

LIVE WEBINAR

Strategies for Fighting Driver Fatigue to Stay Alert & Alive

TUESDAY OCTOBER 21 1-2PM CST



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Before We Begin

All attendees are in “LISTEN ONLY” mode.

You can type in questions by clicking on the question box on the top right of your GoToWebinar panel.

Q&A at the end of the webinar.

Additional questions can be emailed to: cherron@smscsafety.com

A recorded copy of the webinar and slides will be made available to all attendees.



1. Problem of Fatigue
2. Fatigue Management Program
3. Driver Knowledge
4. Driver Skills
5. Next Steps

Alertness Spectrum



- **Delta brain waves:** Deep sleep. 1 to 4 Hertz
- **Theta brain waves:** Sleeping or daydreaming when awake. 4 to 8 Hertz
- **Alpha brain waves:** Awake and calm. 8 to 12 Hertz
- **Beta brain waves:** Awake, alert, busy, and focused. 12 to 38 Hertz
 - **Low beta waves:** Thinking. 12 to 15 Hertz
 - **Beta waves:** Performing or focusing. 15 to 22 Hertz
 - **High beta waves:** Excited or anxious. 22 to 38 Hertz
- **Gamma brain waves:** Highly alert and consciousness. 30 to 80 Hertz

Alertness Has Supply & Demand



- Supply Factors

- Internal individual susceptibility: circadian rhythm, amount of sleep, time of day, time awake, stimulants, other drugs, health, genes, mood

- Demand Factors

- Task related: Time on task, task complexity, task monotony
- Environmental: Road conditions, weather, stress (heat, noise, vibration), vehicle design, social interaction, other stimulation

- Factors That Affect Fatigue In CMV Crashes
 - The Safety Board believes that the incidence of driver fatigue is underrepresented in FARS in general and in FARS specifically with regard to CMV drivers.
 - Research has suggested that CMV driver fatigue is a contributing factor in 30 to 40 percent of all CMV crashes.

CMV Driving Worsens Fatigue



- Tight schedule to get enough sleep
- Extended work hours + commuting
- Changing work schedules
- Work/sleep periods conflict with circadian rhythm
- Limited time for rest & naps
- Unfamiliar & uncomfortable sleep locations
- Sleep disruptions
- Difficulty finding nutritious food on the road
- Limited opportunities for exercise
- Personal, work and environmental stressors

Why Manage Fatigue



- Lower Fatigue Related Crashes
- Lower Legal Liability Exposure
- Cost Reduction
 - Driver retention
 - Medical costs
 - Maintenance
- Labor force
 - Safer
 - More productive
 - Healthier & happier

Fatigue Management Program (FMP)



➤ Safety Culture

- 1) Education
- 2) Training
- 3) Continuous communications – Including partnerships

