



**ACCREDITED TRAINING FOR THE NATIONAL
REGISTRY OF CERTIFIED MEDICAL
EXAMINERS**

MODULE 4

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Welcome to Module 4 of the TeamCME accredited training for the national registry of certified medical examiners.



GASTROINTESTINAL & GASTROURINARY



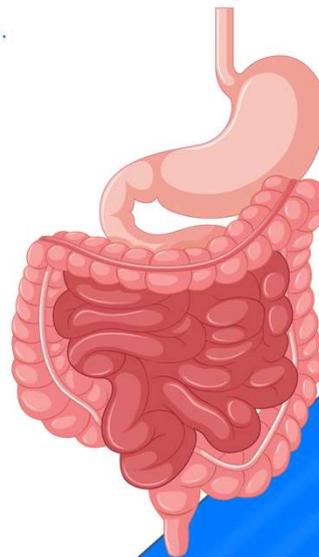
MEs should not certify the driver until the etiology is confirmed, and treatment has been shown to be adequate, effective, safe, and stable.

History:

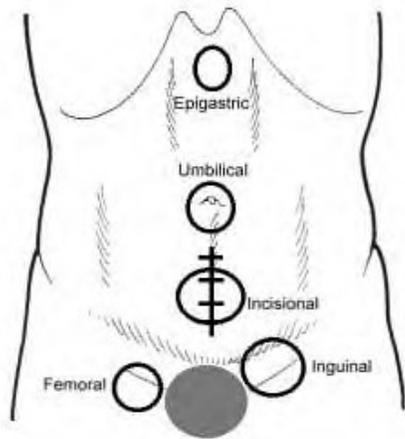
- Any illness or injury in past 5 years
- Kidney disease, dialysis
- Liver Disease
- Digestive problems

Examination:

- Enlarged Liver
- Enlarged Spleen
- Masses
- Bruits
- Hernia
- Significant abdominal wall muscle weakness
- Abnormal urinalysis



Drivers that have GU or GI conditions should not be certified to drive until the etiology is confirmed and treatment has been shown to be effective, adequate, safe, and stable. There are specific questions regarding genitourinary and gastrointestinal disease that appear in the driver health history section of the medical examination report form. These questions regard kidney disease, dialysis, liver disease, and digestive problems. These diseases would also fall into the category of “any illness or injury” in the examination portion on the third page of the medical exam report form. Medical examiners should look for an enlarged liver, spleen, any present masses, bruits, hernia, significant abdominal wall muscle weakness as well as abnormal urinalysis results.



ABDOMINAL/GU EXAM

- Auscultate abnormal bowel sounds or pulsations associated with an aortic aneurysm
- Palpate for tenderness or enlargement of the liver, kidney or spleen, abnormal pulsations
- Note any hernia present

Medical examiners should auscultate the abdominal area for abnormal bowels sounds or pulsations associated with an aortic aneurysm. They should also palpate for tenderness or enlargement of the liver, kidney, and spleen. The ME should check for a hernia that is in the abdominal wall, femoral or inguinal area and note any abnormal findings.

FOR THE TEST

Know organs of the abdomen and their location

- Right Upper Quadrant:
 - Liver
 - Gall Bladder
 - Pancreas (central)
- Left Upper Quadrant:
 - Stomach
 - Pancreas (central)
 - Spleen
- Right Lower Quadrant:
 - Appendix
- Kidneys are primarily located in the left and right lower *posterior* quadrants
- Abdominal aorta is central abdomen
 - Palpable pulsations or auscultation of a bruit associated with an abdominal aortic aneurysm (AAA)

What labs for which organs?

- Basic metabolic panel (BMP)
- Complete metabolic panel (CMP)
- Complete blood count (CBC)

To check liver function, order a CMP. The BMP does not provide information to evaluate the liver. But to only check kidney function, you would order a BMP or solely a creatinine level.

Example scenarios:

1. Driver has pain in the right upper quadrant near the rib cage.
 - Organ of concern = liver
 - Lab to order = CMP
2. Driver has pain in the left lower posterior quadrant.
 - Organ of concern = kidney
 - Test/lab = Murphy's punch sign; check creatinine

In preparation for the test, you should know the organs of the abdomen and their location. The liver and gall bladder are found in the right upper quadrant. The pancreas is centralized within the abdomen, as is the abdominal aorta, while the stomach and spleen are in the left upper quadrant. The appendix is in the right lower quadrant. Both the left and right lower posterior quadrants house the kidneys. When answering a test question, you may need to know which lab to order to check the function of a specific organ. For instance, to check liver function, you would order a complete metabolic panel, or CMP. To check kidney function, you would order a basic metabolic panel, or BMP, or solely a creatinine level. One plausible scenario is of a driver with pain in the right upper quadrant near the rib cage. The examiner should be concerned about the liver and therefore order a CMP. Another scenario could be a driver with pain in the left lower posterior quadrant. Of most concern would be the kidney for which the examiner could check their creatinine. The ME could also perform a Murphy's punch sign to the kidneys to detect whether there is soreness due to inflammation of the kidney.

