

# The Commercial Motor Vehicle Driver Medical Examination: Practical Issues

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The commercial motor vehicle driver medical examination aims to ensure that commercial drivers can safely perform all driving and nondriving work-related tasks. In conducting the examination and completing the related certification, the medical examiner must follow mandated medical standards and consider medical advisory criteria. Examiners should consider the substantial expert guidance provided in making certification determinations. For several common conditions, regulations and guidance are currently under review by medical review boards and expert panels, and major updates are likely in the near future. In addition, legislative changes are likely to require specific training and certification for medical examiners. These changes aim to increase the effectiveness of the commercial motor vehicle driver medical examination as a public health safeguard by reducing commercial motor vehicle crashes. (*Am Fam Physician*. 2010;81(8):975-980. Copyright © 2010 American Academy of Family Physicians.)



The online version of this article includes supplemental content at <http://www.aafp.org/afp>.

**M**ost commercial motor vehicle drivers are required to meet the medical standards of the Federal Motor Carrier Safety Administration (FMCSA); nevertheless, medical conditions of drivers continue to be implicated in crashes involving commercial motor vehicles.<sup>1,2</sup> One strategy to improve safety is better training of the commercial motor vehicle driver medical examiner.<sup>2,3</sup> Recent rulemaking may restrict medical examiner eligibility in the future to those who complete specified training and certification.<sup>4</sup> This article focuses on major changes in assessment of commercial motor vehicle drivers since the 1998 review published in *American Family Physician* (<http://www.aafp.org/afp/980800ap/pommer.html>).<sup>5</sup>

## Commercial Motor Vehicle Driver Medical Examination

When performing a commercial motor vehicle driver medical examination, commonly referred to as the Department of Transportation (DOT) examination, the examiner must follow the 13 federal medical standards (*Table 1*<sup>6</sup>); is expected to comply with the advisory criteria<sup>6</sup>; and should consider all other available guidance, including conference and advisory panel reports.<sup>6-9</sup> Frequently

asked questions (FAQs) are provided to aid the examiner in making the certification determination (*Table 2*),<sup>8</sup> and the FMCSA is developing a medical examiner handbook.<sup>9</sup> A driver's roles and responsibilities, which are outlined on the Medical Examination Report for Commercial Driver Fitness Determination (the form the examiner must use to document the examination), also must be considered. The examiner should remember that the medical certificate is not limited to the current employer and should only sign the medical certificate if the driver is able to perform all driving and nondriving work-related tasks.

Medical examiners are advised to refer the driver to a specialist, if necessary. For many conditions, including some types of heart disease and hypertension controlled by medication, medical certification should be for less than 24 months. Limited certification is also appropriate for a medical condition that does not disqualify the driver, but does require monitoring or reassessment.

## RECENT CHANGES AND CURRENT DEVELOPMENTS

In 2005, several changes in the examination process were mandated by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users.<sup>10</sup> One of

## SORT: KEY RECOMMENDATIONS FOR PRACTICE

<i>Key clinical recommendation</i>	<i>Evidence rating</i>	<i>References</i>
When performing a commercial motor vehicle driver medical examination, the examiner must consider the 13 federal medical standards, plus related recommendations and guidance, to reach a certification determination.	C	6-9
Commercial motor vehicle drivers taking modafinil (Provigil) should not be certified until they have been monitored closely for at least six weeks for daytime somnolence and adverse effects.	C	8
Commercial motor vehicle drivers who take antihypertensive agents should be medically recertified annually, even if blood pressure readings are in the range of 140 mm Hg or less systolic and 90 mm Hg or less diastolic.	C	6-9, 14
Commercial motor vehicle drivers who require insulin, but are otherwise healthy, may qualify for a federal diabetes exemption to be certified.	C	27

NOTE: These recommendations are based on federal regulations.<sup>6</sup>

A = consistent, good-quality patient-oriented evidence; B = inconsistent or limited-quality patient-oriented evidence; C = consensus, disease-oriented evidence, usual practice, expert opinion, or case series. For information about the SORT evidence rating system, go to <http://www.aafp.org/afpsort.xml>.

