

NEUROLOGICAL DISORDERS

Neurologic disorders have a significant impact on driving safety. A partial list would include: cerebrovascular disease, seizures, head injury, Parkinson's disease, the various dementias and encephalopathies. The common element in most of these is the disturbance of sensory, motor, cognitive, and/or coordinating functions sufficient to affect driving. Some of these, if stable, can be compatible with ability to operate a motor vehicle if a driving test shows adequate performance in the type of vehicle to be driven.

Epilepsy includes any recurrent loss of consciousness or conscious control arising from intermittent change in the brain function. Other disorders which also can affect consciousness or control, such as syncope, cataplexy, narcolepsy, hypoglycemia, episodic vertigo interfering with function or drop attacks, need to be considered in a similar fashion.

In some neurologic disorders, there may be problems which fall into multiple categories. For example, a head injury may not only result in paralysis, but in visual field loss, impairment of learning and memory, and a seizure disorder. These should be addressed separately by the appropriate categories.

Because of society's increasing reliance on the automobile, limitations imposed upon the driving privilege of the elderly can significantly limit personal independence. While advancing age itself is not a predictor of individual driving ability, there are many conditions common in the elderly population which renders the older operator more susceptible to vehicular accidents. Included among the age-related diagnoses are stroke, Parkinson's disease, and dementia, particularly of the Alzheimer's variety.

BLACKOUT:

An episode of altered awareness, amnesia, loss of consciousness or event which the persons has no recall. If the Blackout is caused by an intoxication, seizure or other medical problem outlined, the corresponding guidelines must be followed.

Table: BLACKOUT & SYNCOPÉ

CONDITION	CIRCUMSTANCE	CLASS-DRIVING RESTRICTION PERIOD	REVIEW INTERVAL
UNEXPLAINED (after medical evaluation)	1 episode	C – 6 months A & B – 1 year	N/A
NEUROCARDIOGENIC (vasovagal)	While driving or uncontrolled	A, B & C – 6 months	N/A
UNCONTROLLED (other than vasovagal)	2 or more in 6 months	A, B & C – 1 year	1 year
BRADYARRHYTHMIA	Untreated	A, B, & C -No driving	N/A
	Treated with medication or pacemaker	A & B- 1 month & Cardiology clearance C - Cardiology clearance	N/A
TACHYARRHYTHMIA	Untreated	A, B, & C – No driving	N/A
	Ablative or medication treatment	A & B – 3 months & Cardiology clearance C – “P31” restriction & Cardiology clearance	1 year review with consideration for P31 restriction removal
BLACKOUT (episode of altered awareness or consciousness)	Unexplained after medical evaluation	A & B – 1 year C- 6 months	1 year
	Medical cause identified	A, B, C – follow MAB Guideline for that condition	Based on guidelines for specific condition

A medically unexplained blackout requires a 6 month driving restriction for class C with "P" restriction and 1 year driving restriction for commercial drivers with health care professional recommendation

CEREBROVASCULAR DISEASE

CEREBROVASCULAR ACCIDENT

Any degree of persistent neurological deficit: Licensing for all driver categories is dependent upon the physical and neurological deficits following recovery and after rehabilitation has stabilized. Stroke-prone indicators, e.g., obesity, hypertension, diabetes mellitus, smoking, alcohol use, and significant cardiac disease should be reduced prior to licensing. Demonstration of driving ability through the Department of Public Safety's comprehensive driving test should be required in evaluation of stroke patients with moderate to severe motor, sensory, visual, or language

impairment. If denied, may reapply in 1 year if neurological deficits adequately improve and passes DPS Driver Evaluation. Persons with a visual field deficit caused by a stroke must be cleared by an ophthalmologist prior to driving and must meet the peripheral vision requirements.

RECURRENT TRANSIENT CEREBRAL ISCHEMIC ATTACKS (TIA)

Brief and completely reversible neurological deficit: Recurrent transient cerebral ischemic attacks may preclude the operation of passenger transport vehicles in classes A, B and C. Licensing of passenger and cargo transport vehicle operators included in classes A, B and C is dependent upon minimization of risk factors. Since TIA is frequently a warning of stroke potential it may be a reason to preclude driving. If the transient cerebral ischemic attack was known to be due to circumstances not likely to recur, cargo transport included in classes A, B and C, or private vehicle operation in class C would be permissible. Patients treated with appropriate anticoagulant therapy should be able to resume driving. A one month driving restriction should follow the last known episode of transient cerebral ischemia if persons are not treated with anticoagulant therapy or if the underlying cause of the TIA is not corrected.

