

Please note that the driving school instructor may use a different presentation to teach this module.



Module 11

Fatigue and Distractions

Outline of Module 11

Part 1: Driver Fatigue

- What Is Fatigue?
- Driver Fatigue: Accidents
- Effects of Fatigue on Driving
- Risk Factors
- Preventing Fatigue on and off the Road

Outline of Module 11 (cont.)

Part 2: Driver Distraction

- What Is Distraction?
- Types of Distraction
- Cell Phones and Driving: Safety Issues
- Effects of Cell Phone Use on Driving
- Texting
- Available Tools

Targeted Competencies

- Identifying the factors that increase risk while driving
- Identifying the legal framework and the rules of courtesy that make safe, cooperative and responsible driving possible
- Deciding to drive or not to drive
- Making one's way independently on the road network
- Driving responsibly

Driver Fatigue

What Is Fatigue?

- Fatigue = gradual drop in alertness
- Can lead to drowsiness and falling asleep
- Becomes a problem once it compromises a driver's ability to perform tasks that require:
 - attention
 - judgment
 - sharp reflexes

Driver Fatigue: Accidents

- One of the leading causes of accidents and deaths on Québec roads, along with speed, alcohol and distraction.
- Every year, driver fatigue is a factor in one out of every five accidents resulting in injury or death.

At-Risk Drivers

- Among drivers who are most likely to be involved in a fatigue-related accident, we find:
 - Drivers under 30 years of age and new drivers
 - Workers with irregular schedules
 - Individuals whose lifestyle reduces the quality or quantity of sleep they get

Characteristics of Fatigue-Related Accidents

- The driver was alone in the vehicle.
- The accident happened at night (after midnight), early in the morning or early in the afternoon.
- The accident resulted in serious injury or death (because the driver did not attempt to avoid the accident).
- The accident was a single-vehicle accident in which the driver went off the road (rear-end and head-on collisions are also frequent).
- The accident took place on a limited access highway.

Effects of Fatigue on Driving

- Slows reaction time
- Reduces alertness
- Distorts judgment
- Impairs memory
- Reduces the driver's field of vision (tunnel vision)
- Increases the risk of drowsiness and falling asleep at the wheel

Risk Factors

- Fatigue is a physiological condition that neither willpower, nor experience, nor motivation can overcome or compensate for.
- Main risk factors:
 - Number of hours of wakefulness
 - Time of day
 - Lack of sleep (debt)
 - Undiagnosed or untreated sleep disorders
 - Consumption of alcohol, drugs or medications
 - **Any combination of the above factors**

Hours of Wakefulness

- “Sleep pressure” starts to accumulate as soon as we awaken.
- After 17 to 19 hours of wakefulness: physical and mental capacities comparable to those of individuals with a blood alcohol concentration of 0.05.
- After 24 hours of wakefulness: physical and mental capacities comparable to those of individuals with a blood alcohol concentration of 0.10.

(Source: Study by Dawson and Reid, 1997)

Time of Day

- We are programmed to sleep at night and be awake during the day.
- Biological clock (internal clock)
 - Regulates various biological functions (appetite, body temperature, sleep)
 - Repeats itself every 24 hours or so
 - Is influenced by the light-dark cycle (day-night)
- Alertness ebbs twice a day
 - Deepest ebb is at night (between midnight and dawn)
 - Smallest ebb is in early-to mid-afternoon

Lack of Sleep (Debt)

- Adults need 7.5 to 8.5 hours of sleep per night.
- Adolescents need 9 to 9.5 hours of sleep per night.
- A person who does not sleep enough accumulates a sleep debt.
- The only way to pay off a sleep debt is to get enough sleep.

Effects of a Lack of Sleep (Debt) or Poor-Quality Sleep

- Daytime drowsiness
- Anxiety
- Irritability
- Difficulty learning
- Difficulty concentrating
- Weight gain (increased appetite)
- Weakened immune system
- Increased blood pressure and risk of heart disease, etc.

