70-79
80-89
90 & Up
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

Constantly making snap decisions

Judging time & distance

Comparing what you see with past experiences

Guessing what other drivers will do

Prioritizing visual images

Juggling competing tasks

Recalling the directions to your destination

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

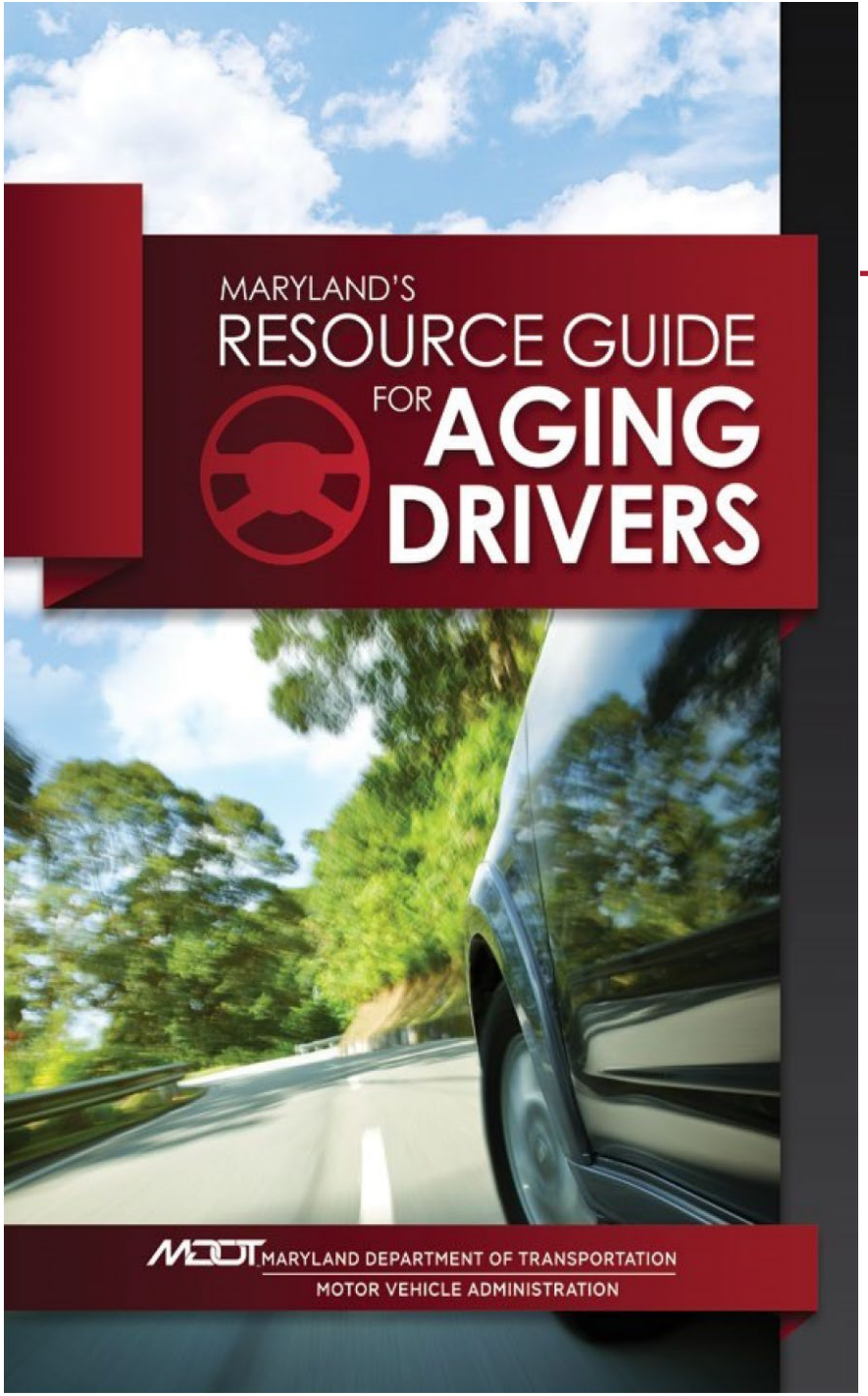
85% with medical reviews kept their license

