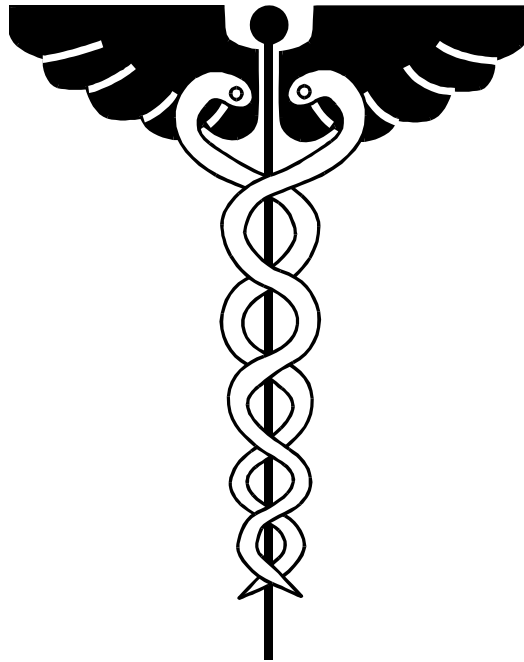




# Dementia Guidelines

(Chapter 2)



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## **DEMENTIA**

Dementia is an organic brain disorder characterized by impaired cognition involving memory and judgment. Paranoia and disturbances of higher cortical function are common. Changes in personality and behavior frequently occur.

Dementia is generally a progressive disorder which passes through stages of mild to moderate to severe. Only drivers with dementia in the mild stage may still have preserved cognitive functions necessary to safely operate a motor vehicle. The department may receive a report of dementia from a variety of sources, including physicians, law enforcement agencies, and relatives of the driver.

Regardless of the source of the information (form or letter), the department must follow up by sending the reported driver the Driver Medical Evaluation, except in situations where an immediate action is taken. An action will not be taken by the department against the driving privilege without receiving information from a physician. If the driver fails to submit the required medical information, the driving privilege will be suspended pursuant to Vehicle Code Section 13801.

The stages are defined below to assist in understanding how a person's daily living activities and driving abilities are affected. Similar definitions are included on the Driver Medical Evaluation (form DS 326) to help all physicians provide the department with consistent evaluations.

***Mild Dementia:*** The capacity for independent living, including adequate personal hygiene and judgment, remains relatively intact. Work or social activities are, however, significantly impaired. Cognitive skills necessary for safe driving, including attention, judgment, and memory, may be significantly impaired.

All drivers who have been referred to the department or diagnosed with mild dementia are scheduled for a driver safety reexamination interview. The driver is given a written knowledge test and reexamined by a hearing officer to assess cognitive deterioration. (Applicants who previously took oral exams may be given an oral exam.)

If the written test was passed and the reexamination interview determined that it would be appropriate, the driver will be given a vision test and scheduled to take a Special Driving Test or Supplemental Driver Performance Evaluation

If the driving test was satisfactory, a calendar reexamination is scheduled requiring the driver to return to the department within 6 to 12 months so that the dementia can be reassessed, since a mild stage of dementia can rapidly progress to moderate or severe.

### ***Moderate to Severe Dementia***

**Moderate:** Independent living is hazardous and some degree of supervision is necessary. The individual is unable to adequately cope with the environment. Appropriate interpretation of what is seen may be significantly impaired, causing poor or delayed judgment and reaction. Driving would be dangerous.

**Severe:** Activities of daily living are so impaired that continual supervision is required, e.g., unable to maintain minimal personal hygiene; largely incoherent or mute. The individual is

mentally and physically incapacitated.

***How Moderate and Severe Dementia Affect Driving***

People with moderate or severe dementia will not be able to safely operate a motor vehicle because their driving skills and physical and mental abilities have deteriorated in the following ways:

- **Consciousness:** Inability to respond rationally to the environment. For example, what is seen is not comprehended. This can lead to serious accidents.
- **Cognitive Processing:** Unable to remember destination. Inattentive to external stimuli such as pedestrians or oncoming traffic. Judgment is slow or poor in traffic situations.
- **Strength and Coordination:** Muscle control is weak and reflexes are too slow to react appropriately to traffic situations or hazards.

The cognitive and physical abilities of drivers who have been diagnosed with moderate or severe dementia will have deteriorated to such an extent that driving would be unsafe, and their driving privilege will be revoked.

***REEXAMINATION***

Reexamination is only appropriate for drivers whose dementia is still diagnosed as mild. Drivers with a medical diagnosis of moderate to severe dementia need no further testing because progression of the disease beyond the mild stage of dementia renders the person unsafe to drive.

***In-Person Contact***

An in-person contact is needed to assess awareness, cognitive processes, and perception. The driver will be expected to answer general questions such as name, address, or type of insurance, along with questions about the driver's health, medical treatment, driving record, need to drive, daily routine, and the need for assistance with daily activities. Inappropriate use of words (syntax) to answer the questions may identify a deterioration in language processing skills and indicate some impairment of cognitive abilities.

***The Knowledge Test***

The knowledge test is used to determine the driver's mental competency, cognitive and language skills. The primary reason for giving drivers with mild dementia the knowledge test is to determine if these drivers have deteriorating reading and comprehension skills. If they do, they may also have impaired cognitive and perceptual skills which may impact their ability to safely drive a motor vehicle. Testing the driver's knowledge of the rules of the road is a secondary issue, although still relevant. The hearing officer must determine if a poor score on the knowledge test merely indicates a lack of knowledge, or indicates that the driver has difficulty reading and comprehending the questions.

The following will be considered when evaluating the knowledge test results:

- How long did it take the driver to complete the written exam?
- How many questions did the driver miss?
- Was the driver able to answer the missed questions when verbally restated?
- Could the driver's knowledge be improved by studying the handbook?