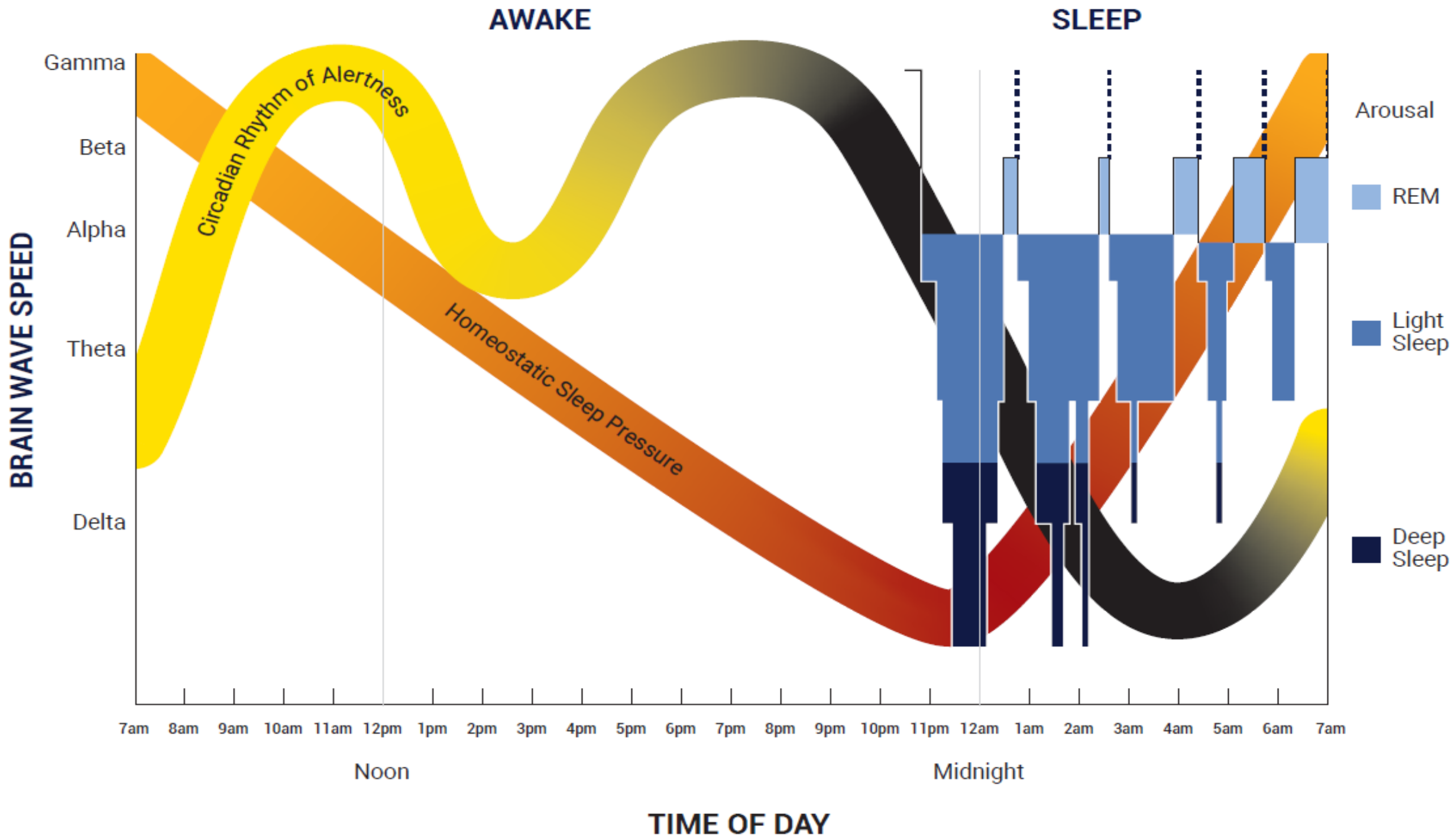
➤ Fatigue Risk Management System

- 1) Operations
- 2) Identify risks with processes and controls
 - Predictive, proactive, reactive
 - Sound scheduling, sleep disorders management program, fatigue detection technologies
- 3) Risk assessment
- 4) Measures and countermeasures
- 5) Evaluation

Reminders, Please



- Not medical professional
- Consult your medical provider before following any lifestyle recommendations or if you feel any discomfort
- You are responsible for any consequences of following any recommendations provided
- Be aware and try to eliminate the stigma associated sometimes with sleeping, metabolic diseases, substance abuse and mental health
- Do not allow any recommendations cause you to worry or become obsessed with a toxic wellness culture