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

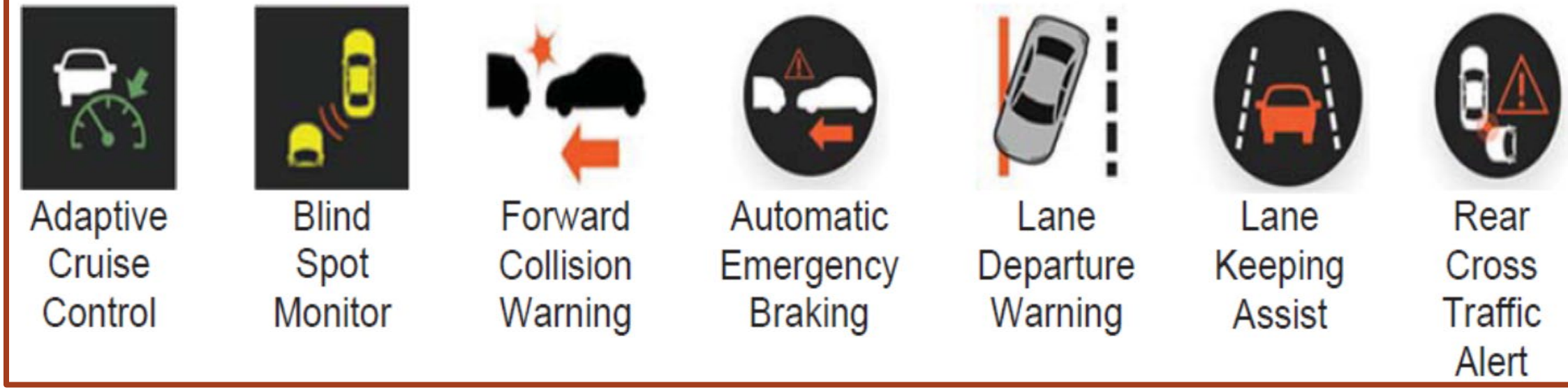


MARYLAND'S RESOURCE GUIDE FOR AGING DRIVERS

- 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

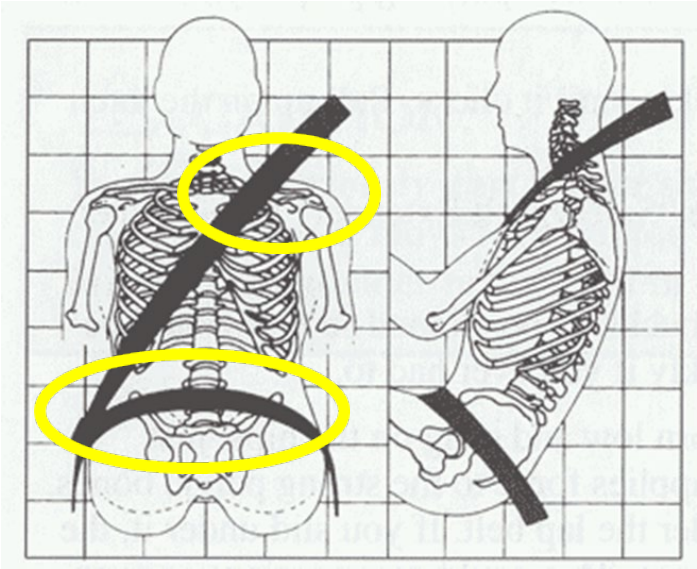


- Drivers didn't learn to drive on cars equipped with ADAS
- Safety features with different brand names among mfgs
- Phrasing may give false impression - leads to over-reliance
- Not always clear to driver when systems disengaged / disabled

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

PROPER MIRROR POSITION

CarFit

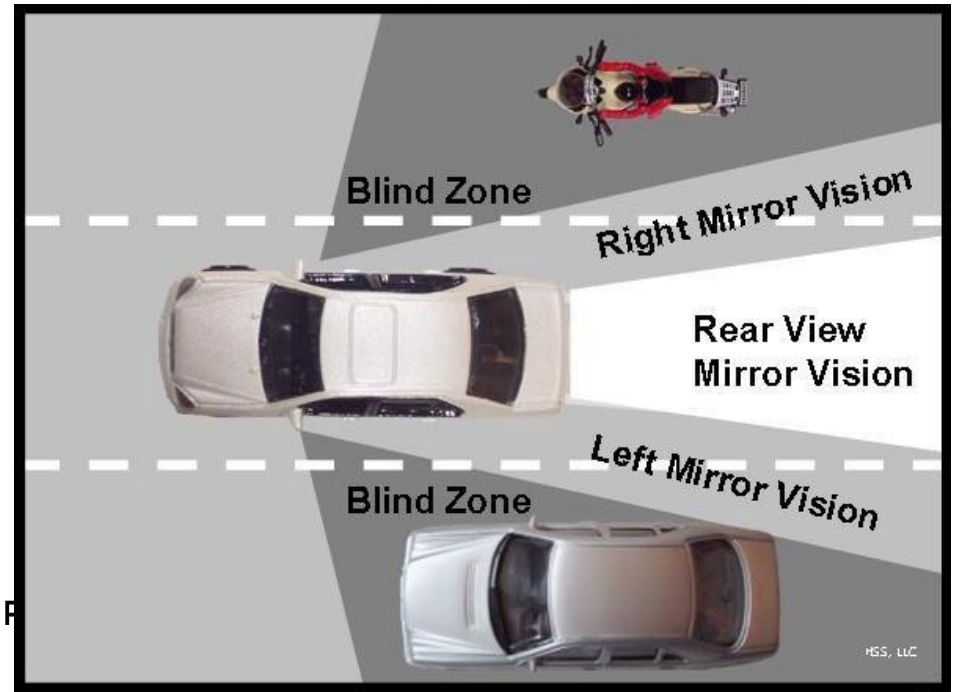
Helping Mature Drivers Find Their Safest Fit