If the driver fails the knowledge test after the questions were restated verbally, and it is

determined the driver's failure is due to a lack of knowledge, the driving privilege will be suspended pursuant to Vehicle Code Section 13953.

If the driver is unable to coherently answer the hearing officer's questions during the reexamination, or the driver fails the knowledge test after the questions were restated verbally and medical documentation indicates mild dementia, the driving privilege will be revoked pursuant to Vehicle Code Section 13953. The driver may request a hearing after receiving notice of revocation. The issue to consider at a hearing is whether the driver's cognitive skills and memory are keen enough to proceed safely with a special drive test.

The answers given during the in-person contact, together with the results of the knowledge test, provide the hearing officer with an estimation of the driver's memory and cognitive skills. If the driver is able to coherently answer the hearing officer's questions during the in-person contact and the medical documentation is favorable as it relates to safe driving, the driver will be scheduled for a special drive test or supplemental DPE, which includes vision screening.

### ***Special Drive Test***

The special drive test is used in determining the driver's competency and ability in the areas of concentration, perception, attention, and/or judgment. A special drive test or Supplemental Driver Performance Evaluation (SDPE) is only appropriate if a medical diagnosis of mild dementia is given, the knowledge and vision screening tests are passed, and the driver answers questions coherently during the in-person contact with the hearing officer.

If the results of the special drive test are satisfactory, the driver will be scheduled for a calendar reexamination, and appropriate license restrictions may be applied, as guided by the results of the Special Drive Test. Drivers should be reevaluated in 6 months or less when the results of the knowledge and drive tests are marginal and the dementia is not expected to progress rapidly.

Marginal Knowledge Test results are indicated when the driver fails the written test but is able to pass when the questions are restated verbally by the hearing officer. Marginal Special Drive Test or SDPE results are indicated when the drive test errors are noncritical ones that may be corrected with additional training.

A 12-month calendar reexamination period may be more appropriate for drivers whose test results are better than marginal for both the knowledge and drive tests, and the driver's physician has indicated the dementia is not expected to progress rapidly.

If the results of the special drive test or SDPE are unsatisfactory, the driving privilege will be revoked pursuant to Vehicle Code Section 13953. The driver may request a hearing after receiving notice of the revocation. It is the hearing officer's discretion to determine whether it is safe to allow the driver to take another special drive test or SDPE.

The attached Dementia Consolidation Table and Glossary of Terms define many different types of dementia, their functional impairments, driving impairments, factors to consider, and licensing options. The table provides guidance in determining appropriate actions to impose after reexaminations, hearings, and interviews with drivers diagnosed with dementia.

DEMENTIA	DEFINITION	FUNCTIONAL IMPAIRMENTS	DRIVING-RELATED IMPAIRMENTS	FACTORS TO CONSIDER	LICENSING OPTIONS
<p><b>Alzheimer's Disease</b></p> <p><i>PERMANENT &amp; PROGRESSIVE</i></p>	<p>Progressive deterioration of intellect. The natural course of the disease passes through several levels.</p> <p>The driver has little insight into the cognitive changes taking place, due to memory loss.</p>	<p>Persons with early Alzheimer's disease may experience only minor symptoms of dementia. They appear healthy and their social skills are very well preserved. Some anxiety may be exhibited.</p> <p>As subtle symptoms begin to appear, the person may experience confusion, irritability, restlessness, and/or agitation. Impairments in judgment, concentration, orientation and language also appear.</p> <p>Personality changes become noticeable as the disease progresses.</p> <p><b>NOTE:</b> Not all symptoms will be seen together, as symptoms will vary among people with Alzheimer's disease.</p>	<p><u>Perception:</u> Impairment in visual processing prevents or interferes with the person's recognition of what they see. This could impair judgment in driving situations.</p> <p><u>Divided Attention:</u> Inability to focus on more than one thing and sort out what is appropriate to the driving environment. For example, inability to follow two tasks at once, such as carrying on a conversation with a passenger and paying attention to traffic.</p> <p><u>Selective Focused Attention:</u> Reaction times are generally slower for people in the early stages of Alzheimer's disease. People with mild Alzheimer's disease also have difficulty reacting to more than one external stimulus. For example, they may be able to focus and react appropriately to traffic signs or signals, but not be able to react at the same time to traffic or pedestrian situations surrounding them.</p> <p><u>Judgment:</u> Impaired in more complex traffic situations.</p> <p><u>Impulsive Behavior:</u> Reacting to a situation without considering or realizing the consequences first.</p>	<ul style="list-style-type: none"> <li>• Mileage driven and road exposure in familiar areas. Problem areas will include traffic congestion and unfamiliar streets.</li> <li>• Driving record.</li> <li>• Alcohol consumption. Drivers with any type of dementia should never consume alcoholic beverages.</li> <li>• Cognitive side effects of single or multiple medications.</li> <li>• Other medical conditions that may cause motoric impairments and/or psychiatric conditions could lead to diminished impulse control, emotional lability (instability).</li> <li>• How did this person come to the department's attention (CMR, law enforcement, family, etc.)?</li> <li>• Driver's insight into own driving skills and abilities.</li> <li>• Any other relevant evidence.</li> </ul>	<p><u>No Action:</u> Appropriate only when a false diagnosis of Alzheimer's disease was made. Additional medical documentation from the driver's physician is needed to verify that the diagnosis of Alzheimer's disease was incorrect.</p> <p><u>Restriction:</u> Application of restrictions is guided by the results of a special drive test.</p> <p><u>Calendar Reexamination:</u> Hearing officers have the discretion to determine how soon a calendar reexamination should be held based on evidence presented at the contact.</p> <p>Consider reevaluating drivers in 6 months or less when the results of the knowledge and drive tests are marginal* <u>and</u> their dementia is not expected to progress rapidly.</p> <p>A 12-month reexamination period may be more appropriate for those who are better than marginal. (<i>This may include drivers with disputed diagnoses of memory impairment.</i>)</p> <p>*Marginal:  a) When the driver cannot pass the written test but is successful when the questions are restated verbally by the hearing officer.  b) When drive test errors are noncritical ones that can be corrected with additional training.</p> <p><u>Revocation:</u> Drivers with <b>moderate to severe</b> Alzheimer's disease should be revoked. If the severity is not identified by the physician, these drivers will be identified by their inability to pass the knowledge test.</p>