### Table 1. Physical Qualification for Commercial Motor Vehicle Drivers

**A person is physically qualified to drive a commercial motor vehicle if that person:**

1. Has no loss of a foot, leg, hand, or arm, or has been granted an SPE certificate\*
2. Has no impairment of a hand or finger that interferes with prehension or power grasping; has no impairment of an arm, foot, or leg that interferes with the ability to perform normal tasks associated with operating a commercial motor vehicle; has no other significant limb defects or limitations that interfere with the ability to perform normal tasks associated with operating a commercial motor vehicle; or has been granted an SPE certificate\*
3. Has no established medical history or clinical diagnosis of diabetes mellitus currently requiring insulin for control
4. Has no current clinical diagnosis of myocardial infarction, angina pectoris, coronary insufficiency, thrombosis, or any other cardiovascular disease of a variety known to be accompanied by syncope, dyspnea, collapse, or congestive cardiac failure
5. Has no established medical history or clinical diagnosis of a respiratory dysfunction likely to interfere with the ability to control and drive a commercial motor vehicle safely
6. Has no current clinical diagnosis of high blood pressure likely to interfere with the ability to operate a commercial motor vehicle safely
7. Has no established medical history or clinical diagnosis of a rheumatic, arthritic, orthopedic, muscular, neuromuscular, or vascular disease that interferes with the ability to control and operate a commercial motor vehicle
8. Has no established medical history or clinical diagnosis of epilepsy or any other condition likely to cause loss of consciousness, or any loss of ability to control a commercial motor vehicle
9. Has no mental, nervous, organic, or functional disease or psychiatric disorder likely to interfere with the ability to drive a commercial motor vehicle safely
10. Has a distant visual acuity of at least 20/40 (Snellen) in each eye with or without corrective lenses, or visual acuity separately corrected to 20/40 (Snellen) or better with corrective lenses; distant binocular acuity of at least 20/40 (Snellen) in both eyes with or without corrective lenses; field of vision of at least 70 degrees in the horizontal meridian in each eye; and the ability to recognize the colors of traffic control signals and devices showing standard red, green, and amber
11. First perceives a forced whispered voice in the better ear at not less than five feet with or without the use of a hearing aid or, if tested by use of an audiometric device, does not have an average hearing loss in the better ear greater than 40 decibels at 500 Hz, 1,000 Hz, and 2,000 Hz with or without a hearing aid when the audiometric device is calibrated to the American National Standard (formerly American Standard Association)
12. Does not use a controlled substance†, an amphetamine, a narcotic, or any other habit-forming drug  
*Exception:* a driver may use such a substance or drug if the substance or drug is prescribed by a licensed medical professional who is familiar with the driver's medical history and assigned duties and has advised the driver that the prescribed substance or drug will not adversely affect the driver's ability to safely operate a commercial motor vehicle; this exception does not apply to the use of methadone
13. Has no current clinical diagnosis of alcoholism

NOTE: The medical standards and a summary of the advisory criteria are available in the online version of this article.

SPE = Skill Performance Evaluation.

\*—Pursuant to 49 CFR 391.49.

†—Identified in 21 CFR 1308.11 Schedule I.

Adapted from Federal Motor Carrier Safety Administration. Medical advisory criteria for evaluation under 49 CFR Part 391.41. <http://www.fmcsa.dot.gov/rules-regulations/rules-regulations/administration/medical.htm>. Accessed January 9, 2010.

**Table 2. Sample Federal Motor Carrier Safety Administration Frequently Asked Medical Questions**

**Q. Is the certification limited to current employment or job duties?**

A. When a medical examiner grants medical certification, he or she certifies the driver to perform any job duty required of a commercial motor vehicle driver, not just the driver's current job duties.

**Q. What medical conditions disqualify a commercial bus or truck driver?**

A. The truck driver must be medically qualified to not only drive the vehicle safely, but also to do pre- and post-trip safety inspections, secure the load, and make sure it has not shifted. Bus drivers have different demands.

By regulation, specific medically disqualifying conditions found under 49 CFR 391.41 are hearing loss, vision loss, epilepsy, and insulin use.

Drivers who require a diabetes or vision exemption to safely drive a commercial motor vehicle in addition to those preprinted on the certification form are disqualified until they receive such an exemption.