AOTA The American Occupational Therapy Association, Inc.

AAA

AARP DRIVER SAFETY

POSITION OF HEAD RESTRAINT



TRANSF

Driving Continuum – Network of Resources

Driver Wellness
Education Refreshers
Brain / Physical Fitness
CarFit
Driving "Buddy"

Plan for future changes before it becomes a concern

Major life change
Medical issue/surgery
Traffic ticket or crash

MDOT MVA
Medical
Review

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

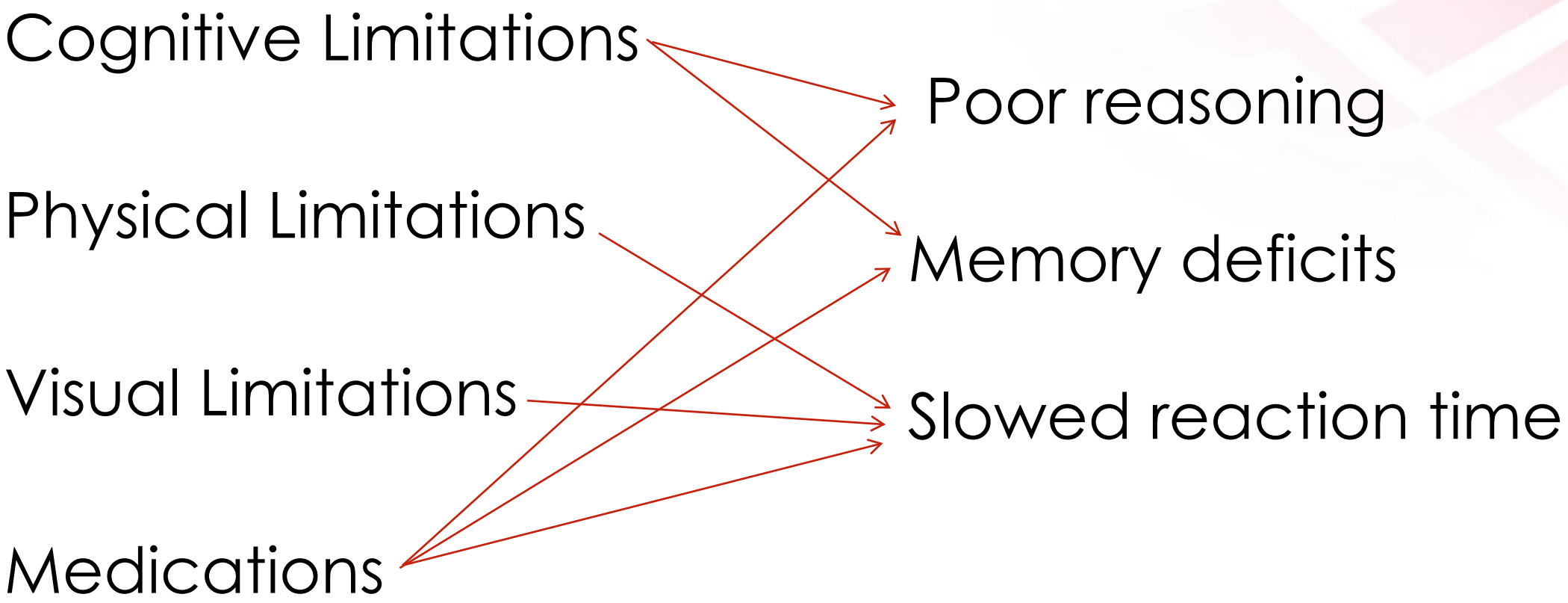
Family Conversations

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

MEDICALLY FIT DRIVER

- Ability to: Reason, Remember, React
  - Anticipate safety hazards
  - Make prompt and proper decisions
  - Take action to avoid crashes

MEDICAL RISK FACTORS



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 vison 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