Functions of the Liver, Spleen, & Pancreas

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

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

It's important to know some of the main functions of the liver, spleen, and pancreas to help make a certification determination when medical history, chart notes, lab results, or physical exam findings point to a possible area of concern. The liver processes hemoglobin for use of its iron content (the liver stores iron). It produces of cholesterol and special proteins to help carry fats through the body, converts excess glucose into glycogen, regulates blood levels of amino acids, clears the blood of drugs and other poisonous substances, regulates blood clotting, and clears bilirubin from the red blood cells to prevent jaundice.

The spleen controls the level of white blood cells, red blood cells and platelets and 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.

The pancreas produces enzymes important to digestion such as amylase for the digestion of carbohydrates and lipase to break down fats. Insulin acts to lower blood sugar and glucagon acts to raise blood sugar.

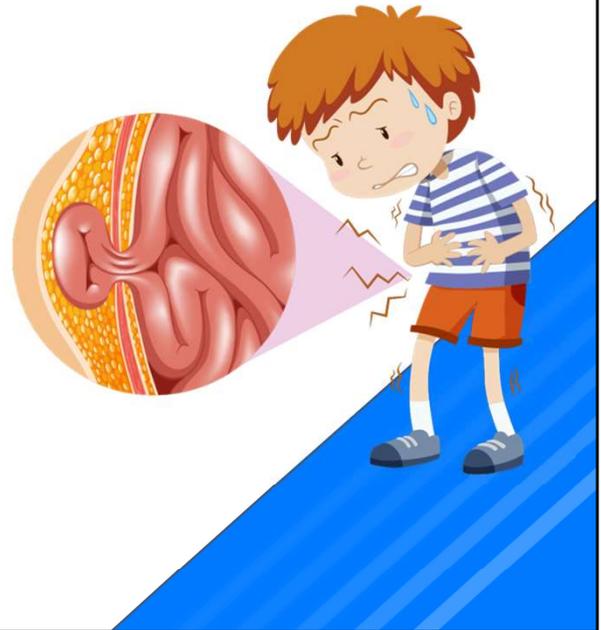
Hernia

The exam form includes a section for checking a hernia for the abdomen and viscera body, and the genitourinary system.

If a hernia causes discomfort, or the condition suggests that it might interfere with the safe operation of a CMV, further testing and evaluation may be required.

Do Not Certify If: If a recommendation for repair has been made, pain is present, a risk of strangulation or danger to driver or public health/safety

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, the medical examiner should consider further testing and evaluation 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.

During an examination of a male driver, the examiner identifies an inguinal hernia that is non-reducible. Upon questioning, the driver reports that he has had this for quite some time (it was originally diagnosed a few years ago during a CDL exam). However, he has noticed that it recently has become mildly painful with exertion but getting worse in the past week. The examiner's best course of action would be to?

- A. Temporarily disqualify the driver and refer him for further medical evaluation.
- B. Have the driver perform a Functional Capacity Evaluation to determine if he can lift greater than 50 lbs.
- C. Certify the driver for 1 year.
- D. Certify the driver for 2 years.

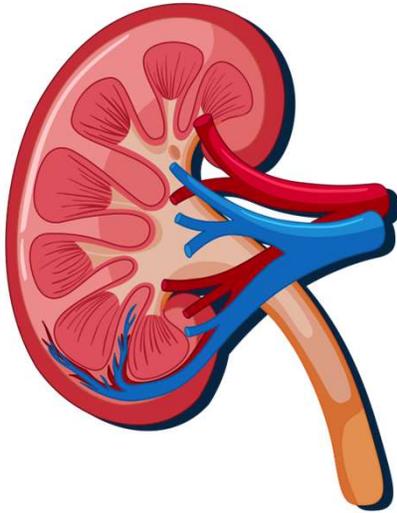
The correct answer is **A**. Since the hernia is non-reducible and symptomatic before certification an evaluation should be obtained.

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Nephropathy



- Nephropathy is typically slowly progressive
- 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 on case-by-case basis 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.

Drivers with a high risk of developing nephropathy are those who have had diabetes for 15 years and are taking insulin. The first indication and stage of nephropathy is a persistent proteinuria. Evaluate on a case-by-case basis to determine whether the driver is likely to experience syncope, dyspnea, collapse, or congestive heart failure. Assess the driver's symptoms post-dialysis such as excessive fatigue, muscle cramps, or hypotension. Fatigue occurs commonly right after dialysis is performed.