**Q. Who is required to have a copy of the medical certificate?**

A. Section 391.43(g) requires the medical examiner to give a copy of the medical certificate to the driver and the motor carrier (employer) if the driver passes the medical examination.

**Q. Is narcolepsy disqualifying?**

A. The guidelines recommend disqualifying a commercial motor vehicle driver with a diagnosis of narcolepsy, regardless of treatment, because of the likelihood of excessive daytime somnolence.

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

A. 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.

**Q. Can a commercial motor vehicle driver be disqualified for using a legally prescribed medication?**

A. Although the driver has a legal prescription, he or she may be disqualified if the medication could adversely affect the driver's ability to operate a commercial motor vehicle safely.

**Q. Is a driver on kidney dialysis disqualified?**

A. At this time, there is no guidance from Federal Motor Carrier Safety Administration. At the least, the examiner should require a letter from the treating physician (nephrologist) outlining the condition, medications, and recommendation regarding certification. The examiner may or may not accept this recommendation. The driver must meet all criteria for certification. Restrictions other than those on the preprinted form are disqualifying.

*Adapted from Federal Motor Carrier Safety Administration. Frequently asked questions (FAQ)—medical. <http://www.fmcsa.dot.gov/rules-regulations/topics/medical/faq.asp>. Accessed January 9, 2010.*

the major requirements is the establishment of a National Registry of Certified Medical Examiners. Once implemented, only examiners who complete the required training and testing will be registered and permitted to perform commercial motor vehicle driver medical examinations.<sup>4</sup> Rulemaking on this change is anticipated sometime in 2010, with about four years until full implementation.

A medical review board—a panel of experts that evaluates evidence on how medical conditions may affect commercial motor vehicle driver safety—was also created to provide medical advice to the FMCSA.<sup>11</sup> The medical review board has heard recommendations from medical expert panels on several medical conditions<sup>12</sup> and has made recommendations to the FMCSA,<sup>13</sup> but no formal updates on medical standards and guidelines have been issued. Medical examiners should be aware of the various recommendations and key issues, especially in areas where current FMCSA guidance is insufficient or updates are under active consideration. Physicians can remain informed through the eSubscribe services of the Medical Programs of the FMCSA (<http://www.fmcsa.dot.gov/rules-regulations/topics/medical/medical.htm>)<sup>14</sup> or National Registry of Certified Medical

Examiners,<sup>15</sup> or through the Commercial Driver Medical Examiner Center of the American College of Occupational and Environmental Medicine.<sup>16</sup>

### Specific Conditions

The following cases illustrate common medical conditions in which information has changed since this topic was last reviewed.<sup>5</sup>

#### CONTROLLED SUBSTANCE USE

*A driver who has chronic back pain treated with a fentanyl patch (Duragesic) and oxycodone (Roxicodone) is anxious to return to work driving a truck.*

Only a few medications are specifically disqualifying (i.e., insulin [unless an exemption is granted], anti-seizure medications, and methadone), and the FMCSA has issued official guidance for a few others. For example, in a recent statement, the FMCSA Administrator advised examiners against certifying drivers taking varenicline (Chantix).<sup>17</sup> An FAQ addressing modafinil (Provigil) indicates that drivers taking this medication should not be certified until they have been monitored closely for at least six weeks.<sup>8</sup> Treating physicians and examiners

## Commercial Driver Medical Exam

must agree that daytime somnolence has resolved and no concerning adverse effects are present. Annual recertification is recommended for commercial motor vehicle drivers taking modafinil.

Even a legally prescribed medication may cause the medical examiner to determine that the driver should not be medically certified.<sup>8</sup> Examiners should review and document a discussion on the potential hazards of prescription and nonprescription medications while driving. The medical expert panel on Schedule II drugs made several recommendations on the use of these medications.<sup>18</sup> The medical review board recommended modifying medications that are disqualifying to include Schedule II drugs and benzodiazepines, except under specific circumstances.<sup>19</sup> They also recommended that patients using any medication parenterally (e.g., intravenously, transdermally, intrathecally) not be permitted to operate a commercial motor vehicle. Several resources are available to assist examiners in evaluating the risk of impairment with specific medications in commercial motor vehicle drivers.<sup>20-23</sup>

The driver in this case should not be medically certified based on the use of medications, and possibly because of concerns about his chronic back pain.