Affects:

- Physical health
- Mental health
- Personal relationships
- Academic performance
- Work performance
- Driving performance

Sleep Disorders and Alcohol, Medication and Drug Consumption

Sleep Disorders	Alcohol, Medication and Drug Consumption
<ul style="list-style-type: none">• There are several dozen types of sleep disorders. The best known and most common is insomnia.	<ul style="list-style-type: none">• These substances increase the effects of fatigue, and vice-versa.
<ul style="list-style-type: none">• It is important to consult a physician if you often feel tired during the day or if you have trouble sleeping at night.	<ul style="list-style-type: none">• Ask your pharmacist about the possible side-effects of any medication you are taking, even over-the-counter medication.

Young Drivers and Fatigue

- Young drivers = more affected by the effects of lack of sleep, but often overestimate their abilities.
- Adolescents and young adults are more likely to accumulate a sleep debt for several reasons:
 - Busy lifestyle (school, social activities and work)
 - Natural tendency to go to bed late and wake up late, but must also respect school and work schedules
 - Too much screen time (stimulation + screen lights) disrupts sleep
 - Irregular sleep schedules (weeknights-weekend)

Preventing Fatigue on and off the Road

- A few tips for getting enough quality sleep:
 - Exercise regularly (but not too close to bedtime)
 - Eat well (avoid too much fat, salt and sugar; eat plenty of fruits and vegetables)
 - Watch your consumption of caffeine, energy drinks, alcohol and medication
 - Take time to relax and manage your stress

Preventing Fatigue on and off the Road (cont.)

- Practice good sleep hygiene:
 - Develop a bedtime routine
 - Keep to a regular sleep schedule (no more than a 2-hour difference between weekdays and weekends)
 - Beware of late or long naps, which can disrupt your main sleep period
- Make the bedroom off-limits to computers, televisions, phones, etc.
- Generally speaking, **make sleep a priority!**

Preventing Fatigue on and off the Road (cont.)

- When possible, use active (walking, cycling, etc.) or alternative modes of transportation.
- Feeling tired? Do not drive if you do not have to!
 - Late nights are a risky time: even if you have not had a drink, it might be better to sleep over.
- Never drink or take drugs before driving.
 - Be careful: some medications can cause drowsiness
- Avoid driving during peak drowsy times (at night and in the early to mid-afternoon).
 - Beware of Monday mornings when you go back to your weekday schedule.

Preventing Fatigue on and off the Road (cont.)

- Be wary of monotonous stretches of road (straight and poorly lit roads, for example).
- Reduce your speed to avoid having to rapidly process too much information.
- Avoid visual fatigue (e.g. dim the dashboard lights and clean the windshield).
- Keep the passenger compartment cool and well ventilated.
- When going on a long trip:
 - Leave well rested (do not wait until late the night before your trip to pack and do not leave in the small hours of the morning)
 - Eat light meals and hydrate yourself regularly
 - Schedule breaks at least every two hours to stretch your legs
 - Plan your trip around peak drowsy times (night and early to mid-afternoon)

Preventing Fatigue on the Road (cont.)

- The only way to prevent driver fatigue is to get enough sleep.
- You can also let someone else drive, as long as that person is well rested and alert.
- Above all: learn to recognize the first signs of fatigue.
- Stop and rest in a safe place at the first signs of fatigue.
- Take a 20- to 30-minute nap to recuperate. Be sure to give yourself enough time to wake up properly before getting back on the road.

Signs of Fatigue

- Frequent yawning, boredom, tired eyes
- Tendency to nod off
- Irritability or restlessness (cannot find a comfortable position)
- Difficulty concentrating and remaining alert (e.g., not noticing road signs, missing your exit, no longer checking your mirrors)
- Difficulty staying in the right lane
- Late braking, slower reactions
- Difficulty keeping a constant speed
- Tunnel vision (loss of peripheral vision)
- Memory loss (cannot recall the last few kilometres)
- Hallucinations (e.g., imagining animals on the road)



True or False?