Table: CEREBROVASCULAR DISEASE

CONDITION	CIRCUMSTANCE	CLASS – RESTRICTION	Review Interval
TIA	Treatment with anticoagulation/antiplatelet med	A, B, C – unrestricted	N/A
	Recurrent, untreated with medication or condition not corrected	A, B, C – 1 month	N/A
CVA/stroke	FUNCTIONAL IMPAIRMENT	CLASS – RESTRICTION	
Mild	Able to control equipment as assessed by MD/PT/OT/Rehab or Driving evaluation	A & B -Neurology eval Class C- approved	N/A
Moderate - where possible include occupational driving evaluation	Any vision field impairment requires ophthalmology exam evaluation	Refer to MAB Vision Guidelines	1 year
	If Homonymous Hemianopsia present - Entire half vertical field loss in both eyes	A, B, C – no driving	N/A
	Motor function (4/5 strength); coordination impaired	DPS driving test	1 year
	Language impaired	Requires neurology evaluation	1 year
Severe Occupational driving evaluation preferred	Impairment of strength, coordination, cognition, language Aphasia and moderate comprehension impairment	A, B, C - No driving. Reassess after 1 year if improved and take DPS driving test.	

EPILEPSY/SEIZURE DISORDERS

A seizure is a sudden alteration in behavior that may range from a mild subjective feeling to a loss of awareness or

loss of body control, due to acute abnormal brain electrical activity. People who have had a seizure are generally at greater risk for another seizure than people who have never had a seizure. Epilepsy is a common neurological disorder defined as recurrent unprovoked seizures or at least two unprovoked seizures occurring more than 24 hours apart. Epilepsy is also defined as a single seizure with a 60% or greater likelihood of future recurrent seizures based on EEG or MRI findings, or diagnosis of an epilepsy syndrome. Patients with epilepsy (seizures or a seizure disorder) are at increased risk for motor vehicle crashes primarily due to the seizures which occur suddenly and spontaneously with little or no warning. In the past, motor vehicle accidents may have been due to side effects of ASMs (antiseizure medications) but this is less likely with newer medications. Many patients with epilepsy (60-70%) have well-controlled seizures based on effective treatment with ASMs. Additional treatment including epilepsy surgery, neurostimulation, dietary therapy or some combination of these treat patients with drug-resistant epilepsy. Epilepsy includes a range of seizure types which usually but not always cause impaired awareness.

The many causes of seizures include stroke, tumor, trauma, infections, abnormal blood vessels of the brain, and complications of pregnancy, other metabolic conditions, liver and kidney disease, alcohol, illicit drugs such as cocaine and amphetamines, certain prescription medications (or their withdrawal, as with benzodiazepines), and high fever in children.

New guidelines, outlined in this document, based on the "Seizures, Drivers Licensure and Medical Reporting" update from the AAN, AES and EFA Position Statement in February 2025 require longer periods seizure free based on specific listed unfavorable circumstances in table below.

To be eligible for recommendation to drive a commercial vehicle, transit bus, taxi, or emergency vehicle a person must meet the same medical criteria as for a personal vehicle license. Additionally, the MAB recommends a 5-year period of no seizure activity. The use of antiseizure medication is permissible if under the direct care of a provider/neurologist and the applicant meets the additional outlined criteria for recommendation by the board. Further criteria may be required through the Department of Transportation and Department of Public Safety for issuance of a commercial license.

Persons with seizures of all types require a seizure-free period - on or off medications of at least 3 months - for a class C license with a "P" restriction precludes driving taxies, busses, or emergency vehicles. Exception: focal seizures without impaired awareness with sensory symptoms only (simple partial sensory seizures) may drive with a Class C license with a P31 Restriction.

A history of recurrent seizures precludes operation of cargo transport, passenger transport and emergency vehicles in classes A, B and C.

Operation of personal automobiles in class C is dependent upon the following conditions:

Table: GUIDELINES FOR COMPLETING MEDICAL EVALUATION FOR SEIZURE/EPILEPSY PATIENTS

1 - Evaluation forms must be submitted within 30 days after physician evaluation of the patient. Currently under a physician's/neurologist care for at least 6 months (3 months if driver's first seizure) to assess control by antiseizure medication, drug side effects, seizure recurrence, and any neurological or medical changes in condition.
2 - No evidence of clinical seizures (including focal seizures) in a 3-6 month period of driving restriction PRIOR to medical review and completion of MAB forms. In some cases, the physician may wish to recommend a longer period of driving restriction than just 3 months. Cases with these circumstances

should require at least 6 month driving restriction.

Factors that increase risk for recurrence of seizure and require 6 months or longer driving restriction include:

- prior MVA due to seizure in last 5 years,
- seizure due to medication non-adherence - includes missed medication doses or patient self-discontinuation of medications,
- seizures due to substance abuse,
- seizures due to structural brain disease or conditions likely to progress and
- drug resistant epilepsy - seizures that persist despite multiple anti-seizure medications ASMs.

3 - Specific recommendation from applicant's physician regarding applicant's reliability in

- taking medications,
- avoiding sleep deprivation and fatigue, and
- avoiding alcohol and substance use.

