MEDICAL EXAMINER REFERENCE MANUAL

TeamCME **MEDICAL EXAMINER REFERENCE MANUAL**

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Medical Regulations VS Guidelines

Regulations concerning the physical qualifications of drivers are legally binding on those subject to their provisions.

- FMCSA has the authority to compel compliance with regulations.

Guidance is provided in the form of advisory criteria, bulletins, interpretations of the regulations, guidelines, and the contents of the medical examiner handbook.

- The handbook assists in applying the regulations governing the physical qualifications of interstate CMV drivers
- Guidance is based in significant part on input from medical expert panels or derived from clinical best practices
- Guidance does not have the force and effect of law and is not meant to bind MEs, drivers, or the public in any way

"The MEH states that MEs are free to choose whether to utilize guidance and recommendations as a basis for decision-making and that when the terms "recommend," "consider," "may," "should," or "could" are used in the MEH, they are used in a recommendatory or permissive sense and relate to guidance. "

Who needs a DOT physical?

The FMCSRs under the Code of Federal Regulations (CFR), 49 CFR 391.45 states that the following persons must be medically examined and certified as physically qualified to operate a CMV:

- Any person who has not already been medically certified
- Any driver who has not been medically certified in the preceding 2 years
- Any driver authorized to operate a CMV only within an exempt intra-city zone that has not been medically certified during the preceding year
- Any driver with insulin-treated diabetes mellitus who has not been medically certified during the preceding 12 months, with the use of the Insulin-Treated Diabetes Mellitus Assessment Form (MCSA-5870), completed by their treating provider
- Any driver who received a Federal Vision Exemption before March 22, 2022, that has not been medically certified during the preceding 12 months
- Any driver that has not been medically certified during the preceding 12 months, who has previously been certified under the Alternate Vision Standard
- Any driver whose ability to perform their normal duties has been impaired by a physical or mental injury or disease

CDL License Classifications

Class A -- Any combination of vehicles with a GCWR of *26,001* or more lbs. where the GVWR of the vehicle(s) being towed is more than *10,000* lbs.

Class B -- Any single vehicle with a GVWR of *26,001* or more lbs. or any such vehicle towing a vehicle not more than *10,000* lbs. GVWR.

Class C -- Any single or combination of vehicles that does not meet the definition of Class A or B but is either designed to transport 16 or more passengers (including the driver); is placarded hazardous; or is transporting any quantity of a material listed as a select agent or toxin in 42 CFR Part 73.

Commercial Motor Vehicle (CMV) Definition

- Has a gross vehicle or gross combination weight or rated to transport 10,001 lbs. or more
- Designed or used to transport more than 8 passengers (including the driver) for compensation
- Designed or used to transport more than 15 passengers (including the driver) not for compensation
- Transport requiring Placard for Hazardous Waste

Interstate VS Intrastate Commercial Operation

If there is a nonmedical reason for NOT being medically qualified to drive across state lines (such as being less than 21 years old), the State Drivers Licensing Agency will limit the driver's "license" to only being able to drive a CMV within the state.

Interstate Commerce:

- Drivers that may drive a CMV involved in commerce, trade, traffic, or transportation involving the crossing of a state boundary
- From one state to another state or a foreign country
- Between two places within a state but during part of the trip, the CMV crosses into another state or country
- Between two places within a state but the cargo is part of a trip that began or will end in another state or country

Interstate certificates: Drivers that are examined and meet the Federal Medical requirements with or without a federal exemption

Interstate Drivers That Do Not Need a Medical Exam

1. School bus drivers transporting children/staff between home and school
2. Federal, State, or local government employees
3. Transportation of human corpses
4. Transportation of sick or injured persons
5. Emergency response vehicles
6. Transportation of propane winter heating fuel when responding to an emergency condition requiring immediate response such as damage to a propane gas system after a storm or flooding
7. Response to a pipeline emergency condition requiring immediate response such as a pipeline leak or rupture
8. In custom harvesting on a farm or to transport farm machinery and supplies used in the harvesting operation and transportation of harvested crops to storage or market
9. Transportation of farm machinery or farm supplies (no placardable hazardous materials) to and from a farm and within 150 *air-miles* of the farm
10. Beekeepers in the seasonal transportation of bees
11. As a private motor carrier of passengers for non-business purposes
12. Transportation of migrant workers

Intrastate Commerce:

Drivers of a CMV involved in intrastate commerce can operate with either a medical certificate performed in accordance with FMCSA regulations and exemption programs, ***or*** a medical certificate performed in accordance with the FMCSA medical regulations *with any applicable State variance.*

Intrastate certificates: Drivers that are examined and *do not meet the Federal Medical Requirements* and are therefore required to have a state variance.

Intrastate Drivers That Do Not Need a Medical Exam

- Drive a CMV only in intrastate commerce (goods do not cross state lines) activities for which the State of licensure has determined the driver is *not required to meet the State's medical certification requirements*

School Bus Operations

Drivers involved with field trips or sporting events, or any driving outside of home to school are required by federal regulation to have a medical certificate. Although a driver may not be required by federal regulation to have a medical certificate, the state department of education may still have this requirement.

Drivers are not required by federal regulation to have a medical certificate:

- Drivers of vehicles transporting students and/or staff between home and school, regardless of whether the bus crosses state lines
- Drivers who are employed by a school district, city, county, or state government entity

Foreign Drivers of Commercial Motor Vehicles

Medical Examiners can perform a DOT physical on an individual from any country, but they are not reported to FMCSA. If there is no license number, write "none".

Mexican Drivers: The United States accepts the *Licencia Federal de Conductor* issued by the United Mexican States

- Mexico-domiciled CDL holders are not required to obtain a US medical certificate

The agreement **does not allow** Mexico-issued **noncommercial** licensed drivers to drive a CMV in interstate commerce.

A US employer of a Mexican driver may require the driver to obtain a US medical certificate. It is *not submitted to FMCSA.* The ME maintains documents as part of office records.

Canadian Drivers: Canada has their own CDL medical examination. Canadian CDL drivers are allowed to drive in the US without a US medical certificate. Non-CDL Canadian drivers ARE required to obtain a US medical certificate and these exams are to be reported to FMCSA.

Disqualifying medical conditions for foreign drivers:

- Drivers who use insulin
- Drivers with epilepsy
- Drivers with diminished vision
- Drivers who are hearing impaired

The Driver

Motor Carriers are ultimately responsible for ensuring that their drivers meet the medical standards and other general requirements for safe driving.

- Be at least 21 Years Old to drive across state lines (unless the driver is in a FMCSA pilot Program)
- Many states allow 16-year-olds to drive in intrastate commerce
  - Speak and Read English well enough to perform the duties of a commercial driver
  - Capable to safely operate CMV
  - Perform Driving Tasks
  - Current Medical Certificate
  - Only one valid CDL License
  - Provide background/violation background
  - Disqualified drivers can't drive, No Marijuana Use & No alcohol use prior to or when driving
  - Completed driver road test or equivalent

Demands & Duties of a Driver:

- Coupling and uncoupling trailers requires strength and full range of motion to climb, balance, grip, and pull
- Loading and unloading trailers of freight after sitting for a long period of time without any stretching period
- Lifting, installing, and removing heavy tire chains in the range of 35 to 90 pounds
- Lifting tarpaulins to cover open top trailers requires pulling/lifting motions in the range of 50 to 100 pounds
- Performing pre-trip and post-trip safety checks requires climbing, bending, kneeling, crawling, reaching, stretching, turning, and twisting
- Moving gear shift levers requires timely coordination and complex manipulation skills of right upper and left lower extremity
- Controlling the steering wheel requires mobility, power grasp, and prehension of hands and fingers
- Operating brakes and accelerator pedals requires coordinated movement in lower extremities
- Operating light switches, windshield wipers, directional signals, emergency lights, horn, etc. requires mobility and manipulative skills of upper extremities
- Backing and parking requires adequate depth perception and coordinated manipulative skills

The Medical Examiner

Certification Status Determination

MEs are required to complete the ENTIRE physical qualification examination.

"MEs are expected to determine if the driver meets the physical qualification standards. Thus, if you find a disqualifying condition for which a driver may receive a Federal medical exemption from FMCSA, please record that on the driver's Medical Examiner's Certificate, Form MCSA-5876, as well as on the Medical Examination Report Form, MCSA-5875."

If the exam was not completed, the ME fills in the form with all the available information and *marks the box indicating the examination was incomplete.*

A driver of a commercial vehicle should not be certified if they are on light duty that interferes with safe driving or the ability to perform all commercial driver tasks.

All drivers of commercial vehicles must be treated as if they are driving an 18-wheeler weighing 110,000 lbs. from coast to coast.

- It does not matter if they have easy driving duties
- It does not matter whether they are currently employed or currently driving
- It does not matter if they just want to keep their CDL privileges current
- It does not matter if they need a medical examiner's certificate for a non-driving position or employment

Motor carriers can have more stringent requirements beyond the federal driving requirements. It is possible for a driver to meet the federal requirements but fail the motor carrier's pre-employment medical exam. If a driver does not meet the motor carrier's additional requirements, the medical examiner should certify the driver and issue a medical certificate to the driver, then inform the company that the driver did not meet their driver requirements.

Determination Pending

Medical Examiners must make a qualification determination on the day of the exam…with one exception. *When the ME does not have sufficient information to make a driving status determination, they can delay making the driving status decision for up to 45 days.*

- The driver is not issued a medical certificate on the day of the exam and the exam is left open until the needed information is received, or 45 days have passed.

Do not use determination pending if the driver has a condition making them unsafe to operate a CMV.

Record Retention

Federal regulation is that these records be retained for three years.
MEs must keep:

- The original completed medical examination report form
- A copy of the medical examiners certificate
- Related health records or letters provided by the driver or their treating provider

5-Year Periodic Training & 10-Year Recertification Training and Test

Medical examiners are required to have *recurrent periodic training every 5 years* from the date that they were certified in the national registry. This training is provided for free by FMCSA through the National Registry account and cannot occur before four years have passed.

A medical examiner must *recertify every 10 years* which consists of a training course provided by a training organization, then retaking the NRCME certification test. They may begin their recertification training and test upon completion of 9 years of certification.

Federal Exemptions

FMCSA has 2 medical exemption programs for Interstate drivers of commercial vehicles who don't meet the standard:

1. Seizure/Epilepsy Exemption (January 15, 2013)
2. Hearing Exemption (January 15, 2013)

The medical examiner's role is limited to completing the physical exam and ensuring that the driver is otherwise medically qualified to drive.

Many states have exemptions, waivers, variances, or program policy of their own for these and other medical conditions that permit the driver to operate a commercial motor vehicle within that state. Drivers should always be given the option to apply for one of these exemption programs when they do not meet the medical standards.

Step-by-Step Process:

1. Complete the exam just like any other exam.
2. Certify the driver for up to **two years for hearing or one year for seizures** if otherwise qualified.
3. Check "Accompanied by a _____ waiver/exemption" on the MER and MEC and write Federal or State and the exemption name in the blank on both forms, such as "Federal Hearing Exemption".
4. Give a copy of the exam report form and the original Medical Examiner's certificate to the driver.
5. Inform the driver they cannot drive until they have their exemption.
6. Give the federal or state phone number to call and/or print the application to the waiver or exemption program and give it to the driver.

Federal Phone Number: (202) 366-4001

Skill Performance Evaluation (SPE)

For drivers that have a permanent impairment or loss of a limb, there is an alternative to becoming medically qualified. A Special Performance Evaluation (SPE) allows a driver with a fixed deficit in an extremity such as loss of a hand, foot, arm, or leg to be able to drive a commercial motor vehicle. It is not an exemption and is treated differently. When applicable, the option for applying for an SPE certificate should be discussed with the driver. SPEs are performed by FMCSA representatives.

The **medical examiner's role** is to complete the DOT physical and certify the driver. The driver must be certified prior to applying for a SPE certificate.

- Mark the third bullet on page 4 of the exam form (MCSA-5875) that states, "Meets standards, but periodic monitoring required", then marking the box that states, "Accompanied by a Skill Performance Evaluation (SPE) Certificate"
- The same box is marked on the medical certificate

The **driver's role** in the application process:

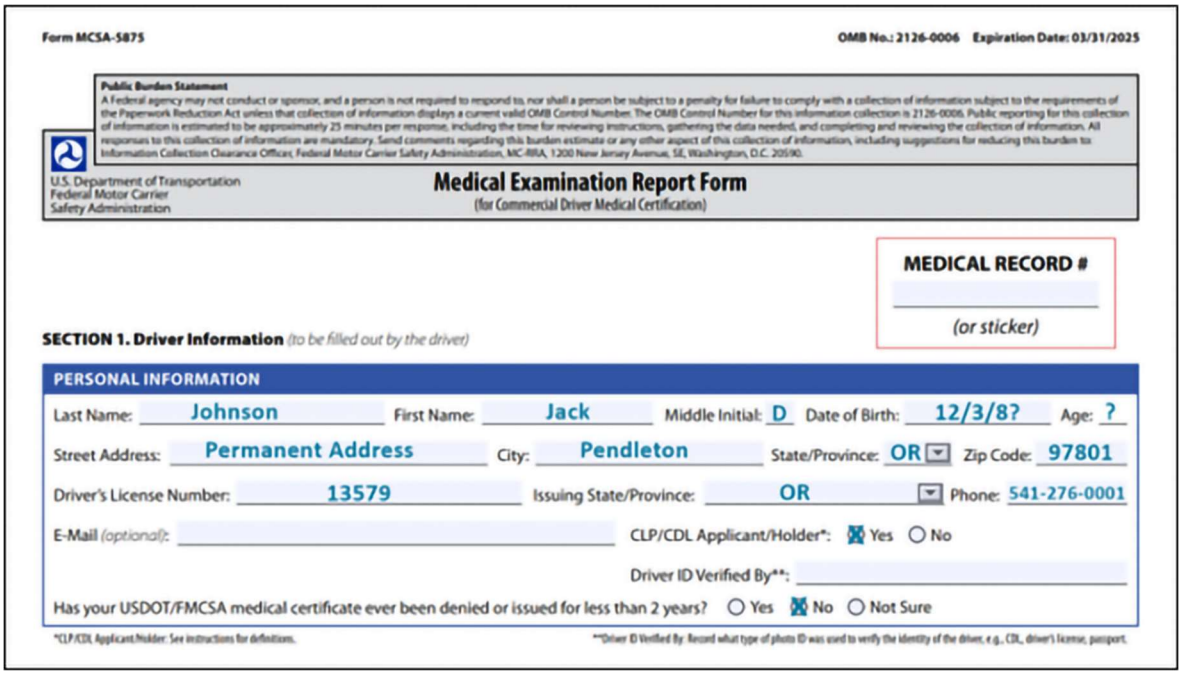
- Have a Medical Evaluation Summary (contained within the application) completed by a physiatrist or orthopedic surgeon
- Provide a description of any bracing, assistive, or prosthetic devices being used
- Obtain a driving record of the past three years from their state drivers licensing agency
- A road test must be performed using the trailer type the driver intends to use
- The individual must complete a driver employment application or provide a statement that the driver was not previously employed

Medical Examination Report Form (MCSA-5875)

The medical exam report form is commonly referred to as the long form. Its use is required in all states. The federal instructions must be used in all states for interstate drivers. The medical exam report form is composed of five pages plus instructions.

1. Driver's information, Health history specifically medications, and past surgeries
2. Continued Health History, Driver's signature area, ME history Review
3.
   - Upper Half: Vision, Height, Weight, Hearing, BP, Pulse Rate, Heart Rhythm, UA, other testing results
   - Lower Half: Physical Examination Findings. It is generally accepted that the page's lower half is performed by a CME.
4. Certification for Interstate Drivers
5. Certification for Intrastate Drivers
6. Instructions on use of the forms

Page 1 Upper Half



Form MCSA-5875 OMB No.: 2126-0006 Expiration Date: 03/31/2025

Public Burden Statement

A Federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2126-0006. Public reporting for this collection of information is estimated to be approximately 25 minutes per response, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Federal Motor Carrier Safety Administration, MC-RRA, 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

U.S. Department of Transportation
Federal Motor Carrier
Safety Administration

Medical Examination Report Form
(for Commercial Driver Medical Certification)

MEDICAL RECORD #
(or sticker)

SECTION 1. Driver Information *(to be filled out by the driver)*

PERSONAL INFORMATION

Last Name: Johnson First Name: Jack Middle Initial: D Date of Birth: 12/3/8? Age: ?

Street Address: Permanent Address City: Pendleton State/Province: OR Zip Code: 97801

Driver's License Number: 13579 Issuing State/Province: OR Phone: 541-276-0001

E-Mail *(optional)*: CLP/CDL Applicant/Holder*: ☒ Yes ○ No

Driver ID Verified By**:

Has your USDOT/FMCSA medical certificate ever been denied or issued for less than 2 years? ○ Yes ☒ No ○ Not Sure

*CLP/CDL Applicant/Holder: See instructions for definitions.

**Driver ID Verified By: Record what type of photo ID was used to verify the identity of the driver, e.g., CDL, driver's license, passport.

On the right is a medical record number area. Use of the medical record section is optional. This area is for the CME's convenience if you assign a clinic record number to driver exams.

<u>Section one</u> is completed by the driver except for the driver ID verification

- The driver's **name** should match the driver's identification they provided
- The **address** does not need to match the address on the driver's identification.
  - It should be the address they consider to be their most permanent or home address.
  - Province is added in the area designated for the drivers licensing state to accommodate drivers from Canada
- The **driver's license number** should match the driver's commercial license if it is available. If it is not available, write "*None*" in the space provided
- In the **CDL/CLP Applicant/Holder** section, drivers should mark "Yes" if they have a commercial driver's license or a commercial learner's permit or intend to obtain one
- The **driver ID** can be verified by *any type of photo ID*

Page 1 Lower Half & Page 2 Upper Half

These pages are a continuation of the driver's medical and surgical history. The medical examiner must review the "yes" and "not sure" answers with the driver.

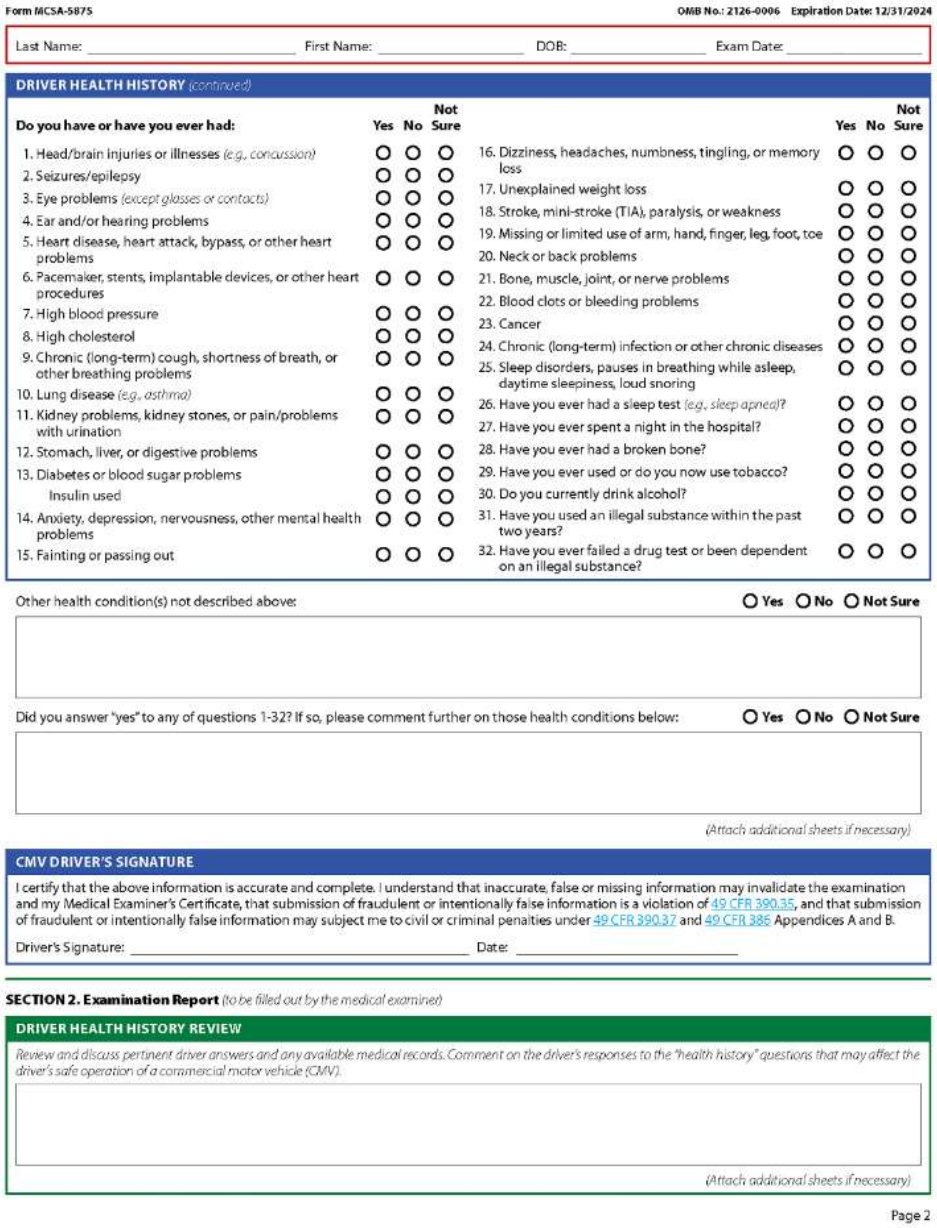
Page 2 Lower Half

There is a **comments section** for the driver to provide any additional information regarding the questions from the top of the page.