**Progression beyond the mild stage of dementia renders the person unsafe to drive.**

DEMENTIA	DEFINITION	FUNCTIONAL IMPAIRMENTS	DRIVING-RELATED IMPAIRMENTS	FACTORS TO CONSIDER	LICENSING OPTIONS
<p><b>Multi-Infarct Dementia (Vascular Dementia)</b></p> <p><i>PERMANENT &amp; USUALLY PROGRESSIVE</i></p>	<p>Brain tissue is lost as a result of loss of blood supply to specific areas of the brain. The characteristics of this dementia differ based on the part of the brain that is damaged.</p> <p>This type of dementia is seen in persons with a history of hypertension, previous strokes, and diabetes.</p>	<p>Impairments may include:</p> <ul style="list-style-type: none"> <li>• Intellectual deterioration.</li> <li>• Sensory loss including loss of complex visual acuity, cortical blindness, or other visuospatial difficulties.</li> <li>• Left-sided neglect.</li> <li>• Weakness or paralysis.</li> <li>• Personality changes.</li> </ul>	<p><u>Perception</u>: Impairment in visual processing prevents or interferes with the person's recognition of what they see. This could impair judgment in driving situations.</p> <p><u>Divided Attention</u>: Inability to focus on more than one thing and sort out what is appropriate to the driving environment. For example, inability to follow two tasks at once, such as carrying on a conversation with a passenger and paying attention to traffic.</p> <p><u>Selective Focused Attention</u>: Reaction times are generally slower for people in the early stages of Multi-Infarct Dementia or Mixed Dementia. People with mild Multi-Infarct Dementia and mild Mixed Dementia also have difficulty reacting to more than one external stimulus. For example, they may be able to focus and react appropriately to traffic signs or signals, but not be able to react at the same time to traffic or pedestrian situations surrounding them.</p>	<ul style="list-style-type: none"> <li>• Mileage driven and road exposure in familiar areas. Problem areas will include traffic congestion and unfamiliar streets.</li> <li>• Driving record.</li> <li>• Alcohol consumption. Drivers with any type of dementia should never consume alcoholic beverages .</li> <li>• Cognitive side effects of single or multiple medications.</li> <li>• Other medical conditions that may cause motoric impairments and/or psychiatric conditions could lead to diminished impulse control, emotional lability (instability).</li> <li>• How did this person come to the department's attention (CMR, law enforcement, family, etc.)?</li> <li>• Driver's insight into own driving skills and abilities.</li> <li>• Any other relevant evidence.</li> </ul>	<p><u>No Action</u>: Appropriate only when a false diagnosis of Multi-Infarct Dementia or Mixed Dementia has been made. Additional medical documentation from the driver's physician will be needed to verify that the diagnosis of the dementia was incorrect.</p> <p><u>Restriction</u>: Application of restrictions is guided by the results of a special drive test.</p> <p><u>Calendar Reexamination</u>: Hearing officers have the discretion to determine how soon a calendar reexamination should be held based on evidence presented at the contact.</p> <p>Consider reevaluating drivers in 6 months or less when the results of the knowledge and drive tests are marginal* and their dementia is not expected to progress rapidly.</p> <p>A 12-month reexamination period may be more appropriate for those who are better than marginal. (<i>This may include drivers with disputed diagnoses of memory impairment</i>)</p> <p>*Marginal:  a) When the driver cannot pass the knowledge test but is successful when the questions are restated verbally by the hearing officer.  b) When drive test errors are noncritical ones that can be corrected with additional training.</p> <p><u>Revocation</u>: Drivers with <b>moderate</b> to <b>severe</b> multi-infarct or mixed dementias should have their driving privilege revoked. If the severity is not identified by the physicians, these drivers will be identified by their inability to pass the knowledge test.</p>
<p><b>Mixed Dementia</b></p> <p><i>PERMANENT &amp; PROGRESSIVE</i></p>	<p>This is a combination of multi-infarct dementia and Alzheimer's disease coexisting in the same person.</p>	<p>Not all of the manifestations found in Alzheimer's disease or multi-infarct dementia will be present in mixed dementia.</p>	<p><u>Judgment</u>: Impaired in more complex traffic situations.</p> <p><u>Impulsive Behavior</u>: Reacting to a situation without considering or realizing the consequences.</p>		