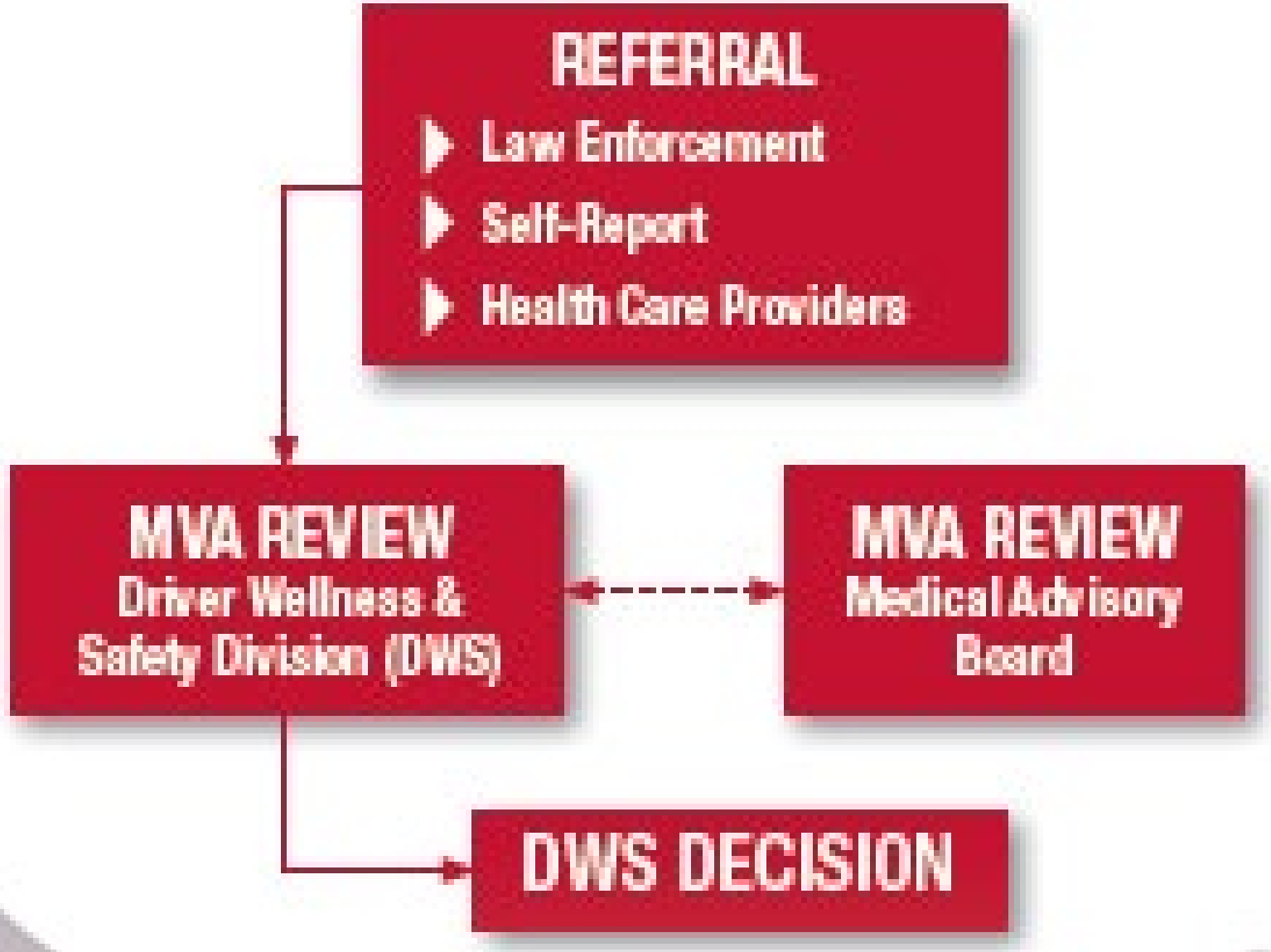
MARYLAND REPORTABLE CONDITIONS

- 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



MEDICAL ADVISORY BOARD

- 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

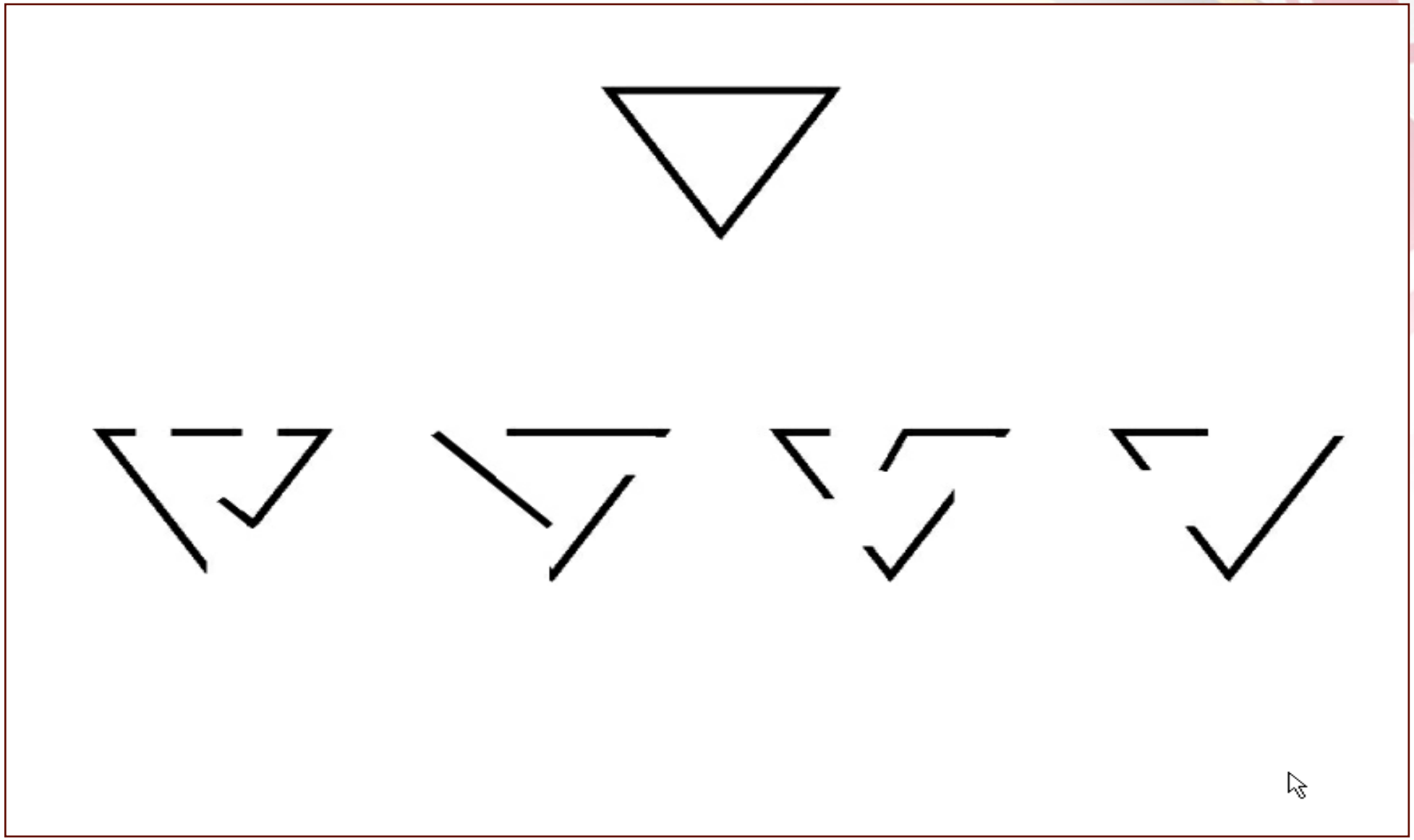
- Advises Driver Wellness and Safety Division
  - Nurse Case Reviewers
    - Triage referrals
    - Impose restrictions
    - Periodically monitor
  - Reinstatement Unit (alcohol/drug reviews)
  - Ignition Interlock Unit

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)

