Respiratory Conditions and the Commercial Driver

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Respiratory Regulation - CFR 391.41(b)

“A person is physically qualified to drive a motor vehicle if that person;

(5) has no established medical history or clinical diagnosis of a respiratory dysfunction likely to interfere with his ability to control and drive a motor vehicle safely.”

Medical Examination Report Form

Do you have or have you ever had:

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<th>Yes</th>
<th>No</th>
<th>Not Sure</th>
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<td>9. Chronic (long-term) cough, shortness of breath, or other breathing problems</td>
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<td>10. Lung disease (e.g., emphysema)</td>
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<td>25. Sleep disorders, pauses in breathing while asleep, daytime sleepiness, loud snoring</td>
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<td>26. Have you ever had a sleep test (e.g., sleep apnea)?</td>
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Medical Advisory Criteria

“There are many conditions that interfere with oxygen exchange and may result in incapacitation, including emphysema, chronic asthma, carcinoma, tuberculosis, chronic bronchitis and sleep apnea. If the medical examiner detects a respiratory dysfunction, that in any way is likely to interfere with the driver’s ability to safely control and drive a commercial motor vehicle, the driver must be referred to a specialist for further evaluation and therapy.”

Respiratory - Does the driver have

- Shortness of breath?
- Lung disease?
- Emphysema?
- Asthma?
- Chronic bronchitis?
- Sleep disorder?
- Pauses in breathing while asleep?
- Daytime sleepiness?
- Loud snoring?

Respiratory - Does driver:

- Smoke? If yes, how much and for how long?
- Feel short of breath while driving?
- Cough frequently? If yes, is the cough productive of sputum?
- Experience tightness of the chest while resting or exercising?
- Wheeze during the day or night?
- Use respiratory agents?
- Use oxygen therapy?
- Self-report sleepiness that may indicate increased risk for EDS?
### Respiratory - Evaluate if driver has;

- Impaired respiratory function?
- Cyanosis?
- Abnormal:
  - Chest wall expansion?
  - Respiratory rate?
  - Breath sounds, including wheezes or alveolar rales?
  - Findings that may require further testing such as pulmonary tests and/or X-ray of chest?

### Respiratory

Obtain PFT or consultation with pulmonologist if;

- Clubbing of the fingers.
- Cyanosis.
- Prolonged expiration.
- Tachypnea at rest.
- Pulmonary wheezes and rhonchi, pulmonary rales.
- Absent or decreased breath sounds.
- Pleural friction rub.
- Unequal inflation deflation contours of the right and left thorax.
- Significant kyphosis or scoliosis of the thoracic spine.
- Use of accessory muscles of ventilation at rest.

### Standard Respiratory Guidance

Recommend not to certify if the driver has;

- Hypoxemia at rest.
- Chronic respiratory failure.
- History of continuing cough with cough syncope.
- Not met spirometry parameters.
- Unstable condition and/or treatment regimen.
Antihistamines

First generation antihistamines - sedating side effects
Second generation antihistamines less incidence of sedating side
general criteria
should abstain from medication for 12 hours prior to operating a vehicle
note: individuals responsible for driver schedules should remove from duty until proper treatment completed.

Narcotic Antitussive Therapy

General medication criteria
medical examiner should advise the driver to refrain from driving for at least 12 hours after taking a narcotic antitussive.
NOTE: The individuals responsible for commercial driver work schedules should relieve affected drivers from duty until proper treatment for the illness has been completed.

Allergic Rhinitis

Recommend not to certify if:
the driver has complications and/or treatment that impairs function, including:
severe conjunctivitis affecting vision.
ability to keep eyes open.
photophobia.
uncontrollable sneezing fits.
 sinusitis with severe headaches.
medications that cause sedation or other side effects that interfere with safe driving.
Allergy Related Life-Threatening Disease

Recommend not to certify if:
- The driver with a history of an allergy-related life-threatening condition does not have:
  - Effective treatment regimen.
  - Successful preventive measures.