- The ME may enter their comments and number each comment with the corresponding number from the upper half of the page

The driver then reads the certifying statement and signs and dates the form. By signing the form, they could face criminal or civil penalties should they fail to disclose an accurate and complete health history. This protects the Medical Examiner should an undisclosed medical condition cause an accident in the future.

Page 2



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Last Name: _____ First Name: _____ DOB: _____ Exam Date: _____

DRIVER HEALTH HISTORY *(continued)*

Do you have or have you ever had:	Yes	No	Not Sure
1. Head/brain injuries or illnesses *(e.g., concussion)*	O	O	O
2. Seizures/epilepsy	O	O	O
3. Eye problems *(except glasses or contacts)*	O	O	O
4. Ear and/or hearing problems	O	O	O
5. Heart disease, heart attack, bypass, or other heart problems	O	O	O
6. Pacemaker, stents, implantable devices, or other heart procedures	O	O	O
7. High blood pressure	O	O	O
8. High cholesterol	O	O	O
9. Chronic (long-term) cough, shortness of breath, or other breathing problems	O	O	O
10. Lung disease *(e.g., asthma)*	O	O	O
11. Kidney problems, kidney stones, or pain/problems with urination	O	O	O
12. Stomach, liver, or digestive problems	O	O	O
13. Diabetes or blood sugar problems	O	O	O
Insulin used	O	O	O
14. Anxiety, depression, nervousness, other mental health problems	O	O	O
15. Fainting or passing out	O	O	O
16. Dizziness, headaches, numbness, tingling, or memory loss	O	O	O
17. Unexplained weight loss	O	O	O
18. Stroke, mini-stroke (TIA), paralysis, or weakness	O	O	O
19. Missing or limited use of arm, hand, finger, leg, foot, toe	O	O	O
20. Neck or back problems	O	O	O
21. Bone, muscle, joint, or nerve problems	O	O	O
22. Blood clots or bleeding problems	O	O	O
23. Cancer	O	O	O
24. Chronic (long-term) infection or other chronic diseases	O	O	O
25. Sleep disorders, pauses in breathing while asleep, daytime sleepiness, loud snoring	O	O	O
26. Have you ever had a sleep test *(e.g., sleep apnea)*?	O	O	O
27. Have you ever spent a night in the hospital?	O	O	O
28. Have you ever had a broken bone?	O	O	O
29. Have you ever used or do you now use tobacco?	O	O	O
30. Do you currently drink alcohol?	O	O	O
31. Have you used an illegal substance within the past two years?	O	O	O
32. Have you ever failed a drug test or been dependent on an illegal substance?	O	O	O

Other health condition(s) not described above: O Yes O No O Not Sure

Did you answer "yes" to any of questions 1-32? If so, please comment further on those health conditions below: O Yes O No O Not Sure

(Attach additional sheets if necessary)

CMV DRIVER'S SIGNATURE

I certify that the above information is accurate and complete. I understand that inaccurate, false or missing information may invalidate the examination and my Medical Examiner's Certificate, that submission of fraudulent or intentionally false information is a violation of 49 CFR 390.35, and that submission of fraudulent or intentionally false information may subject me to civil or criminal penalties under 49 CFR 390.37 and 49 CFR 386 Appendices A and B.

Driver's Signature: _____ Date: _____

SECTION 2. Examination Report *(to be filled out by the medical examiner)*

DRIVER HEALTH HISTORY REVIEW

Review and discuss pertinent driver answers and any available medical records. Comment on the driver's responses to the "health history" questions that may affect the driver's safe operation of a commercial motor vehicle (CMV).

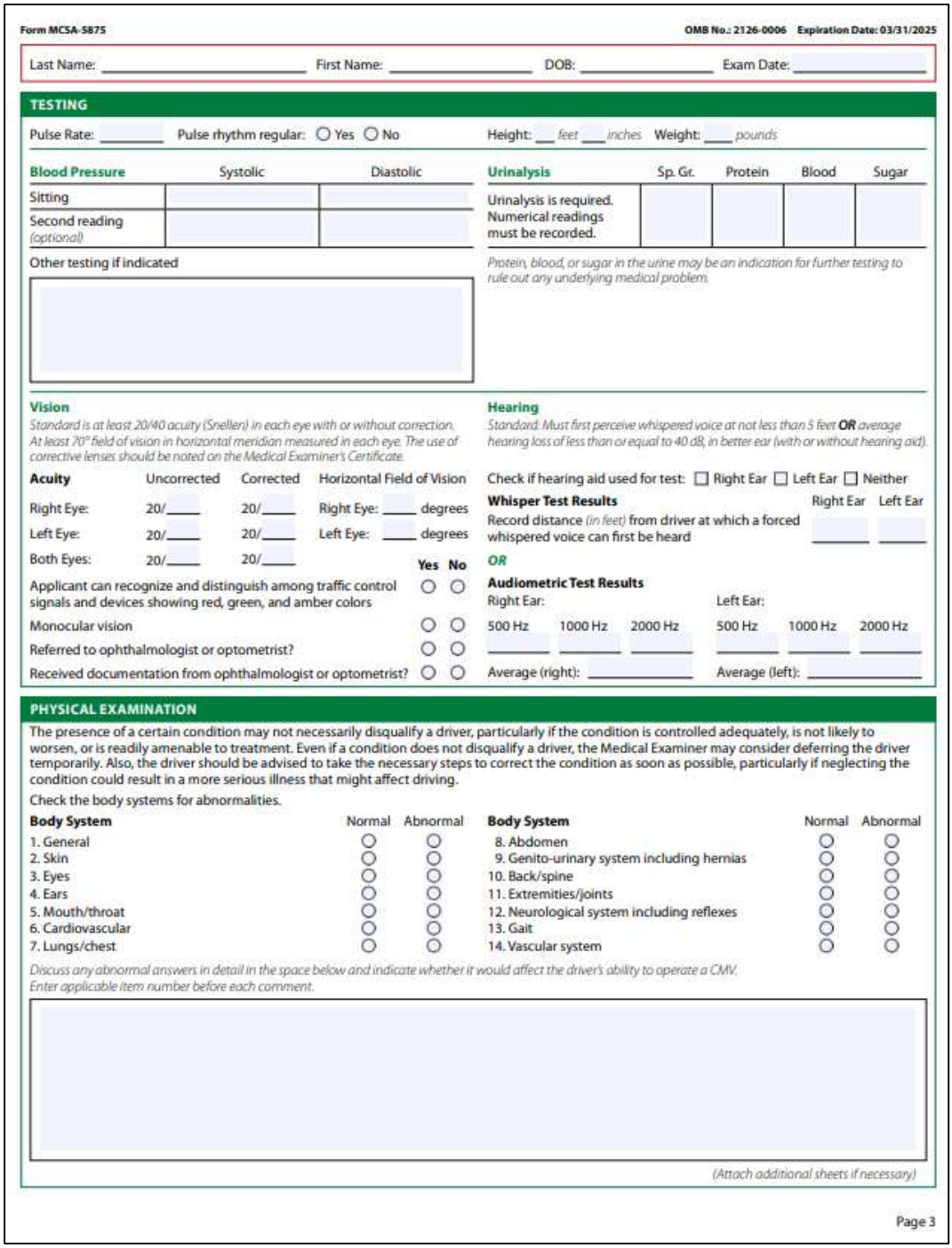
(Attach additional sheets if necessary)

Page 2

Page 3 Upper Half

Examination findings are recorded on this page.

- Pulse rate and rhythm, height, and weight
- Urinalysis: Except for none, negative, or trace, all readings should be reported in numerical values
- Other testing results should be recorded in the "other testing if indicated" section or on a separate piece of paper
- It is not necessary to test and record both uncorrected and corrected visual acuity values
- The ME can select whether to use the whisper test or audiometric test first. If both tests were performed, the results should be recorded for both tests.
    - If audiometric testing was used, the average hearing loss for each ear should be calculated and recorded
    - If a hearing aid was used, the ear requiring a hearing aid should be marked
    - If no hearing aid was needed, the ME should mark the "neither" box



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Last Name: _____ First Name: _____ DOB: _____ Exam Date: _____

TESTING

Pulse Rate: _____ Pulse rhythm regular: ○ Yes ○ No Height: ___ feet ___ inches Weight: ___ pounds

Blood Pressure	Systolic	Diastolic
Sitting		
Second reading (optional)		

Urinalysis	Sp. Gr.	Protein	Blood	Sugar
Urinalysis is required. Numerical readings must be recorded.				

Other testing if indicated

Protein, blood, or sugar in the urine may be an indication for further testing to rule out any underlying medical problem.

Vision

Standard is at least 20/40 acuity (Snellen) in each eye with or without correction. At least 70° field of vision in horizontal meridian measured in each eye. The use of corrective lenses should be noted on the Medical Examiner's Certificate.

Acuity	Uncorrected	Corrected	Horizontal Field of Vision
Right Eye:	20/____	20/____	Right Eye: ____ degrees
Left Eye:	20/____	20/____	Left Eye: ____ degrees
Both Eyes:	20/____	20/____	

	Yes	No
Applicant can recognize and distinguish among traffic control signals and devices showing red, green, and amber colors	○	○
Monocular vision	○	○
Referred to ophthalmologist or optometrist?	○	○
Received documentation from ophthalmologist or optometrist?	○	○

Hearing

*Standard: Must first perceive whispered voice at not less than 5 feet **OR** average hearing loss of less than or equal to 40 dB, in better ear (with or without hearing aid).*

Check if hearing aid used for test: ☐ Right Ear ☐ Left Ear ☐ Neither

Whisper Test Results Right Ear Left Ear

Record distance *(in feet)* from driver at which a forced whispered voice can first be heard _____ _____

OR

Audiometric Test Results

Right Ear:			Left Ear:		
500 Hz	1000 Hz	2000 Hz	500 Hz	1000 Hz	2000 Hz
Average (right): _____			Average (left): _____		

PHYSICAL EXAMINATION

The presence of a certain condition may not necessarily disqualify a driver, particularly if the condition is controlled adequately, is not likely to worsen, or is readily amenable to treatment. Even if a condition does not disqualify a driver, the Medical Examiner may consider deferring the driver temporarily. Also, the driver should be advised to take the necessary steps to correct the condition as soon as possible, particularly if neglecting the condition could result in a more serious illness that might affect driving.

Check the body systems for abnormalities.

Body System	Normal	Abnormal	Body System	Normal	Abnormal
1. General	○	○	8. Abdomen	○	○
2. Skin	○	○	9. Genito-urinary system including hernias	○	○
3. Eyes	○	○	10. Back/spine	○	○
4. Ears	○	○	11. Extremities/joints	○	○
5. Mouth/throat	○	○	12. Neurological system including reflexes	○	○
6. Cardiovascular	○	○	13. Gait	○	○
7. Lungs/chest	○	○	14. Vascular system	○	○

Discuss any abnormal answers in detail in the space below and indicate whether it would affect the driver's ability to operate a CMV. Enter applicable item number before each comment.

(Attach additional sheets if necessary)

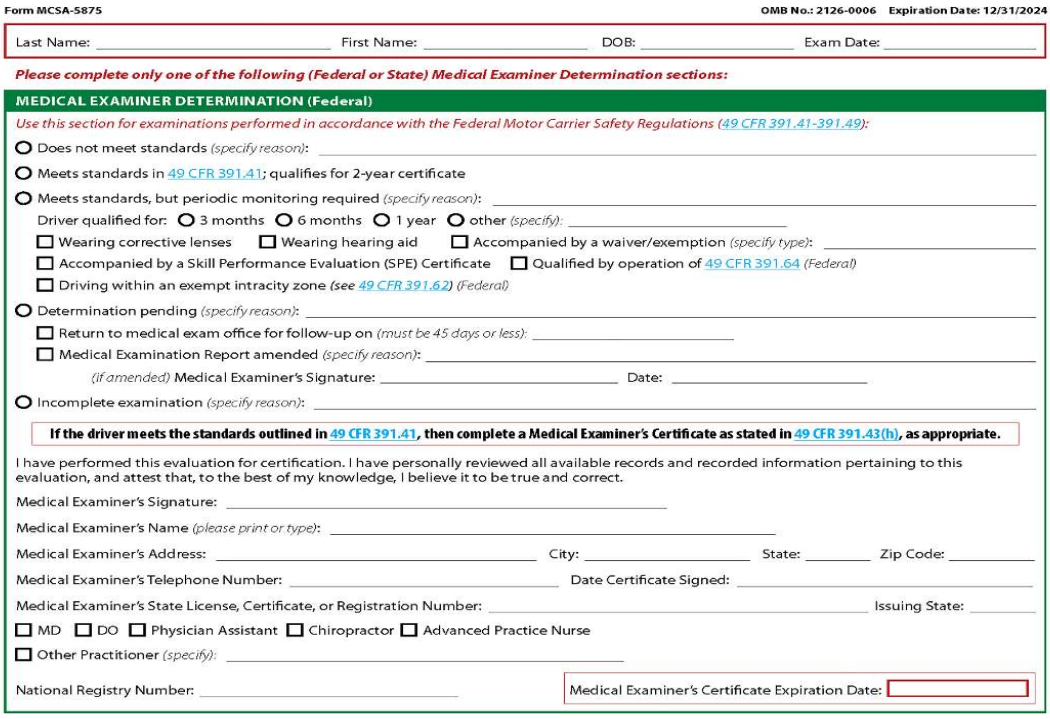
Page 3

Page 3 Lower Half

The Medical Examiner performs the physical exam and marks each body system reviewed as normal or abnormal. For any body system that is abnormal, the Medical Examiner should record the number of the body system in the area provided and make comments regarding the abnormality. All components of the exam must be performed.

Pages 4 & 5

These pages are used to indicate the driving status and restrictions, if any, of the driver. Page 4 is used for interstate drivers that drive across state lines.



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Last Name: First Name: DOB: Exam Date:

Please complete only one of the following (Federal or State) Medical Examiner Determination sections:

MEDICAL EXAMINER DETERMINATION (Federal)

Use this section for examinations performed in accordance with the Federal Motor Carrier Safety Regulations (49 CFR 391.41-391.49):

- ○ Does not meet standards *(specify reason)*:
- ○ Meets standards in 49 CFR 391.41; qualifies for 2-year certificate
- ○ Meets standards, but periodic monitoring required *(specify reason)*:
  - Driver qualified for: ○ 3 months ○ 6 months ○ 1 year ○ other *(specify)*:
  - ☐ Wearing corrective lenses ☐ Wearing hearing aid ☐ Accompanied by a waiver/exemption *(specify type)*:
  - ☐ Accompanied by a Skill Performance Evaluation (SPE) Certificate ☐ Qualified by operation of 49 CFR 391.64 *(Federal)*
  - ☐ Driving within an exempt intracity zone *(see 49 CFR 391.62) (Federal)*
- ○ Determination pending *(specify reason)*:
  - ☐ Return to medical exam office for follow-up on *(must be 45 days or less)*:
  - ☐ Medical Examination Report amended *(specify reason)*:
    - *(if amended)* Medical Examiner's Signature: Date:
- ○ Incomplete examination *(specify reason)*:

If the driver meets the standards outlined in 49 CFR 391.41, then complete a Medical Examiner's Certificate as stated in 49 CFR 391.43(h), as appropriate.

I have performed this evaluation for certification. I have personally reviewed all available records and recorded information pertaining to this evaluation, and attest that, to the best of my knowledge, I believe it to be true and correct.

Medical Examiner's Signature:

Medical Examiner's Name *(please print or type)*:

Medical Examiner's Address: City: State: Zip Code:

Medical Examiner's Telephone Number: Date Certificate Signed:

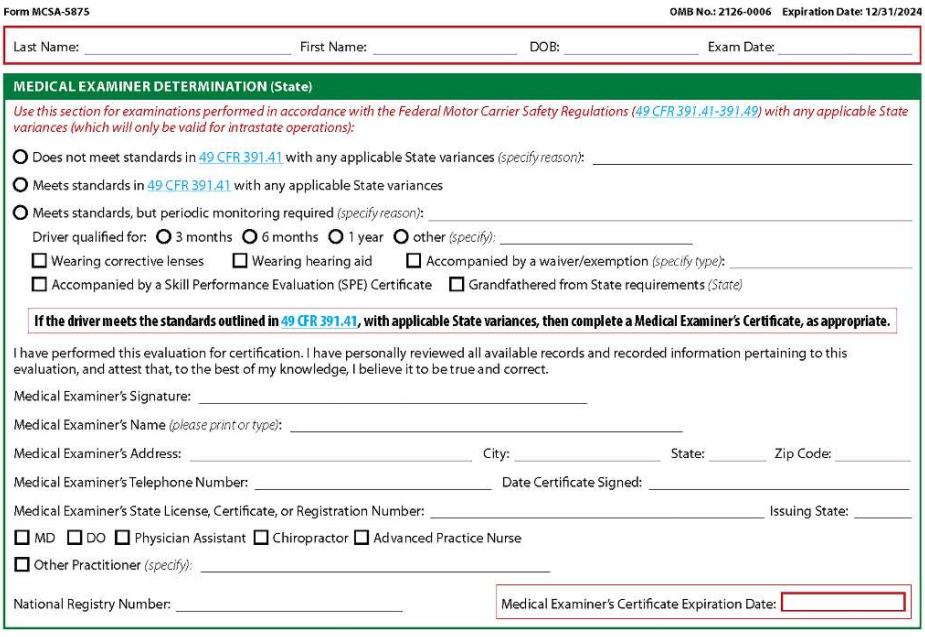
Medical Examiner's State License, Certificate, or Registration Number: Issuing State:

☐ MD ☐ DO ☐ Physician Assistant ☐ Chiropractor ☐ Advanced Practice Nurse

☐ Other Practitioner *(specify)*:

National Registry Number: Medical Examiner's Certificate Expiration Date:

Page 5 is used for those that only drive within their state. California and Montana do not accept page 5.



