



# A Motor Carrier's Guide to Establishing a Sleep Disorders Management Program (SDMP)

May 4, 2022

Please pardon our French

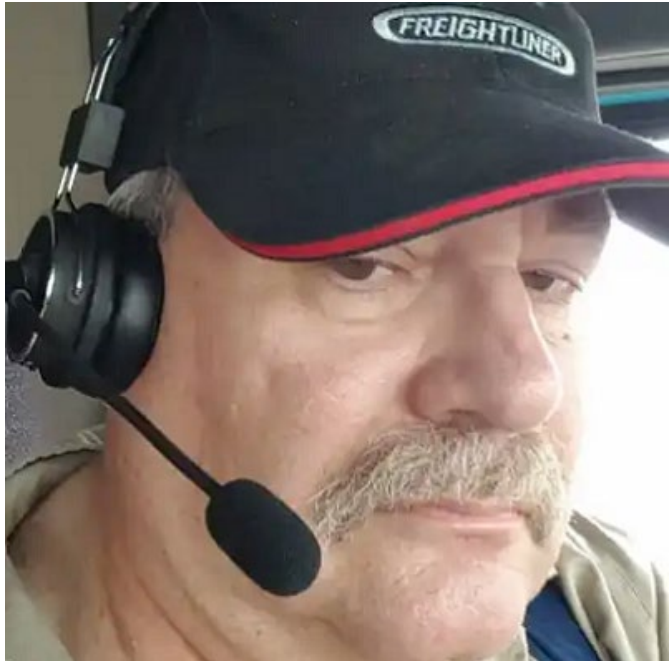


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by PowerPoint



**Rodolfo Giacoman**  
Fatigue Management Program Specialist  
**CVSA**

# Featured Speaker



**Bob Stanton**  
Former Truck Driver  
**Who Has Sleep Apnea**

# Featured Speaker



**Adrian Knight, RRT**  
President and CEO  
**SleepSafe Drivers**

# Featured Speaker



**Mary Convey**  
Vice President of  
Corporate Health & Safety Solutions  
**SleepSafe Drivers**



**John Hickok, RPSGT**  
CEO & Founder  
**iSleep**

These presentation slides available in live chat

Recording & slides will be available at  
[nafmp.org/webinars/](http://nafmp.org/webinars/)

1. NAFMP resources and overall FMP
2. Introduction to sleep disorders
3. Carrier corporate responsibilities
4. Step-by-step guide to implementing an SDMP
5. Strategies for supporting an SDMP & facilitating driver behavior change
6. Case Study - Focus Group Report Recommendations

**NAFMP Module 7**

**NAFMP Implementation Manual, Pages 85 - 118**

# Your Questions Are Welcome Anytime



- Please ask your question in the Q&A Panel
- What This Webinar Is Not About
  - Regulatory environment
  - FMCSA policy or rulemaking
  - Individual-specific clinical questions
- 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

# NAFMP Resources (FMP Meal Cookbook)



1. [nafmp.org](http://nafmp.org)
2. [Implementation Manual](#)
3. [eLearning Platform](#)
4. [PowerPoint Presentations](#)
5. [Train-the-Trainer: Module 5](#)
6. [ROI Calculator](#)
7. [Webinar Recordings and Slides](#)

# Fatigue Management Program (FMP) (FMP Meal Ingredients)



1. Safety Culture
2. Fatigue Risk Management System
3. Sleep Disorder Screening & Treatment Program
4. Scheduling Practices & Fatigue Management Technologies
5. Education & Training

# Sleep Disorder Poll



- How do sleep disorders affect sleep quality?
  - Increasing sleep time
  - Disrupting sleep cycles and stages
  - Sleep disorders do not affect sleep quality
- What happens during an initial sleep apnea event?
  - Heart rate increases & blood oxygen level decreases
  - Heart rate drops & blood oxygen level increases
- Untreated sleep apnea \_\_\_\_\_ driver reaction time
  - increases
  - decreases
  - does not affect