DIALYSIS

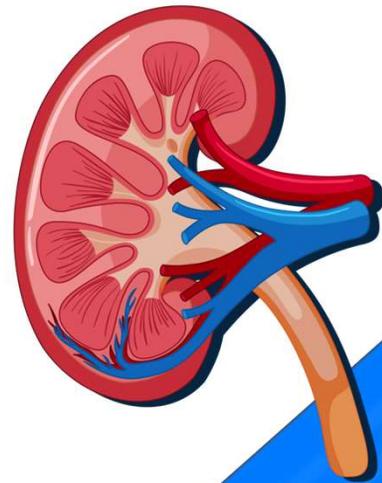
- Dialysis is needed when an individual's kidneys lose 85% to 90% of their function

Hemodialysis:

- Individual goes to a specialized 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 via a machine at night



Dialysis is needed when an individual's kidneys lose 85% to 90% of their function. There are two types of dialysis, hemodialysis and peritoneal dialysis. With hemodialysis, the individual goes to a specialized clinic for treatments multiple times a week and uses a machine which is sometimes referred to as an artificial kidney. Peritoneal dialysis can be done using a machine at home or any other clean place. It can be done intermittently while awake or continually at night. This machine uses the lining of the abdomen, called the peritoneal membrane, to filter the blood.

DIALYSIS

Considerations:

- What is the cause of the end stage renal disease?
- 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?
- If an underlying cardiovascular condition exists, is the driver likely to experience syncope, dyspnea, collapse, or congestive cardiac failure?
- Has treatment been shown to be adequate, effective, safe, and stable?

MEs should **evaluate** end stage renal disease and dialysis as part of the underlying medical condition (Ex: HTN, CHF) **on a case-by-case basis**, using the most applicable physical qualification standard.

When making a physical qualification determination, MEs should consider the following:
What is the cause of the end stage renal disease?

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?

If an underlying cardiovascular condition exists, is the driver likely to experience syncope, dyspnea, collapse, or congestive cardiac failure?

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

Certification Interval: 2 years

Anti-Rejection Medications:

- Tacrolimus (Prograf)
- Cyclosporine
- CellCept

Drivers who have had a kidney transplant usually return to a normal lifestyle. MEs may consider the date the driver is released to full work duty with no restrictions as the date the driver can be certified to drive. Drivers can be certified if they tolerate their medications and are compliant with their treatment plan. Drivers who have had a kidney transplant can be certified for up to two years.



URINALYSIS



Normal Values:

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

Glycosuria may prompt you to obtain a blood glucose test

When combined with other findings, if the UA indicates potential renal dysfunction, MEs should obtain additional tests and/or consultation to adequately assess whether the driver is fit to drive.

Urinalysis is required as part of the exam. You are required to enter the results for specific gravity, protein, blood, and sugar. Glycosuria may prompt you to obtain a blood glucose test and/or a hemoglobin A1c. 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 whether the driver is fit to drive.

Specific Gravity

Specific Gravity indicates the degree of reabsorption and concentration ability of the kidney.

Decreased:

- Chronic renal disease
- Excessive hydration
- Diabetes insipidus
- Primary aldosteronism

Increased:

- Diabetes mellitus
- Dehydration, excessive sweating, vomiting
- Acute glomerulonephritis



Specific gravity indicates the concentration ability of the kidney. It is decreased in chronic renal disease, excessive hydration, diabetes insipidus and primary aldosteronism. Increased specific gravity occurs with diabetes mellitus, dehydration, excessive sweating, emesis, and acute glomerulonephritis.

Urinary Glucose

Normal urinary glucose levels are generally around 140mg/dl within 2 hours after a meal

Elevated in:

- hypopituitarism
- excessive sugar ingestion
- chronic liver disease
- pregnancy
- hyperthyroidism
- diabetes mellitus
- certain medications

Dipstick Measurement:

- Trace (up to 100 mg/dl)
- +1 (250mg/dl)
- +2 (500mg/dl)
- +3 (1000mg/dl)
- +4 (2000mg/dl)

Trace amounts may be normal but significant concentrations need further evaluation

SGLT2 Medications (Invokana, Farxiga, others) increase urine levels to reduce blood glucose levels in diabetics

Trace amounts of glucose in the urine may be considered normal in some individuals, but significant concentrations should be further evaluated. Although levels of 400-500 milligrams per deciliter do not pose a significant risk for sudden collapse, it may justify ordering a blood glucose test. The ME may consider issuing a temporary medical certificate to allow for evaluation, or referral to a treating provider or specialist. SGLT2 inhibitors such as Invokana, Farxiga, Jardiance and Steglatro are diabetic medications that decrease the amount of sugar in the blood by increasing the amount of sugar passing into the urine, resulting in a large concentration of sugar being detected.

Conditions that increase urinary glucose are hypopituitarism, excessive sugar ingestion, chronic liver disease, pregnancy, hyperthyroidism, and diabetes mellitus. Normal fasting blood glucose levels are less than 100 mg/dl and less than 140mg/dl two hours after eating.