I am young and have sharp reflexes. I can react quickly, so fatigue does not really affect my driving.

Answer: FALSE

Young drivers are more affected by a lack of sleep, and they often overestimate their abilities.

Fatigue is a biological state that no amount of willpower, experience or motivation can compensate for, or overcome.

Effects of fatigue on driving

- Slower reaction time
- Reduced alertness
- Distorted judgment
- Impaired memory
- Reduced field of vision
- Increased risk of drowsiness and falling asleep at the wheel

True or False?

I have lots of energy. I am used to sleeping for only a few hours and my body has adjusted. Fatigue has no effect on the way I drive.

Answer: FALSE

Adolescents and young adults need lots of sleep (9 to 9.5 hours per night).

Accumulating a sleep debt has major effects on their physical and mental health, as well as on their ability to drive a vehicle.

Reminder

- Driving a road vehicle is a task that requires attention, alertness, judgment and good reflexes.
- Fatigue impairs drivers' ability to drive, often without them even realizing it, and its effects are pernicious. Since it affects judgment, drivers often tend to underestimate their level of fatigue and overestimate their abilities.
- You can learn to recognize the signs of fatigue so that you can take the necessary measures before it is too late.
- Sleep is not a waste of time! It is a biological necessity, essential to maintaining good mental and physical health.

Driver Distraction

What Is Driver Distraction?

Any event or action that turns your attention away from your MAIN TASK: DRIVING

A distraction can...

- reduce alertness AND
- affect the way you drive



**Can you give a few examples of things
that could distract a driver?**

A Much More Common Problem than You Might Think

Distraction is one of the leading causes of fatal accidents:

- Alcohol
- Speed
- Fatigue
- Distraction

Types of Distraction

Types of Distraction

- VISUAL distraction: you take your eyes off the road to briefly look at something else.
- PHYSICAL distraction: you take your hands off the wheel to do something else.
- MENTAL distraction: your mind wanders and you are no longer concentrating on the road.

Types of Distraction (cont.)

VISUAL distraction:

→ TAKING YOUR EYES OFF THE ROAD



This could involve...

- Looking at a handsome guy or a pretty girl
- Looking at your cell phone
- Watching what is going on in the vehicle next to you
- Looking at a billboard
- Waving to a friend as you drive by
- Looking at the scene of an accident
- Etc.

Types of Distraction (cont.)

PHYSICAL distraction:

→ DOING SOMETHING ELSE WHILE DRIVING

This could involve ...

- Looking for your favourite song on your MP3 player
- Looking for your schedule in your bag
- Putting on makeup
- Drinking coffee
- Picking your cell phone up off the floor
- Etc.

Types of Distraction (cont.)

MENTAL distraction (your mind is elsewhere):

→ THINKING OF SOMETHING OTHER THAN THE ROAD

This could involve . . .

- Talking to friends
- Thinking about your job
- Reminding yourself of a phone call you have to make
- Thinking about an exam
- Thinking about last night's party
- Etc.

Driving is a complex task

Driving involves using several skills at the same time.

Based on what you see on the road, you must

1. Make pertinent choices related to driving the vehicle
2. Make the right decisions

All that, in just a few seconds

The EFFECTS of Cell Phone Use on the Way You Drive

Cell Phone Use and Its Risks

- Slower reaction time before braking
- Difficulty driving in a straight line
- Difficulty avoiding obstacles
- Difficulty keeping a safe distance from other vehicles
- Decreased awareness of what is happening around you
- Reduced field of vision
- Increased risk of accident

TRUE OR FALSE?

You can use your cell phone while at the wheel if your vehicle is not moving.

(For example, at a red light or in a traffic jam)

Answer: FALSE

Even if you are not moving, and regardless of the situation, YOU ARE STILL DRIVING YOUR VEHICLE...