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Last Name: First Name: DOB: Exam Date:

MEDICAL EXAMINER DETERMINATION (State)

Use this section for examinations performed in accordance with the Federal Motor Carrier Safety Regulations (49 CFR 391.41-391.49) with any applicable State variances (which will only be valid for intrastate operations):

- ○ Does not meet standards in 49 CFR 391.41 with any applicable State variances *(specify reason)*:
- ○ Meets standards in 49 CFR 391.41 with any applicable State variances
- ○ Meets standards, but periodic monitoring required *(specify reason)*:
  - Driver qualified for: ○ 3 months ○ 6 months ○ 1 year ○ other *(specify)*:
  - ☐ Wearing corrective lenses ☐ Wearing hearing aid ☐ Accompanied by a waiver/exemption *(specify type)*:
  - ☐ Accompanied by a Skill Performance Evaluation (SPE) Certificate ☐ Grandfathered from State requirements *(State)*

If the driver meets the standards outlined in 49 CFR 391.41, with applicable State variances, then complete a Medical Examiner's Certificate, as appropriate.

I have performed this evaluation for certification. I have personally reviewed all available records and recorded information pertaining to this evaluation, and attest that, to the best of my knowledge, I believe it to be true and correct.

Medical Examiner's Signature:

Medical Examiner's Name *(please print or type)*:

Medical Examiner's Address: City: State: Zip Code:

Medical Examiner's Telephone Number: Date Certificate Signed:

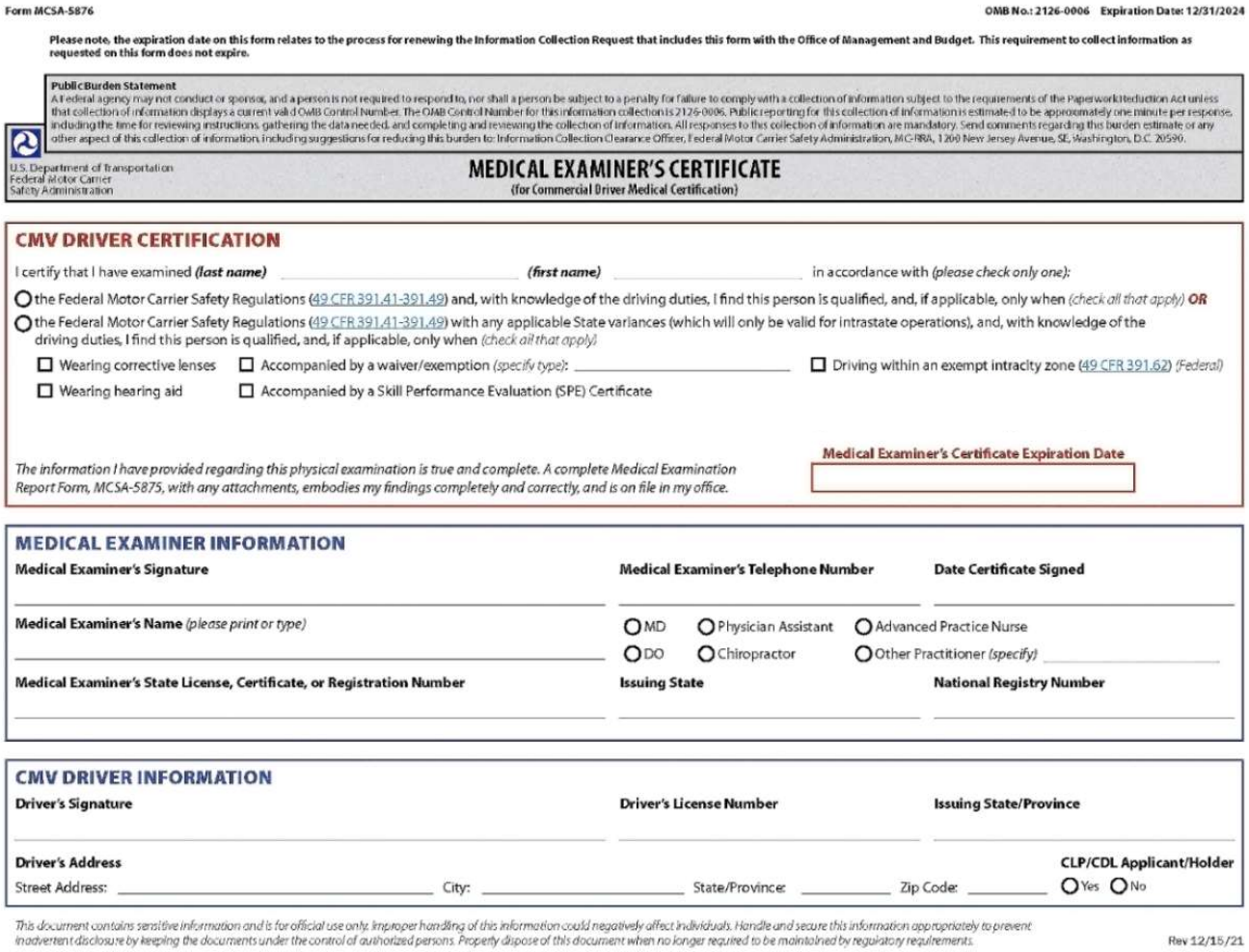
Medical Examiner's State License, Certificate, or Registration Number: Issuing State:

☐ MD ☐ DO ☐ Physician Assistant ☐ Chiropractor ☐ Advanced Practice Nurse

☐ Other Practitioner *(specify)*:

National Registry Number: Medical Examiner's Certificate Expiration Date:

Medical Examiner's Certificate (MCSA-5876)



Form MCSA-5876 OMB No.: 2126-0006 Expiration Date: 12/31/2024

Please note, the expiration date on this form relates to the process for renewing the Information Collection Request that includes this form with the Office of Management and Budget. This requirement to collect information as requested on this form does not expire.

Public Burden Statement
A Federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2126-0006. Public reporting for this collection of information is estimated to be approximately one minute per response, including the time for reviewing instructions, gathering the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: Information Collection Clearance Officer, Federal Motor Carrier Safety Administration, MC-RRA, 1200 New Jersey Avenue, SE, Washington, D.C. 20590.

U.S. Department of Transportation
Federal Motor Carrier
Safety Administration

MEDICAL EXAMINER'S CERTIFICATE
(for Commercial Driver Medical Certification)

CMV DRIVER CERTIFICATION

I certify that I have examined (last name) _____ (first name) _____ in accordance with (please check only one):

- ○ the Federal Motor Carrier Safety Regulations (49 CFR 391.41-391.49) and, with knowledge of the driving duties, I find this person is qualified, and, if applicable, only when (check all that apply) OR
- ○ the Federal Motor Carrier Safety Regulations (49 CFR 391.41-391.49) with any applicable State variances (which will only be valid for intrastate operations), and, with knowledge of the driving duties, I find this person is qualified, and, if applicable, only when (check all that apply)

☐ Wearing corrective lenses ☐ Accompanied by a waiver/exemption (specify type): _____ ☐ Driving within an exempt intracity zone (49 CFR 391.62) (Federal)
☐ Wearing hearing aid ☐ Accompanied by a Skill Performance Evaluation (SPE) Certificate

The information I have provided regarding this physical examination is true and complete. A complete Medical Examination Report Form, MCSA-5875, with any attachments, embodies my findings completely and correctly, and is on file in my office.

Medical Examiner's Certificate Expiration Date

MEDICAL EXAMINER INFORMATION

Medical Examiner's Signature | Medical Examiner's Telephone Number | Date Certificate Signed

Medical Examiner's Name (please print or type)

○ MD ○ Physician Assistant ○ Advanced Practice Nurse
○ DO ○ Chiropractor ○ Other Practitioner (specify) _____

Medical Examiner's State License, Certificate, or Registration Number | Issuing State | National Registry Number

CMV DRIVER INFORMATION

Driver's Signature | Driver's License Number | Issuing State/Province

Driver's Address

Street Address: _____ City: _____ State/Province: _____ Zip Code: _____

CLP/CDL Applicant/Holder ○ Yes ○ No

This document contains sensitive information and is for official use only. Improper handling of this information could negatively affect individuals. Handle and secure this information appropriately to prevent inadvertent disclosure by keeping the documents under the control of authorized persons. Properly dispose of this document when no longer required to be maintained by regulatory requirements.

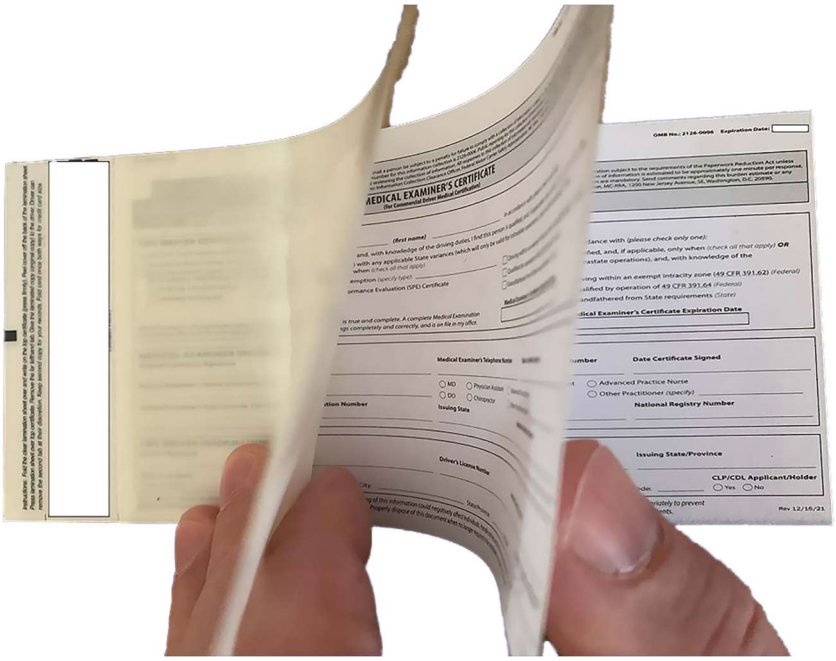
Rev 12/15/21

The Medical Examiner's Certificate (MEC) is commonly referred to as the "Short Form" and is used by all 50 states. It cannot be altered except for enlargement or reduction of the overall size of the certificate, without changing the height to width ratio. If reduced, all the print must be readable.

- The driver gets the original signed copy
    - It is their responsibility to provide a copy to their employer and their State Driver's License Agency
    - Drivers that do not have a CDL license are not required to provide a copy to the State Driver's License Agency

The expiration date of the medical examiners certificate is always based on the date the medical certificate was signed. Once issued, that medical examination is closed and cannot be amended. If at any time there are necessary alterations to be made to the medical history, the physical exam findings, or the driving status determination, a completely new exam must be performed using a new blank form.

Self-laminating medical examiner certificate cards are available online at www.teamcme.com that consist of a driver's original copy and the employer's copy. They can stand up to being in a wallet for up to 2 years.



Reissuing a Medical Certificate

There are four instances when a medical examiner may reissue an existing medical examiner's certificate from a previously performed exam. In each instance, the expiration date does not change.

1. When issuing **an exact copy** of an existing MEC when requested by the driver, motor carrier, State or Federal government agency, or HIPPA acceptable entity
2. **Change of Name**. ME issues a MEC with the driver's new name but is otherwise identical to the previously issued MEC.
   - Although a new exam is not required, it ***must be resubmitted to FMCSA***
3. If the driver's **address changes *within the same state***, the ME can provide the driver with a duplicate MEC except for the change in address, without a new exam, if the ME is comfortable doing so.
4. When a **Non-CDL driver obtains a CDL license from the same SDLA**. The SDLA makes the appropriate changes to the driver's license.

Physical Qualification Standards and Advisory Criteria

Urinalysis

Values should be reported in numerical values when indicated. However, reporting trace, negative, and none is also acceptable. When using a dipstick, the instructions for numerical values are printed on the device box.

When combined with other findings, if the UA results indicate the potential of renal dysfunction, the ME should obtain additional tests and/or consultation to adequately assess fitness to drive.

Normal Values:
• Specific gravity - 1.005 to 1.030 (avg. normal being 1.020)
• Protein - negative
• Blood - negative
• Sugar - negative

Specific Gravity:

- Decreased with chronic renal disease, excessive hydration
- Increased with diabetes, dehydration, excessive sweating, vomiting

Glucose:

- Trace amounts are normal and can be around 140mg/dl within two hours after eating
- Elevated with diabetes, hyperthyroidism, pregnancy, chronic liver disease, hypopituitarism

Protein:

- Low levels in the urine are normal
- Often the earliest sign of diabetic kidney damage
- Elevated from kidney infections and stones, renal thrombosis, diabetes, pre-eclampsia, multiple myeloma, hepatic diseases

Blood in urine can be caused by:

- Strenuous exercise
- UTI
- Kidney stones
- Blood clotting disorders
- Anticoagulant therapy
- Menstruation

CLIA Certificate of Waiver for In-Office Urinalysis

A CLIA certificate is not required for in-office urinary dipstick tests or when collecting or performing DOT Drug Testing. However, a CLIA Certificate *of Waiver* **is** required to perform these CLIA-waived or exempted tests. CLIA Certificates of Waiver are provided through your State Laboratory Licensing Agency. You must register your office as a "laboratory" and list yourself or another individual in the office as the "Laboratory Director". State laws can limit who can be a lab director. You may also have to get a state laboratory license for your state, although many states exempt physician offices from this requirement if the testing is limited to the provider's patients. The states of Georgia and New York do not allow Chiropractors to be listed as the laboratory director on a CLIA certificate of waiver.

The contact information for your state agency can be found on the CLIA website at the link listed here:
http://www.cms.gov/Regulations-and-Guidance/Legislation/CLIA/Downloads/CLIASA.pdf

Vision Standard

Drivers must meet the standard in each eye and with both eyes. (With or without corrective lenses). Drivers wearing contacts must carry a spare set of glasses while driving.

- **Distant visual acuity** of at least 20/40
    - Use either the Snellen chart at 20 feet, illuminated with white light, OR use the Titmus Vision Tester
    - Ask the driver which line has the smallest lettering they can read
- **Field of vision** of at least 70 degrees in the horizontal meridian
- No double vision
- When corrective lenses are used to meet the requirements, corrective lenses must be used while driving
- Be able to '***recognize'*** the **colors of traffic signals** and devices showing standard Green, Red and Amber
    - Can the driver differentiate between standard red, green, and amber even though they may have some type of color perception deficiency?

If a driver is referred to an **optometrist or ophthalmologist for evaluation**, the medical examiner should mark the *"referred to ophthalmologist or optometrist"* box and if a report is received, the "*received documentation" circle* should be checked. The medical examiner should attach the information received to the medical examination report form.

Drivers must meet the standard in each eye and when using both eyes. (With or without corrective lenses). Drivers who wear corrective lenses while driving should wear them for testing (some may pass without their lenses). Drivers wearing contacts must carry a spare set of glasses while driving.

Monocular Vision VS Monovision

Monocular Vision is when one eye does not meet the vision requirements.

Monovision is the result of having surgery or using corrective lenses to cause one eye to compensate for far vision and the other eye for near vision.

- *Disqualifying* as very few drivers can meet the distance vision
- This issue is generally circumvented by having the driver acquire new corrective lenses that allow for distance vision in both eyes

Failure to Meet Vision Standard = Disqualification

Two options:

- Evaluation by an eye specialist whose exam may produce better results and the possibility of obtaining corrective lenses
    - Then the driver can undergo a new physical qualification examination
- If it is not likely that the vision can be sufficiently improved with corrective lenses, the ME may use the alternative vision standard by instructing the individual to have an eye specialist complete the Vision Evaluation Report, Form MCSA-5871.

Alternative Vision Standard

Drivers who only meet the vision standard in one eye (monocular vision), with or without corrective lenses, can be permitted to operate a commercial motor vehicle in interstate commerce.

- Step 1: The driver must have a **Vision Evaluation Report form (MCSA-5871)** completed by an ophthalmologist or optometrist ***prior*** to the ME completing the physical exam. The report is only valid for 45 days.
- Step 2:
    - The ME reviews the report to verify that is acceptable to certify the driver
    - Once the vision specialist has the completed report, the ME will:
        - Review the report
        - The ME performs a new physical exam and if the driver meets all the other qualification standards, the driver can be certified for 1 year
        - The ME checks "yes" to monocular vision on the medical exam report form
        - The ME attaches the vision evaluation report to the medical examiner's report form
        - The ME can write "see attached documentation" or enter the information from the vision evaluation report into the medical examiner's report form
- Step 3: The Road Test
    - The first time an individual is qualified under this alternate standard, they must satisfactorily complete a road test administered by the employing motor carrier or a CDL driving school
    - This does not apply to individuals who have 3 years of intrastate or specific excepted interstate CMV driving experience with the vision deficiency

Vision Conditions

Cataracts:

- Blurry vision at any distance, in all fields
- Glare, particularly at night from oncoming headlights
- Decreased contrast and color resolution
- Accelerated by smoking, diabetes, gout, injury, radiation
- Surgery involves replacement of the lens (aphakia)
- Appear as white obstruction in pupil area
- "Cat eye" reflection from otoscope

Glaucoma:

- Decreased peripheral vision
- Decreased night vision and color vision
- Painless and progressive
- Acuity may not be affected and will probably not be detected by vision acuity testing

Macular Degeneration:

- Loss of detailed central vision
- Slowly progressive
- Increased time required for recovery from bright lights
- *Telescopic lenses redirect central images to areas of the eye for peripheral vision but is not acceptable for commercial driving*

Retinopathy:

- Micro-aneurisms or hemorrhages causing vision loss in any part of the field of vision
- Can obscure vision, cause retinal detachment and blindness
- Fluid leakage can lead to blind spots in central vision
- Diabetes is the most common cause (Diabetic Retinopathy)
    - For insulin-treated diabetics, Proliferative Diabetic Retinopathy and Severe Non-proliferative Diabetic Retinopathy are permanently disqualifying

Xanthopsia:

- A dominantly yellow bias in vision due to a yellowing of the optical media of the eye
- Predominantly caused by digoxin (derived from digitalis) which is used to treat arrhythmias

Xanthelasma Palpebrarum:

- A benign condition of soft yellow plaques on the inner aspect of the eyes.
- It is linked to conditions such as hyperlipidemia, diabetes, and thyroid dysfunction

Strabismus: Also known as cross-eyed
Amblyopia: Also known as "lazy eye"
Nystagmus: Involuntary, rapid, and repetitive movement of the eyes

Anisocoria:

- Pupils that are different sizes at the same time. Can be normal (physiologic) or a sign of an underlying medical condition.
- Physiologic anisocoria: Pupil size difference does not exceed 1mm and does not change under bright or dim light
- Underlying medical condition:
    - Injured iris
    - Eyedrops, nasal sprays, other meds cause dilation of pupil
    - Inflammation and Horner's syndrome can result in small pupil

Horner's Syndrome:

- Caused by injury to the sympathetic nerves responsible for dilating the pupil and raising the eyelid on the same side of the face.
- <u>The pupil in the involved eye is smaller and does not get bigger (dilate) as well as the other eye</u>.
- The difference in pupil size between the two eyes is more noticeable under dim light.
- May have mild droopiness (ptosis) of the upper eyelid

Cranial Nerve III (CN3) Palsy:

- A complete palsy causes a closed eyelid and deviation of the eye outward and downward and usually have double vision (diplopia). <u>The pupil is typically enlarged and does not react normally to light</u>.
- <u>Ptosis of the eyelid</u> or an enlarged pupil may be the first sign of a third nerve palsy

Hearing Standard

The hearing standard is a non-discretionary standard. A driver needs to meet the hearing standard in only one ear, with or without the use of hearing aids. To meet the hearing requirements, the driver must pass *either the whisper test or the metric test*.