DEMENTIA	DEFINITION	FUNCTIONAL IMPAIRMENTS	DRIVING-RELATED IMPAIRMENTS	FACTORS TO CONSIDER	LICENSING OPTIONS
<p><b>AIDS Dementia Complex</b></p> <p><i>PERMANENT &amp; USUALLY PROGRESSIVE</i></p>	<p>Dementia results from the HIV virus directly infecting the brain tissue usually causing progressive dementia.</p> <p>Dementia may be present in the early stages. Cognitive and emotional symptoms may be present very early in the illness also. Severe dementia is less common.</p> <p>Once a central nervous system infection sets in, driving skills will deteriorate rapidly.</p>	<p>People with AIDS dementia have difficulty in using appropriate judgment. This deficit may be identified on a special drive test.</p> <p>NOTE: AIDS dementia does not show language difficulties or visuospatial impairments as Alzheimer's disease does.</p>	<p><u>Selective Focused Attention:</u> Reaction times are generally slower for people in the early stages of AIDS Dementia Complex.</p> <p><u>Judgment:</u> Impaired in more complex traffic situations.</p> <p><u>Impulsive Behavior:</u> Reacting to a situation without considering or realizing the consequences.</p>	<ul style="list-style-type: none"> <li>• Judging and reacting appropriately to traffic situations.</li> <li>• Driving record.</li> <li>• Alcohol consumption. Drivers with any type of dementia should never consume alcoholic beverages.</li> <li>• Cognitive side effects of single or multiple medications.</li> <li>• Other medical conditions that may cause motoric impairments and/or psychiatric conditions could lead to diminished impulse control, emotional lability (instability).</li> <li>• How did this person come to the department's attention (CMR, law enforcement, family, etc.)?</li> <li>• Driver's insight into own driving skills and abilities.</li> <li>• Any other relevant evidence.</li> </ul>	<p><u>No Action:</u> Appropriate only when a false diagnosis of dementia has been made. Additional medical documentation from the driver's physician will be needed to verify that the diagnosis of dementia was incorrect.</p> <p><u>Restriction:</u> Application of restrictions is guided by the results of a special drive test.</p> <p><u>Calendar Reexamination:</u> Hearing officers have the discretion to determine how soon a calendar reexamination should be held based on evidence presented at the contact.</p> <p>Consider reevaluating drivers in 6 months or less when the results of the knowledge and drive tests are marginal* <u>and</u> their dementia is not expected to progress rapidly.</p> <p>A 12-month reexamination period may be more appropriate for those who are better than marginal. (<i>This may include drivers with disputed diagnoses of memory impairment</i>)</p> <p>*Marginal: a) When the driver cannot pass the written test but is successful when the questions are restated verbally by the hearing officer.</p> <p>b) When drive test errors are noncritical ones that can be corrected with additional training.</p> <p><u>Revocation:</u> Drivers with <b>moderate to severe</b> dementia, should have their driving privilege revoked. If the severity is not identified by the physician, these drivers will be identified by their inability to pass the knowledge test.</p>

DEMENTIA	DEFINITION	FUNC'L IMPAIRMENTS	DRIVING IMPAIRMENTS	FACTORS TO CONSIDER	LICENSING OPTIONS
<p><b>Dementia due to Parkinson's Disease</b></p> <p><i>PERMANENT &amp; PROGRESSIVE</i></p>	<p>Dementia in Parkinson's disease is a degenerative disease primarily affecting the brainstem. It usually causes disturbances of the body's complex motor system.</p> <p>25% of those with Parkinson's disease will develop dementia, generally after the first five years of the disease.</p>	<p>The typical dementing syndrome in persons with Parkinson's disease consists of a slowing of thought processes, a lack of initiative, and impaired problem solving. Language and visuo-spatial deficits may also be present.</p> <p>Motor functions are also affected causing the person to experience tremors, rigidity, and excessively slow movement.</p> <p>The medications used to treat Parkinson's disease may also cause involuntary movement. The common neuroleptic drugs are Sinemet and Parlodel.</p>	<p><u>Perception:</u> Impairment in visual processing prevents or interferes with the person's recognition of what they see. This could impair judgment in driving situations.</p> <p><u>Divided Attention:</u> Inability to focus on more than one thing and sort out what is appropriate to the driving environment. For example, inability to follow two tasks at once such as carrying on a conversation with a passenger and paying attention to traffic.</p> <p><u>Selective Focused Attention:</u> Reaction times are generally slower for people in the early stages of dementia due to Parkinson's disease. People in the mild stage of this dementia also have difficulty reacting to more than one external stimulus. For example, they may be able to focus and react appropriately to traffic signs or signals, but not be able to react at the same time to traffic or pedestrian situations surrounding them. Responses are slower.</p> <p><u>Judgment:</u> Impaired in more complex traffic situations.</p> <p><u>Impulsive Behavior:</u> Acting on a situation without considering or realizing the consequences.</p>	<ul style="list-style-type: none"> <li>• Mileage driven and road exposure in familiar areas. Problem areas will include traffic congestion and unfamiliar streets.</li> <li>• Driving record.</li> <li>• Alcohol consumption. Drivers with any type of dementia should never consume alcoholic beverages .</li> <li>• Cognitive side effects of single or multiple medications.</li> <li>• Other medical conditions that may cause motoric impairments and/or psychiatric conditions could lead to diminished impulse control, emotional lability (instability).</li> <li>• How did this person come to the department's attention (CMR, law enforcement, family, etc.)?</li> <li>• Driver's insight into own driving skills and abilities.</li> <li>• Drugs used to treat dementia in Parkinson's disease (Sinemet and Parlodel) may cause driving impairment. These drugs will cause restless movement and do not help dementia.</li> <li>• Any other relevant evidence.</li> </ul>	<p><u>No Action:</u> Appropriate only when a false diagnosis of dementia has been made. Additional medical documentation from the driver's physician will be needed to verify that the diagnosis of dementia was incorrect.</p> <p><u>Restriction:</u> Application of restrictions is guided by the results of a special drive test.</p> <p><u>Calendar Reexamination:</u> Hearing officers have the discretion to determine how soon a calendar reexamination should be held based on evidence presented at the contact.</p> <p>Consider reevaluating drivers in 6 months or less when the results of the knowledge and drive tests are marginal* and their dementia is not expected to progress rapidly.</p> <p>A 12-month reexamination period may be more appropriate for those who are better than marginal. (<i>This may include drivers with disputed diagnoses of memory impairment</i>)</p> <p>*Marginal: a) When the driver cannot pass the written test but is successful when the questions are restated verbally by the hearing officer.</p> <p>b) When the drive test errors are noncritical ones that could be corrected with additional training.</p> <p><u>Revocation:</u> Drivers with <b>moderate to severe</b> dementia should have their driving privilege revoked. If the severity is not identified by the physician, these drivers will be identified by their inability to pass the written test.</p>