Asthma

Recommend not to certify if:
- The driver exhibits either:
  - Continual, uncontrolled, symptomatic asthma.
  - Significant impairment of pulmonary function (FEV1 < 65% and significant hypoxemia PaO₂ < 65 mm Hg)

Chronic Obstructive Pulmonary Disease

Recommend not to certify if:
- The driver has:
  - Hypoxemia at rest.
  - Chronic respiratory failure.
  - History of continuing cough with cough syncope.
- If FEV₁ is less than 65% of predicted, ABG should be evaluated.
- NOTE: Smokers have a high incidence of COPD, yet individuals may have a significant reduction in lung function without symptoms. Spirometry should be performed in all smokers over the age of 35 years.
Infectious Respiratory Disease

- Standard and...
- Acute Infectious Disease
  - Medications used to treat respiratory tract congestion can cause drowsiness and loss of attention.
  - Educate driver to refrain from operating a vehicle for at least 12 hours after taking a medication with sedating side effects.
- Atypical Tuberculosis
  - Recommend not to certify if driver has extensive pulmonary dysfunction, weakness, fatigue or adverse reaction to medical treatment.

Infectious Respiratory Disease

- Pulmonary Tuberculosis
  - Recommend not to certify if:
    - Standard and
    - Driver is contagious
    - Advanced TB with respiratory insufficiency not meeting pulmonary function test criteria
    - Chronic TB, noncompliant with treatment, not completed streptomycin therapy or with residual eighth cranial nerve damage that affects balance and/or hearing to an extent that interferes with safe driving.

Non-Infectious Respiratory Disease

- Chest Wall Deformities
- Cystic Fibrosis
- Interstitial Lung Disease

- Standard criteria
Non-Infectious Respiratory Disease

Pneumothorax

- Ensure complete recovery using chest X-rays.
- No residual air in the pleural space and/or mediastinum
- Maximum certification = 2 years
- Recommend to certify if driver:
  - Is asymptomatic without chest pain or shortness of breath.
  - Has no disqualifying underlying lung disease.
  - Has confirmed resolution of the single spontaneous pneumothorax.
  - Has successful pleurodesis and meets acceptable pulmonary parameters.
- Do not certify if above not met or
  - Two or more spontaneous pneumothoraces on one side if no successful surgical procedure has been done to prevent recurrence recommend not to certify

Pulmonary Function Testing

- Spirometry if:
  - History of any specific lung disease.
  - Symptoms of shortness of breath, cough, chest tightness, or wheezing.
  - Cigarette smoking in drivers 35 years of age or older.
  - Likely to be removed or changed

- Oximetry if < 92% (O2 = 70) obtain ABG

Pulmonary Function Testing

- Pulse oximetry and/or arterial blood gas (ABG) if:
- Obstructive Disease:
  - FEV1 less than 65% of the predicted value.
  - FEV1/FVC ratio less than 65%.
- Restrictive Disease - FVC is less than 60%.
Pulmonary Function Testing

Recommend not to certify the driver if on ABG;

- Partial pressure of arterial oxygen (PaO<sub>2</sub>) less than:
  - 65 millimeters of mercury (mm Hg) at altitudes below 5,000 feet.
  - 60 mm Hg at altitudes above 5,000 feet.
- Partial pressure of arterial carbon dioxide (PaCO<sub>2</sub>) greater than 45 mm Hg at any altitude.

Can a driver on oxygen therapy be qualified to drive in interstate commerce?

FAQ

In most cases, the use of oxygen therapy while driving is disqualifying. Concerns include oxygen equipment malfunction, risk of explosion, and the presence of significant underlying disease that is disqualifying, such as pulmonary hypertension. The driver must be able to pass a Pulmonary Function Test (PFT).

Obstructive Sleep Apnea

- No official information from FMCSA on sleep disorders. See Bulletin on OSA.
- Narcolepsy mentioned under Central Nervous System Stimulants.
  - Recommend not to certify it.
- The driver has:
  - A disqualifying underlying condition (e.g., narcolepsy).
- No specific screening criteria from FMCSA.
- OSA FAQs, pages from handbook and “Spotlight on Sleep Apnea” have been removed.
- Some groups want training programs to not mention anything on OSA.
Review current FMCSA recommendations for sleep disorders that have completed the public notice and comment process, including:

- Summarized in online Medical Examiner Handbook, Chronic Sleep Disorders.
- Identify sleep disorders as a condition under current review by FMCSA.