- If the driver fails the initial test, conduct the other test
- Record both test results on exam report form
- If the driver failed the whisper test, and audiometric testing is not available, the driver must be disqualified until results of the audiometric test are presented
    - A new physical exam must be completed
- If the driver fails both tests, a federal hearing exemption is available that will allow even completely deaf individuals to drive across state lines

Whisper Test:

- Driver must be able to perceive a whispered voice in the better ear at a distance ≥5 feet
- The examiner stands behind or to the side of the driver to avoid visual cues
- The driver covers the opposite ear
- Using breath remaining following normal expiration, whisper words or random numbers
- Record the distance in feet at which the whispered voice can first be repeated by the driver

Audiometric test:

- Device should be calibrated to *American National Standard Institute (ANSI)* units
- Values to consider: **500Hz, 1000Hz, and 2000Hz**
- Calculate the sum of the readings, then divide by 3
- The average hearing loss must be ≤40dB **in the better ear**
- If the driver must use hearing aids, an "Open Field" audiometric test must be administered

Organization for Standardization (ISO) Conversion to American National Standard Institute (ANSI)

Medical Examiners must convert ISO units into ANSI units

- Subtract 14 from the 500Hz reading
- Subtract 10 from the 1000Hz reading
- Subtract 8.5 from the 2000Hz reading
- Replace any negative number resulting from the subtraction with 0
- Calculate the sum of the readings, then divide by 3

Hearing Aids & Cochlear Implants

Regardless of the specific function or cost of a hearing device, if the driver passes the whisper test or audiometric testing while using the device, it is acceptable.

- The device must not interfere with safe driving, such as loss of peripheral vision
- The driver must wear the device while driving
- The driver must carry a spare battery or spare hearing aid while driving

The Ear Exam

An External and otoscopic examination, including visualization of the Tympanic membrane is required. If needed, ear wax can be removed. Discuss with the driver any abnormal findings such as tympanic scarring, occlusion of ear canal, or perforated membrane.

Federal & State Hearing Exemptions

Federal and/or State Hearing Exemptions are available for drivers that fail the hearing standard. The medical examiner should ask the driver if they are interested in applying. If not, the driver is disqualified.

- Mark "does not meet standards" and write "hearing" in the space provided
- Give the driver a copy of the medical exam form and the original copy of the medical examiner's certificate
- MEs can provide the driver a copy of the hearing exemption application. Tell the driver they cannot drive until they have their Federal (or State) hearing exemption. The Federal hearing exemption is valid for two years and if otherwise qualified, the driver may be certified for 2 years.

Cardiovascular

Hypertension

An elevated BP should be *confirmed by at least two measurements* taken at different times during the exam on the same day. Additional measurements are allowed and should be recorded on the report form in the additional results area. The lowest reading is used to determine the stage of HTN.

Stage 1 Hypertension (140-159/90-99)		
Certification	**DQ'd**	**Recertification**
For 1 year if: • Has no history of HTN • It is the first exam at which the driver has BP in stage 1 • Does not use medication to control BP *One-time 3-month certificate if:* • History of HTN	History of stage 3 HTN	*For 1 year if any of the following:* • BP ≤ 140/90 *On-time 3-month certificate if:* • BP is stage 1 or stage 2 *6-month certificate if:* • History of stage 3 HTN • BP ≤ 140/90
Stage 2 Hypertension (160-179/100-109)		
One-time 3-month certificate	History of stage 3 HTN	*For 1 year if:* • BP ≤ 140/90 *6-month certificate if:* • History of stage 3 HTN • BP ≤ 140/90

Stage 3 Hypertension (≥180/110)		
Certification	**Disqualified**	**Recertification**
Disqualified	Disqualified until BP ≤ 140/90	*6-month certificate if:* • BP <140/90

Secondary Hypertension

Medical certification for secondary hypertension is based on the above stages. Evaluation is warranted if an individual is persistently hypertensive on maximal or near-maximal doses of two to three pharmacologic agents. Some causes of secondary hypertension may be amenable to surgical intervention or specific pharmacologic treatment.

Heart Transplantation

Concerns: transplant rejection, post-surgical atherosclerosis, medication side effects
Considerations:

- Signs of cardiovascular disease
- No signs of rejection
- Tolerates medication
- Clearance from CV Specialist

For further guidance, see the 2013 Expert Panel Recommendations for Cardiovascular Diseases in Appendix A.

Syncope

- Distinguish between *pre-syncope* (dizziness, lightheadedness) and true *syncope* (loss of consciousness)
- Verify that driver's medications are not predisposing them to decreased BP, electrolyte shifts and imbalances, fatigue
- Qualification determinations are made according to the standards of the underlying condition
    - Cardiac-based syncope
    - Neurologic-based syncope (migraine, seizure)
- Has treatment been shown to be adequate and effective?

For further guidance, see the 2013 Expert Panel Recommendations for Cardiovascular Diseases in Appendix A.

Acute Deep Vein Thrombosis (DVT)

- DVT can be the source of a pulmonary embolus
- Adequate treatment with anticoagulants decreases the likelihood of recurrent thrombosis by approximately 80%
- Certify If:
    - No residual Acute DVT
    - Adequate anticoagulant treatment

For further guidance, see the 2013 Expert Panel Recommendations for Cardiovascular Diseases in Appendix A.

Pulmonary Emboli

Likely to cause syncope, dyspnea, or collapse
Considerations:

- Asymptomatic
- Appropriate long-term anticoagulation therapy

For further guidance, see the 2013 Expert Panel Recommendations for Cardiovascular Diseases in Appendix A.

Intermittent Claudication & Rest Pain

Intermittent Claudication: Pain in feet and/or legs that is reproducible by walking a specific distance which goes away with rest
Considerations:

- No rest symptoms
- Etiology has been confirmed
- Treatment is adequate, effective, safe, and stable

Rest Pain: Pain at rest (no activity involved), worse with elevation above level of hips. *Consider disqualification due to reduced function of the affected limb.*

Abdominal Aortic Aneurysm (AAA)

- Most are asymptomatic
- Rupture is related to the size of the aneurysm (< 4cm diameter rarely rupture)
- Aneurysms > 6cm diameter are detected on exam 90% of the time
- Auscultation of a bruit may indicate the presence of an aneurysm
- Ultrasound has nearly 100% sensitivity and specificity for detecting AAA's

The ME may consult with specialists and request additional evaluation to assist in deciding whether a Medical Examiner's Certificate can be issued.

For further guidance, see the 2013 Expert Panel Recommendations for Cardiovascular Diseases in Appendix A.

Arrhythmias

Pacemakers

<u>Considerations:</u>
What is the underlying disease?

- Sinus node dysfunction and atrioventricular (AV) block have variable long-term prognoses

Are there signs that the pacemaker is not working properly?

- Bradycardia
- Alternating bradycardia and tachycardia
- Syncope
- Weakness or tiredness

For further guidance, see the 2013 Expert Panel Recommendations for Cardiovascular Diseases in Appendix A.

Implantable Cardioverter-Defibrillator (ICD)

Do not certify drivers with an implanted defibrillator or a combination defibrillator/pacemaker.

- Treats ventricular fibrillation and ventricular tachycardia by delivering shock therapy to the heart
  - Likely to cause syncope or collapse

Will stop a current arrhythmia but DOES NOT prevent arrhythmias

Supraventricular Tachycardia (SVT): a common arrhythmia usually *not consider a risk for sudden death.*

- Occasionally can cause loss of consciousness or compromise cerebral function
- Treatment by catheter ablation is usually curative and allows withdrawal of drug therapy

Atrial Fibrillation:

- Associated with embolus formation which can cause a stroke
    - Anticoagulant therapy decreases this risk

Considerations:

- Heart rate is controlled
- Treatment for emboli prevention is effective and tolerated
- Clearance from CV specialist
- Complies with anticoagulant therapy guidelines

For further guidance, see the 2013 Expert Panel Recommendations for Cardiovascular Diseases in Appendix A.

Ventricular Arrhythmias

- A much greater risk than most atrial arrhythmias
- Responsible for most of cardiac sudden death

Considerations:

- Is the cause known? Does the cause preclude certification?
- Asymptomatic
- No sustained ventricular tachycardia
- Have they been evaluated by a CV specialist?

For further guidance, see the 2013 Expert Panel Recommendations for Cardiovascular Diseases in Appendix A.

Cardiovascular Tests

Exercise Tolerance Test (ETT)

The Bruce protocol treadmill test is the most common test used to evaluate workload capacity and detect cardiac abnormalities.

- Involves increasing speed and incline on a treadmill every three minutes per stage
- Test stops when they've hit 85% of their maximum heart rate, **OR**
- Heart rate exceeds 115 beats per minute for two stages, **OR**
- It is deemed that the test should no longer continue

Metabolic equivalent of task (METs) is a unit that estimates the energy used during physical activity, measured in calories

- 1 MET: The energy cost of sitting quietly
- Under 3 METs: Light-intensity activity
- 3-6 METs: Moderate-intensity activity
- Over 6 METs: Vigorous-intensity activity

A "Normal" ETT:

- Exceed 6 METs through Bruce protocol Stage 2
- No Angina
- <1 mm ST depression in 2 or more leads
- Exceed 85% of age-predicted max heart rate
- 20 mmHg or more rise in systolic BP

Echocardiogram (Echo)

- Uses sound waves to create pictures of the heart to detect abnormalities such as leaking heart valves or stenosis
- Has superior sensitivity and specificity compared to the standard ETT
- Indicated in the presence of an abnormal resting electrocardiogram or non-diagnostic ETT
- Assesses left ventricular ejection fraction (LVEF)
    - Ejection fractions of 55-70% are normal
    - 40-55% are slightly below normal
    - 35-39% are moderately below normal
    - < 35% is severely below normal

Coronary Heart Disease

The major clinical manifestations of coronary heart disease (CHD) are acute myocardial infarction, angina pectoris (either stable or unstable), congestive heart failure, and sudden death. The major independent predictor of CHD survival is left ventricular function.

Considerations:

- Has the treatment been shown to be adequate, effective, safe, and stable?
- Is the driver compliant with the treatment plan?
- Is the driver knowledgeable about medications used while driving?

Myocardial Infarction (MI)

The greatest risk of mortality following an MI is within the first few months.

Considerations:

- Asymptomatic
- No left ventricular dysfunction
- Compliant with treatment
- Treatment been shown to be adequate, effective, safe, and stable
- No exercise-induced myocardial ischemia on ETT
    - *Cardiologists recommend ETT at 4-6 weeks and every 2 years*

For further guidance, see the 2013 Expert Panel Recommendations for Cardiovascular Diseases in Appendix A.

Angina Pectoris

Stable = Predictable:

- Pain may be precipitated by exertion, Emotion, extremes in weather, sexual activity

Unstable:

- Pain at rest
- Change in pattern (increased frequency and longer duration)
- Decreased response to medication

Considerations:

- Asymptomatic
- Duration the angina has been stable
- Have there been changes in the angina pattern?
- Is the driver compliant with the treatment plan?
- Has treatment been shown to be adequate, effective, safe, and stable?

For further guidance, see the 2013 Expert Panel Recommendations for Cardiovascular Diseases in Appendix A.

Congestive Heart Failure

Results from damaged muscles of the heart, affecting the ability to pump blood which leads to fatigue, shortness of breath, and swelling of the legs.

Considerations:

- Asymptomatic
- Stable LVEF
- Tolerant to medications
- Treatment been shown to be adequate and effective
- Driver is compliant with treatment plan

Coronary Artery Bypass Grafting (CABG)

- Greatest risk for complications occur in the first 3 months after surgery
- Sternum generally takes 3 months to heal
- High re-occlusion rate after 5 years
    - May indicate the necessity of a stress test (ETT)

Considerations:

- Asymptomatic
- Healed Sternum
- Tolerant to medications
- Treatment is shown to be adequate and effective
- Driver is compliant with treatment plan

For further guidance, see the 2013 Expert Panel Recommendations for Cardiovascular Diseases in Appendix A.

Percutaneous Coronary Intervention (PCI) (Stent/Angioplasty)

- The vascular access site usually heals within 1 week

Considerations:

- Asymptomatic
- Complete healing at vascular access site
- Driver is compliant with treatment plan

For further guidance, see the 2013 Expert Panel Recommendations for Cardiovascular Diseases in Appendix A.

Congenital Heart Disease

- Patent ductus arteriosus (PDA)
- Ebstein anomaly
- Tetralogy of Fallot
- Coarctation of the aorta
- Pulmonary valve stenosis
- Transposition of the great vessels
- Ventricular septal defect
- Atrial septal defect
- Marfan syndrome

Considerations:

- What is the anatomic diagnosis?
- What is the severity of the defect?
- How likely is syncope, dyspnea, collapse, or congestive cardiac failure?
- Did the driver undergo successful repair of the congenital defect?
- Does the driver have cardiac enlargement?

Cardiomyopathy

MEs should evaluate whether the driver meets the physical qualification standards and may consider obtaining an evaluation by a cardiologist.

Hypertrophic Cardiomyopathy

- Most have no symptoms and a near-normal life expectancy
- When symptomatic, individuals have progressive symptoms

Signs and symptoms (especially during exercise or exertion):

- chest pain
- syncope
- heart murmur
- sensation of rapid, fluttering, or pounding palpitations
- shortness of breath

Restrictive Cardiomyopathy

If the driver has a diagnosis of restrictive cardiomyopathy, they should be disqualified from driving.

- Least common form of heart disease
- Increased myocardial stiffness leading to impaired ventricular filling

Signs or symptoms:

- Fatigue
- Shortness of breath
- Pedal edema
- Weakness
- Arrhythmias and conduction disturbances

For further guidance, see the 2013 Expert Panel Recommendations for Cardiovascular Diseases in Appendix A.

Valvular Heart Diseases

Heart Murmurs

- Must distinguish between:
  - *Functional murmurs* that do not preclude certification
  - *Pathological murmurs* that may preclude medical qualification

Types of murmurs:

Systolic murmurs occur during a heart muscle contraction

- Ejection murmurs
  - Due to blood flow through a narrowed vessel or irregular valve
- Regurgitant murmurs

Diastolic murmurs occur during heart muscle relaxation between beats

- Due to a narrowing (stenosis) of the mitral or tricuspid valves
- Or regurgitation of the aortic or pulmonary valves

Continuous murmurs occur throughout the cardiac cycle

Grade 1: Must strain to hear murmur
Grade 2: Can hear a faint murmur without straining
Grade 3: Can easily hear a moderately loud murmur
Grade 4: Can easily hear a moderately loud murmur with a thrill
Grade 5: Can hear the murmur when only part of stethoscope is in contact with the skin
Grade 6: Can hear the murmur with the stethoscope close to the skin (not in contact)

Aortic Regurgitation

Mild/Moderate = little to no enlargement of the left ventricle
Severe = significant enlargement of the left ventricle
Considerations:

- Severity
- Size and function (LVEF) of the left ventricle
- Any symptoms that may cause syncope, dyspnea, or collapse?

For further guidance, see the 2013 Expert Panel Recommendations for Cardiovascular Diseases in Appendix A.

Aortic Stenosis

The aortic valve is difficult or stiff to open or does not fully open.
Symptoms:

- Chest pain
- Tiredness after exertion
- Shortness of breath after exertion
- Heart palpitations

Treatment: Balloon valvuloplasty or surgical commissurotomy
Considerations:

- Severity
- Any symptoms that may cause syncope, dyspnea, or collapse?

For further guidance, see the 2013 Expert Panel Recommendations for Cardiovascular Diseases in Appendix A.

Aortic Valve Repair

Mechanical valves:

- No risk of rejection
- Do not wear out as quickly
- Require anticoagulation

Biological valves:

- Harvested from a pig or a cow
- Have a risk of rejection by the body
- Last 7 to 10 years
- Usually do not require long-term anticoagulation therapy

For further guidance, see the 2013 Expert Panel Recommendations for Cardiovascular Diseases in Appendix A.

Mitral Regurgitation

- The valve between the left heart chambers does not completely close
- In severe cases, the heart does not deliver sufficient blood to the body, resulting in:
    - Fatigue
    - Dyspnea
    - Orthopnea

MEs should assess the severity of the diagnosis and the presence of signs or symptoms.

For further guidance, see the 2013 Expert Panel Recommendations for Cardiovascular Diseases in Appendix A.

Mitral Stenosis

- Narrowing of the valve between the left heart chambers
- Symptoms indicate a poor prognosis:
    - Angina
    - Syncope
    - Fatigue
    - Dyspnea
- Treatment options include enlarging the mitral valve or cutting the band of mitral fibers.

MEs should assess the severity of the diagnosis and the presence of signs or symptoms.

For further guidance, see the 2013 Expert Panel Recommendations for Cardiovascular Diseases in Appendix A.

Mitral Valve Prolapse

- A common cause of mitral regurgitation
- Mostly benign
- May manifest with dizziness or lightheadedness, fatigue, arrhythmia, heart murmur, difficulty breathing, or chest pain
- Progression can cause atrial fibrillation, left sided heart enlargement, and congestive heart failure

Pulmonary Valve Stenosis

- Usually a well-tolerated condition with gradual progression
- Incapacitation and/or sudden death can occur if the stenosis is severe

MEs should assess the nature and severity of the medical condition to determine whether the driver meets the cardiovascular standard.

Respiratory

"Abnormal findings and/or multiple risk factors that are likely to interfere with the ability to operate a CMV, may require further testing such as PFTs and/or chest x-ray. Consider referring to a specialist for further evaluation."

Pulmonary Function Tests (PFT)

A pulmonary function test should be obtained when any of the following are present:

- History of any specific lung disease
- Symptoms of shortness of breath (especially at rest), cough, chest tightness, or wheezing
- Cigarette smoking in drivers 35 years or older
- Clubbing of the fingers usually associated with pulmonary or cardiovascular disease

Acceptable PFT Values:

Pulse Oximetry:

- SpO2 ≥ 92% on room air

Spirometry:

- Forced expiratory volume in one second (FEV1) ≥ 65% of the predicted value
- Forced vital capacity (FVC) ≥ 60% of the predicted value
- FEV1/FVC ratio ≥ 65%

Arterial Blood Gases:

Do not certify if PaCO2 > 45mmHg at any altitude.

- Driver lives less than 5000 feet above sea level and has PaO2 ≥ 65mmHg
- Driver lives more than 5000 feet above sea level and has PaO2 ≥ 60mmHg

Allergy-Related Life-Threatening Conditions

Systemic anaphylaxis and acute upper airway obstruction can be induced by the following conditions:

- The sting of an insect
  - The ME could suggest that the driver carry an epinephrine injection device in the CMV
- Hereditary or acquired angioedema due to a deficiency of a serum protein can cause life-threatening airway obstruction or severe abdominal pain
- Recurrent episodes of idiopathic anaphylaxis or angioedema

Considerations:

- Nature/Severity and prevention/treatment regimen do not endanger the health and safety of the driver and public.

Asthma

- Generally reversible airway obstruction when treated effectively with bronchodilators and corticosteroids

Considerations:

- Frequency and severity of the asthma attacks
- Are the asthma attacks likely to interfere with the driver's ability to drive a CMV safely?
- Is the prevention/treatment regimen likely to interfere with the driver's ability to drive a CMV safely?
- Is there significant impairment of pulmonary function (FEV1 less than 65% of predicted value or PaO2 less than 65mmHg)?

Hypersensitivity Pneumonitis

- Immune-mediated interstitial pneumonitis presenting as dyspnea, cough, fever
- Driver should avoid (repeated) exposure to causative agent (cargo)

Consideration:

- Does driver have a successful treatment plan to alleviate symptoms?