Protein

- Low levels of protein in urine are normal
- Temporarily high levels of protein in urine aren't unusual
 - Younger people after exercise
 - During an illness
- May often be the earliest sign of diabetic kidney damage

Elevated in:

- Kidney infections
- CHF
- Renal thrombosis
- Pre-eclampsia
- Multiple Myeloma
- Diabetes Mellitus
- Hyperthyroidism
- Hepatic diseases
- Kidney stones
- Degeneration and damage from renal disease
- Secondary to systemic pathology (Lupus nephritis, Amyloidosis)

Proteinuria is often the earliest sign of kidney disease that may be secondary to diabetes, hyperthyroidism, kidney stones or infections, and other diseases. Small amounts of protein are normal in some people. Temporary large amounts may appear after an illness or excessive exercise.

Occult Blood

Blood in the urine isn't always a concern

- Can be caused by strenuous exercise
 - usually goes away on its own within one or two days
- Several common drugs, including aspirin

Urinary bleeding can also indicate a serious disorder

There are two types:

- Hematuria
- Microscopic hematuria

It's important to determine the reason for the bleeding

Other Causes:

- Urinary Tract Infection
- Trauma
- Inflammation
- Kidney Stones, tumor
- Blood clotting disorders
- Embolic infarction in kidney
- Scurvy
- Anticoagulant therapy
- Malaria
- Menstruating female

No blood should be found in urine. Urinary tract infections, trauma, inflammation, tumor, kidney stones, scurvy, malaria and certain drugs may be the cause. Blood in the urine can be an indication of a serious disorder. It is not uncommon to find blood in menstruating females. Should blood be detected, MEs should determine the reason for the bleeding by referring the driver to their PCP and may consider issuing a limited duration medical certificate if the driver does not appear to be a current risk to safe driving.



CLIA CERTIFICATE OF WAIVER

(Informational Purposes Only)

Clinical Laboratory Improvement Amendments (CLIA) Certificate of Waiver

A CLIA certificate is not required for:

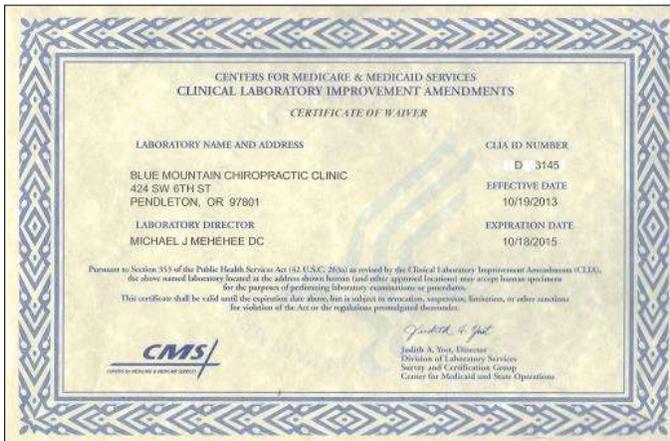
- In-office urinalysis
- DOT Drug testing
- DOT Alcohol testing

*Occupational reasons are not
part of the CLIA regulations*

A **CLIA Certificate of Waiver** is required to perform
CLIA-Waived/Exempted tests in your office



A CLIA certificate is not required for in-office urinary dipstick tests or when collecting or performing DOT Drug Testing. Forensic and occupational reasons are not part of the CLIA regulations. However, a CLIA Certificate of Waiver is required to perform these CLIA-waived or exempted tests.

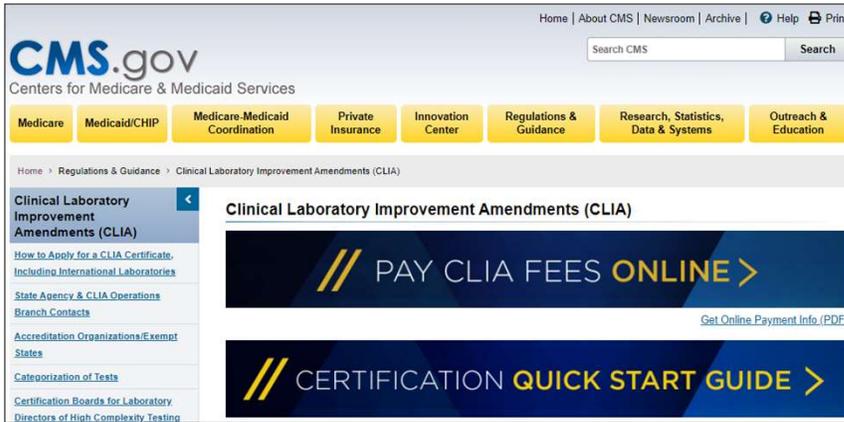


The CLIA application requires each “lab” to have a “Laboratory Director”

State lab regulations limit who may be a Laboratory Director, even though CLIA has no such limitations

State law may also require that you have a “State Laboratory License”

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.



