American Academy of Physician Associates

Alzheimer's Disease and Driving

There is, perhaps, no more emotionally charged topic among older adults—with or without dementia—than their ability and right to continue driving. Driving represents independence, and very few adults are willing to give up their independence without resistance. Add on to this a lack of insight and awareness of one's progressive neurodegeneration, cognitive impairments, and neuropsychiatric symptoms, including agitation and aggression associated with a diagnosis of Alzheimer's disease (AD)—and you have a recipe for a challenge!

- It isn't the direct responsibility of primary or specialty care clinicians to provide the final determination as to whether one's patient with Alzheimer's disease should be allowed to drive.
- However, the clinician's judgment is one of the factors taken into consideration during the evaluation by the Division of Motor Vehicles (DMV).
- Each state has its own laws regarding driving with dementia and whether the patient's physician is required to notify the DMV regarding the patient's diagnosis.
    - Clinicians must be aware of their state's reporting requirements for themselves and for their patients.
    - Auto insurance providers often need to be informed of a diagnosis of AD.
    - At some point, all DMVs will require patients to take a driving test to assess their continued ability to drive.
- Patients in the early stages of Alzheimer's disease can likely continue to drive.
- There does come a time—often within a few years of being diagnosed—when it is no longer safe for patients to remain behind the wheel.
    - Oftentimes, care partners* raise their concerns about a patient's ability to continue driving[1].
    - Care partners often seek help from the clinicians about how to proceed.
- Patients are often very resistant to and defensive about discussions regarding their driving.
- Evidence demonstrates that, compared with healthy controls, drivers with dementia:
    - Are more likely to fail a driver's test than normal controls[2]
    - Perform worse than cognitively normal drivers on driving assessments
    - Demonstrate poor speed maintenance and lane maintenance
    - Have difficulties managing intersections
    - Have a poor response to traffic stimuli[3]
    - Have potentially higher rates of motor vehicle collisions[2]
- Older adults appear open to discussions about their driving if and when they are framed as either part of a **routine** health visit or as **promoting the patient's safety**.
    - Patients are also more receptive to suggestions regarding driving cessation from their clinicians than from their loved ones.[4]

    - **But** many clinicians feel uncomfortable with this 'responsibility.'
        - Some may avoid it. Others may dislike, even hate, having to make a decision they know will significantly alter their patient's life.
        - However, the risks of allowing a person who is potentially a safety risk on the road to continue driving should outweigh the frustration or hesitation surrounding this decision.
    - If you have any question about the safety of your patient driving, that patient should be sent for a comprehensive driving evaluation (CDE), which will ultimately make the final decision and remove it from your hands.
- Most clinicians lack sufficient time during regular office visits to perform a CDE using available screening tools.
    - There are concerns regarding which tests are most appropriate for use in this specific population.[5,6]
    - It is beneficial to identify local or regional facilities that offer CDEs.
- Use questions from existing tools and/or impromptu dialogue to build a case for driving cessation by discussing:
    - **Medications**: Most patients with MCI or AD take ≥5 medications a day and many medications can affect their ability to drive (TABLE 1).[7]
        - Many prescription as well as OTC agents can be sedating, or may cause dizziness, nausea, blurred vision, or other side effects that would interfere with driving or with judgment.
        - Discuss the patient's current medications, noting those that may cause somnolence or otherwise impair driving abilities.[8]
        - Note that some agents are even more dangerous for elderly patients: opioids, some antidepressants, benzodiazepines, antipsychotics, antiseizure, and muscle relaxants, among others.
    - **Medical history**: In addition to cognitive impairment, most older patients have multiple medical conditions that can impair ability to drive:
        - Cardiac disease, pulmonary disorders, cerebrovascular disorders
        - Visual or hearing impairments, glaucoma
        - Sleep disorders, arthritis, diabetes[8]
    - **Other current limitations**:
        - Neuropathy, decreased range of neck motion, slower reflexes, poorer visuospatial skills, or a reduced functional visual field
        - Slower complex reaction times, foot or leg problems
        - Impairments in perceptual and/or motor responses, impaired attention[7]
- Inquire about any recent car accidents or crashes.
    - Directly ask the patient whether they have had any driving or traffic accidents in the past six months or so.
    - Inquire about the type and extent of driving the patient does:
        - Do they take highways or remain on local roads?
        - Do they use rural roads?
        - Do they only drive during the day, or do they drive at night?

        - Do they stick to local trips, or do they take extended trips of more than a few hours' time?
        - Have they ever gotten lost going to or coming home from well-known destinations, such as the local supermarket or their doctor's office?
- Consider the safety of allowing patients with AD and agitation/aggression/confusion to continue driving.
    - Are these patients at risk of engaging in a potential road rage incident?
- Currently, only one state (Illinois) requires routine on-road tests for older drivers to renew their driving licenses.
    - Other states may institute on-road tests for older drivers whose driving abilities are being questioned, such as patients with AD, as they provide more realistic demonstrations of the capabilities and limitations of the driver than written evaluations.
    - Four states—California, Delaware, Oregon and Pennsylvania—require physicians to report dementia diagnoses to the DMV, and 14 other states request that drivers "self-report" dementia diagnoses to their DMV.
- Questionnaires and other written assessments can help identify people for whom on-road tests may be indicated or may identify people whose competency in driving is questionable or compromised.
- Identify Community Resources (as a handout) that:
    - Aid in transporting older individuals to their appointments, supermarkets, and other common destinations
    - Shop for/deliver groceries, deliver medications
    - Wash, cut and style hair at home

*care partner: We have chosen to use the term "care partner" because it implies a more collaborative and intimate relationship between the patient receiving the care and the person(s) providing the care. It refers to the person who either lives with the patient or sees them ≥1-2X/week and is a "softer" term than "caregiver."