4 – Medication regimen change: If an applicant has a well-controlled seizure disorder on medications proven by time, and then has a seizure when the physician makes a medication change, the patient should be allowed to drive if returned to the previous medication regimen.

5 - Persons diagnosed with Functional Seizures (Psychogenic, Non-Epileptic Events) should be restricted from driving and subject to the same guidelines as those with epilepsy if the events cause altered responsiveness and/or involuntary movements affecting the ability to control a vehicle.

[1] Seizures, Driver Licensure, and Medical Reporting Update Neurology 2025; 104:e213459

Table: EPILEPSY/SEIZURE DISORDER – RESTRICTIONS & REVIEW RECOMMENDATIONS

CIRCUMSTANCE	DURATION SEIZURE FREE	LICENSE RESTRICTION	REVIEW
•Seizures or Epilepsy includes •Functional Seizures (also known as) Psychogenic Nonepileptic Events ¹	5 years	Class A, B, C unrestricted	None
	2 - < 5 years	Class C P31, no A or B allowed	None
	1 - 2 years	Class C P31, no A or B allowed	1 year
	6 months - 1 year	Class C P31, no A or B allowed	6 months
	3 – 6 months	Class C P31, no A or B allowed	6 months
	< 3 months or not controlled	No driving A, B or C	NA

[1] Seizures, Driver Licensure, and Medical Reporting Update Neurology 2025; 104:e213459

Table: UNFAVORABLE FACTORS THAT INCREASE RISK FOR SEIZURE RECURRENCE¹ -- RECOMMEND LONGER DRIVING RESTRICTION

CIRCUMSTANCE	DURATION SEIZURE FREE	LICENSE RESTRICTION	REVIEW
Prior MVA due to seizure (in last 5 years)	6 months	Class C P31, no A or B allowed	6 months
Seizure due to missed medication/nonadherence	6 months	Class C P31, no A or B allowed	6 months
Seizure related to substance use	6 months	Class C P31, no A or B allowed	6 months
Seizure due to brain disease likely to worsen over time	6 months	Class C P31, no A or B allowed	6 months
Seizures refractory to multiple antiseizure treatments	6 months	Class C P31, no A or B allowed	6 months

[1] Seizures, Driver Licensure, and Medical Reporting Update Neurology 2025; 104:e213459

DEMENTIA

Dementia describes a group of symptoms affecting thinking, behavior, and social abilities severe enough to significantly interfere with daily functioning. By definition it is long term, and can be progressive. Dementia is defined as having deficits in two or more cognitive domains, including memory loss, impaired judgment, language, attention, change in personality/behavior, and/or visual spatial impairment. Based on population aging trends, the number of individuals who meet the criteria for dementia is expected to triple by mid-century, with clear implications for driving risk based upon research findings that individuals with dementia are at a much higher risk of accidents than the general population. The diagnosis of dementia is not made if symptoms occur in the presence of a delirium, which implies a temporary process. Refer to the Dementia Table regarding various cognitive testing scores and how they may be compared to assist with driving recommendations.

Dementia may be present in patients with normal scores depending on the type of dementia. If a patient or their family member reports cognitive decline, a thorough dementia evaluation is likely warranted. Among the many causes of dementia, Alzheimer's disease is the most common and vascular dementia (caused by strokes) is the next most common. There are other risk factors to be considered when making driving recommendations. See the Dementia Table listing these factors mentioned in the American Academy of Neurology Dementia and Driving Update 2/2025.

In mild cognitive impairment, individuals demonstrate cognitive impairment in one domain, such as memory loss, that are greater than those expected with normal aging, but are not sufficient to diagnose dementia. Mild cognitive impairment is a recognized diagnosis which often progresses to dementia but can be a reversible condition. This is an active area of research and will be diagnosed more due to recent lab and imaging diagnostic tests available.

Multiple impairments in dementia can reduce driver performance and increase the risk of driver errors that can lead to a vehicle crash. For example, patients with dementia may get lost, may be inattentive to pedestrians, hazards, traffic lights, trains, etc., may be impulsive (easily angered, risky decisions), may not be able to read signs or recognize symbols, and may have significantly slowed processing speed and reaction times. As a result they may find themselves in dangerous situations. These impairments could endanger themselves and others.

The diagnosis of dementia precludes operation of a motor vehicle unless the individual is judged to be safe by:

1. a neuropsychological evaluation of cognitive abilities involved in driving, or
2. a driver evaluation by a center or persons trained to evaluate driving ability in the setting of cognitive or physical impairment (an Adaptive Driving Evaluation), or
3. medical assessment by a physician (neurologist or geriatric psychiatrist) with expertise in evaluating attention, memory, language, visuospatial function, etc., (in an standardized way MMSE, SLUMS, MOCA, with evaluation of other medical and psychological factors), or
4. a passing score on the Department of Public Safety (DPS) WRITTEN AND DRIVING evaluation will suffice.