Antihistamine Therapy

1st Generation Antihistamines:

- Diphenhydramine (Benadryl)
- Have sedating effects
- *ME should inform driver to abstain from driving for 12 hours after taking medication*

2nd Generation Antihistamines:

- Cetirizine, Loratadine
- Are less sedating and most do not interfere with driving

Considerations:

- Is the underlying condition and treatment with antihistamines likely to interfere with the driver's ability to control and drive a CMV safely?
- Does the driver have complications relating to the respiratory dysfunction and treatment that impairs function?
    - Severe conjunctivitis affecting vision
    - Inability to keep eyes open
    - Photophobia
    - Uncontrolled sneezing
    - Sinusitis associated with severe headaches

Tuberculosis (TB)

Atypical Tuberculosis

- Noninfectious
- Medications generally not needed
- If progressive, respiratory insufficiency may develop
    - Associated with cough, mild hemoptysis, sputum production

Pulmonary Tuberculosis

- Treatment is extremely successful
- Only persists in individuals while on therapy (streptomycin)
    - Streptomycin can cause hearing loss
- Advanced TB may cause respiratory insufficiency

Considerations:

- What is the nature and severity of the disease and symptoms?
- Are there symptoms that are likely to interfere with the ability to control and drive a CMV safely?
- Has the treatment has been completed and no longer contagious?
- Did treatment affect hearing/balance?
- No side effects that interfere with safe driving

Chronic Obstructive Pulmonary Disease (COPD)

- A group of conditions causing a chronic reduction in expiratory flow
- Most often caused by chronic bronchitis, emphysema
- Usually brought on by smoking

Symptoms:

- Chronic cough
- Sputum production
- Dyspnea on exertion

Considerations:

- Is severity likely to interfere with safe driving?
- Is there an unstable medical condition such as:
    - Hypoxemia at rest
    - Chronic respiratory failure
    - History of continuing cough with cough syncope
- Consider a PFT

Chest Wall Deformities

Affect the mechanics of breathing, usually affect the driver's vital capacity.

Examples:

- Excessive kyphosis
- Scoliosis
- Pectus excavatum
- Ankylosing spondylitis
- Massive obesity
- Recent thoracic/upper abdominal surgery or injury

Considerations:

- Is the deformity stable?
- Is the deformity likely to interfere with safe driving?
- Does the driver also have an unstable medical condition?
    - Chronic respiratory failure
    - History of continuing cough with cough syncope
    - Hypoxemia at rest

Cystic Fibrosis

- Requires continuous antibiotic therapy and respiratory therapy to mobilize abnormal secretions
- May result in limited physical strength

Considerations:

- Nature and severity of the disease and symptoms
    - Hypoxemia at rest
    - Chronic respiratory failure
    - History of continuing cough with syncope
- Is the driver able to obtain therapy while working if necessary?

Interstitial Lung Disease

- Diseases grouped together due to common pathologic features
- Occupational and environmental exposure are common causes
- Side effects of treatment with corticosteroids and cytotoxic agents

Considerations:

- Is the disease stable?
- Is the disease likely to interfere with safe driving?
- Does the driver also have an unstable medical condition?
    - Hypoxemia at rest
    - Chronic respiratory failure
    - History of continuing cough with cough syncope

"A history of breathlessness while driving, walking short distances, climbing stairs, handling cargo, or entering/exiting the cab should initiate a careful evaluation of pulmonary function."

Pneumothorax

Air within the pleural space surrounding the lungs. This may occur spontaneously or secondary to an underlying disease.

Traumatic Pneumothorax

- The medical history and physical exam will provide details of the event that caused the traumatic pneumothorax

Spontaneous Pneumothorax

- The underlying disease is the determining factor for certification

Considerations:

- Has there been complete recovery confirmed by x-ray documented by the treating provider?
    - No air in pleural space or in the mediastinum
- Is the driver asymptomatic?
- For a spontaneous pneumothorax, what is the underlying disease?
    - Is this disease likely to interfere with safe driving?
- Consider disqualification if history of two or more spontaneous pneumothoraxes on one side & no successful surgical intervention

Cor Pulmonale

Enlargement of the right ventricle secondary to pulmonary hypertension or hypoxic pulmonary vasoconstriction.

Symptoms:

- Dizziness
- Hypotension
- Syncope

Considerations:

- Has treatment with vasodilators been shown to be adequate, effective, safe, and stable?
- Are side effects likely to interfere with safe driving?

Sleep Disorders

Narcolepsy: *Diagnosis of Narcolepsy is disqualifying*

- A neurological sleep disorder caused by the brain's inability to regulate sleep-wake cycles normally
- Characterized by *excessive sleepiness* and manifestations of rapid eye movement (REM) sleep during wakefulness
- Manifests as pervasive drowsiness and sub wakefulness, frequent napping, and unexpected and overpowering sleep attacks occurring almost daily

Idiopathic Hypersomnia: *Disqualifying*

- Excessive sleepiness after sufficient or even increased amounts of nighttime sleep without any identifiable cause.
- Unintended naps are longer than those of narcolepsy and are usually unrefreshing.

Other symptoms:

- Difficulty awakening from sleep
- Disorientation and confusion on awakening
- Headaches
- Syncope
- Orthostatic hypotension

Obstructive Sleep Apnea (OSA)

If left untreated, moderate-to-severe OSA may contribute to fatigue, deficits in attention, concentration, situational awareness, and memory.

If multiple risk factors are observed, consider a sleep study referral.

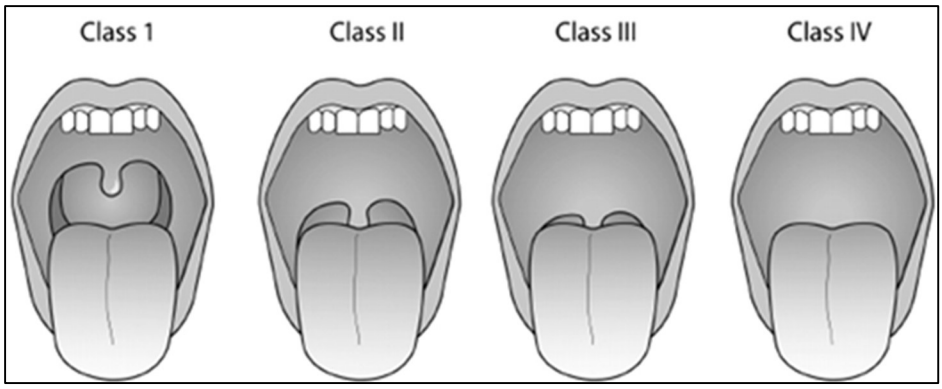
Risk factors:

- History of a small airway
- Loud snoring
- Daytime sleepiness
- Self-reported or witnessed apneas
- Obesity, high body mass index (BMI)
- Large neck circumference (men-17”, women-16”)
- Diabetes
- HTN
- History of stroke, coronary artery disease, arrhythmias
- Retrognathia (recessed chin/overbite)
- Mallampati Score indicating sleep apnea risk (class 3 or 4)

Considerations:

- Are symptoms likely to interfere with the driver’s ability to drive a CMV safely?
- Is the driver compliant with treatment?
- Has treatment been shown to be adequate, effective, safe, and stable?

Mallampati Scoring



Apnea Hypopnea Index (AHI)

Measurement of a driver's number of apnea and hypopnea events experienced per hour when sleeping. The AHI is used to determine the severity of sleep apnea.

Severity	AHI (events/hour; AASM)	FMCSA Guidance
None	0 - 5	N/A
Mild	6 - 15	Explore treatment options
Moderate	16 - 29	Place on therapy
Severe	≥30	

OSA Therapy

Gold standard: CPAP, APAP, Bi-level PAP (BiPAP)

Alternative therapies:

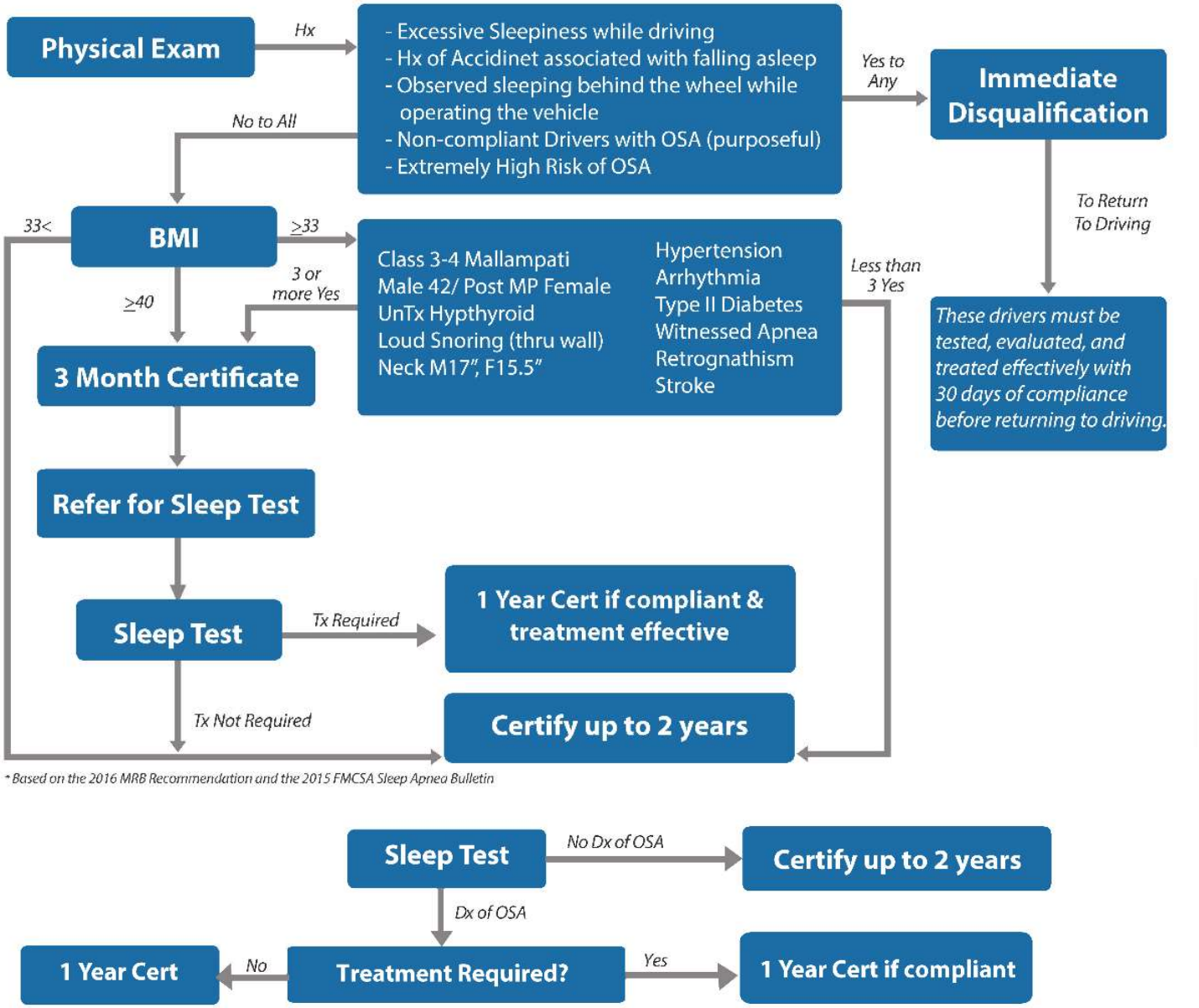
- Oral appliances:
  - Oral devices may be limited in the ability to record and store data regarding driver use.
  - May use chip on device to monitor use
- Inspire Surgical Procedure:
  - Device implanted at base of tongue using electrical stimulation to open the airway
  - Cloud-based adherence monitoring

2016 MRB OSA Recommendations

- If ME believes OSA is in any way likely to interfere with safety, patient should be referred for evaluation & therapy (if needed)
- MEs should clearly explain basis for decision regarding certification if a certificate for < 2 years, or denied
- Drivers with a diagnosis of OSA regardless of severity cannot be issued a medical certificate for more than 1 year
- Effective Treatment is resolution of moderate/severe OSA to mild or better as determined by a Board-Certified sleep specialist
- Subjective sleepiness questionnaires are not considered to be helpful due of unlikelihood of truthfulness

TeamCME OSA Evaluation Screening Algorithm

This algorithm is based on the 2016 medical review board recommendations.



When is treatment required?

- Treatment is required whenever the OSA test result indicates an Apnea/Hypopnea Index (AHI) of 15 or more
- If the driver's AHI is <15 but >5, and they have a comorbidity such as diabetes, hypertension, untreated hypothyroidism, CVD, or arrhythmia, treatment is required

Once therapy has started, what is needed to be compliant?

- The driver must demonstrate use of the assistive device for at least 4 hours per night, 70% of nights, and relate no excessive daytime sleepiness

When is treatment considered effective?

- Treatment is deemed effective if their AHI while using the device is resolved to below 15

Initial & Re-Certification of Drivers with OSA

Initial Certification:

A driver may be certified Initially for up to 1 year if:

- The driver is compliant (70% of nights with 4 or more hours of use) during the last 30 consecutive days and does not report excessive sleepiness during the major wake period.

Re-Certification:

A driver may be re-certified for up to 1 year if:

- Driver has documentation of PAP **use** for a period no less than the number of days between the certification date of the driver's previous medical certificate and the time at which they receive their current medical exam
- The driver does not report excessive sleepiness during the major wake period

Re-Certification of Non-Compliant Drivers:

1. ME may issue a 30-day certification to allow the driver to produce 30 days of compliance.
2. When the driver returns, the ME may issue a 60-day certificate if the driver has been compliant for the previous 30 days. Otherwise, the driver is disqualified until they demonstrate 30 days of compliance.
3. When the driver returns, the ME may issue a 90-day certificate if the driver continued to be compliant during the previous 60 days. Otherwise, the driver is disqualified until they demonstrate 30 days of compliance. *
4. When the driver returns, the ME may issue a 1-year certificate if the driver remains compliant for the previous 90 days. Otherwise, the driver is disqualified until they demonstrate 30 days of compliance. *

* There is an exception to a driver being disqualified for non-compliance after receiving 60-day or 90-day certification. If the driver was compliant during the last 30 days of the certification period, the ME may restart the re-certification process again by issuing the driver a 30-day medical certificate without disqualifying the driver to produce 30 days of compliance.

Genitourinary & Gastrointestinal

Functions of the Liver, Spleen, & Pancreas

Liver:

- Processing of hemoglobin for use of its iron content (the liver stores iron)
- Production of cholesterol and special proteins to help carry fats through the body
- Conversion of excess glucose into glycogen
- Regulation of blood levels of amino acids
- Clearing the blood of drugs and other poisonous substances
- Regulating blood clotting
- Clearance of bilirubin from the red blood cells to prevent jaundice

Spleen:

- Controls the level of white blood cells, red blood cells and platelets
- Screens the blood and removes any old or damaged red blood cells

If it doesn't work properly, it may start to remove healthy blood cells, leading to anemia, an increased risk of infection, and a reduced number of platelets.

Pancreas: Produces enzymes important to digestion

- Amylase for the digestion of carbohydrates
- Lipase to break down fats
- Insulin acts to lower blood sugar
- Glucagon acts to raise blood sugar

Hernia

Inguinal hernia examination should be conducted on all males.

If a hernia causes pain or discomfort, or if the condition suggests it might interfere with safe driving, further testing and evaluation may be required prior to certifying the driver.

Do not certify the driver if they have a condition that is a danger to driving or if a hernia repair has been recommended but not performed.

Nephropathy

- Strongly related to insulin-treated diabetics of 15 years or more
- First Stage is persistent proteinuria
    - A UA indicating proteinuria may indicate some degree of renal dysfunction
    - ME may obtain additional testing

Evaluate on a case-by-case basis to determine whether the driver is likely to experience syncope, dyspnea, collapse, or congestive heart failure.

For further guidance, see the 2009 Medical Expert Panel Opinions for Chronic Kidney Disease in Appendix B.

Dialysis

- Needed when an individual's kidneys lose 85% to 90% of their function

Hemodialysis:

- Individual goes to a clinic for treatments multiple times a week
- Uses a machine which is sometimes called an artificial kidney

Peritoneal dialysis:

- Uses the lining of the abdomen (peritoneal membrane) to filter the blood
- Usually done daily in the home or any other clean place
- Can be done intermittently while awake or continually at night

Considerations:

- Does the driver experience symptoms pre- or post-dialysis, such as excessive fatigue, muscle cramps, hypotension, or cognitive impairment?
- Is the driver compliant with the dialysis schedule?
- Does the work schedule interfere with the dialysis schedule?
- Has treatment been shown to be adequate, effective, safe, and stable?

Kidney Transplants

Individuals will usually return to normal lifestyle

Certify if:

- Driver has been returned to full duty with no limitations
- Tolerates medications/treatment

Anti-Rejection Medications:

- Tacrolimus (Prograf)
- Cyclosporine
- CellCept

Diabetes Mellitus Standard

MEs are to perform a case-by-case assessment of a driver with diabetes mellitus. The exam is based on driver history, objective data from the physical exam, and additional testing when requested. MEs may consult with the treating provider to assess the driver for fitness of duty and for the risk of or history of a severe hypoglycemic episode.

FMSCA does not specify acceptable levels of glycosuria or glycemia. Glycosuria (400-500mg/dl) may indicate poor control. If present, you may elect to order a blood glucose test or a glycosylated hemoglobin (HbA1c). You also may consider issuing a temporary certification.

Consider the following:

- Urinary glucose
- A1C results
- Blood glucose levels

American Diabetes Association (ADA) Guidelines

Normal= less than 5.7%
Prediabetes= 5.7% to 6.4%
Diabetes= 6.5% or higher
Greater than 7% results in organ damage

A1C and level of control:
Controlled= 6% to 6.9%
Uncontrolled= 7% to 8.9%
Critically high= over 9%
(Consider a temporary certificate)

HbA1C and estimated Average Glucose (eAG)

6% = 126mg/dl
6.5% = 140mg/dl
7% = 154mg/dl
7.5% = 169mg/dl
8% = 183mg/dl
8.5% = 197mg/dl
9% = 212mg/dl
9.5% = 226mg/dl
10% = 240mg/dl

Non-Insulin-Treated Diabetes Mellitus Assessment Form (MCSA-5872)

This is a voluntary form that MEs may find helpful in determining whether the individual has any medical conditions or symptoms that may prevent them from meeting the qualification standards.

The form requests additional information from the treating clinician regarding the diagnosis, monitoring, and stability of their diabetes by asking questions regarding glucose control, hypoglycemic episodes, recent HbA1c, and organ damage.

Insulin-Treated Diabetes Mellitus

Although injectable, GLP-1 agonists, such as Trulicity and Ozempic, are not insulin.

Driver Requirements:

- Driver cannot have either *severe non-proliferative diabetic retinopathy* or *proliferative diabetic retinopathy*
- The individual must have an evaluation by the treating clinician (TC) **before any medical examination by the certified ME**
- Driver must provide the TC with at least the preceding 3 months of electronic self-monitoring records *while being treated with insulin*
  - The frequency of monitoring should be determined by the TC
  - The driver can provide either the glucometer or a printout
  - Specifications of the electronic glucometer:
    - Must store all readings
    - Record the date and time of the readings
    - Allow for data to be electronically downloaded
- If the driver DOES NOT have the preceding 3 months of self-monitoring records *while on insulin*, they may only be certified for 3 months
    - Upon return, if 3 months of compliant self-monitoring records are provided to the TC, a new ITDM Assessment Form, MCSA-5870, can be completed

Treating Clinician Requirements:

The TC must complete the Insulin-Treated Diabetes Mellitus Assessment Form, MCSA-5870 before any medical examination by the ME

- The TC attests on the form that the individual maintains a stable insulin regimen and proper control of their diabetes
- They sign and date the form and provide their business information

Medical Examiner Requirements:
The ME must receive the completed form MCSA-5870 **no later than 45 days after it has been completed**. This is the case for each medical examination.

- Upon receipt of a valid form:
  - The examination is performed
  - The ME considers the information provided and determines whether the individual meets the qualification standards
  - If the standards are met, the ME may issue a Medical Examiner's Certificate for up to a maximum of 12 months

Severe *Hypo*glycemic Episode

An episode that:

- Required the assistance of others, OR
- Resulted in a seizure, loss of consciousness, or coma

An ITDM driver who experiences *a severe hypoglycemic episode is **prohibited** from operating a CMV*.

- Individual must report the episode
- They must be evaluated by their TC as soon as is practicable
- Once the cause has been addressed, they must again have a stable insulin regimen and properly controlled ITDM
- A new ITDM Assessment Form bust be completed before they can resume operating a CMV
  - They must retain the form and present it at their next medical examination

Musculoskeletal

Some diseases have acute episodes with symptoms that may interfere with the ability to operate a CMV safely. Others are slowly progressive and do not significantly interfere with the driver's abilities until later stages.