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<p><b>Huntington's Disease</b></p> <p><i>PERMANENT &amp; PROGRESSIVE</i></p>	<p>A degenerative disorder of the nervous system causing chorea (<i>involuntary muscle twitching of face and limbs</i>) and dementia.</p>	<p>A high percentage of persons exhibit emotional and cognitive disorders before being diagnosed with Huntington's disease. Persons with Huntington's disease have extremely impaired judgment. However, in the early stages they are able to coherently answer questions. Persons with Huntington's disease lack impulse control, usually exhibit violent behavior, and have a high suicide rate.</p>	<p><u>Impulsive Behavior:</u> Reacting to a situation without considering or realizing the consequences first.</p> <p>Slowness in response time.</p>	<ul style="list-style-type: none"> <li>• Mileage driven and road exposure in familiar areas. Problem areas will include traffic congestion and unfamiliar streets.</li> <li>• Driving record.</li> <li>• Alcohol consumption. Drivers with any type of dementia should never consume alcoholic beverages.</li> </ul>	<p><u>Revocation</u> of the driving privilege should be imposed early with Huntington's disease when the person is psychologically disabled and unable to recognize his/her problems.</p> <p style="text-align: center;">- otherwise - see below.</p>
<p><b>Posttraumatic Dementia</b></p> <p><i>USUALLY PERMANENT &amp; NON-PROGRESSIVE</i></p> <p><i>NOTE: In rare cases this dementia may be progressive.</i></p>	<p>This type of dementia results from head injuries that produce chronic cognitive and behavioral deficits. In some cases, a degree of recovery may proceed for a period of 2 or 3 years. The prognosis is better for a younger person.</p>	<p>Intellectual impairment varies depending upon the part of the brain that was injured.</p> <p>A person with Posttraumatic dementia will not completely regain the level of functioning achieved prior to the injury. The dementia will not become worse either.</p>	<p><u>Perception:</u> Impairment in visual processing. Impaired judgment in driving situations.</p> <p><u>Divided Attention:</u> Inability to focus on more than one thing and sort out what is appropriate to the driving environment.</p> <p><u>Selective Attention:</u> Slower reaction times and difficulty reacting to more than one external stimulus.</p> <p><u>Judgment:</u> Impaired in more complex traffic situations.</p> <p><u>Impulsive Behavior:</u> Reacting to a situation without considering or realizing the consequences.</p>	<ul style="list-style-type: none"> <li>• Cognitive side effects of single or multiple medications.</li> <li>• Other medical conditions that may cause motoric impairments and/or psychiatric conditions could lead to diminished impulse control, emotional lability (instability).</li> <li>• How did this person come to the department's attention (CMR, law enforcement, family, etc.)?</li> <li>• Driver's insight into own driving skills and abilities.</li> <li>• Any other relevant evidence.</li> </ul>	<p><u>No Action:</u> Appropriate only when a false diagnosis of dementia has been made. Physician's report is needed to verify incorrect diagnosis.</p> <p><u>Restriction:</u> Application of restrictions is guided by the results of a special drive test.</p> <p><u>Calendar Reexamination:</u> Hearing officers have the discretion to determine how soon a calendar reexamination should be held based on evidence presented at the contact.</p> <p>Consider reevaluating drivers in 6 months or less when results of knowledge and drive tests are marginal* and their dementia is not expected to progress rapidly.</p> <p>A 12-month reexamination period may be appropriate for those who are better than marginal.</p> <p>*Marginal: a) When the driver cannot pass the written test but is successful when the questions are restated verbally by the hearing officer. b) When the drive test errors are noncritical ones that could be corrected with additional training.</p> <p><u>Revocation:</u> Drivers with <b>moderate to severe</b> posttraumatic dementia, should have their driving privilege revoked.</p>

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<p><b>Postanoxic Dementia</b></p> <p><i>USUALLY PERMANENT &amp; NONPROGRESSIVE</i></p>	<p>This type of dementia results from oxygen deprivation to the brain. This can result from a heart attack, drug overdoses, near-drowning, carbon monoxide intoxication, or strangulation.</p>	<p>The loss of oxygen to the brain can result in brain death, a vegetative state, or dementia.</p> <p>Return of normal functioning from this dementia varies greatly, depending upon how severe the loss of oxygen was.</p>	<p><u>Perception</u>: Impairment in visual processing prevents or interferes with the person's recognition of what they see. This could impair judgment in driving situations.</p> <p><u>Divided Attention</u>: Inability to focus on more than one thing and sort out what is appropriate to the driving environment. For example, inability to follow two tasks at once such as carrying on a conversation with a passenger and paying attention to traffic.</p> <p><u>Selective Focused Attention</u>: Reaction times are generally slower for people in the early stages of Postanoxic dementia and depression-aggravated dementia. People in the mild stages of these dementias also have difficulty reacting to more than one external stimulus. For example, they may be able to focus and react appropriately to traffic signs or signals, but not be able to react at the same time to traffic or pedestrian situations surrounding them.</p>	<ul style="list-style-type: none"> <li>• Mileage driven and road exposure in familiar areas. Problem areas will include traffic congestion and unfamiliar streets.</li> <li>• Driving record.</li> <li>• Alcohol consumption. Drivers with any type of dementia should never consume alcoholic beverages.</li> <li>• Cognitive side effects of single or multiple medications.</li> <li>• Other medical conditions that may cause motoric impairments and/or psychiatric conditions could lead to diminished impulse control, emotional lability (instability).</li> </ul>	<p><u>No Action</u>: Appropriate only when a false diagnosis of dementia has been made. Additional medical documentation from the driver's physician will be needed to verify that the diagnosis of dementia was incorrect.</p> <p><u>Restriction</u>: Application of restrictions is guided by the results of a special drive test.</p> <p><u>Calendar Reexamination</u>: Hearing officers have the discretion to determine how soon a calendar reexamination should be held based on evidence presented at the contact.</p> <p>Consider reevaluating drivers in 6 months or less when the results of the knowledge and drive tests are marginal.*</p>
<p><b>Depression</b></p> <p><i>FULLY OR PARTIALLY REVERSIBLE</i></p>	<p>Depression can cause dementia-like symptoms and lead to a dementia syndrome.</p> <p>If the depression is treated adequately, the dementia may be fully or partially reversible unless another dementing illness is present.</p>	<p>Dementia due to depression may include forgetfulness, impaired responses, disorientation, as well as the overall characteristics of depression, such as loss of interest and altered mood.</p> <p>During times of suicidal tendencies, driving risk may increase.</p>	<p>Reaction times are generally slower for people in the early stages of Postanoxic dementia and depression-aggravated dementia. People in the mild stages of these dementias also have difficulty reacting to more than one external stimulus. For example, they may be able to focus and react appropriately to traffic signs or signals, but not be able to react at the same time to traffic or pedestrian situations surrounding them.</p> <p><u>Judgment</u>: Impaired in more complex traffic situations.</p> <p><u>Impulsive Behavior</u>: Acting on a situation without considering or realizing the consequences first.</p>	<ul style="list-style-type: none"> <li>• How did this person come to the department's attention (CMR, law enforcement, family, etc.)?</li> <li>• Driver's insight into own driving skills and abilities.</li> <li>• Any other relevant evidence.</li> </ul>	<p>A 12-month reexamination period may be more appropriate for those who are better than marginal. <i>(This may include drivers with disputed diagnoses of memory impairment)</i></p> <p>*Marginal: a) When the driver cannot pass the written test but is successful when the questions are restated verbally by the hearing officer.</p> <p>b) When drive test errors are noncritical ones that can be corrected with additional training.</p> <p><u>Revocation</u>: Drivers with <b>moderate to severe</b> postanoxic dementia or <b>moderate to severe</b> dementia caused by depression should have their driving privilege revoked. If the severity is not identified by the physician, these drivers will be identified by their inability to pass the written test.</p>