Drivers with dementia who pass the initial evaluation should be re-evaluated every 12 months, or sooner if there is an accident, driving violation, or a family member raises concerns regarding safe driving (i.e. family members refuse to ride with patient, not letting a grandchild ride with the patient, etc.).

Table: DEMENTIA – RESTRICTIONS & REVIEW RECOMMENDATIONS

CIRCUMSTANCE	CONDITION SEVERITY ^{3,4}	RECOMMENDATION	Review Interval
Mild cognitive impairment ¹ CDR 0.5	Mild memory impairment with slight functional impairment MMSE ≥25 SLUMS ≥27 MOCA ≥23	Consider DPS driving test if multiple *RISK FACTORS* (see list below)	1 Year
Mild dementia ¹ CDR 1	Mild memory impairment, impairment of judgement & problem-solving MMSE 20-24 SLUMS 20-26 MOCA 22-17	DPS driving test	Review at 6 months to 1 year
Moderate dementia ¹ CDR 2	Moderate memory loss, unable to function independently MMSE ≤19 SLUMS <20 MOCA <17	No driving	N/A

[1] Morris, J.C. (1993) The Clinical Dementia Rating (CDR): current version and scoring rules. *Neurology*, 43, 2412-4.

[2] American Academy of Neurology Update: Evaluation and Management of Driving Risk in Dementia; 2010 (Reaffirmed 2/2025)

[3] Mapping scores onto stages: mini-mental state examination and clinical dementia rating; *Am J Geriatric Psychiatry*, 2006 14(2): 139-44

[4] Assessment scales in dementia; *Ther Adv Neurol Disord* 2012 5(6) 349-358

*** RISK FACTORS** that increase likelihood of impaired driving in persons with mild cognitive impairment and dementia include:

- Caregiver report of unsafe driving skills
- History of citations or crashes
- Driving < 60 miles/week

- Situational avoidance
- Aggression, impulsivity
- MMSE <25
- Other disorders: alcohol use, medications, sleep disorders, visual impairment, motor impairment

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Table: Clinical Dementia Rating Scale (CDR)

	NONE 0	QUESTIONABLE 0.5	MILD 1	MODERATE 2	SEVERE
Memory	No memory loss or slight Inconsistent forgetfulness	Consistent slight forgetfulness; partial recollection of events; "benign" forgetfulness	Moderate memory loss: more marked for recent events; defect interferes with everyday activity	Severe memory loss, only highly learned material retrained: new material rapidly lost	Severe memory loss only fragments remain
Orientation	Fully oriented	Fully oriented but with slight difficulty with time relationships	Moderate difficulty with time relationships; oriented for place at examination; may have geographic disorientation elsewhere	Severe difficulty with time relationships; usually disoriented to time, often to place	Oriented to person only
Judgment and Problem Solving	Solves everyday problems and handles business and financial affairs well; judgment good in relation to past performance	Slight impairment in solving problems, similarities and differences	Moderate difficulty in handling problems, similarities and differences; social judgment usually maintained	Severely impaired in handling problems, similarities and differences; social judgment usually impaired	Unable to make judgments or solve problems
Community Affairs	Independent function as usual in job, shopping, volunteer and social groups	Slight impairment in these activities	Unable to function independently at these activities though may still be engaged in some; appears normal to casual inspection	No pretense of independent function home; appears well enough to be taken to functions outside the family home	Appears too ill to be taken to functions outside the family home
Home and Hobbies	Life at home, hobbies and intellectual interests well maintained	Life at home, hobbies and intellectual interests slightly impaired	Mild but definite impairment of functions at home; more difficult chores, and complicated hobbies and interests abandoned	Only simple chores preserved; very restricted interests, poorly maintained	No significant function in the home
Personal Care	Fully capable of self-care		Needs prompting	Requires assistance in dressing hygiene and keeping of personal effects	Requires much help with personal care; frequent incontinence

Morris, J.C. (1993) The Clinical Dementia Rating (CDR): current version and scoring rules. *Neurology*, 43, 2412-4.

The Clinical Dementia Rating Scale (CDR)

CDR Scale scores of 0.5 – 1.0 more accurately predict risk for motor vehicle accidents and fatalities than cognitive scores alone. Score is based on the MEMORY score only, unless 3 of the secondary categories score above or below the Memory score, in which case the CDR = the majority of the secondary categories.