Considerations:

- The nature and severity of the driver's condition
  - Sensory loss
  - Loss of strength
- The degree of limitation present
  - Range of motion
  - The rate or stage of progression

Examination:

Spinal:

- There is no required range of cervical motion
  - The driver must be able to twist their spine or body enough to view both the left and right sideview mirrors
- Surgical scars and deformities
- Tenderness and muscle spasm
- Loss in range of motion/painful motion
- Kyphosis, scoliosis, other spinal deformities
- Check for balance, coordination, deep tendon reflexes, and Babinski reflex
  - A positive Babinski test may trigger a neurological evaluation

Extremities:

- Gait, mobility, posture (weight bearing), limping or signs of pain
- Strength, function, mobility of both upper and lower extremities
    - There is no specific lifting weight requirement, nor is there a repetitive lifting frequency requirement for commercial drivers

Prehension: the ability to achieve sufficient "friction" on an object

- Consider using a broom stick or oversized steering wheel

Grasp Power: extremity strength

- No specific test is required but may use the following:
    - Dynamometer designed to measure grip strength
    - Sphygmomanometer - Have driver repeatedly squeeze the inflated cuff while noting maximum deflection of gauge

Musculoskeletal Diseases

Conditions with Abnormal Muscle Activity

Abnormalities within the nerve or muscle membrane causing abnormal muscle excitability.
Diseases that may interfere with safe driving:

- Myotonia
- Isaac's Syndrome
- Stiff-man Syndrome

Multiple Sclerosis

- The disease can cause permanent damage or deterioration of the nerves
- Communication problems between the brain and the rest of the body
- Most have a relapsing of symptoms over days or weeks followed by a period of remission of months or years
- The rate of disease progression varies

Symptoms differ from individual-to-individual:

- Numbness/weakness
- Electric-shock sensations occurring with certain neck movements
- Tremor
- Lack of coordination
- Unsteady gait
- Partial or complete loss of vision, usually in one eye at a time
- Prolonged double vision or blurry vision
- Fatigue
- Dizziness

"MEs should address the diagnosis of multiple sclerosis, on a case-by-case basis, to determine if the driver meets the physical qualification standard."

For further guidance, see the 2009 Medical Expert Panel Opinions for Multiple Sclerosis in Appendix B.

Parkinson's Disease

Symptoms differ from individual-to-individual. Often begin on one side of the body and usually remain worse on that side:

- Tremor
- Slowed movement (bradykinesia)
- Rigid muscles
- Posture and balance impairment
- Loss of automatic movements, such as blinking or smiling
- Speech changes

Symptoms of advanced stages include:

- Orthostatic hypotension
- Depression and emotional changes
- Sleep disorders
- Fatigue
- Decreased cognitive function

Stage 1 symptoms may be considered a mild risk for safe driving.

- Tremor and other movement symptoms on one side of the body
- Changes in posture, walking, and facial expressions

"MEs should address the diagnosis of Parkinson's disease, on a case-by-case basis, to determine if the driver meets the physical qualification standards."

For further guidance, see the 2009 Medical Expert Panel Opinions for Parkinson's Disease in Appendix B.

Other Neuromuscular Diseases

Disease Process	Examples
Congenital Myopathies	Central core disease, Centronuclear myopathy, Congenital muscular dystrophy, Rod myopathy
Metabolic Muscle Disease	Homocystinuria, Phenylketonuria, Maple syrup urine disease
Motor Neuron Disease	Amyotrophic lateral sclerosis (ALS), Progressive bulbar palsy, Pseudobulbar palsy
Neuromuscular Junction Disorder	Myasthenia gravis, Lambert-Eaton Myasthenic syndrome, Neuromyotonia
Peripheral Neuropathy	Causes: Diabetes, Autoimmune disease, Vascular disease, Medications, Alcoholism, Vitamin deficiencies

Skill Performance Evaluation (SPE)

The Skill Performance Evaluation (SPE) is considered an alternative to the musculoskeletal standard. It allows a person who is not physically qualified, but who is otherwise medically qualified, to drive a commercial motor vehicle. To obtain a SPE, the driver submits an SPE application to the FMCSA Division Administrator.

The letter of application for an SPE certificate shall be accompanied by:

- A copy of the medical examination form
- A copy of the medical examiner's certificate
- A medical evaluation summary completed by either a board-qualified or board-certified physiatrist or orthopedic surgeon

Driving Demonstrations:

An FMCSA agent may require a driver to demonstrate the driver's ability to safely operate the CMV the driver intends to operate.

- Includes three portions:
  - Non-driving and pre-trip inspection
  - Off-highway driving
  - On-highway driving

The SPE is only applicable for fixed deficits of the extremities where the driver does not have sufficient functional capacity to perform the duties of a driver.

"Only drivers with loss of all five fingers are considered to have the loss of a hand." Drivers with only one finger on a hand can be certified if they can demonstrate adequate grip strength and prehension to perform the duties of a driver.

If the severity of a fixed deficit is less than the whole hand but not sufficient use, or if the driver has a complete functional loss of the hand, this is medically disqualifying *unless the driver has an SPE as part of a limb impairment.*

Decisions regarding whether the loss, impairment, defect, or limitation is **fixed** will be made during a medical evaluation by a board qualified or board-certified physiatrist (doctor of physical medicine) or orthopedic surgeon, and be reviewed by FMCSA, as part of the SPE application process.

An SPE certificate is ***not available*** for impairment of the ***spine or torso*** that does not result in loss, impairment, defect, or limitation of a limb.

Neurological 49 CFR 391.41 (b)(7)(8)(9)

Seizures & Epilepsy (Non-Discretionary)

The following drivers cannot be qualified:

- A driver who has a medical history of epilepsy or a seizure disorder, unless the driver is both off antiseizure medication and seizure free for 10 years or more
- A driver who has a current clinical diagnosis of epilepsy or a seizure disorder
- A driver who is taking antiseizure medication to prevent seizures

Single *Unprovoked* Seizure

- Cause is unknown or no clear provoking trigger
- Risk of reoccurrence after five years is low
- Waiting Period: 5 years, seizure and anticonvulsant medication free

Reoccurrence Risk Factors:

- History of remote neurological insult (i.e., stroke)
- Abnormalities on an electroencephalogram (EEG)
- Focal structural lesion on neuroimaging
- A family history of epilepsy

A second unprovoked seizure, regardless of the elapsed time between seizures, may constitute a medical history or diagnosis of epilepsy.

Single *Provoked* Seizure (known cause)

A provoked, non-epileptic seizure or loss of consciousness resulting from:

- A drug reaction
- Withdrawal from alcohol or illicit drug
- High temperature
- Acute infectious disease
- Dehydration
- Acute metabolic disturbance
    - Hypernatremia or hyponatremia, hypocalcemia, hypoglycemia, hypomagnesemia, hypokalemia, and hyperkalemia

Certify for 2 years if:

- Driver has fully recovered
- No residual complications
- Anti-seizure medication is not required
- Seizure recurrence is unlikely

Childhood Febrile Seizures

- Occur in children between ages 6 months and 5 years
- Fever often stemming from infection
- Unlikely to cause seizures or residual side effects in adulthood

Certify If: Seizure history is limited to childhood febrile seizures

Epilepsy

Epilepsy is characterized by seizures without warning

The following drivers ***cannot be certified to drive*:**

- Drivers with a current clinical diagnosis of epilepsy
- Drivers taking anti-seizure medication for treatment of seizures

Waiting Period: 10 years off anticonvulsant medications & seizure free

Clearance from neurological specialist is prudent if choosing to certify a driver with established history of epilepsy.

Federal Seizure Exemption

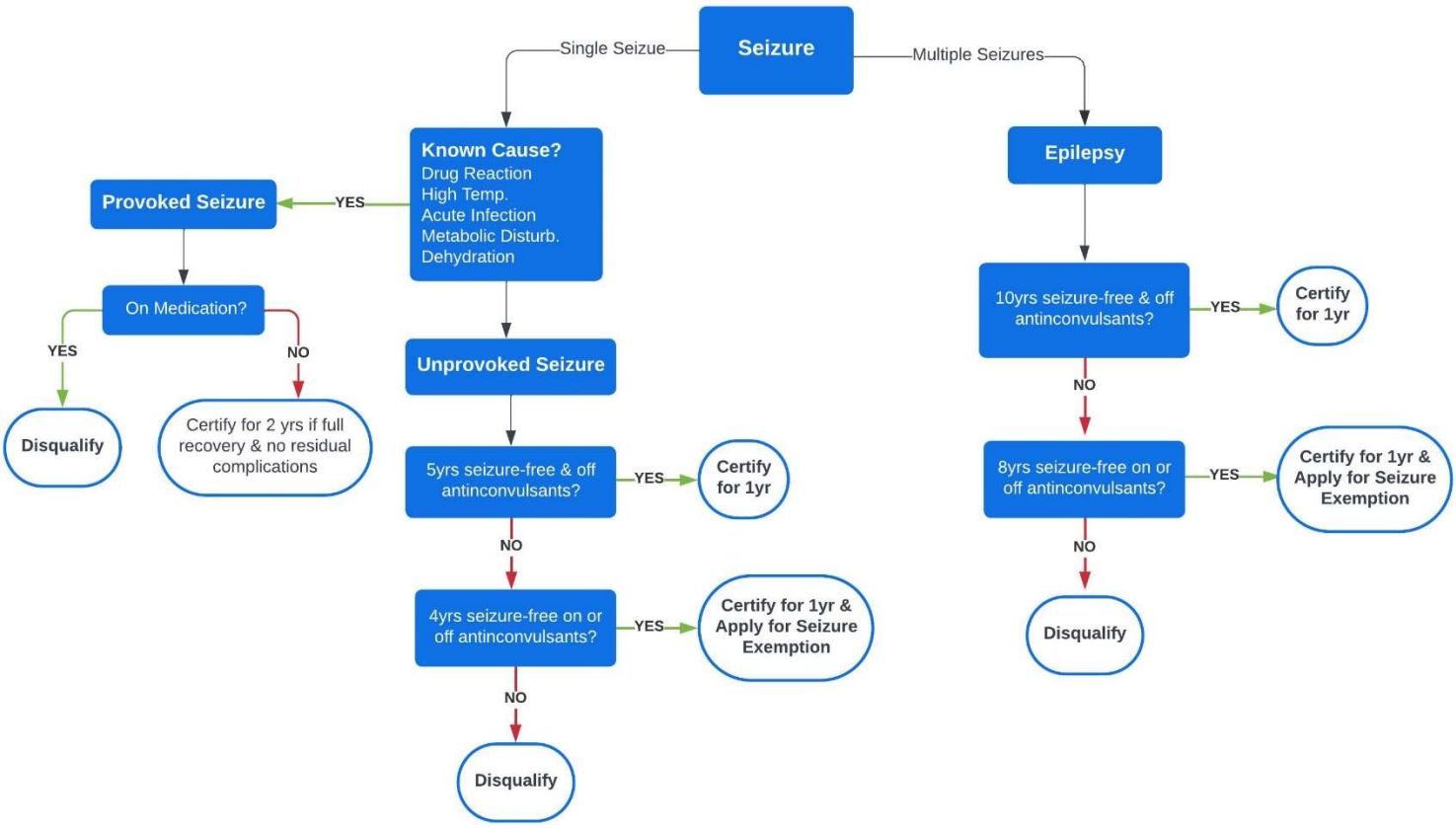
To apply for the Exemption the following must be met:

Epilepsy diagnosis:

- Be seizure free for 8 years, on or off medication
- If taking anti-seizure meds, the plan for medication should be stable for 2 years. (Stable means: no change in meds, dosage, or frequency of administration

Single *Unprovoked* Seizure (no known cause):

- Seizure free for 4 years, on or off medication
- If taking anti-seizure medication, the plan for medication should be stable for 2 years (see above)



Embolic/Thrombotic Stroke & Transient Ischemic Attack (TIA)

- **Seizure risk** is associated with the location of the lesions
  - *Cortical and subcortical* deficits (both being Cerebral) have an increased risk
  - *Cerebellum and brainstem* lesions are not at risk
  - Cerebral infarctions can cause residual intellectual and/or physical impairment
- Risk of recurrent event is highest during the first 7-9 months
- Most will recover within 1 year
- Deficits that remain after one year are usually permanent
- Accompanied seizure may constitute a diagnosis of epilepsy
  - Indicates an increased risk of a future unprovoked seizure

TIA

- Usually lasting more than a few seconds but less than 20 minutes
- Individuals experience a full resolution of symptoms
- 1 in 3 individuals who have a TIA will eventually have a stroke

Exam should assess cognitive abilities, judgement, attention, concentration, vision, physical strength and agility, and reaction time.

Considerations:

- Are there any neurological residuals?
- Are seizures present?
- Is the nature and severity likely to cause loss of consciousness or any loss of ability to control a CMV?
- Has the driver has been evaluated and treated by a medical provider or neurologist?
- Has treatment been shown to be adequate, effective, safe, and stable?

Intracerebral and Subarachnoid Hemorrhage

Intracerebral Hemorrhage = bleeding into substance of the brain
Subarachnoid Hemorrhage = bleeding into the spaces of the brain

- May result from hypertension, trauma, aneurysms, neoplasms, AV malformations, vasculopathies
- Can cause deficits in
  - Cognitive abilities
  - Judgement
  - Attention
  - Physical skills
- Seizure risk is associated with the location of the lesions
  - *Cortical and subcortical hemorrhages* have an increased risk
  - *Cerebellum and brainstem hemorrhages* are not at risk

Considerations:

- Are there any neurological residuals?
- Are seizures present?
- Is the nature and severity likely to cause loss of consciousness or any loss of ability to control a CMV?
- Has the driver has been evaluated and treated by a medical provider or neurologist?
- Has treatment been shown to be adequate, effective, safe, and stable?

Traumatic Brain or Spinal Cord Injury

May result in:

- Diminished state of consciousness
- Coma
- Memory loss
- Emotional problems
- Decreased reasoning
- Long term cognitive or physical function

Considerations:

- Was there a loss of consciousness? If so, for how long?
- What is the level of severity?
- Do symptoms include cognitive, psychosocial, sensory, or motor function impairment?
- Has treatment been shown to be adequate, effective, safe, and stable?
- Is the underlying disorder likely to interfere with the ability to driver a CMV safely?

For further guidance, see the 2009 Medical Expert Panel Opinions for Traumatic Brain Injury in Appendix B.

Headaches

Chronic or recurring headaches can potentially interfere with a driver's ability to safely operate a CMV due to symptoms such as a visual distortion or disequilibrium associated with a migraine.

- Migraines
- Tension headaches
- Cluster headaches
- Cranial Neuralgias
- Post-traumatic head injury syndrome
- Headaches associated with toxic substances
  - Carbon monoxide
  - Nitroglycerine
- Atypical Facial Pain

Incapacitating symptoms, even if periodic or in early state of disease, *warrant disqualification when interfering with*:

- Cognitive ability
- Judgment
- Attention
- Concentration
- Sensory or motor function
- Coordination
- Balance

Considerations:

- What is the frequency, severity, and duration of the headaches?
- What are the symptoms associated with the headaches?
  - Visual disturbances
  - Light or noise sensitivity
  - Loss of consciousness
- Has treatment been shown to be adequate, effective, safe, and stable?

Dizziness & Vertigo

The ability to maintain balance and orientation while operating a CMV depends upon the following:

- Sensory input from the peripheral nervous system (PNS)
  - Vestibular system
  - Visual system
  - Proprioception system
- Motor integration in the central nervous system (CNS)

Inappropriate interactions within these systems may produce an unsafe degree of vertigo or dizziness.

Considerations:

- What is the frequency, severity, and duration of vertigo and dizziness episodes?
- Are the episodes likely to cause loss of consciousness or any loss of ability to control a CMV?
- Has treatment been shown to be adequate, effective, safe, and stable?

Meniere's Disease

Chronic disorder of the inner ear that can result in dizzy spells, vertigo, and hearing loss.

Symptoms:

- Recurring vertigo lasting 20 minutes to several hours
- Inner ear pressure
- Tinnitus (ringing, buzzing, whistling, or hissing sound)
- Hearing fluctuation
- May have long intervals without symptoms

Considerations:

- What is the frequency, severity, and duration of the vertigo episodes?
- Are the vertigo episodes likely to cause loss of consciousness or any loss of ability to control a CMV?
- Has treatment been shown to be adequate, effective, safe, and stable?

Infections of the CNS

Drivers with a *current infection* of the CNS *should not be certified* until etiology is confirmed and treatment is adequate, effective, safe, and stable.

- Acute infections can cause seizure
- Some infections are mild and resolve without special treatment
- Other infections can be severe with long-term effects
- Some infections increase the likelihood of later seizures

Considerations:

- Was the infection accompanied by seizure?
  - How many seizures occurred?
  - When did they occur?
  - Is the driver taking antiseizure medication?
  - What is the likelihood of seizure recurrence?
- Has the underlying infection resolved and is the driver fully recovered from the infection?
- Are there any existing residual complications from the infection?
- Was treatment shown to be adequate, effective, safe, and stable?

Tumors of the Central Nervous System

Some benign tumors may be allowable with successful treatment.

CNS tumors cause either focal or generalized neurologic symptoms

- Seizures
- Changes in:
  - Vision
  - Hearing
  - Speech
  - Swallowing
  - Cognitive ability
  - Judgment
  - Sensory and motor functions

Considerations:

- Is the nature and severity of the medical condition likely to cause loss of consciousness or any loss of ability to control a CMV?
- Has treatment been shown to be adequate, effective, safe, and stable?

Psychological Disorders 49 CFR 391.41(b)(9)

For further guidance, see the 2009 Medical Expert Panel Opinions for Psychiatric Diseases in Appendix B.

Medical Advisory Criteria

- Emotional or adjustment problems can contribute to a person's memory, reasoning, attention, and judgment
- Any disorder, even in the early stages, which may result in incapacitation of the driver may result in disqualification
- Consider the side effects and interactions of medications
  - Medications may be likely to interfere with the ability to drive a commercial motor vehicle safely

"It is unlikely that drivers who are highly susceptible to frequent states of emotional instability (e.g., due to schizophrenia, affective psychoses, paranoia, severe anxiety, or depressive neuroses) would satisfy the physical qualification standard."

MEs may on a case-by-case basis obtain testing/consultation with mental health specialist to assess fitness for duty.

Disqualification is not based solely on diagnosis. But the more serious the diagnosis, the more likely disqualification may occur.

Attention Deficit Hyperactivity Disorder (ADHD)

Symptoms:

- Age-inappropriate levels of attention
- Impulsiveness
- Hyperactivity
- Mood lability
- Low frustration tolerance
- Explosiveness
- Often treated with stimulants
  - *This is not a disqualifier if for the treatment of ADHD*

Certify if:

- Complies with treatment plan
- Tolerates medication without disqualifying side effects
- Has a comprehensive evaluation from a mental health professional

Bipolar Mood Disorder

Bipolar mood disorder is characterized as one or more manic episodes accompanied by one or more depressive episodes.

Manic Symptoms:

- Excessively elevated mood or irritable mood
- Diminished judgement
- Increased likelihood of substance abuse
- Possibility of delusions or hallucinations

Depressive Symptoms:

- Loss of motivation
- Loss of interest
- Loss of appetite
- Poor sleep
- Fatigue
- Poor concentration
- Indecisiveness

Severe depression symptoms:

- Psychosis
- Severe psychomotor retardation or agitation
- Significant cognitive impairment
- Suicidal thoughts or behavior

Considerations:

- Has the driver had a nonpsychotic major depression unaccompanied by suicidal behavior? If so, how long has the driver been symptom free?
- How long has the driver been symptom free following a severe depressive episode, a suicide attempt, or a manic episode?
- Are there adverse medication side effects?
- Has treatment been shown to be adequate, effective, safe, and stable?
- Is the nature and severity of the underlying mental disorder likely to interfere with safe driving?