Drug Class	Examples	Risks
Pain medications		
Opioids	Hydrocodone (Vicodin)	Sleepiness, lightheadedness
	Oxycodone (Oxycontin, Oxycodone)	
NSAIDs	Aspirin, ibuprofen, naproxen	Long duration use- ↑risk failing driving test; sedation; may interact with other agents and exacerbate underlying medical conditions
Acetaminophen		
Antidepressants		
First generation	Amitriptyline, nortriptyline	Sedating
Second generation	Fluoxetine (Prozac), Citalopram (Celexa), Sertraline (Zoloft), Venlafaxine (Effexor) Other SSRIs and SNRIs	Not as sedating as first generation agents but can still impair driving
Anxiolytics (benzodiazepines)	Alprazolam (Xanax), Lorazepam (Ativan) and Diazepam (Valium)	Sleepiness and slow reflexes; often contraindicated in older patients and/or patients with dementia owing to elevated risk of AEs
Alcohol		Slows coordination, judgment, reaction times; even with lower amounts in older adults
Cannabis **Cannabidiol**		Increased weaving, slowed reaction times, compensatory changes in speed and following distance [Di Ciano 2024]
Anti-Seizure Medications (for seizures, migraine, anxiety, restless legs	Brivaracetam(BRIVIACT); carbamazepine(Tegretol, Curatil); cenobamate(XCIORI); clobazam(Onfi, Sympazam) clonazepam (Ceberclon, Klonopin)	Fatigue, dizziness, sedation, unsteadiness, blurry vision, headaches, memory and thinking problems

syndrome, pain from nerve damage)	eslicarbazepine acetate (Aptiom); ethosuximide (Zarontin); everolimus (afintor, Zortress); fenfluramine (Fintepla); gabapentin(Horizant, Gralise, Neurontin); ganaxolone (ZTALMY); lacosamide (Vimpat); lamotrigine (Lamictal); levetiracetam (Keppra, Desitrend); oxcarbazepine (Tryleptal); perampenel (Fycompa); phenobarbital (Solfoton); phenytoin (Dilantin) and fosphenytoin (Cerebyx); pregabalin (Lyrica); primidone (Mysoline); rufinamide (BANZEL); stiripentol (DIACOMIT); tiagabine (Gabitril); topiramate (Topamax, Topiragen)	NOTE: some have more AEs than others
Allergy Medications		
1st gen antihistamine	Diphenhydramine (Benadryl)	drowsiness
2nd gen antihistamine	Loratadine (Claritin), cetirizine (Zyrtec), fexofenadine (Allegra)	Less sedating- 'for the most part'
Sleep Medications ("Z" drugs)	Eszopiclone (Lunesta), zaleplon (Sonata), zolpidem (Ambien, Edluar, Zolpimist)	Slow activity in the brain and can remain in the system into the morning. These agents should typically be avoided in older adults.
Muscle Relaxants	Baclofen (Gablofen, Lioresol), Dantrilene (Dantrium), tizanidine (Zanaflex), carisoprodol (Soma), chloroxazone (Lorzone), cyclobenzaprine (Flexaril), metaxalone (Skelaxin), methocarbamol (Robaxin), orphenadrine (Norflex)	Fatigue, dizziness, unsteadiness, blurry vision, stomach upset, headaches, memory and thinking problems
	BotulinumtoxinA injections (Botox) Cannabis extract	

	Benzodiazepines oxazepam (Serax, Zaxopam) and diazepam (Valium)	Sleepiness and slow reflexes; often contraindicated in older patients and/or patients with dementia owing to elevated risk of AEs
Antipsychotic Agents Note: Boxed warning against using antipsychotic agents in older people with dementia	FGA: haloperidol (Haldol), chlorpromazine (Thorazine), fluphenazine Prolixin, Permitil), flupentixol (Depixol), perphenazine (trilafon), loxapine (Loxitane, Adasuve), promazine (Sparine),levomepromazine (Nozinan)	Uncontrolled body movements (TD), drowsiness, sedation, and problems seeing clearly May be slight advantage with SGAs over FGAs
	SGA: risperidone (Risperdal), paliperidone (INVEGA), aripiprazole (Abilify), brexpiprazole (Rexulti), cariprazine (VRAYLAR), olanzapine (Zyprexa) , ziprasidone (Geodon), lurasidone (Latuda), quetiapine (Seroquel), clozapine (Clozaril), pimavanserin (NUPLAZID)	
Medications that treat diarrhea or medications for urine or bladder control		Dehydration, fatigue, dizziness drowsiness, feeling weak or unsteady
Gastrointestinal medications		Speeding, poorer driving
Stimulants	Caffeine, ephedrine (Akovaz, Corphedra), pseudoephedrine (Sudafed), diet pills, methamphetamine (Desoxyn eg, ADHD), Dextroamphetamine (Dexedrine); cocaine	Worsening of movement perception, working memory; possible aggressive/reckless behaviors with some agents; drowsiness, dizziness, impaired cognitive functioning (thinking, judgment); may improve attention and concentration in some patients

OTC products	Check each agent; eg, cold and flu agents may cause driving concerns	Many OTC agents can impair driving ability – must carefully read the ingredients and warnings on each item

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