Relationships Affect Wellness



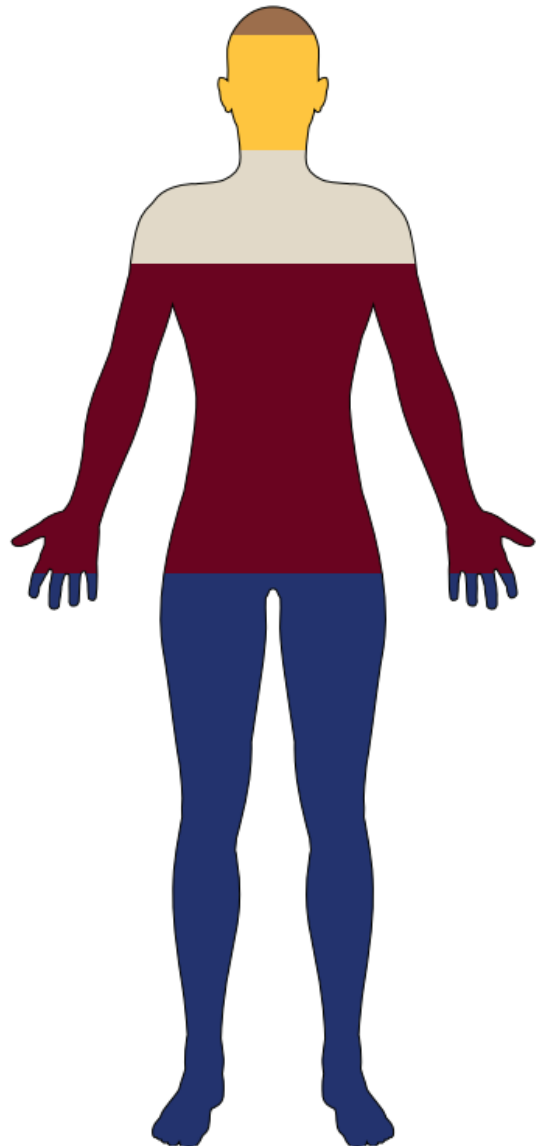
- Stress with isolation from family & friends
- Finding and sustaining network of family, friends & coworkers
- Keep in touch, communicate
- Value and foster each relationship
- Do fun things together
- Be positive
- Show support
- Have family take Module 4 (Family Ed)

Positive Behaviors



- Positive outlook and behaviors
- Balance between work and personal life
- Pursue personal interests
- Support network
- Try to improve job environment
- Get serious about relaxing
 - Relaxation breathing
 - Short walks
 - Meditation
 - Reading
 - Find method that works best for you

What Makes Up Body Weight?



 LIQUIDS

 MUSCLE

 BONES

 SUBCUTANEOUS FAT

 VISCERAL FAT

- Essential Macronutrients
 - Carbs with Fiber (veggies, fruits, whole grains)
 - Fats except artificial trans fats (fatty fish, nuts, seeds, avocado, milk products)
 - Proteins (fish, seafood, chicken, beef, pork)
 - Water
- Essential Micronutrients
 - Vitamins
 - Minerals
- Nutritious food
 - No ingredients list
 - No nutrition label
 - No health claims

- Ultra processed food
 - Lack of fiber
 - Excess sugar, salt, oils, fats and other additives
 - Engineered to taste good
 - Cheap & convenient
 - Aggressively marketed
 - Addictive
- Liquid candy
 - Soda
 - Juice
 - Any caloric drink
- Toxic to the liver and brain
 - Excess sugar
 - Excess protein
 - Drugs

10 Types of Snacks for the Road



1. Unsweetened drinks: Water, sparkling water with lime/lemon, coffee, tea, herbal infusions
2. Any seeds: Pumpkin, sunflower, cacao nibs, flax, chia, hemp
3. Any nuts: Almonds, walnuts, pecans, cashews, pistachios
4. Any veggies: Romaine hearts, celery, carrots, cucumber, cherry tomatoes, bell peppers
5. Any fruits: Berries, apples, oranges, clementines, bananas, plums, pears, pineapple
6. Spreads: Guacamole, hummus, plain yogurt/Greek, plain nut butters, cheese, pesto
7. Not so smooth smoothies (keep the fiber): Made with any of those above
8. Any protein: Boiled eggs, rotisserie chicken, ribs, lamb/steak skewers, sashimi, fish fillet
9. Beans: Pinto, black, kidney, edamame, chickpeas
10. Minimally processed cereals: Steel cut oatmeal, barley, bulgur, brown rice, plain popcorn

Sample Food Choices on the Road



- Breakfast
 - Eggs any style with veggies instead of fries, veggie omelet
 - Fruit with nuts, plain yogurt, or cheese
 - Drop at least one side of the bread on egg sandwich
 - Avoid cereals
- Lunch & Dinner
 - Any protein with cooked veggies
 - Any protein with uncooked veggies (salads, bare burger/sandwich loaded w/veggies)
 - Order steak or ribs with collard greens, spinach or other veggies
 - Drop ultra processed sides: fries, mashed potatoes, mac & cheese and other
 - Have the burrito bowl without the tortilla
 - Make fruits your go to dessert alone or with nuts, plain yogurt, or cheese
- Don't feel guilty when deviating into wrong lane, just don't stay there