**CD Note:** NOTHING IN THE ME HANDBOOK HAS COMPLETED THE PUBLIC NOTICE AND COMMENT PROCESS

Note: It is important that the training clearly distinguishes between what constitutes current FMCSA medical guidance and recommendations by advisory panels, boards, and other stakeholders as to what FMCSA guidance should be.

Remember that Medical Examiner Certification Test items use current guidelines, but medical examiners may choose to use best practices or other guidelines.

Documentation should highlight the differences between the guideline used and the current guideline, as well as the rationale for the choice made.

All that follows is NOT from FMCSA.

Will not be on examination.

As Not required to be followed.

What is marked with had been on FMCSA page but now removed.
There are many conditions that interfere with oxygen exchange and may result in incapacitation, including emphysema, chronic asthma, carcinoma, tuberculosis, chronic bronchitis and sleep apnea.

If the medical examiner detects a respiratory dysfunction, that in any way is likely to interfere with the driver’s ability to safely control and drive a commercial motor vehicle, the driver must be referred to a specialist for further evaluation and therapy.

It is clear that FMCSA has considered OSA a respiratory dysfunction that interferes with oxygen exchange.

If a medical examiner believes the driver’s respiratory condition is in any way likely to interfere with the driver’s ability to safely control and drive a commercial motor vehicle, the driver should be referred to a specialist for further evaluation and therapy.
NRCME Advisory

This advisory criterion is helpful to medical examiners when the examiner has sufficient experience or information to recognize certain risk factors for OSA, or when a driver tells the examiner that he or she has been diagnosed with OSA.

Under these circumstances, the medical examiner should consider referring the driver to a specialist for evaluation before issuing a medical examiner’s certificate, or request additional information from the driver and his or her treating healthcare professional about the management of the driver’s OSA, respectively.

FMCSA’s physical qualifications standards and advisory criteria do not provide OSA screening, diagnosis or treatment guidelines for medical examiners to use in determining whether an individual should be issued a medical certificate.

Medical examiners may exercise their medical judgment and expertise in determining whether a driver exhibits risk factors for having OSA and in determining whether additional information is needed before making a decision whether to issue the driver a medical certificate and the duration of that medical certification.

FMCSA urges medical examiners to explain clearly to drivers the basis for their decision concerning the issuance of a medical certification for a period of less than two years or the denial of a medical certification.

The Agency encourages medical examiners to consider the following in making the medical certification decision:

- The primary safety goal regarding OSA is to identify drivers with moderate-to-severe OSA to ensure these drivers are managing their condition to reduce to the greatest extent practical the risk of drowsy driving.
- Moderate-to-severe OSA is defined by an apnea-hypopnea index (AHI) of greater than or equal to 15.
- The Agency does not require that these drivers be considered unfit to continue their driving careers; only that the medical examiner make a determination whether they need to be evaluated and, if warranted, demonstrate they are managing their OSA to reduce the risk of drowsy driving.
NRCME Advisory

Screening:
FMCSA’s regulations and advisory criteria do not include screening guidelines.
Medical examiners should consider common OSA symptoms such as loud snoring, witnessed apneas, or sleepiness during the major wake periods, as well as risk factors, and consider multiple risk factors such as body mass index (BMI), neck size, involvement in a single-vehicle crash, etc.

Diagnosis:
Methods of diagnosis include in-laboratory polysomnography, at-home polysomnography, or other limited channel ambulatory testing devices which ensure chain of custody.

Treatment:
OSA is a treatable condition, and drivers with moderate-to-severe OSA can manage the condition effectively to reduce the risk of drowsy driving.
Treatment options range from weight loss to dental appliances to Continuous Positive Airway Pressure (CPAP) therapy, and combinations of these treatments.
The Agency’s regulations and advisory criteria do not include recommendations for treatments for OSA and FMCSA believes the issue of treatment is best left to the treating healthcare professional and the driver.