**Contact your State Laboratory Licensing Agencies
for CLIA Applications for Certificates of Waiver.**

States Agencies:

<http://www.cms.gov/Regulations-and-Guidance/Legislation/CLIA/Downloads/CLIASA.pdf>

Apply for your CLIA certificate of waiver by contacting your State Laboratory Licensing Agency. The contact information for your State agency can be found on the CLIA website at the link listed here. Then click on State Agency and Regional Office to see a contact list of all State Laboratory licensing agencies.

CLIA Certificate of Waiver For Chiropractors

Georgia and New York do not allow DCs to be the Laboratory Director for their CLIA Certificate of Waiver

Options:

- Have someone else acceptable to your State serve as your Laboratory Director
- Send sample/driver to lab
- Collect sample, dipstick performed by another provider
- Collect and test under direction of another provider

The states of Georgia and New York do not allow Chiropractors to be listed as the laboratory director on a CLIA certificate of waiver. There are a few options for these Chiropractors. They can hire someone who their state deems as acceptable to serve as the laboratory director. Another option is to collect the sample and either send it to a laboratory for a urinalysis or have the dipstick performed by another provider. Lastly, they can be added to another provider's CLIA certificate of waiver and work under their direction.



DIABETES

FMCSA recently announced that they will soon be releasing a new form:
Non-Insulin Treated Diabetes Mellitus Assessment Form (MCSA-5872)

This will be 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.

FMCSA recently announced that they will soon be releasing a new form, the Non-Insulin Treated Diabetes Mellitus Assessment Form (MCSA-5872). This will be 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.

There is not a standard to address non-insulin-treated diabetes mellitus. The regulatory requirements for insulin treated diabetes mellitus do not apply.

“An ME may certify a driver with non-insulin-treated diabetes mellitus up to 24 months if the non-insulin-treated diabetes is well controlled.”

“An ME may consider the underlying systems and organs affected or symptoms caused to see if the condition would fall within one of the standards.”

Examples:

- Poorly controlled blood sugar levels
- Complications such as neuropathy
- Cardiac complications
- Nephropathy
- Diabetic retinopathy
- Hypertension

There is not a standard to address non-insulin-treated diabetes mellitus. The regulatory requirements for insulin treated diabetes mellitus do not apply. Therefore, an ME may certify a driver with non-insulin-treated diabetes mellitus up to 24 months. “An ME may consider the underlying systems and organs affected or symptoms caused to see if the condition would fall within one of the standards.” Some examples would be poorly controlled blood sugar levels
Complications such as neuropathy
Cardiac complications
Nephropathy
Diabetic retinopathy
Hypertension



Diabetes Exam

Check for Signs of target organ damage:

- Retinopathy
- Macular degeneration
- Peripheral neuropathy
- Coronary heart disease
- TIA/Stroke
- Peripheral vascular disease
- Autonomic neuropathy
- Nephropathy

For drivers with a history of diabetes, medical examiners should look for signs of target organ damage such as retinopathy, muscular degeneration, peripheral neuropathy, coronary heart disease, TIA, embolic or thrombotic stroke, peripheral vascular disease, autonomic neuropathy and nephropathy.

Things to Consider

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)**

- May consider issuing a temporary certification

When making a qualification determination, consider the following:

- Urinary glucose
- A1C results
- Blood glucose levels



FMSCA does not specify *acceptable* levels of glycosuria or glycemia. Drivers with diabetes may or may not have glucose in the urine. Even those with good control of their diabetes may have small to high concentrations of glucose in the urine, which may be the result of certain medications. Glycosuria in the amount of 400-500mg/dl does not pose a significant risk for sudden collapse, but it may affect the decision on whether to order a blood glucose test or issue a temporary certification. When determining the certification status of a driver with diabetes, medical examiners should consider A1C results and blood glucose levels.

American Diabetes Association (ADA) Guidelines

May be considered as “best practices”

The A1C indicates average blood glucose levels for the previous 3 months

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

Medical examiners may consider using the American Diabetes Association (ADA) Guidelines as “best practices” in helping to make a qualification determination. An A1C indicates average glucose levels for the previous three months. The ADA considers an individual with an A1C of 6.5% or higher to have diabetes and considers the individual to be well-controlled when maintaining an A1C of 6.9% or lower. They do not distinguish between moderate control or poor control but consider an A1C of 9% to be critically high and it is recommended to obtain further evaluation or to monitor the driver more frequently by issuing a limited duration medical certificate. Those that have results greater than 7% are experiencing target organ damage.