Major Depression

Major depression consists of one or more depressive episodes that may alter mood, cognitive functioning, behavior, and physiology.

Symptoms:

- Depressed or irritable mood
- Loss of interest or pleasure
- Social withdrawal
- Appetite disturbance
- Sleep disturbance
- Weight change
- Fatigue
- Restlessness and agitation
- Impaired concentration
- Poor judgement
- Suicide thoughts or attempts

Considerations:

- Has the driver had a nonpsychotic major depression unaccompanied by suicidal behavior? If so, how long has the driver been symptom free?
- How long has the driver been symptom free following a severe depressive episode, a suicide attempt, or a manic episode?
- Are there adverse medication side effects?
- Has treatment been shown to be adequate, effective, safe, and stable?
- Is the nature and severity of the underlying mental disorder likely to interfere with safe driving?

Post-Traumatic Stress Disorder

Post-traumatic stress disorder (PTSD) is an anxiety disorder that develops following frightening, stressful, or distressing life events. It can be associated with behavior changes, mood swings, and suicidal ideations.

Treatment:

- Psychotherapy
  - Mild to medium severity can be successfully completed within a year
  - Severe PTSD can take longer
- Medications
  - Antidepressants can decrease anxiety, depression, panic, aggression, impulsivity, and suicidal thoughts
  - Benzodiazepines can provide quick relief of anxiety, but the individual can develop dependance on the medication and possibly worsen the PTSD over time

Considerations:

- Are there medication side effects for this driver?
- Has treatment been shown to be adequate, effective, safe, and stable?
- Is the nature and severity of the underlying mental disorder likely to interfere with safe driving?
- Has the driver been evaluated by a behavioral health specialist? If so, what are the specialist's recommendations?

Personality Disorders

- A mental disorder with a **rigid and unhealthy pattern of thinking, functioning, and behaving**.
- A person has trouble perceiving and relating to situations and people
- Any personality disorder characterized by excessive, aggressive, or impulsive behavior warrants further inquiry for risk assessment to determine if it is serious enough to interfere with safe driving.

Considerations:

- Does the driver have prominent negative symptoms?
  - Substantially compromised judgment
  - Attentional difficulties
  - Suicidal behavior or ideation
  - Overt, inappropriate acts
- Tolerates treatment w/o disqualifying side effects
- Has treatment been shown to be adequate and effective?
- Is the nature and severity likely to interfere with safe driving?

Schizophrenia and Related Psychotic Disorders

Schizophrenia is the most severe of all psychotic disorders.

"It is unlikely that individuals who are highly susceptible to frequent states of emotional instability (e.g., due to schizophrenia, affective psychoses, paranoia, severe anxiety, or depressive neuroses) would satisfy the physical qualification standard."

Characteristics:

- Psychosis (Hearing voices or experiencing delusional thought)
- Loss of motivation
- Loss of apathy
- Reduced emotional expression (Flat Affect)
- Compromised cognition, judgment, and attention
- Increased likelihood of suicide

Related Conditions:

- Schizophreniform disorder
- Brief reactive psychosis
- Schizoaffective disorder
- Delusional disorder

Considerations:

- Does the driver have a diagnosis of schizophrenia or active psychosis?
- How long has the driver been symptom free?
- Are there medication side effects for this driver?
- Has treatment been shown to be adequate, effective, safe, and stable?
- Is the nature and severity of the underlying mental disorder likely to interfere with safe driving?

Dementia

A progressive decline in mental functioning that affects memory, language, spatial functions, problem-solving, and behavior.

- Alzheimer's and Pick's disease (which is essentially Alzheimer's in a different location of the brain) are the main causes.

"Driving a CMV requires memory, alertness, concentration, communication, organizational skills, attentiveness, performing simple and complicated tasks, and having awareness of one's surroundings. Therefore, a driver with dementia may not have the ability to drive a CMV safely due to cognitive deficits."

Symptoms:

- Memory loss
- Difficulty in communication, especially finding the right words
- Reduced ability to organize, plan, reason, or solve problems
- Difficulty handling complex tasks
- Confusion and disorientation
- Difficulty with coordination and motor functions
- Loss of or reduced visual perception
- Changes in personality and behavior
- Metallic taste in mouth
- Decreased sense of smell
- Depression
- Anxiety
- Hallucinations
- Mood swings
- Agitation

Electroconvulsive Therapy (ECT)

- ECT treatment for depression causes confusion, disorientation, short-term memory loss
- Acute side-effects usually resolve within a few months

<u>Considerations:</u>

- Is the driver symptom free following a course of ECT?
- Is the driver undergoing maintenance ECT?
- Has the driver been evaluated by a behavioral health specialist?
  - What are the specialist's recommendations?
- Are there medication side effects for this driver?
- Has treatment been shown to be adequate, effective, safe, and stable?
- Is the nature and severity of the underlying mental disorder likely to interfere with safe driving?

The Medication Standard

49 CFR 391.41(b)(12)
"A person is physically qualified to drive a commercial motor vehicle if that person- Does not use a controlled substance identified in 21 CFR 1308.11 Schedule I, an amphetamine, a narcotic, or any other habit-forming drug.
(12)(i) Does not use any drug or substance identified in 21 CFR 1308.11 Schedule I, an amphetamine, a narcotic, or any other habit-forming drug.
(ii) Does not use any non-Schedule I drug or substance that is identified in the other Schedules in 21 CFR part 1308 **EXCEPT** when the use is prescribed by a licensed medical practitioner, as defined in §382.107, who is familiar with the driver's medical history and has advised the driver that the substance will not adversely affect the driver's ability to safely operate a commercial motor vehicle."

The Prescription Exception:
Paragraph (b)(12)(ii) allows a driver to be medically qualified when using a Schedule II through V drug if it is prescribed by a licensed medical practitioner who:

- is licensed under applicable law to prescribe controlled substances and other drugs
- is familiar with the driver's medical history
- has advised the driver that the substance will not adversely affect the driver's ability to safely operate a commercial motor vehicle

Schedule I Drugs: These drugs have no currently accepted medical use in the United States under Federal law

- Includes many opiates, opiate derivatives, and hallucinogenics
  - Heroin and Marijuana

Schedule II: These drugs have a high abuse potential

- May lead to severe psychological or physical dependence
- Includes opioids, depressants, and amphetamines
- Note: **Methadone** has been removed from the Medical Advisory Criteria as a medication that precludes certification
  - The ME should obtain the opinion of the prescribing provider who is familiar with the driver's health history as to whether treatment with methadone adversely affects the driver's ability to safely operate a CMV

Schedules III-V: These drugs have a lower potential for abuse

- Note: **Suboxone** (a schedule III drug) and other drugs that contain buprenorphine and naloxone are not identified as medications that preclude medical certification
  - The ME should obtain the opinion of the prescribing provider who is familiar with the driver's health history as to whether treatment with Suboxone adversely affects the driver's ability to safely operate a CMV

Prescription & OTC Medication Use

"The **FMCSRs do not include a list of prohibited medications by name**. However, MEs may disqualify a driver who takes any medication or combination of medications and substances that may impair or interfere with safe driving practices."

"All medications must be assessed to determine the potential risk of adverse side effects… and the direct impact the potential side effects have on CMV driving."

"In addition, the ME may confer with the treating medical specialist(s) who is familiar with the driver's health history."

Marijuana, THC, & CBD

Marijuana and marijuana extracts containing greater than 0.3% delta-9-tetrahydrocannabinol (THC) are considered schedule I drugs.

- ***Drivers using such substances cannot be physically qualified under any circumstance***
    - Even if marijuana is legal in the State where the driver resides

The FDA does not currently determine or certify the levels of THC in products that contain cannabidiol (CBD)

- There is no oversight to ensure that the amount of THC claimed to be in CBD products is accurate
- Drivers who use these products do so at their own risk

MEs may request that drivers obtain and provide the results of a non-DOT drug test during the medical certification process.

Drug and Alcohol Regulation

Testing is required for:

- All drivers with a CDL
- Drivers operating CMV over 26,000lbs
- Drivers transporting 16 or more passengers
- Drivers transporting hazardous waste on public roadways

Includes:

- Federal, State and local government
- Owner-operators
- Equivalently licensed drivers from foreign countries
- For-hire motor carriers

Alcohol and Drug Testing

- Pre-employment (alcohol test is optional)
  - If not in a random program the last 30 days, or if 1 year of past testing records are not available
- Post-Accident
  - Required if a fatality, or if the driver is cited and truck towed, or medical treatment occurs away from the accident site
- Reasonable Suspicion
- Random
- Return to Duty
- Compliance with substance abuse professional's (SAP) requirements
  - Conduct Follow-up testing (up to 5 years)

If while performing a physical exam on a commercial driver, the medical examiner suspects use/abuse of alcohol, medications, or illicit substances, they may use a non-DOT drug and/or alcohol abuse screening test if desired.

Medical Review Officer (MRO):

A licensed physician (MD, DO) who receives and reviews laboratory results generated by a DOT drug test and obtains an explanation for certain results.

Substance Abuse Professional (SAP):

A person who evaluates drivers who have violated DOT drug/alcohol regulations and makes recommendations concerning education, treatment, follow-up testing and aftercare.

DOT Qualified Substance Abuse Professionals (SAPs)

These are professionals that have knowledge of not only the diagnosis and treatment of abuse-related disorders, but also of DOT drug and alcohol testing and return-to-duty processes as required by §40.281.

1. Evaluates driver who has violated DOT drug and alcohol regulations
2. Makes recommendations concerning education, treatment, follow-up testing, and aftercare
3. Once the education and/or treatment is successfully completed, they reassess the driver's condition
   - They complete a report and prescribe a series of follow-up tests covering a period of one to five years
4. Any motor carrier employing the driver during the prescribed period must complete the follow-up testing as specified by the SAP

Considerations when making the qualification determination.

- Is information available from the prescribing licensed medical practitioner who is familiar with the driver's medical history regarding whether any scheduled substances will adversely affect the driver's ability to safely operate a CMV?
- What is the underlying condition?
- Are there side effects such as hypotension, sedation, depressed mood, cognitive deficits, decreased reflex responses, or unsteadiness present that will affect the driver's ability to safely operate a CMV?
- Does the driver have signs of drug abuse, such as tremors, needle track marks, or multiple skin eruptions?
- Has treatment with a scheduled substance been shown to be adequate, effective, safe, and stable?

Alcohol Abuse

"A person is physically qualified to drive a commercial motor vehicle if that person has no *current clinical diagnosis of alcoholism*."

- This is designed to encompass a <u>current</u> alcoholic illness where the driver's <u>condition has not fully stabilized</u>
- *When in remission, a driver may be certified*
- The ME can require drivers to provide documentation from a qualified substance abuse evaluation professional
    - Should include an opinion concerning whether a current clinical diagnosis of alcoholism is present

When the driver discloses excessive use of alcohol, or signs of alcoholism are observed, *the ME can request a **non-DOT alcohol test** to aid in the qualification determination.* Use of a certified substance abuse professional is not required.

FMCSA "trigger" for alcohol use is *14 or greater drinks per week*.

- Have the driver complete an alcohol questionnaire (such as the CAGE Questionnaire).

CAGE Questionnaire

CAGE is an acronym which stands for cutting down, annoyed, guilty, and eye-opener. Two "yes" responses indicate the possibility of a current clinical diagnosis of alcoholism and the medical examiner may be prompted to order an evaluation from a substance abuse professional.

- Have you ever felt you need to **C**ut down on drinking?
- Have people **A**nnoyed you by criticizing your drinking?
- Have you ever felt **G**uilty about drinking?
- Have you ever felt you needed a drink first thing in the morning (**E**ye-opener) to steady your nerves or to get rid of a hangover?
    - This is the most important question

Appendix A:
2013 Expert Panel Recommendations for Cardiovascular Diseases

Syncope

Disorder/Procedure	Certification Approved if:	Not Approved if:	Recertification	Citation
Syncope	Etiology defined and appropriate treatment provided	If etiology is unknown or unclarified	Maximum – 1 year	[74]
Neurocardiogenic Syncope Excellent long-term survival prognosis, but there is risk for syncope that may be due to cardioinhibitory (slowing heart rate) or vasodepressor (drop in blood pressure) components, or both. Pacemaker will affect only cardioinhibitory component, but will lessen effect of vasodepressor component.	Asymptomatic Minimal 3 months after intervention Relief of symptoms with intervention	Symptomatic	Maximum – 1 year Documented regular pacemaker checks. Absence of symptom recurrence.	[75, 76]
Hypersensitive Carotid Sinus Syndrome with Syncope Excellent long-term survival prognosis, but there is risk for syncope that may be due to cardioinhibitory (slowing heart rate) or vasodepressor (drop in blood pressure) components, or both. Pacemaker will affect only cardioinhibitory component, but will lessen effect of vasodepressor component.	Asymptomatic Asymptomatic with pacemaker implantation Clearance by cardiovascular specialist	Symptomatic	Maximum – 1 year Documented regular pacemaker checks. Absence of symptom recurrence.	[75, 76]
Single Episode Typical Vasovagal Syncope	Diagnosed and appropriately treated	Fails to meet certification criteria	Maximum – 1 year	
One or More Episodes Vasovagal Syncope	Asymptomatic Minimal 1 month after etiology identified and treated Minimal 3 months after pacemaker implantation Documentation of normal function Clearance by cardvascular	Symptomatic	Maximum – 1 year	

Heart Transplantation

Disorder/Procedure	Certification Approved if:	Not Approved if:	Recertification
Special attention to: Accelerated atherosclerosis, transplant rejection, general health	Minimum 6 months post-transplant Is NYHA Class I or II LVEF >40% Have no signs of transplant rejection Meets all other qualification requirements Clearance from an appropriate treating specialist	Implanted ventricular assistance device	Maximum – 6 months for the first year post-transplant, then annually Re-assessment by an appropriate treating specialist who evaluates the: Possibility of atherosclerosis Status of the transplant General health of the driver

Venous Disease

Disorder/Procedure	Certification Approved if:	Not Approved if:	Recertification
Acute Deep Vein Thrombosis (DVT)	One month post-DVT with adequate anticoagulation treatment Clearance by an appropriate treating specialist	Fails to meet certification criteria	Maximum – 1 year
Pulmonary Emboli	Asymptomatic Minimal 3 months following appropriate anticoagulation therapy PAP <50% systemic Cleared by an appropriate treating specialist	Symptomatic Active DVT PAP >50% systemic	Maximum – 1 year

Abdominal Aortic Aneurysm

Disorder/Procedure	Certification Approved if:	Not Approved if:	Recertification	Citation
Abdominal Aortic Aneurysm (AAA) <4 cm	Asymptomatic	Symptomatic Fails to meet the certification criteria	Maximum – 1 year Individual must have an annual: Blood pressure measurement Assessment of the AAA size by board certified internal medicine specialist or cardiologist	[1-4]
Abdominal Aortic Aneurysm (AAA) Males: **4.0 to ≤5.5 cm** **Abdominal Aortic Aneurysm (AAA) Females:** **4.0 to ≤5.0 cm**	Asymptomatic Documentation of AAA size verified by board certified internal medicine specialist or cardiologist [2]	*Regardless of AAA size, if:* Symptomatic Recommended for repair from a board certified internal medicine specialist or cardiologist AAA has increased more than 1 cm during a 6 month period		
Abdominal Aortic Aneurysm (AAA) Males: >5.5 cm **Abdominal Aortic Aneurysm (AAA) Females: >5.0 cm**	Minimum 3 months after repair Meets post-intervention repair of aneurysm guidelines Cleared by board certified internal medicine specialist or cardiologist	Fails to meet the certification criteria	Maximum – 1 year Individual must have an annual: Blood pressure measurement Assessment of the AAA size by a board certified internal medicine specialist or cardiologist	

Pacemaker & Defibrillator (ICD)

Disorder/Procedure	Certification Approved if:	Not Approved if:	Recertification
Cardioverter Pacemaker (CRT-P) Patient has a high risk for death and sudden incapacitation	Asymptomatic Postimplantation LVEF improves to >40%	Symptomatic Fails to meet the certification criteria	Maximum – 1 year
Cardioverter Defibrillator (CRT-D) Patient has a high risk for death and sudden incapacitation	No Medical examiners do not certify drivers with a Cardioverter defibrillator combination device, which is often used for cardiac resynchronization therapy	Not applicable	
Implantable Cardioverter Defibrillator: Primary and Secondary Prevention: Patient has a high risk for death and sudden incapacitation	No *Appeal may be possible if:* Condition that precipitated implantation has been resolved The ICD was inappropriately implanted AND has been turned off	Condition that precipitated implantation remains ICD ICD/pacemaker combination device	
Pacemaker Implantation	Asymptomatic Minimum1 month post-pacemaker implantation if disease identified is cause of syncope Minimum 3 month post-pacemaker implantation if pacemaker dependent Documentation of normal function Clearance by cardiovascular specialist.	Symptomatic An implantable cardiac defibrillator/pacemaker combination device present Disqualifying underlying disease	Maximum – 1 year

Arrhythmias

Conduction System Disorders

Disorder/Procedure	Certification Approved if:	Not Approved if:	Recertification
Atrioventricular (AV) Block	Asymptomatic Pacemaker implanted A minimum 1 month post-pacemaker implantation Documented correct function Underlying disease not disqualifying Clearance by appropriate treating specialist	Symptomatic	Maximum – 1 year
Isolated 1st Degree AV Block **Isolated Right Bundle Branch Block (RBBB)‡**	Asymptomatic No disqualifying underlying heart disease Clearance from a cardiovascular specialist	Symptomatic	Maximum – 1 year
Left Bundle Branch Block (LBBB) **Bifascicular Block** **2nd Degree AV block; Mobitz I** **1st Degree AV Block + Bifascicular Block**	Asymptomatic No associated impairment of consciousness No disqualifying underlying heart disease Clearance from a cardiovascular specialist	Symptomatic	Maximum – 1 year
2nd Degree AV block; Mobitz II (Distal AV Block) **Alternating LBBB and RBBB;** **Acquired 3nd Degree AV block**	No	No	
Congenital 3nd Degree AV block	Asymptomatic No associated impairment of consciousness QRS Duration ≤110 ms	Fails to meet certification criteria	Maximum – 1 year
Sinus Node Dysfunction, including Sick Sinus Syndrome	Asymptomatic Minimum 1 month post-operative pacemaker implantation (see Pacemaker section in this document) Documentation indicating presence of normal pacemaker function Documentation indicating completion of routine pacemaker checks No disqualifying underlying disease Clearance from a cardiologist	Fails to meet certification criteria	Annual
Atrial Fibrillation **Atrial Tachycardia** **Atrial Flutter**	Asymptomatic Anticoagulation where medical indication is present	Impaired level of consciousness Untreated WPW	Maximum – 1 year*

Coronary Heart Disease (Angina, MI, CABG, PCI)

Disorder/Procedure	Certification Approved if:	Not Approved if:	Recertification
Asymptomatic Coronary Heart Disease (CHD) and Stable Angina CHD risk-equivalent conditions* CHD Risk factors‡	No other exclusionary diagnoses LVEF >40%	Fails to meet the certification criteria LVEF ≤ 40% *NOTE: The decision not to medically certify a commercial driver should not depend solely on the detection of multiple risk factors.*	Maximum – 2 years
Unstable Angina	Has converted to stable angina Tolerance to medications LVEF >40% Clearance from a cardiovascular specialist	Develops unstable angina within 3 months of examination.	Annual
Post-Percutaneous Coronary Intervention	Asymptomatic Minimum 3 weeks after elective procedure LVEF >40% Adherence to cardiovascular specialist-recommended appropriate medical therapy for a minimum of 1 year after receiving drug-eluting stent Clearance by cardiologist	Symptomatic Incomplete healing or complication at vascular access site	Maximum – 1 year
Post Myocardial Infarction (MI) Risk of recurrent major cardiac event highest within the first month post-MI Drivers in a rehabilitation program can receive comprehensive secondary prevention therapy	Minimum 2 months post-MI Minimum 3 months post-MI if CABG has been performed Tolerance and adherence to medications LVEF >40% Clearance by a cardiovascular specialist	Fails to meet certification criteria	Annual
Post Coronary Artery Bypass Surgery (CABG) Delay in return to work to allow sternal incision healing	Minimum of 3 months after CABG Post-CABG LVEF >40% Sternum has healed Tolerance and adherence to medications Clearance by a cardiologist	Fails to meet certification criteria	Maximum – 1 year

Cardiomyopathy

Disorder/Procedure	Certification Approved if:	Not Approved if:	Recertification
Hypertrophic Cardiomyopathy	No history of cardiac arrest No spontaneous sustained VT No non-sustained VT No family history of premature sudden death No syncope Left ventricular septum thickness <30 mm Cleared by cardiologist	Provokable/resting peak gradient ≥50 Medical examiner believes the nature and severity of the medical condition may interfere with safe driving ability and is a risk to public safety	Maximum – 1 year Low-risk individuals must be followed closely for changes in risk status
Idiopathic Dilated Cardiomyopathy	Asymptomatic No sustained ventricular arrhythmias LVEF >40%	Symptomatic Sustained ventricular arrhythmias LVEF ≤ 40% Individual has an implantable ventricular assist device	Annual Requires annual cardiology evaluation including echocardiography
Restrictive Cardiomyopathy	No	Not applicable	Driver should not receive certification until a diagnosis of restrictive cardiomyopathy has been ruled out.

