



MOTOR VEHICLE
ADMINISTRATION

Driving with Parkinson's Disease

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MDOT MVA

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Disclosure

I have no financial interest or affiliation with any entity producing, marketing, re-selling or distributing healthcare goods or services consumed by, or used on patients.

Objectives

- **Identify “at-risk” drivers with Parkinson’s Disease**
- **Understand MVA’s review process for medically at-risk drivers**
- **Understand recommendations for driving**
- **Resources**

Maryland Drivers

- **Maryland has more than 4.3 million licensed drivers**
- **Largest group of licensed drivers is 50 – 59 years old**
- **More than 17% of Maryland drivers are 65 years & older**



Medically Fit Driver

A safe driver has the ability reason, remember, and react quickly to any driving hazard, or to avoid a collision.

Warning Signs of Unfit Driver

- **Getting lost**
- **Not observant**
- **Accidents/Near misses**
- **Drifting across lanes**
- **Slow to make decisions**
- **Poor distance judging**
- **Driving too fast/slow**
- **Parking difficulties**

Medical Risk Factors

- **Physical/Functional Limitations**
- **Mental/Cognitive Limitations**
- **Visual Impairments**
- **Impairing Medications**

PD & Driving Disruptions

Physical Impairments

- **Bradykinesia
(slow movements)**
- **Rigid movements**
- **Tremor**
- **Poor coordination**
- **Decreased reaction time**
- **Reduced accuracy**



PD & Driving Disruptions Cognitive Impairments

- **Difficulty in making decisions**
- **Inability to think clearly**
- **Lack of concentration**
- **Dementia**



PD & Driving Disruptions

Visual Impairments

- **Decreased contrast sensitivity**
 - Inability to distinguish between objects and their background
 - Affects vision in low light (nighttime and glare)

PD & Driving Disruptions

Medications

- **Levodopa**

- Motor fluctuations (“on” and “off” periods)
- Dyskinesia (40%)

- **Dopamine agonists**

- Daytime sleepiness (22%)
- Sleep attacks (30%)

Driving Errors with PD

- **Poor lane control/lane changing**
- **Driving at inappropriate speeds**
- **Late braking**
- **Poor negotiation of intersections**
- **Poor parking in reverse**



PD & Predictors of Increased Crash Risk

- **Duration/Stage of disease**
- **Older age**
- **Slowed brake reaction time**
- **Cognitive impairment**

Parkinson's Disease and Driving Ability

Singh, et al. 2006

- **154 individuals with PD**
 - Stage 1 – 59, Stage 2 – 55, Stage 3 – 40
- **Percent suitable to drive with PD ONLY**
 - Stage 1 – 100%; Stage 2 – 86%; Stage 3 – 33%
- **Percent suitable to drive with PD and another medical condition**
 - Stage 1 – 93%; Stage 2 – 56%; Stage 3 – 0%

MVA Medical Review

- **Multidisciplinary Approach**
 - Nurse Case Manager
 - Medical Advisory Board
 - Physician's Reports
 - MVA Testing
 - OT/Driver Rehab Assessment

MVA Functional Capacity Test

- **Rapid walk** - lower limb mobility
- **Useful Field of View (UFOV[®])** - divided attention
- **Delayed Recall** - memory
- **Motor Free Visual Perception Test (MVPT)** - spatial relationships
- **Trails B** - visual search and sequencing, information processing speed, attention switching

Useful Field of View (UFOV®)

Which object appeared in the center of the screen?