Diabetic Medications

Biguanides:

- *Metformin* (Glucophage)
- *Glucovance* (combination of Metformin and Glyburide)

Alpha-glucosidase inhibitors:

- Acarbose
- Miglitol

Thiazolidiniones:

- *Avandia* (Rosiglitazone)
- Pioglitazone

SGLT2 Inhibitors:

- *Invokana*
- *Farxiga*
- *Jardiance*

These will cause glycosuria. The ME must take this into account.

Sulfonylureas:

- 1st Generation
 - Orinase (Tolbutamide)
 - Tolinase (Tolazamide)
- 2nd Generation
 - *Glipizide* (Glucotrol)
 - Glynase (Diabeta, Micronase)
 - Dymelor (Acetohexamide)

Meglitinides:

- Starlix (nateglinide)
- Novonorm or Prandin (repaglinide)
- Symlin

There are many types of oral diabetic medications. Biguanides decrease hepatic glucose production and intestinal glucose absorption. Alpha-glucosidase is an enzyme in the upper GI that converts carbohydrates into sugar. Therefore, Alpha-glucosidase inhibitors slow the absorption of carbohydrates. SGLT2 inhibitors reduce blood glucose by increasing urinary glucose excretion. They will usually cause glycosuria noted during urinalysis due to their mechanism of action. Sulfonylureas increase the release of insulin by directly acting on beta cells in the pancreas. Other diabetic medications are often restricted from being used with first and second-generation sulfonylurea medications due to the possibility of causing a hypoglycemic event. Like Sulfonylureas, Meglitinides increase insulin secretion from the pancreas.

Incretin Mimetic Therapy

The incretin system has become an important target in the treatment of type 2 diabetes.

Glucagon-like peptide 1 (GLP-1) is an incretin hormone that signals the body to release insulin after eating, reducing fasting and postprandial glucose concentrations.

GLP-1 Agonists mimic the effect of the incretin system. They include:

- Byetta (daily)
- Victoza (daily)
- Trulicity (weekly)

GLP-1 Agonists are injections but should not be confused with insulin



The incretin system has become an important target in the treatment of type 2 diabetes. Glucagon-like peptide 1 (GLP-1) is an incretin hormone that signals the body to release insulin after eating, reducing fasting and postprandial glucose concentrations. GLP-1 Agonists mimic the effect of the incretin system. Although injectable, GLP-1 agonists, such as Trulicity, are not insulin.



DIABETES & INSULIN USE

INSULIN-TREATED DIABETES MELLITUS (ITDM)

FMCSA permits individuals with a stable insulin regimen and properly controlled insulin-treated diabetes mellitus (ITDM) to be qualified to operate a commercial motor vehicle (CMV) in interstate commerce for up to 12 months.



Drivers with a stable insulin regimen and properly controlled diabetes may be qualified to operate commercial motor vehicles in interstate commerce for up to one year.

Driver Requirements

The ITDM 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 blood glucose self-monitoring records *while being treated with insulin*

- How often the blood glucose is checked should be determined by the TC
- The driver can provide either the glucometer or a printout of the records

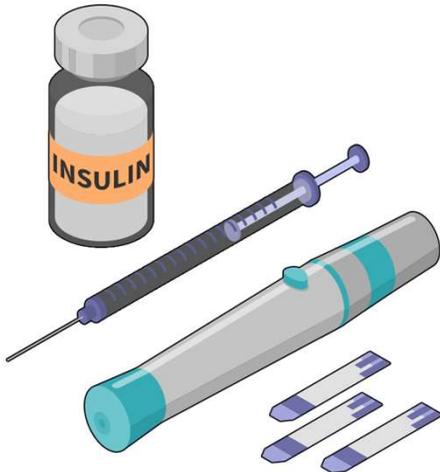
Specifications of the electronic glucometer:

- Must store all readings
- Record the date and time of the readings
- Allow for data to be electronically downloaded



The driver must have their treating clinician (TC) evaluation completed before any medical examination is performed by the certified medical examiner. The TC is defined as the provider who is managing the driver's diabetes. Driver must provide the TC with at least the preceding 3 months of electronic blood glucose self-monitoring records while being treated with insulin. How often the blood glucose is checked should be determined by the TC. Either the glucometer or a printout of the electronic blood glucose records must be provided to the treating clinician at the time of the evaluation. The glucometer must store all readings, record the date and time of the readings, and allow for data to be electronically downloaded.

Treating Clinician Requirements



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

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

Before any medical examination by the medical examiner, the TC must complete the ITDM Assessment Form, MCSA-5870. The TC attests on the form that the individual maintains a stable insulin regimen and proper control of the individual's diabetes, provides their business contact information, then signs and dates the form.