Aortic Regurgitation

Disorder/Procedure	Certification Approved if:	Not Approved if:	Recertification
Aortic Regurgitation – Mild or Moderate	Asymptomatic LVEF ≥50% Cleared by cardiologist *OR* Minimum 3 months post-aortic valve repair Meets post-aortic valve repair/replacement guidelines Has normal LV function	Symptomatic Fails to meet certification criteria	Maximum – 1 year Echocardiography and other diagnostics should be repeated as deemed appropriate by the treating cardiologist
Aortic Regurgitation – Severe (with LV Dsyfunction)	Asymptomatic Minimum of 3 months post-aortic valve repair Meets post-aortic valve repair/replacement guidelines LVEF ≥50% LV dilatation: LVEDD ≤75 mm / LVESD ≤55 mm Cleared by cardiologist	Symptomatic Fails to meet certification criteria	Maximum – 1 year if surgically repaired Echocardiography and other diagnostics should be repeated as deemed appropriate by the treating cardiologist.
Post-Aortic Valve Repair/Replacement †	Minimum 3 months post aortic valve repair/replacement Meets asymptomatic aortic stenosis or aortic regurgitation requirements Cleared by cardiologist	Thromboembolic complications	Maximum – 1 year Echocardiography and other diagnostics should be repeated as deemed appropriate by the treating cardiologist.

Aortic Stenosis

Disorder/Procedure	Certification Approved if:	Not Approved if:	Recertification
Mild Aortic Stenosis (AVA >1.5 cm²)	Asymptomatic Cleared by cardiologist	Symptomatic Does not meet certification criteria	Maximum – 1 year Echocardiography and other diagnostics should be repeated as deemed appropriate by cardiologist *OR* a minimum of every 3 to 5 years.
Moderate Aortic Stenosis (AVA ≥ 1.0 - 1.5 cm²)	Asymptomatic Minimum 3 months after surgery/repair Cleared by cardiologist	Symptomatic (has one or more of the following): Angina; Heart failure; Syncope LVEF <50% *OR* Symptomatic Unrepaired/unreplaced despite recommendation by appropriate treating specialist.	Maximum – 1 year Echocardiography and other diagnostics should be repeated as deemed appropriate by cardiologist *OR* a minimum of every 1 to 2 years.
Severe Aortic Stenosis (AVA < 1.0cm²	Asymptomatic Minimum of 3 months after surgery/repair Cleared by cardiologist Meets monitoring guidelines for anticoagulant therapy (if applicable)	Symptomatic Fails to meet the certification criteria	Maximum – 1 year Echocardiography and other diagnostics should be repeated as deemed appropriate by cardiologist *OR* a minimum of every 1 to 2 years

Mitral Regurgitation

Disorder/Procedure	Certification Approved if:	Not Approved if:	Recertification
Mild, Moderate or Severe Mitral Regurgitation	Asymptomatic Normal LVESD ≤55% Normal LVEF PAP ≤ 50% systemic If surgery performed, meets guidelines for surgical mitral valve repair for mitral regurgitation: 3 months post-surgical repair; and asymptomatic Clearance by an appropriate treating specialist.	Symptomatic Less than 6 METs on Bruce protocol (when ETT is indicated by a physician) Atrial fibrillation (AF) and does not meet the AF requirements for certification LVEF ≤50% PAP is >50% of systolic arterial pressure	Maximum – 1 year Annual with a cardiovascular specialist
Mitral Valve Repair for Mitral Regurgitation	Asymptomatic Minimum 3 months post open repair/sternotomy Minimally invasive interventions require a minimum of 1 month post-intervention Meets certification criteria for mitral regurgitation Post-intervention clearance by an appropriate treating specialist	Symptomatic Post-intervention LVEF <40% Thromboembolic complications Pulmonary hypertension PAP is >50% of systolic arterial pressure Inability to achieve >6 METS on Bruce Protocol (when ETT is indicated by a physician). Ruptured chordae or flail leaflet LV dysfunction	Maximum – 1 year The medical examiner may, on a case-by-case basis, obtain additional tests and/or consultation to adequately assess driver medical fitness for duty.

Mitral Stenosis

Disorder/Procedure	Certification Approved if:	Not Approved if:	Recertification
Mild Mitral Stenosis MVA ≥1.6 cm² or Moderate Mitral Stenosis MVA 1.0 to 1.6 cm² *Mild and Moderate mitral stenosis: In the presence of symptoms consistent with moderate to severe mitral stenosis but a calculated valve area suggesting mild mitral stenosis, the severity of the stenosis should be reassessed and an alternative explanation for symptoms should be considered.	Asymptomatic If receiving anticoagulant therapy, meets monitoring guidelines: is stabilized on medication for at least 1 month. Clearance by an appropriate treating specialist	Symptomatic	Maximum – 1 year
***Severe Mitral Stenosis MVA ≤1.0 cm²** *Severe Mitral Stenosis MVA < 1.0 cm²: In the presence of symptoms consistent with moderate to severe mitral stenosis but a calculated valve area suggesting mild mitral stenosis, the severity of the stenosis should be reassessed and an alternative explanation for symptoms should be considered.	Asymptomatic Minimum 4 weeks post percutaneous balloon mitral valvotomy Minimum 3 months post-surgical commissurotomy No thromboembolic complications. PAP 50% systemic Clearance by an appropriate treating specialist.	Symptomatic Severe symptomatic mitral stenosis, until successfully treated Atrial fibrillation PAP >50% systemic Inability to exercise for >6 Mets on Bruce protocol (when indicated by a physician) Thromboembolic complications	Maximum – 1 year The medical examiner may, on a case-by-case basis, obtain additional tests and/or consultation to adequately assess driver medical fitness for duty.

Appendix B:
2009 Medical Expert Opinions on Traumatic Brain Injury, Parkinson's Disease, Multiple Sclerosis, Psychiatric Disorders, & Chronic Kidney Disease

2009 Expert Panel Opinions for Traumatic Brain Injury

Severe TBI: A penetrating injury to the brain or loss of consciousness ≥ 24 hours

- Should be permanently precluded from driving

Moderate TBI: Loss or alteration of consciousness ≥ 1 hour but < than 24 hours

- Should be precluded from obtaining certification to drive a CMV for 3 years. The individual must then be cleared by their treating provider.
    - If the treating provider reports that the individual is free of symptoms of concern and has not experienced a seizure, the individual should then be referred to a neurologist, who is aware of the functional and cognitive requirements of operating a CMV.
    - Drivers cleared by the neurologist should be re-certified every year

Mild TBI: Loss or alteration of consciousness of < 1 hour

- Can be qualified to drive if they are determined by their treating provider to be clinically symptom free.
- Should refrain from commercial driving for 90 days to ensure that they are symptom free.

Drivers who did not experience loss of consciousness (LOC) because of their head injury could be considered eligible to return to commercial driving 30 days after the injury.

2009 Opinions of the Medical Expert Panel on Parkinson's Disease and Multiple Sclerosis

An individual with **Parkinson's Disease** may be considered for certification if they meet the following criteria:

- Shows mild symptoms only, as indicated by a Hoehn and Yahr Stage 1 or less and a high score (90% or higher) on the Schwab and England Activities of Daily Living Scale
- Tolerates medications well, without cognitive, motor, or other side effects that might affect driving
- Shows no significant fluctuations in motor response or "on-off" effects
- Demonstrates satisfactory functioning on tests assessing key cognitive functions important for safely driving a motor vehicle (e.g., processing speed, attention, perception, memory, executive functions, and emotion).
- Shows no evidence of a mood disorder or satisfactory control of an existing mood disorder
- Provides written documentation of the specialist's report at the time of the CMV medical evaluation.

An individual with PD who meets the criteria should be reevaluated on a semi-annual basis by their neurologist or other qualified specialist and obtain an annual neuropsychological evaluation.

An individual with a diagnosis of **Multiple Sclerosis** (MS) may be certified if that individual meets the following criteria:

- Shows no signs of relapse or progression
- Tolerates medications well, without cognitive, motor, or other side effects that might affect driving
- Has satisfactory vision including acuity, fields, and ocular alignment
- Demonstrates satisfactory cognitive functioning based upon a standardized neuropsychological test
- Shows no evidence of a mood disorder or satisfactory control of an existing mood disorder
- Shows satisfactory motor function and mobility
- Has no history of excessive fatigability or periodic fluctuations of motor performance, as in relation to heat, physical and emotional stress, and infections.
- Provides written documentation of the specialist's report at the time of their medical examination.

An individual with MS who meets the criteria for certification should be reevaluated on a semi-annual basis by a neurologist or other qualified specialist and obtain an annual neuropsychological evaluation.

2009 Medical Expert Panel Opinions on Psychiatric Disorders

All individuals with a history of the following psychiatric disorders should undergo additional medical and psychiatric evaluation to further assess functional ability:

- Psychotic Disorders (schizophrenia, schizophreniform disorder, schizoaffective disorder, delusional disorder)
- Bipolar Disorders
- Major Depressive Disorder with a history of psychosis, suicidal ideation, homicidal ideation, or a suicide attempt
- Obsessive Compulsive Disorder
- Antisocial Personality Disorder

Benzodiazepines: All individuals currently taking benzodiazepines or similar drugs which act on benzodiazepine receptors should be immediately prohibited from driving a CMV.

- Individuals should not be allowed to drive until the drug has been cleared from their system (i.e., within seven half-lives of the drug).
- Chronic users of benzodiazepines (i.e., regular use for more than a month) should also wait an additional week after the drug has cleared from their system before resuming driving to ensure that the drug has been completely eliminated.

Antipsychotic medications: All individuals currently taking antipsychotic medications should undergo additional evaluation before being allowed to operate a CMV.

- If the neuropsychological screening tests suggest impairment, then a road test must be administered.
- Individuals starting a new antipsychotic medication must be evaluated within one month.

Antidepressants & Anticonvulsants: All individuals currently taking antidepressants or anticonvulsants should undergo additional evaluation before being allowed to operate a CMV.

- The medical examiner should use clinical judgment to determine if the driver is too sedated to drive. This should include consideration of:
    - Acute effects of the specific antidepressant
    - The additive effects of other medications
    - The additive and cumulative effects of job demands such as long hours of driving, often over extended periods of many days.
- For individuals currently taking SSRIs, the medical examiner must assess balance and coordination with heel-to-toe walking and rapid alternating movement
    - If impairment is suggested by clinical examination, the medical examiner must obtain a neuropsychological test from a specialist to further test for psychomotor impairment.

2008 Medical Expert Panel Recommendations for Chronic Kidney Disease

Individuals with stage 1 or stage 2 CKD can be certified for 2 years.

Individuals with stage 3 CKD should be certified for 1 year.

Some individuals with stage 4 CKD may be qualified to drive:

- Normal EKG and BP < 140/90 may be certified for 6 months
- Normal EKG but stage 1 or 2 HTN may be certified for 3 months

Appendix C:
Medications – Medical Conditions Reference

Headaches

- Sumatriptan (Imitrex)
- Topiramate (Topamax) is an anticonvulsant

Addiction

- Naltrexone
- Buprenorphine, Suboxone, and Methadone
- Disulfiram or Antabuse

Ant-Rejection Medications Post-Transplant

- Tacrolimus (Prograf), Cyclosporine, CellCept
    - These medications are immunosuppressants

Diabetic Medications

- Metformin
- Glipizide
- Invokana, Jardiance
    - Causes increased sugar in the urine
- Januvia
- Trulicity, Victoza, Ozempic
    - Injected medications (not insulin)

Nausea, Dizziness, Vertigo

- Promethazine
- Phenergan
- Dramamine
- Meclizine
- Zofran (Ondansetron)
- Scopolamine

Opioids

- Hydrocodone (Norco, Lortab, Vicodin)
- Oxycodone (Percocet, OxyContin)
- Tramadol
- Codeine
- Methadone
- Demerol (Meperidine)
- Morphine
- Hydromorphone
- Fentanyl
- Buprenorphine

Insulin

- Rapid-acting: Novolog, Humalog
- Short-acting: Humulin R, Novolin R
- Intermediate-acting: NPH (Humulin N, Novolin N)
- Long-acting: Detemir (Levemir), Glargine (Lantus)

Anticonvulsant (Anti-seizure) Medications

Barbiturates – Phenobarbital (Luminal), Barbital (Veronal)

- Central nervous system depressants
- Treatment for Epilepsy
- Largely replaced by benzodiazepines
    - Significantly less dangerous in overdose

Hydantoins (glycolylurea)– Dilantin

- Treatment for epilepsy, anxiety, trigeminal neuralgia, mood disorders

Carbamazepine's – Tegretol, Carbatrol

- Anticonvulsant/mood stabilizing for epilepsy, bipolar disorder, trigeminal neuralgia, ADHD, schizophrenia, phantom limb syndrome, neuromyotonia, post-traumatic stress disorder

Valproic Acids – Depakote, Depakene, Depacon

- Anticonvulsant/mood-stabilizing for epilepsy, bipolar disorder, major depression, migraines, schizophrenia

Others: Topamax (Topiramate), Neurontin (Gabapentin), Lyrica (Pregabalin), Lamotrigine (Lamictal)

Antihistamine Therapy

1st Generation Antihistamines:

- Diphenhydramine (Benadryl)
- Have sedating effects
- ME should inform driver to abstain from driving for 12 hours after taking medication

2nd Generation Antihistamines:

- Cetirizine, Loratadine
- Are less sedating and most do not interfere with driving

Hypertension:

ACE-Inhibitors

- Lisinopril
- Enalapril

Calcium channel blockers

- Amlodipine, Nifedipine, Diltiazem and Verapamil
- Also used to treat arrhythmias and angina

Angiotensin-2 receptor blockers (ARBs)

- Losartan
- Valsartan

Diuretics

- Furosemide (Lasix)
- Hydrochlorothiazide (HCTZ)
- Known as water pills

Beta blockers

- Propranolol, Metoprolol, Atenolol
- Possible side effects include dizziness, headaches, tiredness, and cold hands and feet

Anti-Arrhythmic Medications

- Amiodarone
- Adenosine
- Digoxin

Arrhythmia treatment also may involve anticoagulants (blood thinners).

Anticoagulants & Blood Thinners

- Xarelto (Rivaroxaban)
- Pradaxa (Dabigatran)
- Eliquis (Apixaban)
- Coumadin (Warfarin)
    - Requires monthly INR lab monitoring

Angina

- Nitroglycerin, Nifedipine
    - Possible side effects include headache, dizziness, hypotension

PCI (Stents), CABG, Thrombotic/Embolic Conditions

- Plavix (Clopidogrel) Antiplatelet agent

Respiratory Medications

Bronchodilator Inhalers

Albuterol (Proventil, Ventolin), Atrovent (Ipratropium)

Corticosteroid Inhalers

- AeroBid (flunisolide), Flovent (fluticasone), Pulmicort (budesonide)

Singulair (montelukast) works to prevent asthma or allergy symptoms by blocking leukotrienes

Musculoskeletal Conditions & Medications

Parkinson's Disease

- Sinemet (Carbidopa-levodopa)
- Amantadine

Muscle Relaxers

- Cyclobenzaprine
- Metaxalone (Skelaxin)
- Baclofen
- Soma (Carisoprodol)

Rheumatology Medications

- Methotrexate
- Leflunomide
- Sulfasalazine
- Humira (Adalimumab)
- Azathioprine
- Enbrel (Etanercept)

Mental Health Medications

CNS Stimulants

May be used for the treatment for ***ADHD, narcolepsy***, and as adjunctive therapy with antidepressants.

- Adderall (Amphetamine)
- Methylphenidate (Ritalin, Concerta)
- Lisdexamfetamine (Vyvanse)
- Atomoxetine (Strattera)

Psychosis & Schizophrenia

- Quetiapine (Seroquel)
- Aripiprazole (Abilify)
- Haloperidol (Haldol)
- Risperidone

Anti-Depressants

First Generation: (Tricyclics)

- Often cause drowsiness or "foggy" brain
- Commonly prescribed for nerve pain and as a sleep aide

2nd Generation: (SSRIs, SNRIs, NDRIs)

- fewer side effects and generally safer but can interfere with driving

Selective serotonin reuptake inhibitors (SSRIs)

- Fluoxetine (Prozac)
- Paroxetine (Paxil)
- Escitalopram (Lexapro)
- Sertraline (Zoloft)
- Citalopram (Celexa)

Selective serotonin & norepinephrine inhibitors (SNRIs)

- Desvenlafaxine succinate (Pristiq)
- Duloxetine (Cymbalta)
- Venlafaxine (Effexor)

Norepinephrine-Dopamine Reuptake Inhibitors (NDRIs)

- Bupropion (Wellbutrin)

Tricyclic Antidepressants

- Amitriptyline (Elavil)
- Nortriptyline

Bipolar Disorder Medications

Most medications used to treat bipolar disorder were initially designed for treatment of other conditions, primarily seizures.

Lithium (Lithobid)

- Positively-charged salt used for both bipolar and depressive disorders
- Not likely to interfere with safe driving

Lamotrigine (Lamictal)

- Anticonvulsant medication used for both seizures and bipolar disorder

Carbamazepine (Tegretol)

- Anticonvulsant medication used for seizures, bipolar disorder, and neuropathic pain

Valproic acid (Depakene)

Divalproex (Depakote)

- Used for epilepsy, bipolar disorder, schizophrenia, and migraines

Anxiolytic Medications

Anxiolytic medications can be used to treat both anxiety and insomnia.

- Benzodiazepines the most commonly prescribed medications
    - Xanax (Alprazolam)
    - Ativan (Lorazepam)
    - Klonopin (Clonazepam)
    - Valium (Diazepam)

Certify If:

- Medication has been shown to be adequate/effective, safe, and stable
    - Short-acting (half-life <5 hours)
    - The lowest effective dose
    - Not used within at least 6 hours of driving
- Medical clearance from treating provider and/or medication form

Sedative Hypnotics

- Ambien (Zolpidem)
- Nytol (Medinex, Diphenhydramine)
- Sominex (Phenergan, Promethazine)

Insomnia

- Ambien (Zolpidem), Lunesta
- Restoril (Temazepam), Trazadone are benzodiazepines that are primarily used as sleep aids
- Amitriptyline (first generation tricyclic antidepressant)

Excessive Sleepiness & Narcolepsy

- Modafinil (Provigil), Nuvigil (armodafinil)
- Amphetamines commonly used for ADHD
    - Adderall (dextroamphetamine/amphetamine), Ritalin (methylphenidate)

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