OR

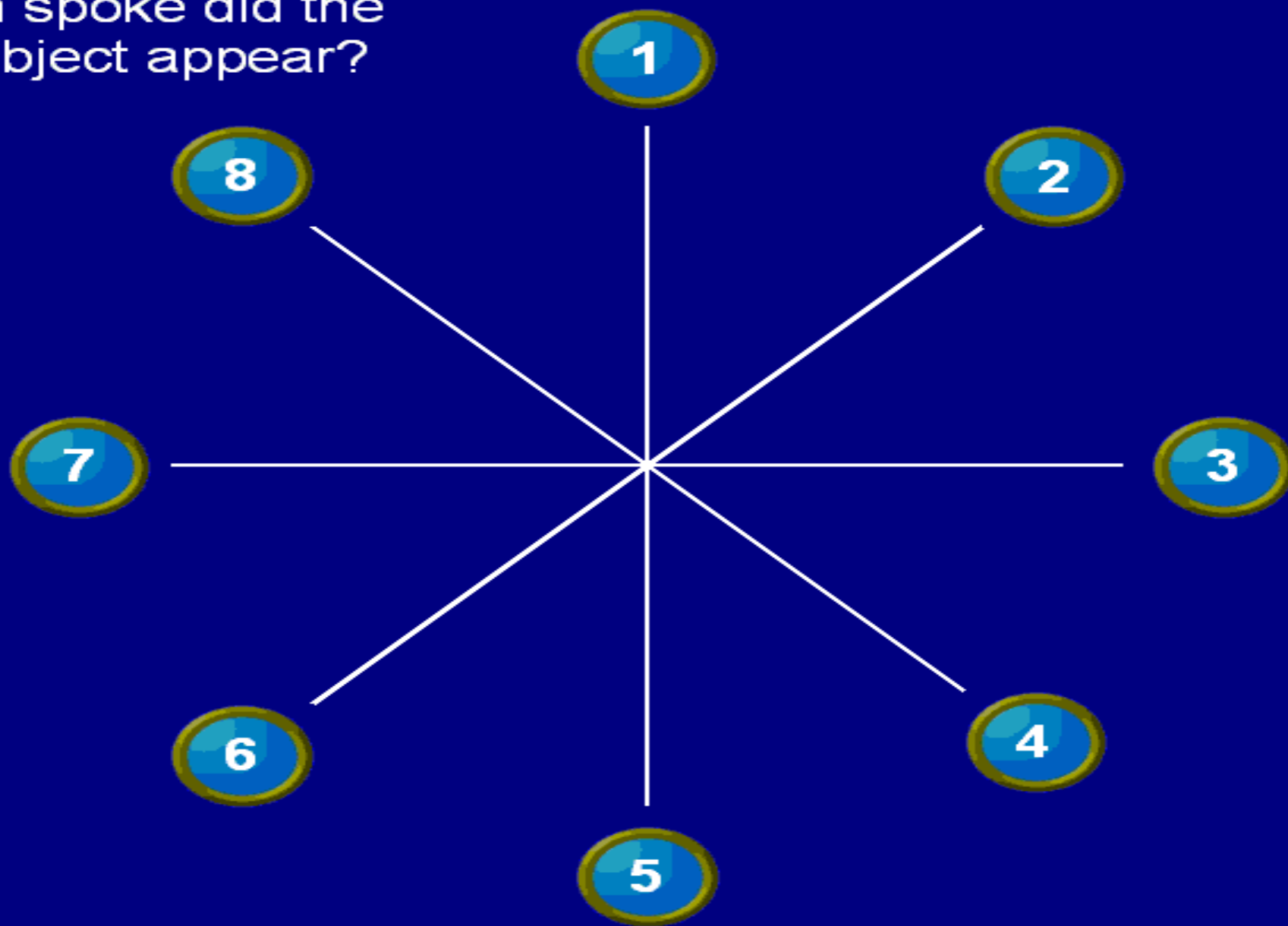


Car