Note: The American Academy of Neurology Practice Parameter:

Risk of driving and Alzheimer's disease (published in 2000) recommended that doctors use the Clinical Dementia Rating (CDR) scale to identify people with dementia at an increased risk of unsafe driving. The relative risk of crashes for drivers with a CDR score of greater than or equal to 1.0 is greater than our society tolerates for any group of drivers. Even a CDR score of 0.5 is correlated with excess risk of driving in most individuals. Based on this information, persons with a CDR score of 0.5 should be evaluated as defined above. Persons with a CDR score of 1.0 or greater are precluded from driving unless they meet the criteria listed in the previous paragraph.

HEAD/TRAUMATIC BRAIN INJURY (TBI)

The neurological residuals from head injury are the result of direct brain contusions/infarctions and the "shear effect" where axonal connections are disrupted due to the force of impact. While the former lesions are discernible from CT scan and other diagnostic tests, the latter are more subtle but can be detected in alterations in behavior, personality and cognition.

The head/traumatic brain injury patient differs significantly from one with a stroke syndrome. In addition to the obvious sensorimotor deficits and post-traumatic amnesia, after head injury, more subtle functional impairments in the area of behavior, altered personality, cognition, communication, judgment, spatial reasoning, problem solving, attention span, etc., are usually seen. These deficits, either singularly or in combination, may create a significant barrier to the safe operation of a motor vehicle. Judgment may be so affected that the victim does not even recognize the impairment.

Following head injuries, particularly where the surface of the brain has been penetrated, there is an increased incidence of seizures. Seizure disorders as an individual entity are covered elsewhere in this manual. Any driver with the diagnosis of head injury with secondary seizures must be reviewed separately under both sections since a road evaluation may be required due to head injury but not necessarily due to seizures

Table: HEAD INJURY/TRAUMATIC BRAIN INJURY (TBI) – RESTRICTIONS & REVIEW RECOMMENDATIONS

CIRCUMSTANCE	CONDITION	RECOMMENDATION	Review Interval
Mild Impairment	Mild residual cognitive, visual, sensorimotor or coordination deficit from head injury	DPS written and driving test may be recommended.	N/A
Moderate	Significant deficits in Cognitive, Visual, Sensorimotor, or Coordination	DPS written and driving test required	N/A
Severe	Significant deficits >1 year since injury, not independent with ADL's	No driving	N/A

MOVEMENT DISORDERS

Conditions including, but not limited to Parkinsonism, torticollis, myoclonus and choreoathetosis may impair driving if the disorder is severe. A driving test is recommended for all classes of moderate to severe cases. A periodic review by the examining physician for side effects of medication is recommended. A yearly Medical Advisory Board review is recommended for progressive movement disorders.

Parkinson's disease (PD) is a progressive neurological disorder that manifests itself with physical symptoms (akinesia, tremors, dyskinesia, bradykinesia, postural problems, and joint rigidity), psychiatric symptoms (dementia, confusion, and hallucinations), and cognitive symptoms (concentration, visual perception, processing speed, and reaction time).

Drivers can have any number of these symptoms to varying degrees depending on the stage of progression and symptom management with medications. The functional implications for driving include difficulty transferring in/out of the vehicle, reaching for and fastening/unfastening the seat belt, inserting the key in the ignition and turning, steadily rotating the steering wheel, accurately reaching for vehicle controls on the steering column and dashboard area, turning head to scan environment visually, and smoothly depressing/releasing the foot pedals. The psychiatric and cognitive symptoms of PD also have driving implications related to difficulties in timely decision making, judgment, problem solving, attending to the driving task and driving environment simultaneously, memory, and navigating through complex driving environments.

Table: PARKINSON'S DISEASE – RESTRICTIONS & REVIEW RECOMMENDATIONS

STAGE*	CIRCUMSTANCE	DESCRIPTION Motor Symptoms	RECOMMENDATION	Review Interval
1	Mild - unilateral (~ 2-5 years)	Mild tremor, stiffness, slow walking, slow thinking, Condition controlled with medication, Normal ADL's.	A & B - neurology evaluation required C - No restriction	A & B - 1 year C - 2-year review
2	Moderate - bilateral (~5 years)	Speech affected, motor fluctuations, tremor, rigidity, requires medication for daily living	A & B - no driving C - DPS driving test	C- 1 year review
3	Moderate (~2 years)	Imbalance, falls, dyskinesias, Independent with ADL's	A & B - no driving C- DPS driving test	C- 1 year review
4 & 5	Severe	Advanced disease, severe motor fluctuations, No longer living independently	A, B, C- no driving	N /A

*Hoehn & Yahr: time of progression of motor symptoms varies in patients and non-motor (cognitive, behavioral and visual) symptoms are not considered in H & Y staging. Cognitive and visual processing deficits may be present in early stages. 30% of patients will spend 10 years in Stage 1-2 and 25% of patients will be in Stage 4 or 5 at 10 years.

References:

[1] Driving in Parkinson's disease, Neurology 1991 ;41 :517-520.

A retrospective survey, reports H & Y, Stage 1 had no difference in crash risk compared to controls, Stage 2 and 3 had significantly higher crash risk than controls.