DEMENTIA	DEFINITION	FUNCTIONAL IMPAIRMENTS	DRIVING-RELATED IMPAIRMENTS	FACTORS TO CONSIDER	LICENSING OPTIONS
<p><b>Medication Toxicity</b></p> <p><i>POTENTIALLY AND PROBABLY REVERSIBLE</i></p> <p>See Toxic Dementia on Page 9</p>	<p>Dementia can be caused by medication toxicity.</p>	<p>Dementia due to medication toxicity may manifest itself in one or more of the following ways:</p> <ul style="list-style-type: none"> <li>• Delirium (clouding of the senses.)</li> <li>• Impaired memory.</li> <li>• Impaired language skills.</li> <li>• Disturbance of higher cognitive or executive functions.</li> <li>• Visual spatial disturbances.</li> <li>• Personality changes.</li> </ul>	<p><u>Perception</u>: Impairment in visual processing prevents or interferes with the person’s recognition of what they see. This could impair judgment in driving situations.</p> <p><u>Divided Attention</u>: Inability to focus on more than one thing and sort out what is appropriate to the driving environment.</p> <p><u>Selective Focused Attention</u>: Reaction times are generally slower for people in the early stages of dementia caused by medication toxicity or infections.</p>	<ul style="list-style-type: none"> <li>• Mileage driven and road exposure in familiar areas. Problem areas will include traffic congestion and unfamiliar streets.</li> <li>• Driving record.</li> <li>• Alcohol consumption. Drivers with any type of dementia should never consume alcoholic beverages.</li> <li>• Cognitive side effects of single or multiple medications.</li> <li>• Other medical conditions that may cause motoric impairments and/or psychiatric conditions could lead to diminished impulse control, emotional lability (instability).</li> </ul>	<p><u>No Action</u>: Appropriate only when a false diagnosis of dementia has been made. Additional medical documentation from the driver’s physician will be needed to verify that the diagnosis of dementia was incorrect.</p> <p><u>Restriction</u>: Application of restrictions is guided by the results of a special drive test.</p> <p><u>Calendar Reexamination</u>: Hearing officers have the discretion to determine how soon a calendar reexamination should be held based on evidence presented at the contact.</p> <p>Consider reevaluating drivers in 6 months or less when the results of the knowledge and drive tests are marginal.*</p>
<p><b>Infections</b></p> <p><i>FULLY OR PARTIALLY REVERSIBLE</i></p>	<p>Dementia from infections can be caused by bacterial, fungal, or viral infections of the brain. It can also result from systemic illnesses such as liver diseases, heart diseases, or parasitic diseases; i.e., meningitis, malaria, toxoplasmosis.</p>	<p>Dementia due to infections may manifest itself in one or more of the following ways:</p> <ul style="list-style-type: none"> <li>• Impaired memory.</li> <li>• Impaired language skills.</li> <li>• Disturbances of higher cognitive or executive functions.</li> <li>• Visual spatial disturbances.</li> <li>• Personality changes.</li> </ul> <p>Persons with dementia due to infections will likely be too sick to drive.</p>	<p>People with mild stages of these dementias also have difficulty reacting to more than one external stimulus. For example, they may be able to focus and react appropriately to traffic signs or signals, but not be able to react at the same time to traffic or pedestrian situations surrounding them.</p> <p><u>Judgment</u>: Impaired in more complex traffic situations.</p> <p><u>Impulsive Behavior</u>: Reacting to a situation without considering or realizing the consequences.</p>	<ul style="list-style-type: none"> <li>• How did this person come to the department’s attention (CMR, law enforcement, family, etc.)?</li> <li>• Driver’s insight into own driving skills and abilities.</li> <li>• Any other relevant evidence.</li> </ul>	<p>A 12-month reexamination period may be more appropriate for those who are better than marginal. (<i>This may include drivers with disputed diagnoses of memory impairment</i>)</p> <p>*Marginal: a) When the driver cannot pass the written test but is successful when the questions are restated verbally by the hearing officer. b) When drive test errors are noncritical ones that can be corrected with additional training.</p> <p><u>Revocation</u>: Drivers with <b>moderate to severe</b> dementia caused by medication toxicity or infections should have their driving privilege revoked. If the severity is not identified by the physician, these drivers will be identified by their inability to pass the written test.</p>