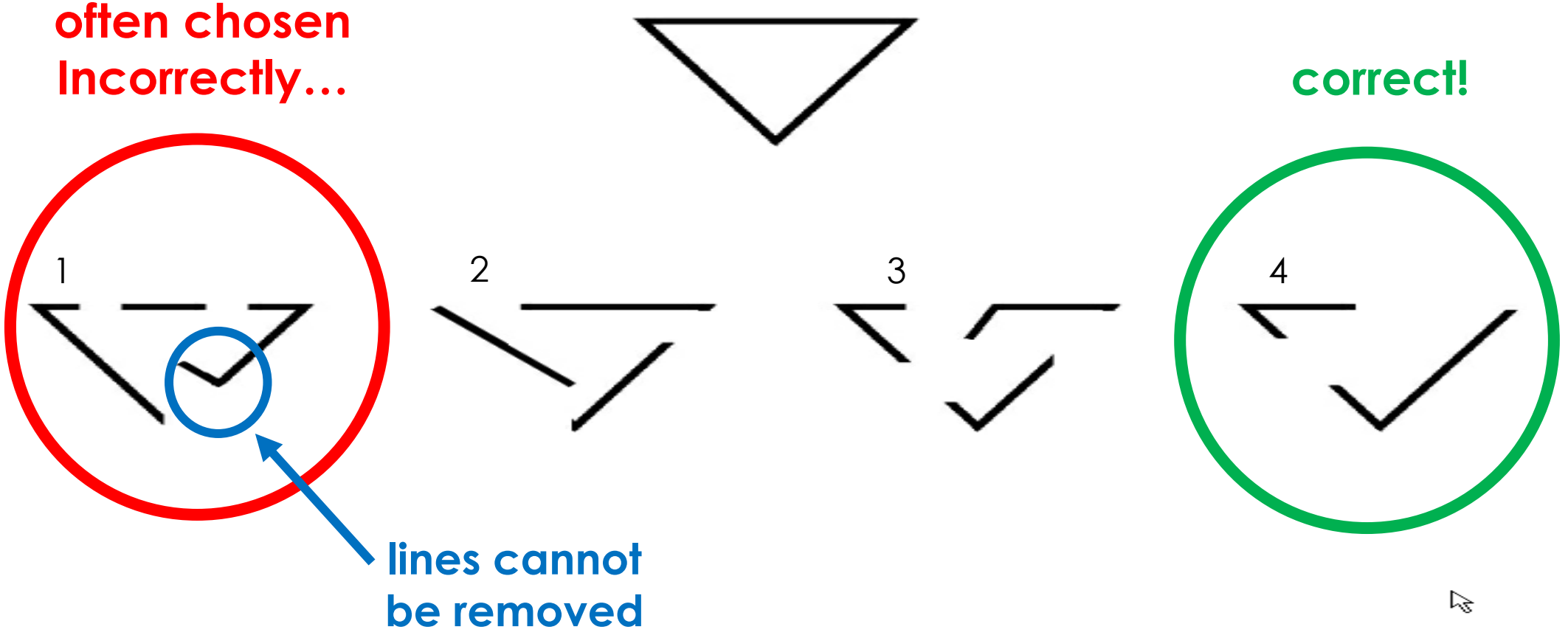
FUNCTIONAL CAPACITY TEST

- 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

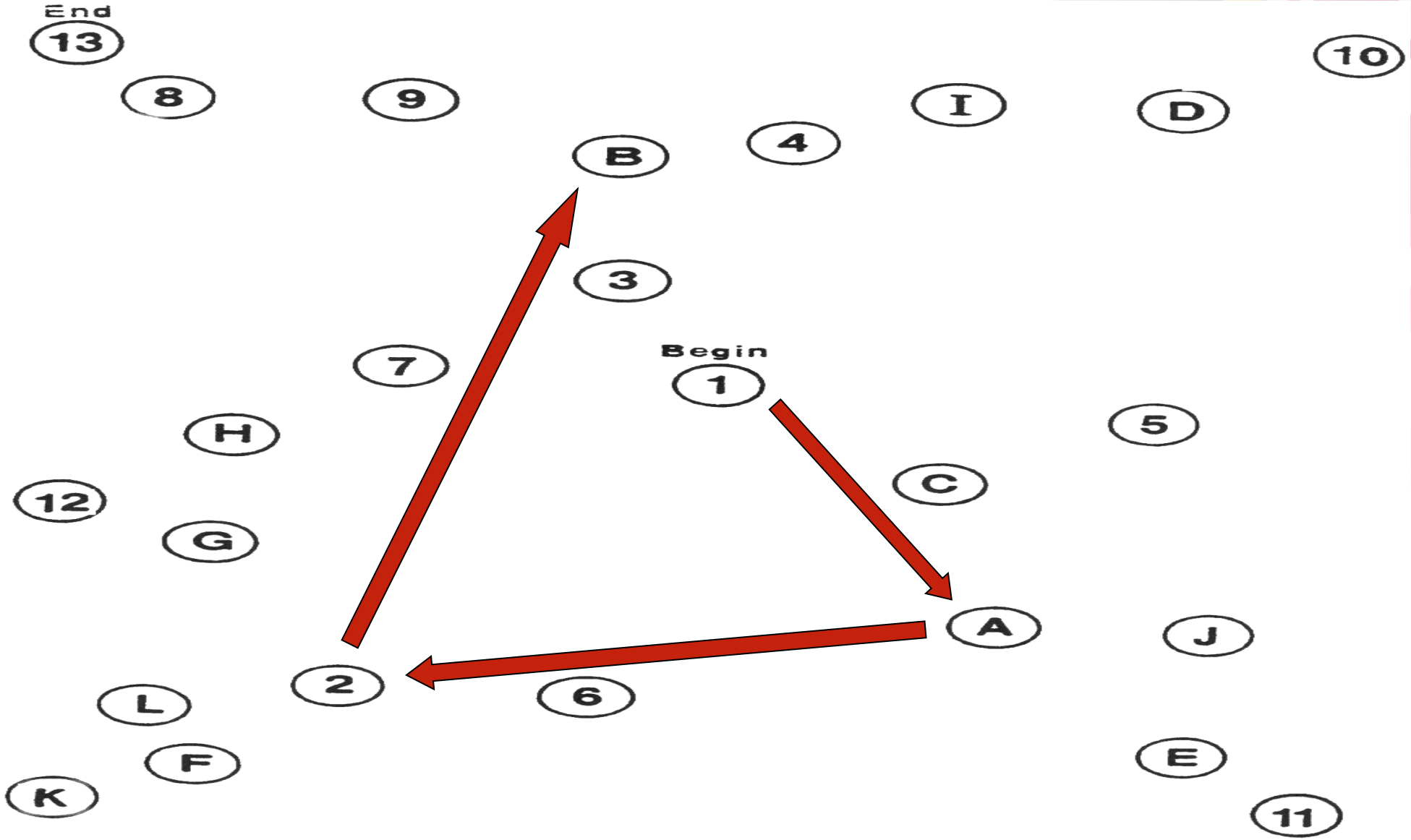


MVPT

often chosen
Incorrectly…



correct!