FMCSA had not indicated what criteria should be used to determine which drivers to screen BUT

They have agreed that the only incorrect action is to do nothing!
Respiratory – Chronic Sleep Disorders

- Waiting period
- Minimum — 1 month after starting CPAP
- Minimum — 3 months symptom free after surgical treatment
- Maximum certification — 1 year
- Recommended to certify if the driver has:
  - Successful nonsurgical therapy with:
    - Multiple sleep latency testing values within the normal range.
    - Resolution of apneas confirmed by repeated sleep study during treatment.
    - Continuous successful nonsurgical therapy for 1 month.
    - Compliance with continuous nonsurgical therapy.
    - Resolution of symptoms following completion of nonsurgical waiting period.

Is Narcolepsy disqualifying?

FAQ

- The guidelines recommend disqualifying a CMV driver with a diagnosis of Narcolepsy, regardless of treatment because of the likelihood of excessive daytime somnolence.
Obstructive Sleep Apnea

Following slides are considered by some to be CURRENT, BEST practice but are not endorsed by FMCSA AND

*NOT ON Medical Examiner Certification Test*

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Obstructive Sleep Apnea

Unofficial guidance – All in Supplemental Resources

- 2006 Joint Task Force
- AAO, NSF, ACCP
- FMCSA Medical Expert Panel
- FMCSA Medical Review Board
- 2012 Motor Carrier Safety Advisory Committee/Medical Review Board

FMCSA had not indicated what criteria should be used to determine which drivers to screen BUT
They have agreed that the only incorrect action is to do nothing!

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I. General Recommendations Regarding OSA

MRB/MCSAC

A. OSA diagnosis precludes unconditional certification.
B. A driver with an OSA diagnosis may be certified if the following conditions are met:
   1. The driver has untreated OSA with an apnea-hypopnea index (AHI) of less than or equal to 20 (i.e., mild-to-moderate OSA), and
   2. The driver does not admit to experiencing excess sleepiness during the major wake period, or
   3. The driver’s OSA is being effectively treated.
C. A driver with an OSA diagnosis may be recertified annually, based on demonstrating compliance with treatment.
   1. Minimally acceptable compliance with Positive Airway Pressure (PAP) treatment consists of at least 4 hours per day of use on 70 percent of days.
II. Immediate Disqualification or Certification

MRB/MCSAC

Denial

A. Drivers should be disqualified immediately or denied certification if any of the following conditions are met:

- The driver admits to experiencing excessive sleepiness during the major wake period while driving,
- The driver experienced a crash associated with falling asleep, or
- The driver has been found non-compliant with treatment per Recommendation I.D.

III. Conditional Certification

MRB/MCSAC

1. Drivers may be granted conditional certification if any of the following conditions are met:
   1. The driver has an AHI of greater than 20 until compliant with PAP or
   2. The driver has undergone surgery and is pending post-op findings per Recommendations VI – VIII,
   3. The driver has a Body Mass Index (BMI) of greater than or equal to 35 kg/m² pending a sleep study.

2. Conditional certification should include the following elements:
   1. May be certified for 60 days pending sleep study and treatment
   2. If a driver being treated is compliant with treatment he may receive an additional 90-day conditional certification.
   3. After 90 days, if the driver is still compliant with treatment, the driver may be certified for no more than 1 year. Future certification should be dependent on continued compliance.

III. Conditional Certification – OSA Screening

MRB/MCSAC

1. Symptoms of OSA may include loud snoring, witnessed apneas, or sleepiness during the major wake period.

2. Risk factors of OSA may include the following factors. However, a single risk factor alone may not infer risk, and a combination of multiple factors should be examined.
   a. Factors associated with high risk:
      1) Small or recessed jaw
      2) Small airway (Mallampati Scale score of Class 3 or 4)
      3) Neck size ≥ 17 inches (male), 15.5 inches (female)
      4) Hypertension (treated or untreated)
      5) Type 2 diabetes (treated or untreated)
      6) Hypothyroidism (untreated)
   b. Other factors:
      1) BMI greater than or equal to 28 kg/m²
      2) Age 42 and above
      3) Family history
      4) Male or post-menopausal female
      5) Experienced a single-vehicle crash
MCSAC and MRB Task 11-05: 
Recommendations for Obstructive Sleep Apnea (OSA) Regulatory Guidance

Mallampati Score Class I - IV

Respiratory Medical Guidance Recall

In addition to pulmonary function tests, give examples of other signs or symptoms a medical examiner uses to decide if a pulmonary/respiratory disease disqualifies a driver under FMCSA regulations?