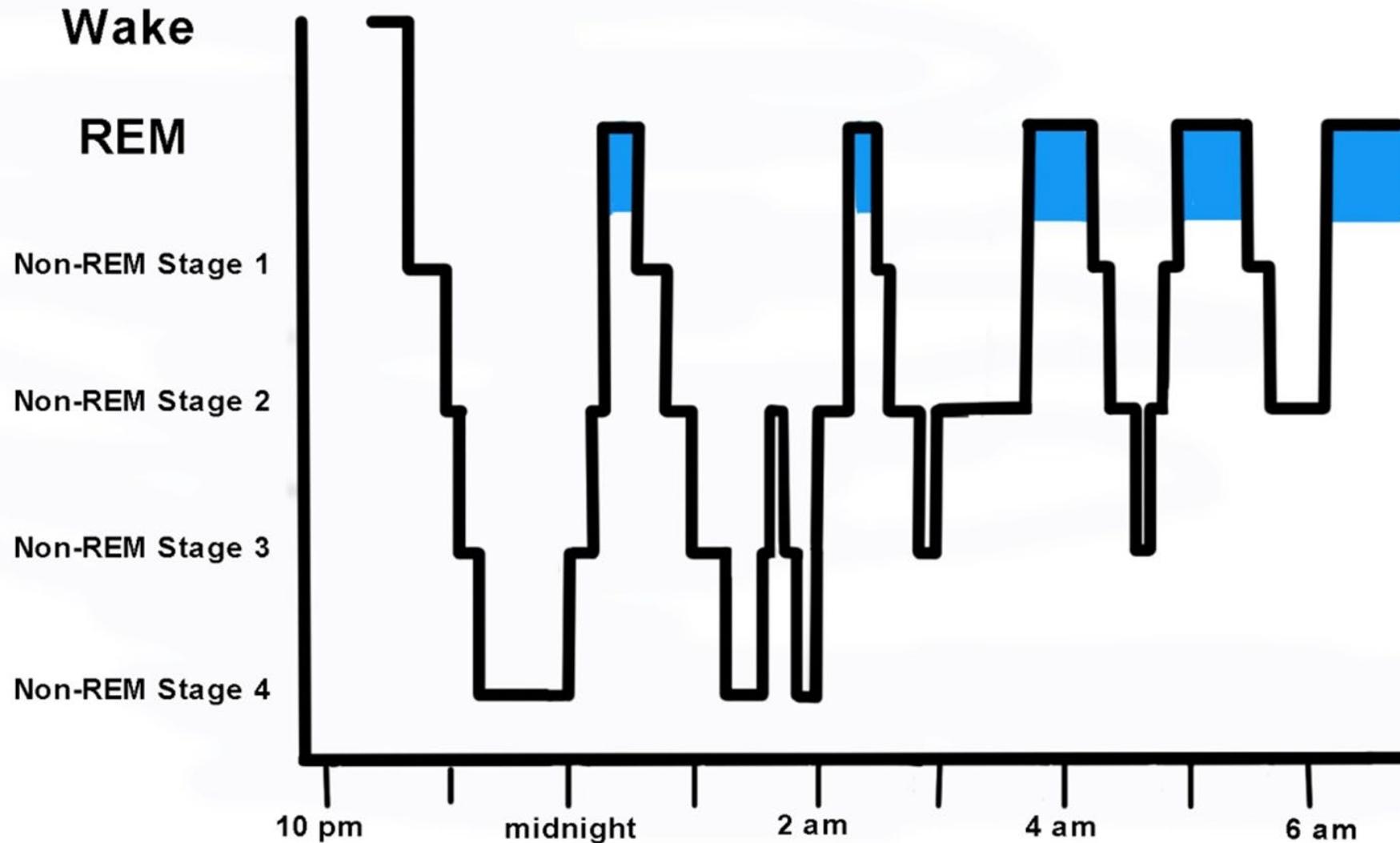
# Amazing Breakthrough!