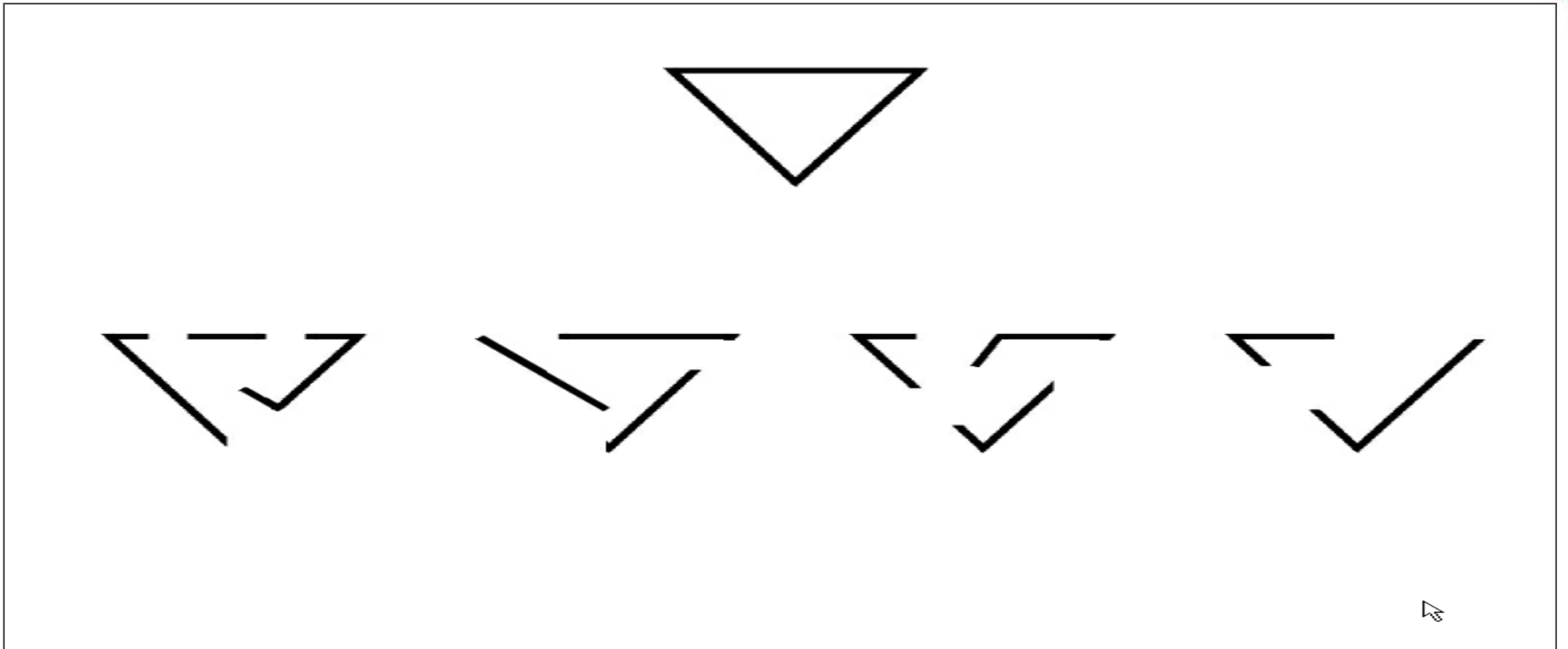
Truck



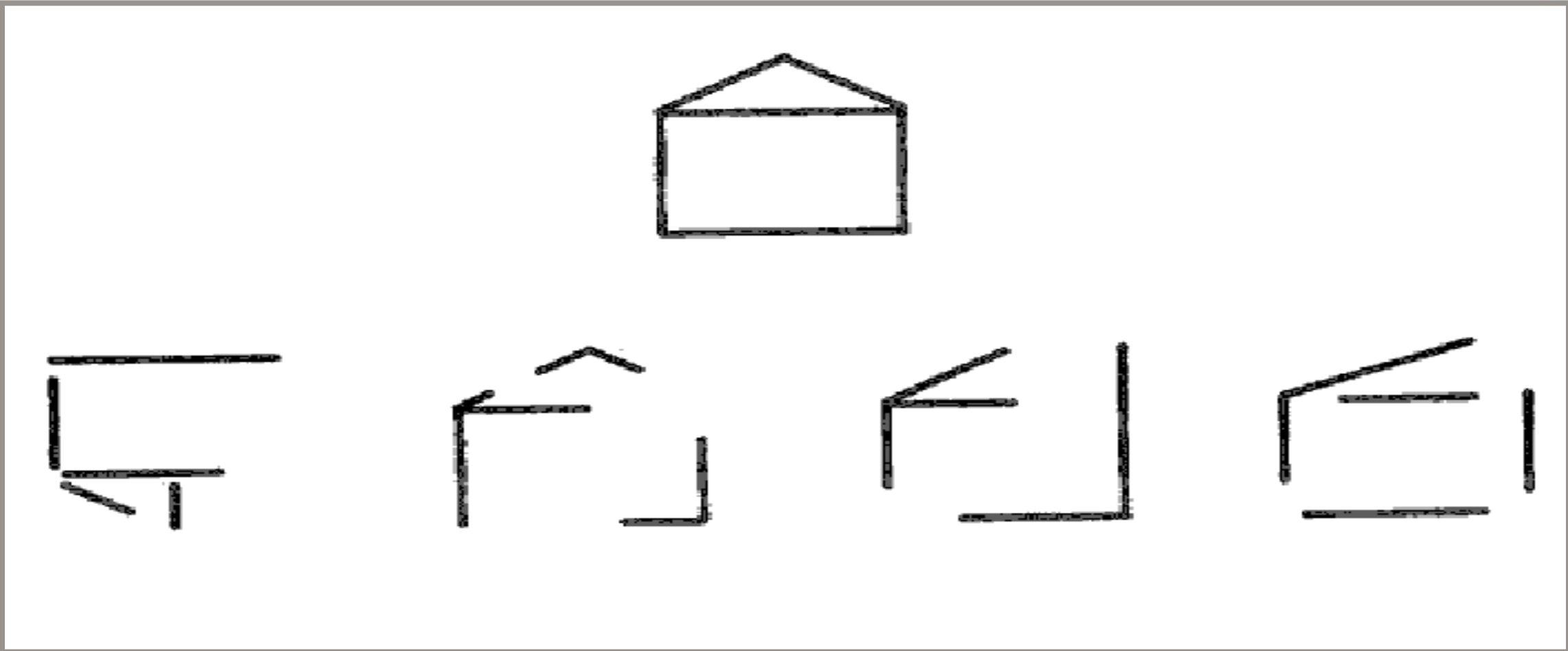
On which spoke did the outside object appear?