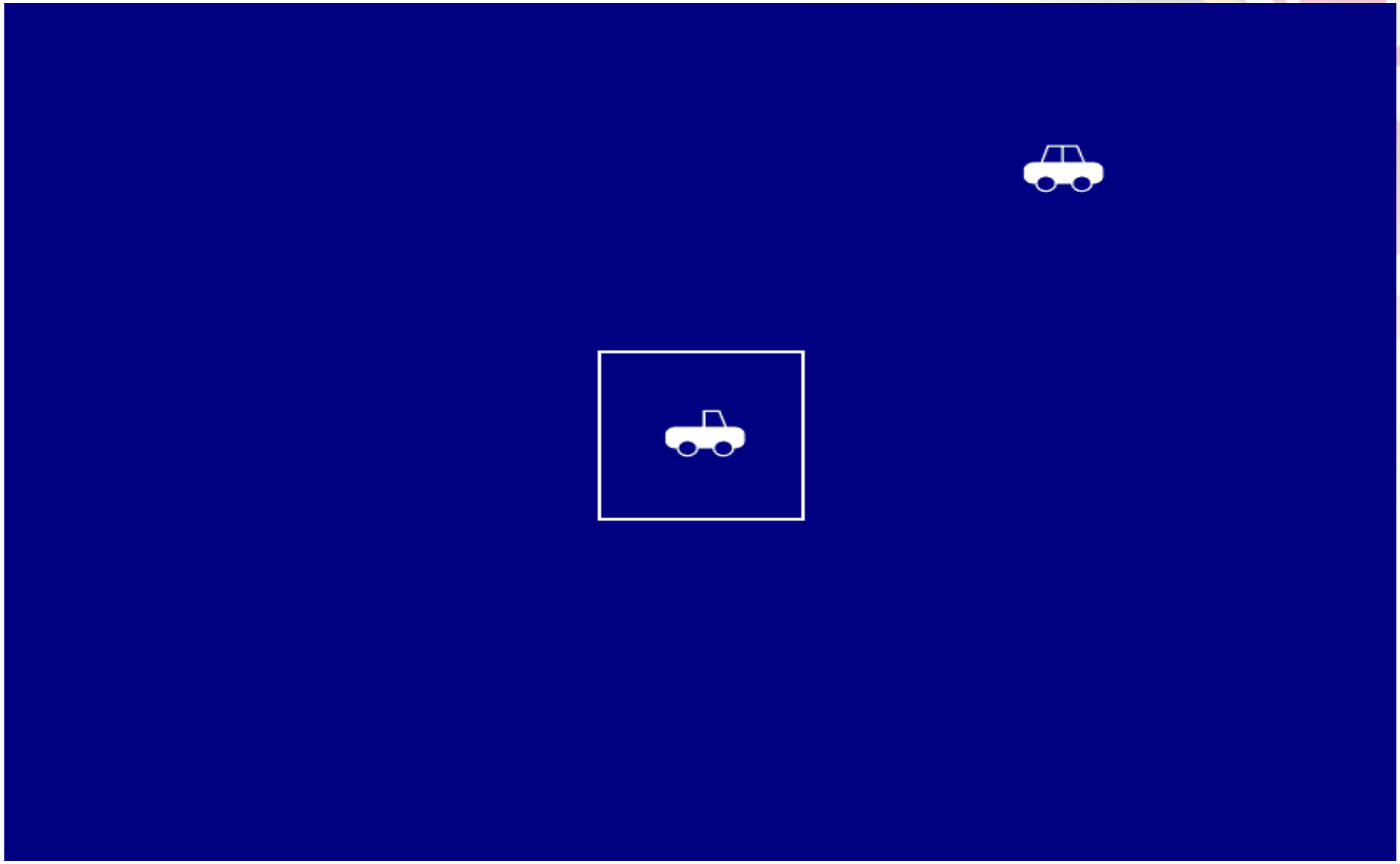

End
13
10
8
9
I
D
4
B
3
7
Begin
1
H
5
C
12
G
A
J
2
6
L
F
E
K
11

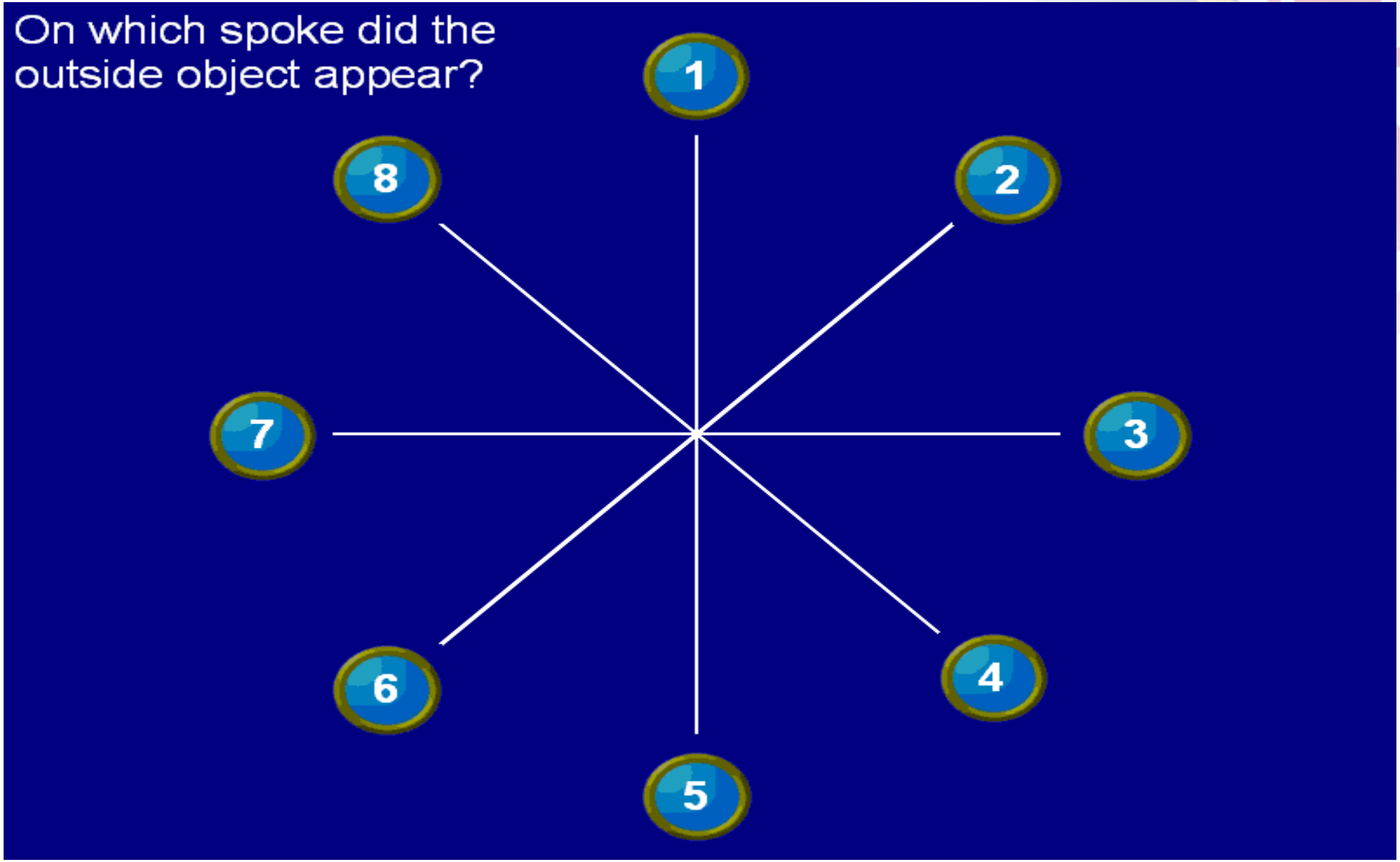
Which object appeared in the center of the screen?

OR

Car

Truck




On which spoke did the outside object appear?
1
2
3
4
5
6
7
8

MAB RECOMMENDATION

- Qualified to Drive WITHOUT Stipulations
- Qualified to Drive WITH Stipulations
- NOT Qualified to Drive

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