### DIALYSIS

*A 60-year-old interstate driver recently started dialysis. His nephrologist has written a note that he may return to work, but may not work on dialysis days (Monday, Wednesday, and Friday).*

The only current guidance for drivers with chronic kidney disease on dialysis is an FAQ that instructs the examiner to, at a minimum, obtain a letter from the nephrologist; however, the FAQ notes that the examiner is not obligated to accept the nephrologist's work

recommendations.<sup>8</sup> Examiners are also reminded that restrictions, aside from those listed on the examination form, are disqualifying. The medical expert panel on chronic kidney disease<sup>24</sup> recommended that all drivers, or at least those at highest risk of chronic kidney disease, be screened for kidney disease through the use of the Modification of Diet in Renal Disease glomerular filtration rate calculation.<sup>25</sup> They recommended that drivers in stages 3 and 4 chronic kidney disease undergo more frequent certification and that those in stage 5 or on dialysis be disqualified. Although the medical review board concurred with those recommendations, guidance from the FMCSA is still pending.<sup>26</sup> It is most likely that the driver in this case should not be medically certified.

### HYPERTENSION

*A driver's blood pressure is measured twice and the lower reading is 158/98 mm Hg. He is taking two antihypertensive agents and has no other medical conditions or risk factors.*

Although the medical standard does not indicate a specific acceptable blood pressure, the guidance is detailed. Drivers who take antihypertensive agents should be medically recertified annually, even if blood pressure readings are in the range acceptable to the FMCSA (Table 3).<sup>6</sup>

The driver in this case should be medically certified for up to one year to bring the blood pressure into the range of 140 mm Hg or less systolic and 90 mm Hg or less diastolic. If the blood pressure remains above that level, but below 160/100 mm Hg, the driver may be given one additional three-month period to achieve control. Once the blood pressure is 140/90 mm Hg or less, he should be issued only annual medical certificates.

**Table 3. Guidelines for Commercial Motor Vehicle Driver Blood Pressure Evaluation**

Reading (mm Hg)	Category	Expiration date	Recertification
140 to 159/90 to 99	Stage 1	One year	One year if $\leq$ 140/90 mm Hg One-time certificate for three months if 140 to 159/90 to 99 mm Hg
160 to 179/100 to 109	Stage 2	One-time certificate for three months	One year from date of examination if $\leq$ 140/90 mm Hg
$\geq$ 180/110	Stage 3	Disqualified	Six months from date of examination if $\leq$ 140/90 mm Hg, then every six months if $\leq$ 140/90 mm Hg

NOTE: Driver qualified if  $\leq$  140/90 mm Hg.

Adapted from Federal Motor Carrier Safety Administration. Medical advisory criteria for evaluation under 49 CFR part 391.41. <http://www.fmcsa.dot.gov/rules-regulations/administration/medical.htm>. Accessed January 9, 2010.

## INSULIN-TREATED DIABETES MELLITUS

*A driver whose diabetes has been managed with oral agents for the past 15 years began insulin therapy three months ago and has been cleared by his endocrinologist to return to commercial motor vehicle driving.*

Currently, drivers requiring insulin for control of diabetes need a federal diabetes exemption; however, they no longer have to wait three years to be eligible for this exemption. The examiner should evaluate these drivers, especially for complications of diabetes. If the examiner determines that the driver meets all criteria except the insulin requirement, the driver could be certified for no longer than one year. The medical examination report and the medical examiner's certificate must note that the driver requires a federal diabetes exemption. The driver should be informed that the certificate is not valid until the exemption is granted by the FMCSA. This can take up to 180 days from the time the FMCSA has the completed application and all required documentation.<sup>27</sup>

## OBSTRUCTIVE SLEEP APNEA

*A driver who requires two medications to control hypertension denies any other medical conditions, but admits to severe snoring. Aside from a body mass index (BMI) of 45 kg per m<sup>2</sup> and a blood pressure of 138/88 mm Hg, his examination is normal.*