DEMENTIA	DEFINITION	FUNCTIONAL IMPAIRMENTS	DRIVING-RELATED IMPAIRMENTS	CONTRIBUTING FACTORS	LICENSING OPTIONS
<p><b>Metabolic or Systemic</b></p> <p><i>FULLY OR PARTIALLY REVERSIBLE</i></p>	<p>Metabolic disorders, such as thyroid disorder, nutritional and/or vitamin deficiencies, can cause the dementia.</p> <p>A variety of systemic diseases that involve all organs can cause dementia.</p>	<p>Dementia due to metabolic or systemic diseases may manifest itself in one or more of the following ways:</p> <ul style="list-style-type: none"> <li>• Delirium (clouding of the senses).</li> <li>• Impaired memory.</li> <li>• Impaired language skills.</li> <li>• Disturbance of higher cognitive or executive functions.</li> <li>• Visual spatial disturbances.</li> <li>• Personality changes.</li> </ul>	<p><u>Perception</u>: Impairment in visual processing prevents or interferes with the person's recognition of what they see. This could impair judgment in driving situations.</p> <p><u>Divided Attention</u>: Inability to focus on more than one thing and sort out what is appropriate to the driving environment. For example, inability to follow two tasks at once, such as carrying on a conversation with a passenger and paying attention to traffic.</p> <p><u>Selective Focused Attention</u>: Reaction times are generally slower for people in the early stages of metabolic, systemic, or neurodegenerative dementia. People with mild stages of these dementias also have difficulty reacting to more than one external stimulus. For example, they may be able to focus and react appropriately to traffic signs or signals, but not be able to react at the same time to traffic or pedestrian situations surrounding them.</p>	<ul style="list-style-type: none"> <li>• Mileage driven and road exposure in familiar areas. Problem areas will include traffic congestion and unfamiliar streets.</li> <li>• Driving record.</li> <li>• Alcohol consumption. Drivers with any type of dementia should never consume alcoholic beverages.</li> <li>• Cognitive side effects of single or multiple medications.</li> <li>• Other medical conditions that may cause motoric impairments and/or psychiatric conditions could lead to diminished impulse control, emotional lability (instability).</li> <li>• How did this person come to the department's attention (CMR, law enforcement, family, etc.)?</li> <li>• Driver's insight into own driving skills and abilities.</li> <li>• Any other relevant evidence.</li> </ul>	<p><u>No Action</u>: Appropriate only when a false diagnosis of dementia has been made. Additional medical documentation from the driver's physician will be needed to verify that the diagnosis of dementia was incorrect.</p> <p><u>Restriction</u>: Application of restrictions is guided by the results of a special drive test.</p> <p><u>Calendar Reexamination</u>: Hearing officers have the discretion to determine how soon a calendar reexamination should be held based on evidence presented at the contact.</p> <p>Consider reevaluating drivers in 6 months or less when the results of the knowledge and drive tests are marginal*.</p> <p>A 12-month reexamination period may be more appropriate for those who are better than marginal. <i>(The latter group of drivers may have disputed diagnoses of memory impairment.)*</i></p> <p><u>Marginal</u>: a) When the driver cannot pass the written test but is successful when the questions are restated verbally by the hearing officer. b) When drive test errors are noncritical ones that can be corrected with additional training.</p>
<p><b>Neurodegenerative</b> (Multiple Sclerosis)</p> <p><i>FULLY OR PARTIALLY REVERSIBLE</i></p>	<p>Some neurological diseases, like multiple sclerosis, can lead to dementia syndrome.</p> <p>Multiple sclerosis is an inflammatory disease of the central nervous system.</p>	<p>In the early stages of multiple sclerosis, the person may experience cognitive deterioration and emotional disturbances (though these are not a major feature). As the disease progresses, symptoms of dementia may become apparent. Severe dementia is uncommon.</p>	<p><u>Judgment</u>: Impaired in more complex traffic situations.</p> <p><u>Impulsive Behavior</u>: Reacting to a situation without considering or realizing the consequences first.</p>	<p>• Driver's insight into own driving skills and abilities.</p> <p>• Any other relevant evidence.</p>	<p><u>Revocation</u>: Drivers with <b>moderate</b> or <b>severe</b> dementia caused from a metabolic, systemic, or neurodegenerative disorder should have their driving privilege revoked. If the severity is not identified by the physician, these drivers will be identified by their inability to pass the written test.</p>