- Alerting effects:
 - Begin in ~20 minutes
 - Peak in 60-90 minutes
 - Can last for hours
- Caffeine content in coffee varies widely
- Tea has about ½ the caffeine of coffee
- Large individual differences in the time required to metabolize caffeine
- Drink in small sips to “nurse” the cup over a longer period
- Like any stimulant, caffeine makes sleep more difficult
- Generally, avoid caffeine within 6-8 hours of main sleep period
- Effects vary - some people are even more sensitive
- Reduce caffeine intake
- Increase time between last dose & bedtime

- Not permitted in CMVs
- Some drivers may use alcohol as a sleep aid at home.
- Alcohol may make you sleepy, but it actually *disrupts* sleep:
 - Disrupts REM sleep
 - Causes “rebound” awakening after a few hours
- Disruptive effects increase with age
- Performance impairment effects greater when you are also sleepy
- Alcohol makes OSA worse

Smoking & Tobacco Use



- Leading preventable cause of disease, death, and disability
- ~20% of Americans smoke, but nearly **half** of CMV drivers do
- Causes lung cancer, COPD and other lung diseases, heart disease, and many other medical conditions
- >\$1,000 per year in medical costs for each smoker
- Reduces oxygen flow to the brain; worsens OSA
- Strategy: **QUIT!!!**
 - See your doctor
 - Call 1-800-QUIT-NOW
 - Click www.smokefree.gov or
 - Click www.hc-sc.gc.ca

Amphetamines



- Illegal or available only with a prescription
- Too strong for general use
- Increase activity level but do not improve performance reliably
- Increase heart rate and metabolism, sometimes dangerously
- Often you “crash” several hours after use

Sleeping Pills



- Hypnotics = drugs used to induce sleep
- Some also used to treat anxiety and stress disorders
- General categories:
 - Non-prescription Over-The-Counter (OTC); e.g., Tylenol PM, Benadryl
 - Prescription:
 - Benzodiazepines (e.g., Halcion, Restoril)
 - Nonbenzodiazepines (e.g., Ambien, Lunesta)
- No sleeping pill provides 100% natural sleep
- Most have side effects
- Most are habit-forming
- Some cause withdrawal symptoms
- Must allow full time for drug to leave your body before driving

- Common side effects:
 - Drowsiness
 - Other fatigue
 - Insomnia
- Accordingly, many prescriptions specify when the drug should be taken (e.g., at bedtime)
- Follow dosage instructions carefully
- Safety regulations restrict driver on-road use of medications with stated fatigue side effects

1. Cardiopulmonary
2. Strength bearing
3. Stretching & balancing

- Enhances alertness
- Promotes better sleep
- Lowers stress
- 10-minute walks twice or more per day
- Work out more vigorously on weekends
- Take exercise equipment with you on trips
- Keep a record of your exercise
- Set daily and weekly goals
- Find out what you like and do it

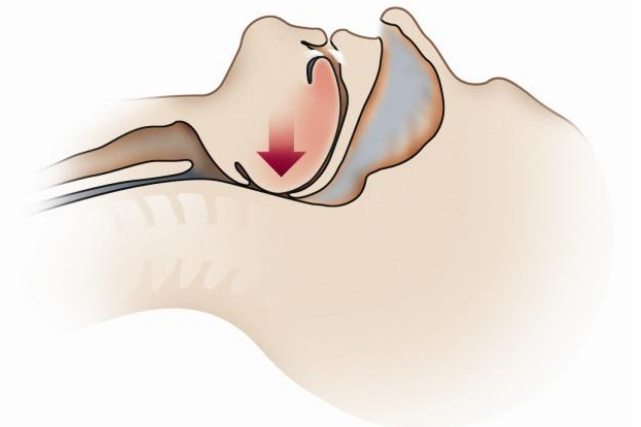
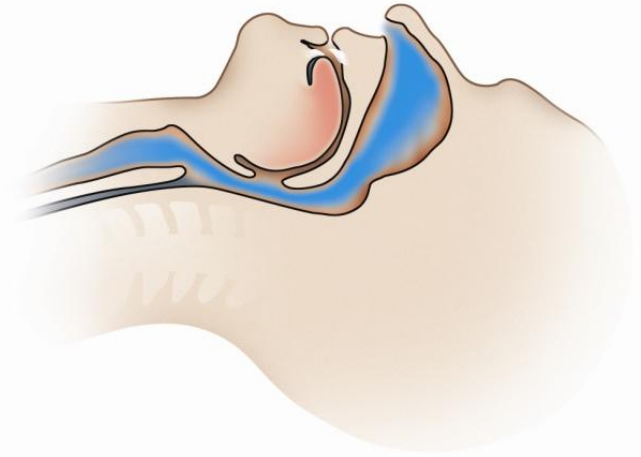
Fatigue Susceptibility