[2] Driving impairment and crash risk in Parkinson's disease, A systematic review and meta-analysis, Neurology 2018; 91 (10) e906-e916

"reports 6 times higher road test failures and 2.6 times higher simulator crashes in Parkinson's patients compared to controls, but self -reported real life crashes was not different comparing Parkinson's patient and controls concluding self-reported crash data is unreliable."

[3] Parkinson disease and driving, An evidence-based review, Neurology 2012 79:2057-2074

concluded no specific clinical battery of tests could predict driver performance. Psychometric, motor measures in addition to driving records, driving exposure, compensation strategies and input from caregivers can be useful.

[4] AMA, National Highway Traffic Safety Administration Physicians guide assessing counseling older drivers. August 24, 2012 **recommends physicians base decisions on 1) cognitive and motor impairments, 2) response to dopaminergic medications, and 3) side effects of medications.**

[5] National Highway Traffic Safety Administration and Federal Motor Carrier Safety Administration **suggests a case by case, multidisciplinary evaluation of the patient due to the highly individualized nature of the disease and variable progression.** www.nhtsa.gov and www.fmcsa.dot.gov

MULTIPLE SCLEROSIS (MS)

Multiple Sclerosis is a relapsing/remitting and progressive neurological disorder of unknown origin that affects vision (visual acuity or eye movements), cognition (problem-solving, attention, and memory), sensation, coordination and physical strength.

Individuals with multiple sclerosis may have

- difficulty visually interpreting the driving environment,
- traveling through complex driving environments,
- transferring in and out of the vehicle,
- turning the key in the ignition,
- feeling the pedals under their feet,
- rotating the steering wheel with enough force to turn the vehicle,
- depressing the foot pedals to stop when necessary.

Individuals can often drive for extended periods of time following diagnosis with proper evaluation and training in the use of adaptive equipment to compensate for physical deficits. Careful consideration should be paid to the driver's cognitive status and their ability to learn and safely use new equipment. **Drivers should be considered on a case-by-case basis with comprehensive testing by a trained driving rehabilitation specialist to determine fitness to drive IF recommended by the evaluating physician.**

Table: MULTIPLE SCLEROSIS – RESTRICTIONS & REVIEW RECOMMENDATIONS

CIRCUMSTANCE	CONDITION	RECOMMENDATION	Review Interval
Mild Impairment	Mild cognitive, visual, sensorimotor or coordination deficit	DPS written and driving test may be recommended.	2 years
Moderate	Significant deficits in cognitive, visual, sensorimotor, or coordination	DPS written and driving test required	1 year
Severe	Significant deficits >1 year, not independent with ADL's	No driving	N/A

DISORDERS OF EXCESSIVE DROWSINESS

Driver sleepiness is a major cause of motor vehicle crashes. Most of these crashes probably occur in otherwise healthy persons who are sleep deprived, but drivers with Obstructive Sleep Apnea (OSA) and Narcolepsy appear to be at particular risk. Other causes of excessive driver sleepiness include sleep deprivation due to medical, neurological, and psychiatric disorders, chronic pain, medical and illicit drug usage, idiopathic hypersomnia, restless leg syndrome, and shift work sleep disorder.

Drivers with excessive drowsiness should not drive until the condition is remediated, either by lifestyle change, medication therapy, or assisted ventilation at night. It is the personal responsibility of all drivers to avoid driving if they are unable to maintain alertness when behind the wheel. Shift work disorder has been shown to be of particular risk for driving because of excessive sleepiness.

OBSTRUCTIVE SLEEP APNEA (OSA)

A diagnosis of **severe OSA (apnea-hypopnea index AHI>20)** precludes certification to drive a motor vehicle (class A, B and C license) until the sleep disorder is effectively treated and the person demonstrates satisfactory ongoing compliance* with therapy.

*> 4 hours per night usage and > 70% of nights usage on 30 days of consecutive use

A person with **moderate OSA (apnea-hypopnea index AHI 10 - 20)** may drive passenger vehicles (class C license) if they have minimal daytime sleepiness (Excessive Daytime Sleepiness Study (EDSS) score is <10) and the OSA is being effectively treated and they are compliant* with therapy.

*> 4 hours per night usage and > 70% of nights usage on 30 days of consecutive use

Persons with **mild OSA (AHI is <10)** may drive with any license type if the EDSS score is <10.

Ceasing therapy should be accompanied by driving cessation if the OSA is still present. An individual with moderate to severe OSA who meets these requirements should be recertified annually.

Drivers of cargo or passenger transport vehicles (class A or B license) diagnosed with OSA with an AHI > 10 or an EDS > 10 must obtain a satisfactory score on a Maintenance of Wakefulness Test (MWT) to prove that treatment has been effective.