The current guidance from the FMCSA does not provide screening criteria for obstructive sleep apnea (OSA). A 2006 task force suggested that drivers be screened for OSA if they met at least two of three criteria (i.e., BMI of 35 kg per m<sup>2</sup> or greater; neck circumference greater than 16 inches in women or 17 inches in men; or hypertension that is new, uncontrolled, or requires at least two medications to control).<sup>28</sup> Further evaluation is also recommended if any of the following criteria are met: sleep history suggestive of OSA; Epworth Sleepiness Scale score greater than 10; a previously diagnosed sleep disorder; or an apnea-hypopnea index greater than five, but less than 30 in a previous sleep study or polysomnography. More recently, a medical expert panel recommended that the only criterion for testing should be a BMI of 33 kg per m<sup>2</sup> or greater.<sup>29</sup> The medical review board has recommended that the FMCSA select a BMI of greater than 30 kg per m<sup>2</sup> as the screening criterion.<sup>30</sup>

The driver in this case could be medically certified for a temporary period while undergoing evaluation

**Table 4. Key Resources for the Commercial Motor Vehicle Driver Medical Certification Examination**

Federal Motor Carrier Safety Administration ( <a href="http://www.fmcsa.dot.gov/">http://www.fmcsa.dot.gov/</a> )
Medical examiner handbook ( <a href="http://nrcme.fmcsa.dot.gov/MEhandbook.htm">http://nrcme.fmcsa.dot.gov/MEhandbook.htm</a> )
Medical expert panel reports ( <a href="http://www.mrb.fmcsa.dot.gov/reports.htm">http://www.mrb.fmcsa.dot.gov/reports.htm</a> )
Medical frequently asked questions ( <a href="http://www.fmcsa.dot.gov/rules-regulations/topics/medical/faq.asp">http://www.fmcsa.dot.gov/rules-regulations/topics/medical/faq.asp</a> )
Medical programs ( <a href="http://www.fmcsa.dot.gov/rules-regulations/topics/medical/medical.htm">http://www.fmcsa.dot.gov/rules-regulations/topics/medical/medical.htm</a> )
Medical reports ( <a href="http://www.fmcsa.dot.gov/facts-research/research-technology/publications/medreports.htm">http://www.fmcsa.dot.gov/facts-research/research-technology/publications/medreports.htm</a> )
Medical review board ( <a href="http://www.mrb.fmcsa.dot.gov/">http://www.mrb.fmcsa.dot.gov/</a> )
National Registry of Certified Medical Examiners ( <a href="http://www.nrcme.fmcsa.dot.gov./index.aspx">http://www.nrcme.fmcsa.dot.gov./index.aspx</a> )
Rules and regulations ( <a href="http://www.fmcsa.dot.gov/rules-regulations/rules-regulations.htm">http://www.fmcsa.dot.gov/rules-regulations/rules-regulations.htm</a> )
Hartenbaum NP, ed. <i>The DOT Medical Examination: A Guide to Commercial Drivers' Medical Certification</i> . 4th ed. Beverly Farms, Mass.: OEM Press; 2008.

for OSA. If OSA is confirmed, he should be monitored more often to assess compliance with treatment. His hypertension would also be grounds for a shortened certification.

## SEIZURES

*A driver has experienced several seizures since a closed head injury 18 months ago. He has been seizure-free for six months with levetiracetam (Keppra) therapy. He has no neurologic deficits and is otherwise healthy.*

Although a medical expert panel on seizure disorders and commercial motor vehicle driver safety recommended permitting some drivers to operate commercial motor vehicles if their seizures are well controlled by antiseizure medications (a recommendation with which the medical review board did not agree), drivers taking antiseizure medication currently do not meet the medical standards.<sup>31</sup> Current guidance is that a driver with a single seizure may be medically certified if he or she has been seizure-free without antiseizure medication at least five years. For those with a history of more than one seizure, the waiting period is 10 years seizure-free without medication. The driver in this case may not be certified.

## SUMMARY

The examples above highlight some areas that have recently been reviewed by the FMCSA, the medical review board, or medical expert panels. It is important that all physicians who examine commercial motor vehicle drivers be aware of the regulations and all related information. *Table 4* provides key resources, and the recently redesigned FMCSA medical Web site is a good source to remain current in this rapidly changing area of medical practice.<sup>14</sup>

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