- Sleep Deprivation
 - Sleep-related behaviors
 - Sleep hygiene
- Individual Differences
 - Genetic variations
 - Health & fitness
- Medical conditions
 - Medications
 - Sleep disorders
 - Insomnia, narcolepsy, restless leg syndrome, sleepwalking, abnormal circadian rhythms, obstructive sleep apnea (OSA)

Obstructive Sleep Apnea

- **Apnea** = stoppage of breathing lasting 10+ seconds
- OSA = breathing stops repeatedly during sleep due to closures of the upper airway
- Apnea rate per hour:
 - <5 = normal
 - ≥ 5 = OSA
- OSA severity (mild, moderate, severe) based on rate
- Some people with severe OSA can have 100 per hour



OSA Risk and Warning Signs



- OSA higher risk
 - Obese individuals, male, 40+ years old, large neck size, recessed chin, small jaw, large overbite, family history
- OSA warning signs
 - Reduced performance, loud and irregular snoring especially with gasping, high blood pressure, diabetes

Module 8: Driver Sleep Disorders Management (Module 7 for Motor Carriers)

- May 4, 2022 Webinar:
A Motor Carrier's Guide to Establishing a Sleep Disorders Management Program

Objective Signs of Fatigue



- Eyelid drop or loss of focus
- Yawning
- Wandering, scattered or disjointed thoughts, dreamlike visions
- Head movements, gentle swaying, jerking
- Reduced field-of-view (AKA: tunnel vision, highway hypnosis, white line fever)
- Fidgeting, shifting positions, adjusting windows & HVAC
- Progressive weaving, crossing rumble strip, drift and jerk steering
- Delayed or incorrect responses
- Microsleeps

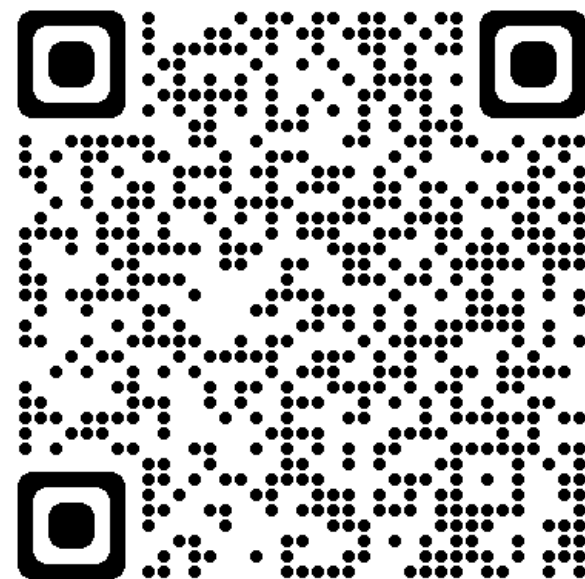
Fatigue Management Strategies



- General
- At home
- On the road
- Night driving
- Changing time zones
- Team driving



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NAFMP Website Free Resources



- Tools
 - FMP Template
 - Implementation Manual
 - ROI Calculator
- Courses
 - eLearning Platform
 - PowerPoints with and without audio
 - For carrier's executives, safety managers, dispatchers, instructors, drivers, driver's families, shippers & receivers
- Webinars, Info Sessions & Articles
 - Gallery
 - List
 - Categories
 - Sign up for article notifications
- Podcast
 - The NAFMP Pod
 - Available from eight platforms
- Events
 - Download individual event
 - Subscribe to Calendar of future events