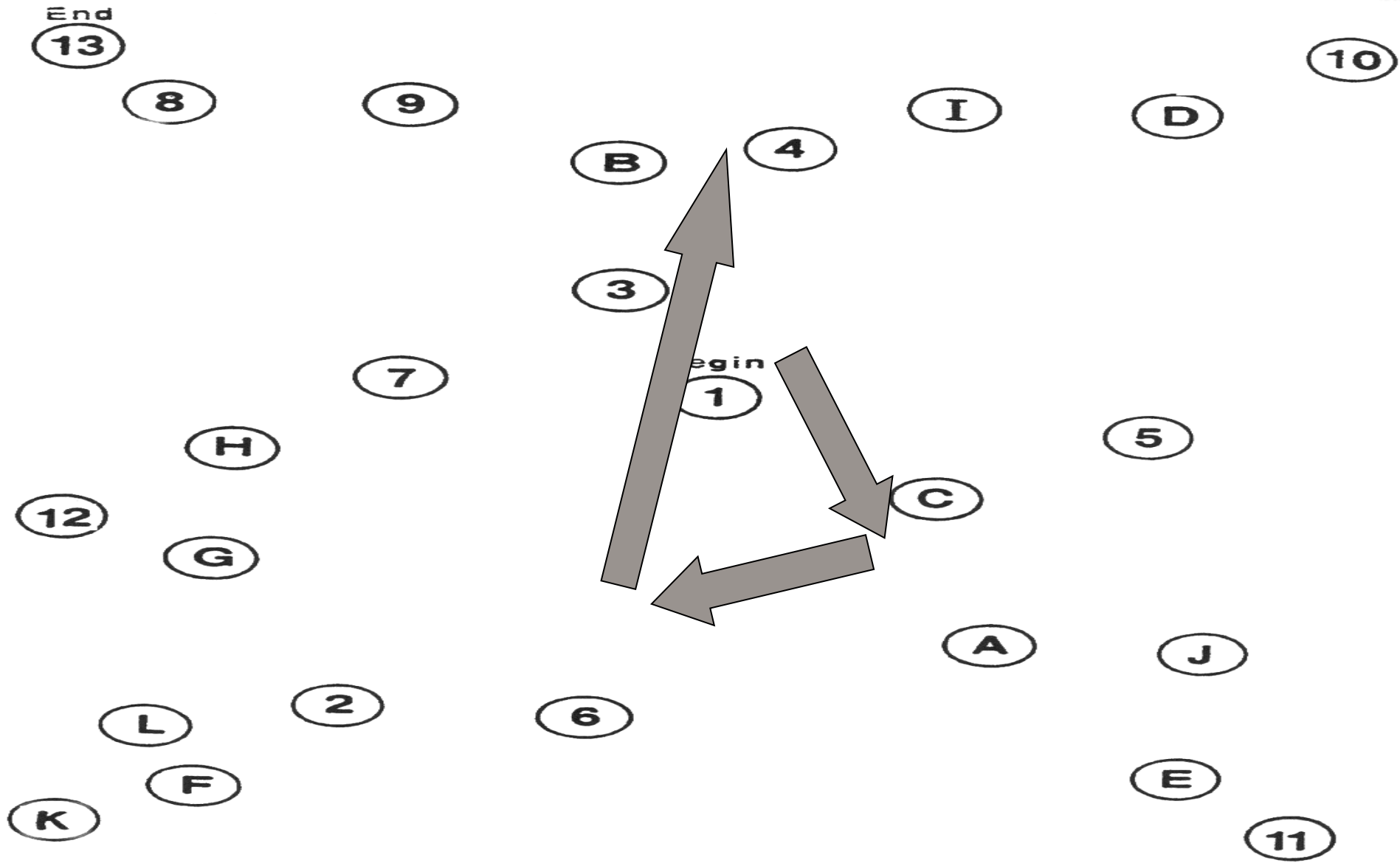
Motor Free Visual Perception Test



Motor Free Visual Perception Test



Trails B



OT/Driver Rehab Assessments

- **Clinical Evaluation**
 - Medical History
 - Physical Functioning
 - Cognitive Functioning
- **Behind-the-Wheel Evaluation**
 - Objective Clarification
 - Immediate Feedback
 - Guidance

FCT Results

- **No Deficit**
 - No further testing/MVA Drive Test
- **Mild Deficit**
 - MVA Drive Test
- **Moderate - Severe Deficit**
 - OT/Driver Rehab

OT/Driver Rehab Report

- **No Deficits**
- **Driving Deficits with Potential to Compensate**
 - Retraining
 - Vehicle modification
 - Geographical restriction
 - Daylight only driving
- **Retire**

Medical Advisory Board (MAB) Review

- **Medical Information**
 - Physician report, LOC affidavit, treatment report, etc.
- **MVA Screening/ Testing**
 - Functional Capacity Test (FCT), Vision, Law, Drive Test
- **Referral Reports**
 - OT/Driver Rehab Assessment



MAB Recommendation

- **Qualified to Drive WITHOUT Stipulations**
 - Approved for driving and case closed.
- **Qualified to Drive WITH Stipulations**
 - Approved with restrictions, adaptive equipment, periodic monitoring.
- **Not Qualified to Drive**
 - Temporary/permanent suspension of driver's license.

Resources

Driver Assessments: at Home, the MVA, & by Professionals

<http://www.mva.maryland.gov/safety/older/driver-self-assessment-tools.htm>

Functional Capacity Test Screening

<http://www.mva.maryland.gov/safety/older/fct-screening.htm>

Maryland Access Point

<http://aging.maryland.gov/accesspoint/Pages/default.aspx>

Safety for Older & Medically At-Risk Drivers

<http://www.mva.maryland.gov/safety/older/older-driver-safety-safe-mobility.htm>

Maryland

MD PROUD