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 by the TC and determines whether the individual meets the physical qualification standards
 - If the standards are met, the ME may issue a Medical Examiner's Certificate for up to a maximum of 12 months

ITDM Standards:

- Driver must be maintaining a stable insulin regimen and properly controlling their diabetes mellitus
- Driver cannot have either *severe non-proliferative diabetic retinopathy* or *proliferative diabetic retinopathy*
- If the driver DOES NOT have the preceding 3 months of self-monitoring records while being treated with insulin, they may only be certified for 3 months
 - Upon return, if 3 months of compliant electronic blood glucose self-monitoring records are provided to the TC and a new ITDM Assessment Form, MCSA-5870, has been completed, the ME may issue a certificate for up to 12-months

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 by the TC and determines whether the individual meets the physical qualification standards. If the standards are met, the ME may issue a Medical Examiner's Certificate for up to a maximum of 12 months.

Here are the standards that apply specifically for ITDM drivers:

Driver must be maintaining a stable insulin regimen and properly controlling their diabetes mellitus

Driver cannot have either severe non-proliferative diabetic retinopathy or proliferative diabetic retinopathy

If the driver DOES NOT have the preceding 3 months of self-monitoring records while being treated with insulin, they may only be certified for 3 months

Upon return, if 3 months of compliant electronic blood glucose self-monitoring records are provided to the TC and a new ITDM Assessment Form, MCSA-5870, has been completed, the ME may issue a certificate for up to 12-months

Severe Hypoglycemic Episode

FMCSA Definition:

An episode that:

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



A severe hypoglycemic episode is defined as an episode where the driver required assistance from others or that resulted in a seizure, loss of consciousness, or coma.

Severe Hypoglycemic Episode - Return to Driving

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

- Individual *must* report the episode
- Evaluation by a treating clinician as soon as is practicable
- Once the TC has addressed the cause, the individual must again have a stable insulin regimen and properly controlled ITDM
 - A new ITDM Assessment Form (MCSA-5870) must be completed before the individual can resume operating a CMV
- The individual must retain the form and present it at their next medical certification examination



A driver taking insulin who experiences a severe hypoglycemic episode is prohibited from operating a commercial motor vehicle. They *must* report the episode and be evaluated by their treating clinician as soon as reasonably practicable. Prohibition from operating a commercial motor vehicle continues until the driver has been evaluated by their treating clinician **and** the cause of the severe hypoglycemic episode has been addressed. The individual must once again have a stable insulin regimen and proper control of their insulin treated diabetes mellitus. A new insulin treated diabetes mellitus assessment form must be completed before the individual may resume operating a commercial motor vehicle. The driver must retain and provide the form to the medical examiner at the time of the next medical exam to ensure that the ME is aware of the prior episode.

State Issued Insulin Use Waiver / Exemption

For drivers who are limited to driving within their state, some may have a State Issued Insulin Use Waiver or Exemption.

MEs should refer to their State's commercial driver medical regulations. MEs will likely write "State Insulin" in the space for the state variance.

Some drivers have been limited to driving in their state simply because their job only requires such. **If otherwise qualified to drive across state lines, the ME could issue an interstate medical examiner's certificate and use the federal process for drivers with ITDM.**

Drivers taking insulin who are limited to driving within their state usually have a state issued insulin use waiver or exemption. California, Montana, and Florida have a different process for intrastate drivers who use insulin. Medical examiners should refer to the State commercial driving medical regulations. Medical examiners may want to keep in mind that some drivers taking insulin have been limited to driving in their state simply because their job only requires such. If medically or otherwise qualified to drive across state lines, the medical examiner could issue an interstate medical examiner certificate and use the federal insulin standard to certify drivers with insulin treated diabetes mellitus.

391.62 Intra-City Work Zone Exclusion

For drivers with an **Intra-City Work Zone Exclusion** for Insulin Use who remain inside the state when working, the ME should contact the State Driver's License Agency to get further guidance on the process to use for driver certification.

However, these drivers may become qualified to drive across state lines by taking advantage of the newer diabetes standard that allows drivers who take insulin to obtain a medical examiners certificate under 391.46.

Some drivers using insulin who only drive within the state have obtained the intra-city work zone exclusion, under 391.62. The medical examiner should contact the state drivers license agency for guidance and instructions on the process to certify drivers that are taking insulin. These drivers may become qualified to drive across state lines by taking advantage of the newer diabetes standard that allows drivers who take insulin to obtain a medical examiners certificate under 391.46.

The driver was recently prescribed Humulin. What is the next step?

- A. Certify the driver for 2 years with medical clearance from their treating physician.
- B. Certify the driver for 1 year and then have their treating physician complete the MCSA-5870 form
- C. Disqualify the driver until their treating clinician has completed the MCSA-5870 form
- D. Certify the driver and mark the bullet on the form and certificate stating that this must be accompanied by the Federal Insulin Exemption

The correct answer is **C**. Humulin is a form of insulin. Commercial drivers taking insulin must have their treating provider fill out and sign the Insulin Treated Diabetes Evaluation form (MCSA 5870), stating that they are safe to drive. This must be completed before they are certified. The DOT physical exam must be performed within 45 days of the completion of form MCSA 5870. The medical examiner determines whether to issue a medical examiner's certificate. If the driver only drives within the State (intrastate driving only), medical examiners may refer to State CMV driver insulin regulations.

