Chapter #12
The Effects of Fatigue and Emotions Driving

Chapter #12  Overview
Unit 12 will have the new driver explore the effects of fatigue, drowsy driving and the impact of emotions on one’s driving ability. The consequences of drowsy driving and prevention techniques will be discussed. Students will learn actions to take to control emotional responses that occur when driving and learn the characteristics of aggressive driving and road rage and the different types and degrees of aggression.

Objectives
The students will:
1. Describe the causes of fatigue and how it affects a driver’s abilities.
2. Describe the kinds of emotions that can affect driving behavior and examine the effects of emotions on driving.
3. Describe aggressive driving and road rage characteristics and the different types and degrees of aggression.
4. Develop strategies for anger management and for responding to aggressive driving and road rage.
5. Define key words associated with the unit objectives.

Key Terms
Aggressive driving – occurs when a driver operates a vehicle in a pushy or bold manner, without regard for others safety
Epic aggression – a type of aggressive driving in which the driver cuts off, blocks, chases, fights, or shoots another driver
Fatigue – physical or mental weariness that can be caused by strain, repetitive tasks, illness or lack of sleep
Quiet aggression – a type of aggressive driving in which the driver complains, rushes, competes or resists with another driver
Road rage – occurs when a driver uses the vehicle or some other weapon to threaten or cause harm to another roadway user in response to a traffic incident with the intent to harm others
“Rush-in” area – a degree of aggressive driving in which the driver rushes constantly, lane jumps, believes others are in his/her way, ignores road signs and regulations, and drives with distraction
“Total aggression” area – a degree of aggressive driving in which the driver constantly ridicules and criticizes other drivers to self or passengers, closes a gap to deny entry into lane, gives a “look” to show disapproval, speeds past another car, tailgates, fantasizes about physical violence, honks, yells or makes visible insulting gestures
Verbal aggression – a type of aggressive driving in which the driver yells, cusses, stares, honks or insults another driver
“Violence” area – a degree of aggressive driving in which the driver carries a weapon, just in case, deliberately bumps or rams another vehicle, tries to run a car off the road, gets out of the car and hits someone, tries to run someone done, shoots at another car or thoughts of killing someone

Useful Knowledge
• Three teens in a car increases the likelihood by 182%.
• Only about 20% of teen driving occur at night.
• But approximately 50% of ten fatalities (with a teen at the wheel) occurred during darkness
• Vehicle-reaction time is usually 0-1/4 second.
• How much additional time do you need to stop your car on snow or ice? 6-8 seconds
• Young drivers are involved in fatal traffic crashes at over twice the rate as the rest of the population
• A standard drink is defined as 12 ounces of beer, 5 ounces of wine, or 1.5 ounces of distilled spirits, which contain the same amount of alcohol.
• Impairment is not determined by the type of drink, but rather by the amount of alcohol drunk over time.
• In 2011, 226 children were killed in drunk driving crashes. Of those, 122 (54% percent) were riding with the drunk driver.
• In 2011, 15 percent of all drivers involved in fatal crashes during the week were drunk, compared to 31 percent on weekends.
• Drunk driving involvement in fatal crashes in 2011 was 4.5 times higher at night than during the day (36 versus 8 percent).
• Adults drank too much and drive about 112 million times per year - almost 300,000 incidents of drinking and driving a day.
• In the United States, the number of drunk driving deaths has been cut in half since MADD was founded in 1980.

Who is at risk?

Sleep related crashes are most common in young people, especially men, adults with children and shift workers. According to the NSF’s 2012 poll:

- Adults between 18-29 are much more likely to drive while drowsy compared to other age groups (71% vs. 30-64, 52% vs. 65+, 19%).
- Men are more likely than women to drive while drowsy (56% vs. 45%) and are almost twice as likely as women to fall asleep while driving (22% vs. 12%).
- Adults with children in the household are more likely to drive drowsy than those without children (59% vs. 45%).
- Shift workers are more likely than those who work a regular daytime schedule to drive to or from work drowsy at least a few days a month (36% vs. 25%).
- Sleep deprivation increases the risk of a sleep-related crash; the less people sleep, the greater the risk.
- According to a study by the AAA Foundation for Traffic Safety, people who sleep six to seven hours a night are twice as likely to be involved in such a crash as those sleeping 8 hours or more, while people sleeping less than 5 hours increased their risk four to five times.
- A study by researchers in Australia showed that being awake for 18 hours produced an impairment equal to a blood alcohol concentration (BAC) of .05, and .10 after 24 hours; .08 is considered legally drunk.
Other research indicates commercial drivers and people with undiagnosed sleep disorders such as sleep apnea and acute insomnia are also at greater risk for fall asleep crashes.