Drivers with OSA should not be certified for unrestricted driving if they have had a motor vehicle accident associated with falling asleep, have not yet been treated for OSA successfully, or have been noncompliant with treatment. Drivers treated with surgery need to be re-evaluated for driving safety and must demonstrate a lack of excessive drowsiness while driving.

Table: OBSTRUCTIVE SLEEP APNEA (OSA)

License Class	Condition severity	Description / Treatment	Recommendation / Restriction	Review Interval
A, B, C	MILD AHI 5-10	Persons with OSA should be free of episodes of sleepiness (EDSS <10) Persons using CPAP should be free of episodes of sleepiness and show compliance* with treatment *> 4 hours per night usage and > 70% of nights usage on 30 days of consecutive use	A, B, C – no restriction if AHI remains < 10 also: after MVA due to drowsiness - 90 day driving restriction & review	A & B - annual review C – none AHI must remain < 10 for driving approval
A, B, C	Moderate AHI 11-19	Requires improvement with treatment, verified AHI < 10 by compliance* data from CPAP at 30 days *> 4 hours per night usage and > 70% of nights usage on 30 days on consecutive use Other treatments for OSA require Maintenance Wakeful Test (MWT)	A, B, C may not drive until verified AHI < 10 A & B require MWT** Also: after MVA caused by drowsiness requires 90 day driving restriction & review	A, B, C - Annual review with 12 months compliance* data review by physician
A, B, C	Severe AHI > 20	Requires improvement with treatment, verified AHI < 10 by review of CPAP data download A & B require MWT**	No driving until ¹ compliance* data of three reviews at 30 days, 60 days & 90 days Also: after MVA caused by drowsiness requires 90 day driving restriction & review	A, B, C - Annual review

*CPAP compliance report from drivers CPAP device showing > 4 hours per night usage and > 70% of nights usage on 30 days on consecutive use

**Maintenance of Wakefulness Test score of greater than 19 minutes required to approved driving.

[1] Drivers with severe OSA can be issued a 30-day conditional certification to drive after a 30-day compliance report review. After three successive 30-day interval reviews verifying treatment compliance, a 12-month certification may be approved.

Alternate treatments for moderate to severe OSA using oral appliances, surgical treatment, bariatric

surgery, tracheostomy or oxygen requires report from Board Certified Specialist, repeat sleep study and Maintenance Wakefulness Test (MWT) to verify AHI < 10 and no daytime sleepiness.

References:

- Federal Motor Carrier Safety Administration, 2016 Medical Review Board and Motor Carrier Safety Advisory Committee recommendations on Obstructive Sleep Apnea, www.fmcsa.dot.gov
- Driving Safety and Fitness to Drive in Sleep Disorders, Continuum, AAN 23 (4) 1 156-161, 2017. - Confronting Drowsy Driving: The American Academy of Sleep Medicine Perspective, J of Clinical Sleep Medicine, November 2015, aasm.org
- Philip P, Sagaspe P, Taillard J, Chaumet G, Bayon V, Coste O, Bioulac B, Guilleminault C. Maintenance Of Wakefulness Test, obstructive sleep apnea syndrome, and driving risk. Ann Neurol. 2008
- Krahn LE, Arand DL, Avidan AY, et al. Recommended protocols for the Multiple Sleep Latency Test and the Maintenance of Wakefulness Test in adults: guidance from the American Academy of Sleep Medicine. J Clin Sleep Med. 2021 ; 17 (12):24

NARCOLEPSY

Narcolepsy a disorder involving daytime sleepiness and sleep attacks, is commonly associated with cataplexy and sleep paralysis. People with narcolepsy have a 2-4 times higher risk of a motor vehicle accident (National Highway Traffic and Safety Administration).

Sleep attacks may be triggered by monotonous activities such as driving. In fact, 60 to 80 percent of narcoleptic patients have fallen asleep while driving, at work or both.

Narcolepsy can occur with or without cataplexy. Cataplexy is sudden and transient episode of loss of motor control while the person remains fully awake, due to strong emotional triggers (laughter, crying, anger, terror, surprise or other) and is a hallmark symptom of narcolepsy type 1.

Narcolepsy disqualifies a driver from receiving a commercial driver license (classes A & B). A history of **untreated** narcolepsy also prohibits the operation of passenger transport vehicles in class C. Vehicle operator licensing in all classes is dependent upon an absence of narcolepsy and cataplexy episodes for a 3-month driving restriction period prior to medical review and an affirmative recommendation from the attending physician.