... and holding a cell phone is
AGAINST THE LAW!



What About Hands-Free Devices?

EVEN THOUGH IT IS “LEGAL”, A CONVERSATION HELD
OVER A HANDS-FREE DEVICE IS EQUALLY DISTRACTING
FOR THE DRIVER

IT IS THE PHONE CONVERSATION THAT IS DISCTRACTING

What Is Riskier in a Car?

Talking to someone on
a cell phone

OR

Talking to a passenger

ANSWER

TALKING ON A **CELL PHONE** POSES A **GREATER RISK** BECAUSE...

- You are less attentive to changes in traffic
- Your conversation partner cannot see the traffic
- Your conversation partner is not aware of dangers that arise during the conversation
- Your conversation partner cannot adjust his or her conversation based on what he or she sees
- Your conversation partner does not share your physical environment

TALKING TO A PASSENGER POSES LESS OF A RISK BECAUSE...

- Your attention is more focused on the road
- Your passenger also sees the traffic
- Your passenger will be attentive to potential hazards
- Your passenger can adjust his or her conversation depending on what is happening on the road
- Your passenger shares your physical environment



Texting

Some Words Hit Hard



TEXTING: TRUE OR FALSE?

Reading or sending a text message is safer than talking on a cell phone because it is faster (2 or 3 seconds)

Answer: FALSE

When you send a text message while driving, you take your eyes off the road for longer (4 to 6 seconds) than you would if you were talking on a cell phone.

At 90 km/h, this is like driving the length of a football field with your eyes closed.



Texting: Scope of the Problem

Nearly one out of every ten drivers is distracted while driving.



True or False?

I can text or talk on my cell phone while driving because I always keep one hand on the wheel.

That way I am always in control of my car.

Answer: FALSE

When you talk or text on a cell phone, the problem is not so much whether you handle the device or have one or both hands on the wheel, but rather that you are not focused on driving.

You are more focused on what you are saying or writing than on the road.

In Your Opinion . . .

A driver who texts while driving is how much more likely to have an accident than a driver who does not text at the wheel?

- a) 4 times
- b) 10 times
- c) 23 times

Answer:

23 times

A driver who is distracted by texting at the wheel is 23 times more likely to have an accident than a driver who is not distracted by this type of activity.



Did You Know That . . .

The *Highway Safety Code* prohibits the use of portable electronic devices (such as tablet computers) while driving, because they can also be a SOURCE OF DISTRACTION.

Safety Tips

- Turn off your phone before getting on the road and let your voice mail pick up your calls.
- If you absolutely have to use your phone, first pull over to a safe place:
 - the side of the road, if the speed limit is less than 70 km/h
 - a parking lot
 - a service area
- Remember, no one has the right to stop a car on the shoulder of a highway, except in an emergency.
- You can also ask one of your passengers to answer and make calls for you.

To Help You Resist Temptation, Several Tools Are Available to You

saaq.gouv.qc.ca

On the Web: www.idrivemyownlife.com

You can find information on...

- alcohol and drugs
- speeding
- offences
- driver's licences
- cell phones
- passengers



This site is FOR YOU!

On the Web

Information that Concerns YOU

- A portrait of young people today
 - The kind of environment they are growing up in
 - Their parents and the role their parents play
 - The risks young people take
-
- Info clips, personal accounts, videos (French only)

saaq.gouv.qc.ca

Remember!

- DRIVING is a COMPLEX TASK that requires your undivided attention.
- Putting on makeup, talking on a cell phone, admiring the scenery and trying to find the right road draws your attention away from where it needs to be when you are driving.
- If you are DISTRACTED, you will not see DANGER coming and this increases the RISK of collision.
- If your faculties are impaired (by alcohol, drugs, fatigue, etc.), you will be more easily distracted when you are behind the wheel.

Thank You!