Did you know:
There is 230 million registered vehicles in the U.S.
The U.S. has more than 190 million licensed drivers.
Every year more than 6.3 million police-reported collisions occur in the U.S.
Crashes result in about 43,000 fatalities and nearly 2.9 million disabling injuries.

Your Life will change dramatically when you start driving.
- Mobility can be fun and profitable
- More freedom and travel
- You don’t have to wait for your parents to take you somewhere
- School Events
- Social activities
- Go to work

Teenage Driver Crash Risk Factors
- Poor Hazard Detection
- Low Risk Perception
- Risk Taking
- Not wearing seat belts
- Lack of skill
- Alcohol and drugs
- Carrying passengers
- Night Driving

History of the Highway Transportation System
HTS- is over 100 years old
1902- only 23,000 vehicles / 17 million horses use the HTS
Today- 230 million vehicles, 42 trillion miles traveled every year on 4 million miles of paved roads
194 million licensed drivers / 55 million pedestrians & bicycle use
Without vehicles:
- 60% of freight would not arrive on time
- 79% of personal trips would not occur
- 11% of personal trips have increased in the last 10 years
The Causes and Effects of Fatigue

Causes and Effects of Fatigue

**Fatigue** - Physical or mental weariness that can be caused by strain, repetitive tasks, illness or lack of sleep

**Causes of fatigue**
- Physical strain (hard work)
- Mental strain (stress) Monotonous tasks (long driving trips)
- Illness
- Lack of sleep
- Sun glare
- Overeating
- Riding in a warm passenger compartment

**Effects of fatigue**
- Impairs reaction time, judgment and vision
- Impairs the senses and abilities
- May not see objects clearly or in a timely manner
- May miss critical information – signs, lights and sounds
- Takes longer to process information or make decisions

**Risks of drowsy driving**

Drowsy driving is one of the leading causes of traffic collisions. The NHTSA estimates that 100,000 police-reported crashes year are the result of drowsy driving. According to the National Sleep Foundation’s Sleep in America poll, more than one third (36 percent or 103 million people) admit to having actually fallen asleep at the wheel. Drivers may experience short bursts of sleep lasting only a few seconds or fall asleep for longer periods of time. Either way, the chance of a collision increases dramatically.
Drowsy driving - who is most at risk?
Drivers who are:
- Sleep deprived
- Driving long distances without rest breaks
- Driving through the night or at other times when they are normally asleep
- Taking medicine that increases sleepiness
- Driving alone
- Driving on long, rural, boring roads
- Frequent travelers, e.g. business travelers
- Drivers with undiagnosed or untreated sleep disorders
- Young drivers
- Shift workers
- Commercial drivers

Fatigue warning signs:
- Difficulty focusing, frequent blinking or heavy eyelids
- Yawning repeatedly or rubbing eyes
- Daydreaming; wandering/disconnected thoughts
- Trouble remembering the last few miles driven; missing exits or traffic signs
- Trouble keeping head up
- Drifting from your lane, following too closely or hitting a shoulder rumble strip
- Feeling restless and irritable

If you notice any signs of fatigue, stop driving and go to sleep for the night or take a 15 – 20 minute nap

Preventing Drowsiness and Maintaining Alertness

Preventing drowsiness before a trip:
- Get adequate sleep – adults need 8 to 9 hours to maintain alertness
- Prepare route carefully to identify total distance, stopping points and other logistic considerations
- Drive with a passenger
- Avoid medications that cause drowsiness

Maintaining alertness while driving:
- Protect yourself from glare and eyestrain with sunglasses
- Avoid heavy foods
- Be aware of down time during the day
- Have another person ride with you, and take turns driving
- Take periodic breaks – about every 100 miles or 2 hours during long trips
- Stop driving and get some rest or take a nap
- Consume caffeine – can increase awareness for a few hours, but do not drink too much. It will eventually wear off. Do not rely on caffeine to prevent fatigue.
Ineffective actions:
- “Toughing it out”
- Playing the radio loudly
- Driving at a faster or slower speed
- Chewing gum
- Opening the windows