Connect with me to coordinate a free fatigue management session for your organization



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Scan vCard and add me to your contacts

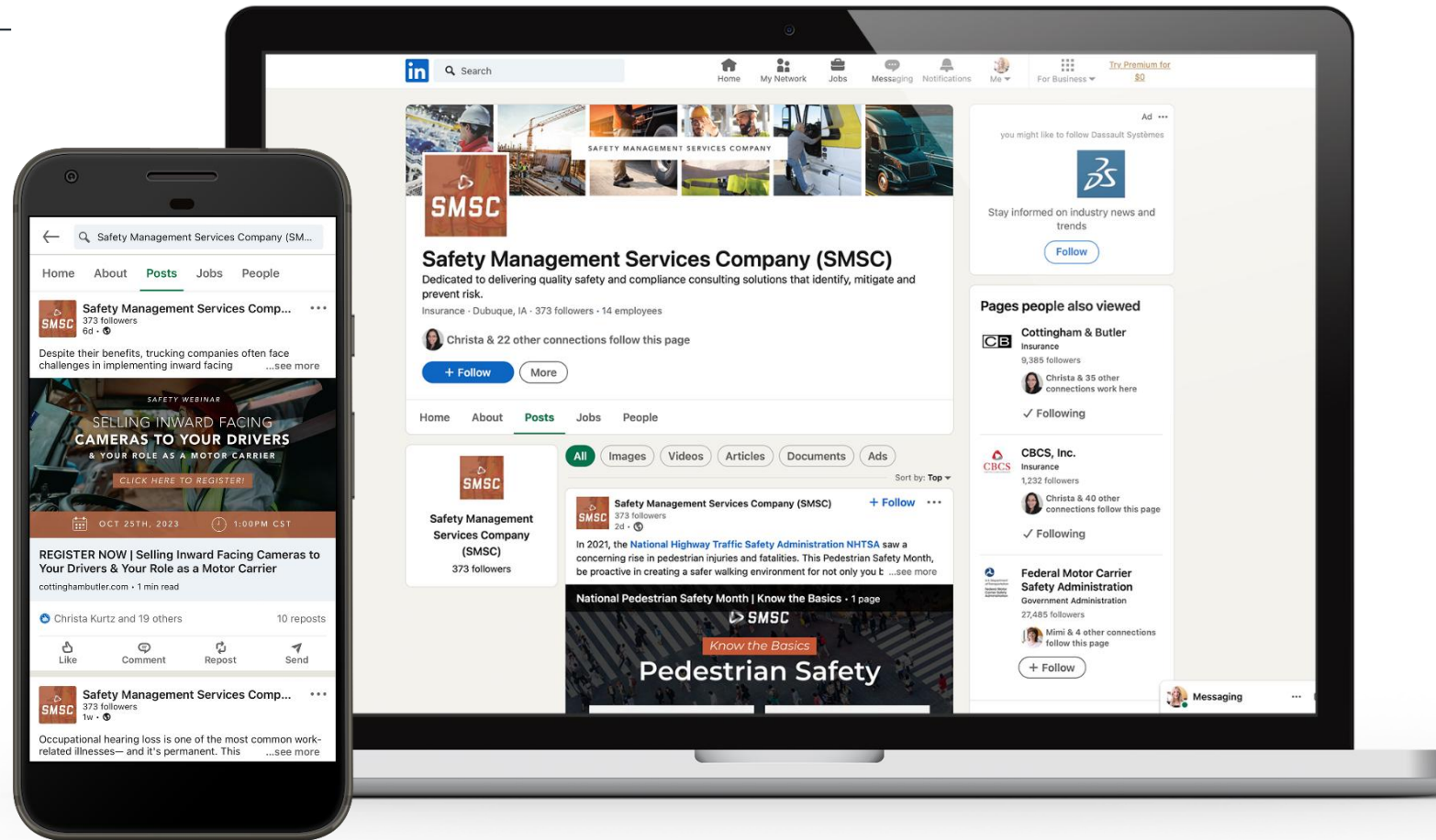




Questions



Let's Stay Connected



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