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- B. Certify the driver for 1 year and then have their treating physician complete the MCSA-5870 form
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THYROID DISEASE

Hypothyroidism



No Specific Guideline

Certify if:

- Treatment is effective/adequate safe and stable

What would be the best step in determining adequate treatment?

Diagnostic Testing: Thyroid Panel

- TSH (normal is 0.5 to 5.0 mIU/L)
- Low free T4
- High Anti-Thyroid Peroxidase (Anti-TPO)

There is no specific guidelines for hypothyroidism and no recommend waiting period. Drivers whose treatment and condition are stable, safe, and effectively treated should be certified to drive but there is no specified interval recommended that would preclude issuing up to a 2-year medical certificate.

The National Registry certification test frequently asks what would be the “best next step”, or what would be the “best next test” to obtain. A thyroid panel is usually ordered, which includes thyroid stimulating hormone (TSH), T4, and anti-thyroid peroxidase (anti-TPO). Results would show that there is low free-T4 or at other times there will be high anti-thyroid peroxidase.

Hyperthyroidism

No specific guidelines

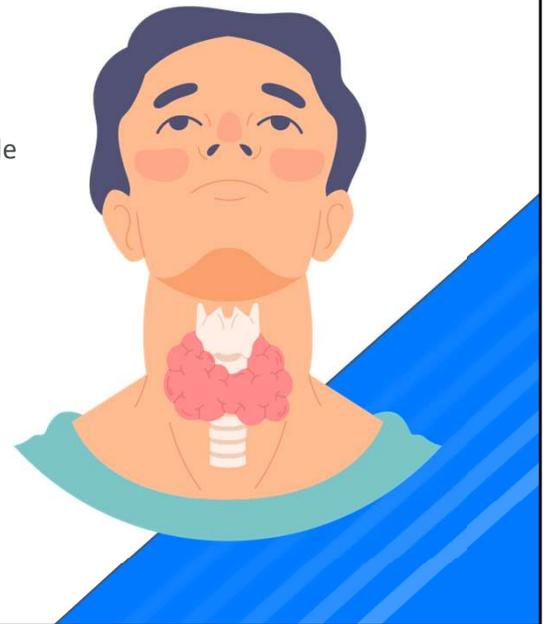
Certify if: treatment shown to be effective adequate, safe and stable

Do Not Certify if:

- If symptoms of thyrotoxicosis:
 - palpitations
 - Tremor
 - Anxiety
 - diarrhea
 - weight loss

Diagnostic testing:

- Low TSH
- High T4, T3



There is no specific medical guideline for hyperthyroidism. Medical examiners should not certify drivers with hyperthyroidism until their hyperthyroidism is treated effectively and is shown to be safe, adequate and stable. Drivers should not be certified if they are having symptoms that are a risk to driving such a thyrotoxicosis, palpitations, tremors, anxiety, excessive diarrhea or weight loss. Diagnostic testing would indicate low thyroid stimulating hormone and high T3 and T4.

Thyroiditis

Inflammation of Thyroid:

- Can appear as hyper or hypothyroidism and may change from one to the other
- May be in conjunction with pregnancy

No Specific Guidelines

Certify if: Treatment shown to be effective adequate, safe and stable

Do Not Certify if:

- Symptoms a risk to safe driving

Certification Interval: Not specified



Thyroiditis is inflammation of the thyroid gland and can appear as either hyper or hypothyroidism and can change from one to the other. It may be brought-on as part of pregnancy. Postpartum drivers can be certified if their condition is stable, safe, and effectively treated. Do not certify the driver if they have symptoms of either hyper or hypothyroid that are a risk to safe driving.

You obtained a report from the driver's endocrinologist that demonstrated the lab results listed below. Which lab value is most concerning?

- A. ESR of 5mm/hr
- B. TSH of 7mIU/L
- C. HbA1c of 6.3%
- D. BUN of 13mg/dL

The correct answer is **B**. A TSH of 7mIU/L is very high as the normal TSH values range between 0.5 to 5.0mIU/L. The other values are all within normal range. Normal **ESR is 0-15mm/hr**. Normal **BUN = 5-20mg/dL**.

In preparation for the test, pay attention to the lab values provided in this question and the accompanying explanation. You obtained a report from the driver's endocrinologist that demonstrated the lab results listed below. Which lab value is most concerning?

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This is the end of Module 4 of the TeamCME accredited training for the National registry of Certified Medical Examiners.