Rest is the key:
It is usually not a good idea to sleep in a vehicle at the side of the road, but there may be times when it is safer than continuing to drive. If you must stop along the side of the road:
- Find a populated, lighted area
- Stop where security is present or make sure you are as far off the highway as possible
- Open windows slightly, but not enough to allow entry from outside
- Lock all doors and turn off the engine
- Turn on parking lights and turn off other electrical equipment
- After you rest, if safe, get out of the vehicle and walk a few minutes before driving, sleeping for more than 20 minutes can make you groggy for at least 5 minutes after awakening

Are You at Risk?
Before you drive, consider whether you are:
- Sleep-deprived or fatigued (6 hours of sleep or less triples your risk)
- Suffering from sleep loss (insomnia), poor quality sleep, or a sleep debt
- Driving long distances without proper rest breaks
- Driving through the night, mid-afternoon or when you would normally be asleep
- Taking sedating medications (antidepressants, cold tablets, antihistamines)
- Working more than 60 hours a week (increases your risk by 40%)
- Working more than one job, and your main job involves shift work
- Driving alone or on a long, rural, dark or boring road
- Flying, changing time zone?

Emotions that Can Affect Driving Behavior

Emotions

Emotions that affect driving:
- Anger
- Anxiety
- Joy, happiness
- Hate
- Grief
- Love

General effects of emotions:
- Interfere with your ability to think
- Create mental distractions
- Can cause you to act out your emotions
- Increase risk taking
- Create a lack of concentration
- Interrupts ability to process information
Physical effects of emotions:
- Heartbeat increases
- Breathing quickens
- Digestion slows
- Palms sweat
- Feeling of exhaustion

Physical stress

Controlling emotions:
- Understand one’s emotional makeup
- Identify situations that cause emotional stress
- Expect other drivers to make mistakes
- Understand that emotions are contagious
- Direct emotions toward actions, not individuals
- Delay driving when upset
- If upset, ask someone else to drive

Passengers and Emotions

In a vehicle, passengers can influence the way a driver thinks, feels and drives.

- When you are the driver, you need to take responsibility for the safety of your passengers
- Do not let peer pressure or group pressure allow you to take more risk
- Do not get into an argument or discussion with other passengers while driving, which may cause you to become upset

Passengers can help the driver maintain control while driving by taking actions to prevent aggressive driving or speeding.

- Avoid distracting or upsetting the driver
- Discourage the driver from driving recklessly
- Do not encourage the driver to speed or drive in a reckless manner
- Praise the driver for doing a good job in a difficult situation

Aggressive Driving and Road Rage

Aggressive driving – occurs when a driver operates a vehicle in a pushy or bold manner, without regard for others’ safety. Examples of aggressive driving include:

- Exceeding the speed limit
- Following too closely
- Failing to obey traffic controls
- Making improper turns and maneuvers

Road rage – occurs when a driver uses the vehicle or some other weapon to threaten or cause harm to another roadway user in response to a traffic incident with the intent to harm others. Road rage is an escalation of emotions generally ignited by aggressive driving behaviors. Examples of road rage include:

- Throwing objects at a vehicle
- Yelling at a specific roadway user
- Attempting to ram another vehicle

Formula for road rage:
This formula comes into play when we look at how our society has normalized disrespectful and hostile behavior. When these elements are added to our roadways that contain more cars, less space and more driver interactions, the result is a social normalization of behaviors that are more aggressive and violent in nature.

Types of aggression:
- **Verbal aggression**: yelling, cussing, gesturing, honking, insulting (aggressive driving)
- **Quiet aggression**: complaining, rushing, competing, resisting by not letting others in (aggressive driving)
- **Epic aggression**: cutting off, blocking, chasing, physically fighting, shooting (road rage)
Aggressive Driving and Road Rage

Degrees of aggression

1. The “rush-in” area (aggressive driving)
   - Constant rushing and lane jumping is your style.
   - Others are just in your way. Get ahead.
   - Ignore road signs and regulations. They are for other drivers.
   - Driving with distraction, low alertness, inattention.