Respiratory Medical Guidance Recall

Any pulmonary process that is likely to interfere with driver ability to operate a commercial motor vehicle (CMV) safely, either due to history or clinical diagnosis, is medically disqualifying.

Examples include:
- Bronchiectasis with hemoptysis or with episodes of life-threatening pulmonary infection.
- Chronic pulmonary tuberculosis (TB).
- Chronic obstructive pulmonary disease (COPD), with a cough severe enough to induce syncope.
- Asthma that requires frequent hospitalizations or that shows severe enough pulmonary dysfunction to put the driver at risk for loss of awareness or attention.
Respiratory Medical Guidance Recall

What conditions must a driver with acute or chronic cor pulmonale meet to be certified to operate an interstate CMV?

To be qualified, the driver should meet a minimum arterial blood gas (PaO2) greater than 65 mm Hg.

Drivers with acute (reversible) cor pulmonale may be certified after successful treatment, when they can meet the above criteria for qualification.

Treated or untreated patients with pulmonary hypertension or cor pulmonale who exhibit dyspnea at rest, dizziness, or hypotension (may be a side effect of medication) should not be qualified to drive.

A driver states that she has exercise-induced asthma well controlled by using an albuterol (Proventil, Ventolin) inhaler before she does any aerobic activity. Her pulmonary function (forced expiratory volume in the first second of expiration (FEV1)) must be greater than _____ % of predicted FEV1 to qualify.

Greater than 65% FEV1 of predicted.

A driver takes diphenhydramine (Benadryl), 25 mg, two or three times per day, to treat nasal congestion. Discuss what, if any, concerns this causes, and what a medical examiner might do in this example.

According to medical guidance, drivers should abstain from using any form of antihistamines, with known sedative side effects and narcotic-based antitussives, for the 12 hours prior to driving.

A continued on next slide.
Respiratory Medical Guidance Recall

Diphenhydramine case continued

Medical examiners have concerns about side effects of which the driver may be unaware, yet still could be impairing safe operation of a CMV, such as decreased alertness, reaction time, and memory. In this example, medical examiner discussion with the driver may include:

- Informing driver of risks associated with using antihistamines within 12 hours of driving.
- Advising the driver to consult with a primary care provider to evaluate the chronic congestion and obtaining treatment that does not interfere with safe driving.

Respiratory Medical Guidance Recall

The examiner notices that the driver has marked that he has asthma and lists an albuterol (Proventil, Ventolin) inhaler among his medications. On questioning, the driver admits to using it several times a day, especially during the spring and fall; he admits that he has not seen his primary care physician in several years but is still getting frequent refills on his inhaler. The driver also admits that he has been hospitalized twice in the last 6 months for his asthma, ending up on a ventilator on the last visit. Should the medical examiner certify the driver, and, if so, for how long?

Respiratory Medical Guidance Recall

Asthma case continued

- Do not certify.

The history clearly suggests that the asthma that the driver has requires frequent hospitalizations and has the potential for respiratory dysfunction that could impair the ability to operate a CMV safely. Appropriate advice to the driver includes recommending that the driver see his primary care physician or a pulmonologist who may be able to provide treatment to effectively control the asthma, such that the driver meets respiratory qualification requirements.
Respiratory Medical Guidance Recall

A driver presents for examination with a history (last month) of a pneumothorax. The records provided by the driver indicate that the pneumothorax reduced the driver’s forced vital capacity (FVC) to 58% of predicted forced vital capacity. Can this driver be certified? If not, when can the driver be certified?

Do not certify.

According to recommendations, this driver should not be certified until the medical examiner has verified that the recovery is complete, with x-rays, and the driver has a FVC greater than 60%.

Respiratory Medical Guidance Recall

A driver presents for examination with a history (3 months ago) of a pneumothorax. The records provided by the driver indicate that this is the second spontaneous pneumothorax on the same side. The driver’s forced vital capacity (FVC) to 68% of predicted forced vital capacity is with no surgical intervention. Can this driver be certified? If not, when can the driver be certified?

Do not certify.

According to recommendations, this driver should not be considered medically qualified if no surgical procedure has been done to prevent recurrence.