1. Evaluation forms must be submitted within 30 days after physician evaluation of the patient. Currently under a neurologist/sleep medicine physician's care for a minimum 3 month period since initial diagnosis to assess
 - control of condition and
 - confirm 3 month episode-free duration prior to completing MAB form.
2. Physicians should be familiar with patient and not complete forms at first visit.
3. Specific recommendation from applicant's physician regarding applicant's reliability in
 - taking recommended medications
 - avoiding sleep deprivation and maintain regular sleep schedule
 - avoiding alcohol or substance abuse
 - avoid smoking or caffeine before bedtime
 - avoid heavy meals before driving and late in the day
 - adopt good sleep hygiene (taking short naps as needed, dark sleep room, etc.)

CIRCUMSTANCE	LICENSE RESTRICTION	REVIEW
Narcolepsy with cataplexy	Class A & B – no driving Class C – 3 month free of sleep and cataplexy episodes	Class A & B – N/A Class C – annual review
Narcolepsy without cataplexy	Class A & B – no driving Class C – 3 month free of sleep and cataplexy episodes	Class A & B – N/A Class C – annual review
MVA due to Narcolepsy/Cataplexy episode	Class A & B – no driving Class C – 3 month free of sleep and cataplexy episodes and Maintenance of Wakefulness Test required	Class A & B – N/A Class C – annual review

PERIPHERAL NEUROPATHY

Peripheral neuropathy is a chronic condition that involves damage to the peripheral nerves (National Institute of Neurological Disorders and Stroke, 2022). It can progress slowly over time or more rapidly depending on the cause. Peripheral nerves transmit sensory information such as pressure, light touch, temperature, and pain from the limbs to the brain. Peripheral nerves also send signals to the muscles from the brain to allow a limb to move. Peripheral neuropathy is typically acquired, meaning it is not present at birth, but develops over time and the cause is not always known. Physical trauma, diabetes mellitus, autoimmune diseases, certain cancers, medication side effects, and infections can potentially cause peripheral neuropathy. A common symptom for people with peripheral neuropathy is numbness and difficulty sensing pressure (National Institute of Neurological Disorders and Stroke, 2022) which may progress to a total loss of sensation in the affected area and can have a direct impact on fitness to drive (Meyr & Spiess, 2017). Peripheral neuropathy is usually not curable but depending on the cause, may be managed with medication, adaptations, and lifestyle changes.

WARNING SIGNS

- Difficulty regulating speed (e.g., driving too fast or too slowly)
- Accidentally pressing both pedals with one foot
- Slowed brake reaction time (Meyr & Spiess, 2017)
- Foot slipping off the pedals
- Difficulty shifting the foot between the brake pedal and the accelerator
- Leaving increased following distances between vehicles due to a lack of confidence in efficient braking
- Slowing early or pressing the brake repeatedly when approaching an intersection or hazard to ensure the foot is on the brake
- Rear-end collisions
- Bumping and/or striking fixed objects
- Difficulty modulating pressure on the pedals (e.g., abrupt acceleration or braking)

The driver proficiency test is recommended to determine driving impairment, for people with severe neuropathy causing a weakness or sensory loss.

Driver assessment by Occupational Therapist/Physical Therapist/Rehab Driving or DPS is required for severe peripheral neuropathy.

A periodic review is recommended at least every two years if the neurological dysfunction is severe.

REFERENCES

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VERTIGO AND DIZZINESS

Multiple conditions may affect equilibrium or balance resulting in acute incapacitation or varying degrees of chronic spatial disorientation in a driver. These conditions are relatively common and can be self-limited or they can be more severe and chronic. Driving should obviously be avoided (and is usually avoided) when the driver is symptomatic, or if the symptoms are severe and unpredictable. Studies linking vestibular symptoms to unsafe driving are lacking and therefore these guidelines do not formally restrict driving in these patients.

These conditions include Benign Positional Vertigo, Acute and Chronic Peripheral Vestibulopathy and Meniere's disease.

The most common medications used to treat vertigo are diuretics (e.g. spironolactone), antihistamines (e.g. meclizine), benzodiazepines (e.g. diazepam) or phenothiazines (e.g. promethazine). The requirement for either benzodiazepines or phenothiazines for the treatment of vertigo would render the individual unqualified for driving a vehicle.

Antihistamines are used for acute episodes of vertigo. Sedative side effects of antihistamines used for acute episodes of vertigo render the driver unqualified to safely drive a vehicle.

TABLE: Vertigo - Table 7

Circumstances	Condition Example	Recommendation	Review
Mild	Self-limiting acute episodic vertigo	No driving Class A, B, or C while having symptoms or using acute treatment medication	Review N/A
Moderate	Benign Positional Vertigo or Acute and Chronic Peripheral Vestibulopathy.	No driving Class A, B, or C while having symptoms or using acute treatment medication	Review N/A
Severe	Meniere's disease – symptomatic Meniere's disease - asymptomatic	Class A, B, or C Driving requires evaluation and medical approval by ENT/otologist or neurotologist	Review N/A
	Labyrinthine Fistula Nonfunctioning Labyrinths	No driving Class A, B, or C	Review N/A