DEMENTIA	DEFINITION	FUNCTIONAL IMPAIRMENTS	DRIVING-RELATED IMPAIRMENTS	FACTORS TO CONSIDER	LICENSING OPTIONS
<p><b>Toxic</b></p> <p><i>FULLY OR PARTIALLY REVERSIBLE</i></p> <p>See Medication Toxicity on Page 7</p>	<p>Dementia can result from use or abuse of alcohol, illicit drugs, and heavy metals such as lead. Prescribed medications and synergistic effects of multi-medications may also cause dementia.</p>	<p>Dementia due to toxins may manifest itself in one or more of the following ways:</p> <ul style="list-style-type: none"> <li>• Delirium (clouding of the senses).</li> <li>• Impaired memory.</li> <li>• Impaired language skills.</li> <li>• Disturbance of higher cognitive or executive functions.</li> <li>• Visual spatial disturbances.</li> <li>• Personality changes.</li> </ul>	<p><u>Perception:</u> Impairment in visual processing prevents or interferes with the person recognizing what they see. This could impair judgment in driving situations.</p> <p><u>Divided Attention:</u> Inability to focus on more than one thing and sort out what is appropriate to the driving environment. For example, inability to follow two tasks at once such as carrying on a conversation with a passenger and paying attention to traffic.</p> <p><u>Selective Focused Attention:</u> Reaction times are generally slower for people in the early stages of dementia caused by toxins or tumors. People with mild stages of these dementia also have difficulty reacting to more than one external stimuli. For example, they may be able to focus and react appropriately to traffic signs or signals, but not be able to react at the same time to traffic or pedestrian situations surrounding them.</p>	<ul style="list-style-type: none"> <li>• Mileage driven and road exposure in familiar areas. Problem areas will include traffic congestion and unfamiliar streets</li> <li>• Driving record.</li> <li>• Alcohol consumption. Drivers with any type of dementia should never consume alcoholic beverages.</li> <li>• Cognitive side effects of single or multiple medications.</li> <li>• Other medical conditions that may cause motoric impairments and/or psychiatric conditions could lead to diminished impulse control, emotional lability (instability).</li> </ul>	<p><u>No Action:</u> Appropriate only when a false diagnosis of dementia has been made. Additional medical documentation from the driver's physician will be needed to verify that the diagnosis of dementia was incorrect.</p> <p><u>Restriction:</u> Application of restrictions is guided by the results of a special drive test.</p> <p><u>Calendar Reexamination:</u> Hearing officers have the discretion to determine how soon a calendar reexamination should be held based on evidence presented at the contact.</p> <p>Consider reevaluating drivers in 6 months or less when the results of the written and drive tests are marginal.*</p> <p>A 12-month reexamination period may be more appropriate for those who are better than marginal. <i>(This may include drivers with disputed diagnoses of memory impairment)</i></p> <p>*Marginal: a) When the driver cannot pass the written test but is successful when the questions are restated verbally by the hearing officer.</p> <p>b) When drive test errors are noncritical ones that can be corrected with additional training.</p>
<p><b>Tumors</b></p> <p><i>FULLY OR PARTIALLY REVERSIBLE</i></p>	<p>Dementia can result from tumors occurring in the brain or skull. Aggressive treatment of tumors may cause dementia. The characteristics of this dementia differ, based on the part of the brain where the tumor(s) is present.</p>	<p>Dementia due to tumors may manifest itself in one or more of the following ways:</p> <ul style="list-style-type: none"> <li>• Impaired memory.</li> <li>• Impaired language skills.</li> <li>• Disturbance of higher cognitive or executive functions.</li> <li>• Visual spatial disturbances.</li> <li>• Personality changes.</li> </ul> <p>Brain tumors commonly produce motor and/or sensory impairments.</p>	<p><u>Judgment:</u> Impaired in more complex traffic situations.</p> <p><u>Impulsive Behavior:</u> Acting on a situation without considering or realizing the consequences first.</p>	<ul style="list-style-type: none"> <li>• How did this person come to the department's attention (CMR, law enforcement, family, etc.)?</li> <li>• Driver's insight into own driving skills and abilities.</li> <li>• Any other relevant evidence.</li> </ul>	<p><u>Revocation:</u> Drivers with <b>moderate</b> or <b>severe</b> dementia caused from drug/alcohol use or abuse, or brain tumors should have their driving privilege revoked. If the severity is not identified by the physician, these drivers will be identified by their inability to pass the written test.</p>

**DEMENTIA****GLOSSARY OF TERMS**

The glossary provides a list of words that may be seen on medical documentation, such as the DS 326.

<b>Agnosia</b>	Inability to comprehend or recognize sounds and/or objects.
<b>Angiogram</b>	A series of images taken in rapid succession that can show the blood vessels in the brain, or other areas of the body, after the area has been injected with radiopaque material.
<b>Anoxia</b>	Without oxygen.
<b>Aphasia</b>	Impairment of the ability to comprehend and/or communicate through speech, writing, or signs due to dysfunctions of the brain centers.
<b>Ataxia</b>	Inability to coordinate muscles when voluntary muscular movements are attempted.
<b>Central Nervous System (CNS)</b>	Nerves and end organs in the brain and spinal cord that control voluntary and involuntary acts. This includes parts of the brain controlling consciousness and mental activities.
<b>Computerized Axial Tomography Scan (CAT Scan)</b>	Use of a computer to produce, from x-ray data, a cross sectional view. Used to produce an image of the brain.
<b>Complex Visual Acuity</b>	Visual abilities are functioning but the brain does not allow the person to recognize or comprehend what is seen.
<b>Delirium</b>	A state of mental confusion and excitement characterized by disorientation for time and place, attention wanders, disorganized thinking, and incoherent speech. Delirium can be caused by fever, shock, exhaustion, anxiety, or drug overdose.
<b>Electroencephalogram (EEG)</b>	A reading from an electrical recording of brain activity. Very helpful diagnostic tool in locating lesions in the brain. May be useful in diagnosing dementia and epilepsy.
<b>Encephalitis</b>	Inflammation of the brain.
<b>Hypoxia</b>	Deficiency or a decreased levels of oxygen.
<b>Lability</b>	State of being unstable or changeable.
<b>Mini Mental State Exam</b>	A standardized exam to determine a person's mental state. The exam involves a practitioner asking the person questions to evaluate the person's awareness, language, learning, and visuospatial abilities. The exam has a high score of 30. Persons scoring 20 or below should not drive.

<b>Magnetic Resonance Images (MRI)</b>	A method of generating images of the brain.
<b>Neuro-degenerative</b>	Degeneration of the nervous system tissues.
<b>Neuro-psychiatric</b>	Pertaining to nervous and mental diseases.
<b>Praxis</b>	The ability to plan and execute coordinated movement.
<b>Pseudo-dementia</b>	Exaggerated indifference to the environment without impairment of mental capacity. Implies dementia symptoms.
<b>Syntax</b>	Inability to arrange words into sentences.
<b>Visuospatial Disturbances</b>	A disturbance in the ability to comprehend and conceptualize the relationship between an object(s) seen and the space around it.