2. The “total aggression” area (aggressive driving)
   - Constantly ridiculing and criticizing other drivers to self or passengers.
   - Closing gap to deny entry into lane.
   - Giving the “look” to show disapproval.
   - Speeding past another car, revving engine.
   - Prevent others from passing you.
   - Tailgating to pressure a driver to go faster or get out of your way.
   - Fantasizing physical violence.
   - Honking, yelling through the window.
   - Making visible insulting gestures

3. The “violence” area (road rage)
   - Carrying a weapon, just in case.
   - Deliberately bumping or ramming another vehicle.
   - Trying to run a car off the road to punish.
   - Getting out of the car, beating or battering someone.
   - Trying to run someone down.
   - Shooting at another car.
   - Thoughts of killing someone.

Strategies for Anger Management and Responding to Aggressive Driving and Road Rage

Anger is the basis for rage

The irrational actions of others create anger. There is potential for rage if a driver feels he/she has been violated or his/her safety has been threatened.

Self-imposed anxieties and dangerous reactions/maneuvers

Anyone can enter a driving situation with varying amounts of anxiety which can negatively influence driving behavior. The idea is to recognize these thoughts and not allow them to influence his/her driving.

Examples include:
   - “I am going to be late if I don’t hurry up.”
   - “Why are these cars going so slow?”
   - “We will never make it.”
   - “If only I had gone a little faster I could have made it.”
   - “Oh no. Red light!”
Dangerous maneuvering includes:

- “All of these cars are trying to squeeze in!”
- “I have a lead foot!”
- “Ha! I will speed up and show him a lesson!”
- “Everyone else is speeding!”
- “Let’s tailgate this car in front of me.”
- “He’s driving too slowly!”

Strategies for Anger Management

**Reduce your stress**

- Leave plenty of time
- Drive the posted speed limit
- Minimize distractions: take out glasses, put purse/briefcase, phone away
- Don’t drive when angry, upset or overly tired
- Alter your schedule to avoid peak drive times
- Monitor your physical / emotional condition. Loosen your grip on the wheel. Sit back.
- Know where you are going – keep directions out. Know alternate routes.
- Relax and concentrate on driving
- Be polite

**Don’t trigger aggression in others**

- Keep a safe following distance from the car ahead. You will need the room if something unexpected happens.
- Don’t cut off other drivers
- Leave plenty of room when merging
- Give others the space they need to merge safely. Don’t “close the gap.”
- Keep right except to pass
- Move right to let others pass
- Always use your turn signals before changing lanes
- Avoid gestures that might anger another driver
- Use your horn sparingly
- Do not park across multiple parking spaces or touch adjacent vehicles while parking or entering or exiting the vehicle
- When using high-beam headlights, return to using low-beam headlights as soon as you detect an oncoming vehicle

**Responding to Aggressive Driving and Road Rage**

**Dealing with anger:**

Just like all other driving skills, containing or managing your anger on the roadway requires training and thought prior to engaging in the driving task. One should realize that responding to another driver’s negative behavior can lead to a dangerous situation. Keep in mind that everyone makes errors in his/her driving.
To deal with anger:

- Get out of his/her way
- Don’t respond – do not challenge him/her by speeding up or attempting to hold your own in your path of travel
- Don’t engage – avoid eye contact, which can sometimes anger an aggressive driver
- Ignore gestures and name calling – refuse to return them
- Be tolerant and forgiving – the other driver may be having a bad day and looking for a way to vent anger
- Be polite and courteous – your behavior may help reduce the other driver’s anger
- Do not get out of your vehicle
- Drive away from the area, if possible, drive to a public space, not home – report serious road rage

Chapter Review

In this unit, you learned:

- The causes of fatigue and how it affects a driver’s abilities.
- The kinds of emotions that can affect driving behavior and the effects of emotions on driving.
- Aggressive driving and road rage characteristics and the different types and degrees of aggression.
- Strategies for anger management and how to respond to aggressive driving and road rage.
- Key words associated with the unit objectives.

Chapter #12 Worksheet Activities What Would You Do?

Diagram #1 Chapter #12

Diagram #2 Chapter #12
Diagram #3  Chapter #12

**WHAT WOULD YOU DO?**
When the traffic light changes to green, describe the process you will use to enter the circle, travel halfway around, and exit the circle onto the third roadway.

Diagram #4  Chapter #12

**WHAT WOULD YOU DO?**
The train has just about passed. Describe the procedures you would use to resume movement.