*Scientists have discovered a revolutionary new treatment that makes you live longer. It enhances your memory and makes you more creative. It makes you look more attractive; It keeps you slim and lowers food cravings. It protects you from cancer and dementia. It wards off colds and the flu. It lowers your risk of heart attacks and stroke, not to mention diabetes. You'll even feel happier, less depressed, and less anxious.*

*— Matthew Walker, PhD, Why We Sleep*

# Sleep Types, Stages and Cycles

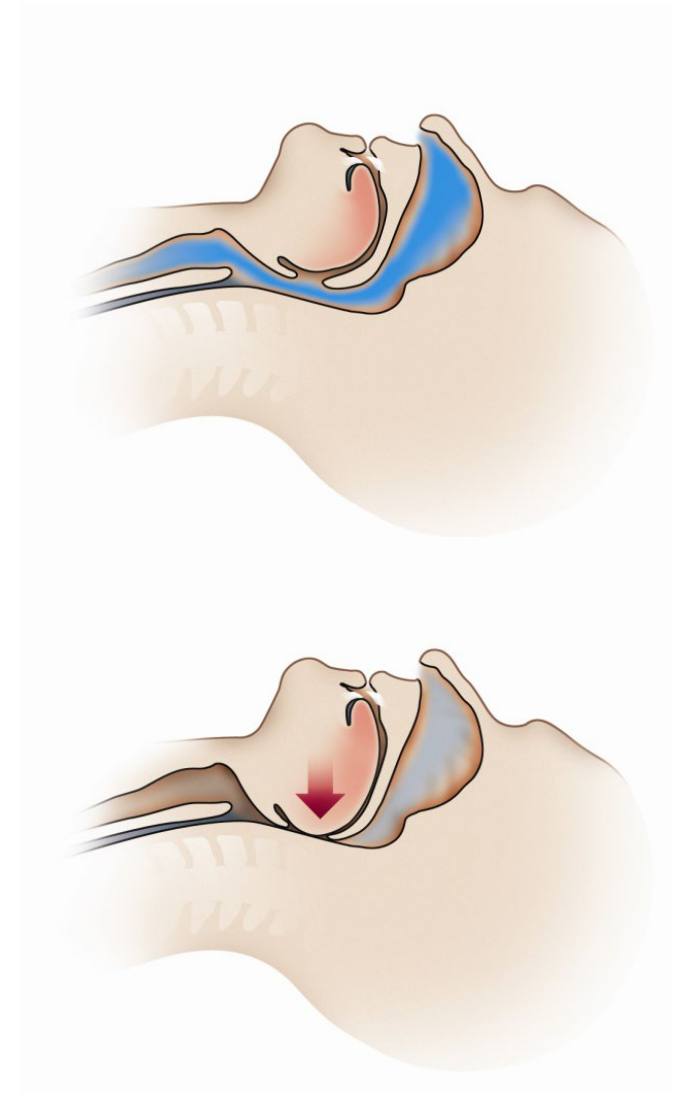


# Introduction to Sleep Disorders



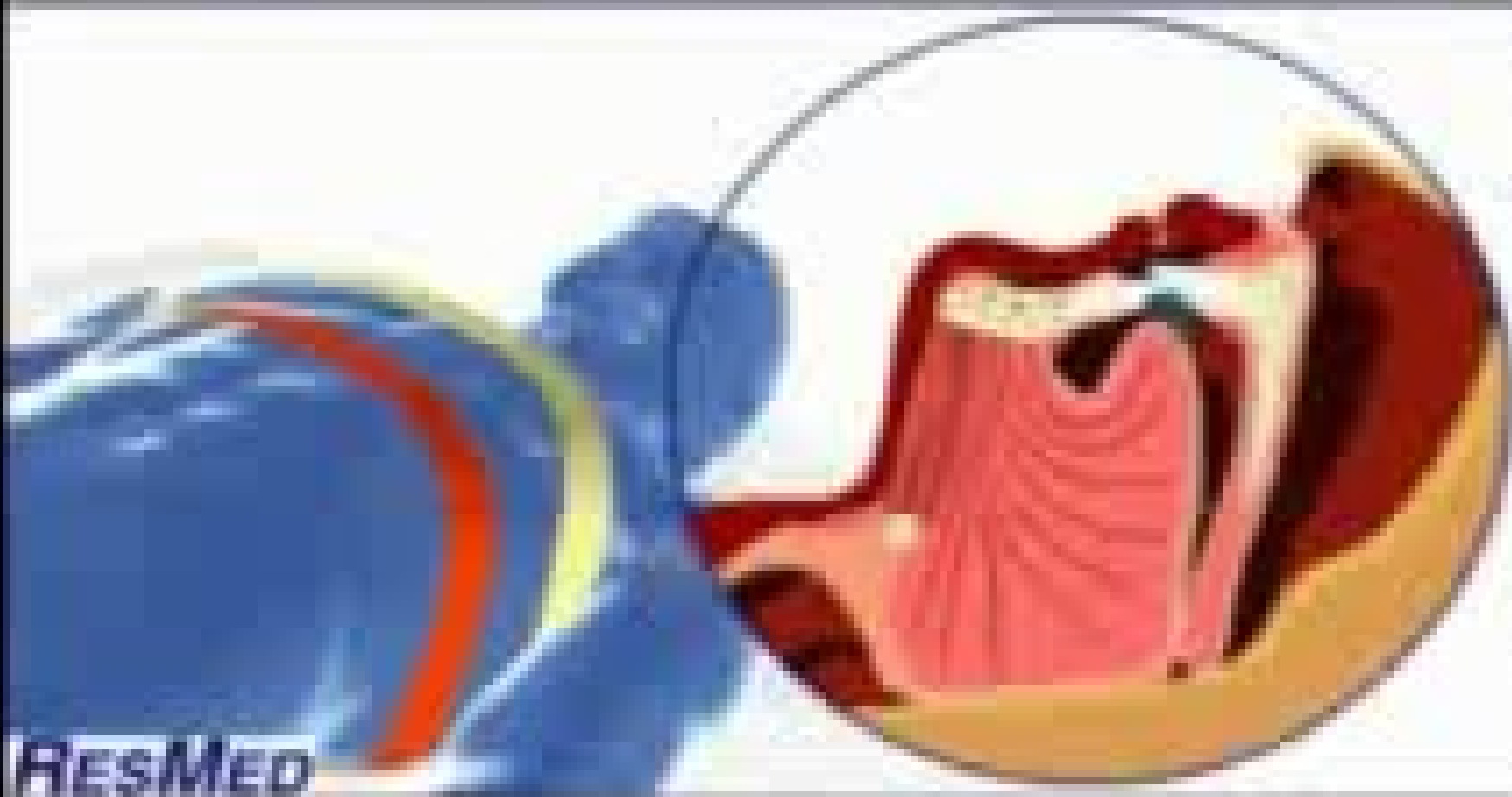
- Over 80 sleep disorders identified
  - Over 70 million people have one
  - Most unaware and undiagnosed
  - Complicated by mental stress & substance abuse
- Common sleep disorders
  - Insomnia, narcolepsy, restless leg syndrome, sleepwalking, abnormal circadian rhythms, obstructive sleep apnea (OSA)
- Sleep disorder symptoms
  - Excessive daytime sleepiness (EDS), extremes in ability to go to sleep, loud irregular snoring with gasping

- Of the sleep disorders that affect the transportation industry, OSA is one of the most prevalent and undiagnosed
- OSA is when breathing stops repeatedly during sleep due to closures of the upper airway
- Apnea Hypopnea Index (AHI)
  - Incidence of stoppage of breathing lasting 10+ seconds per hour
  - $<5$  = normal,  $>5$  = OSA
- Symptoms of OSA are difficult to self-detect and may be mistaken for other conditions

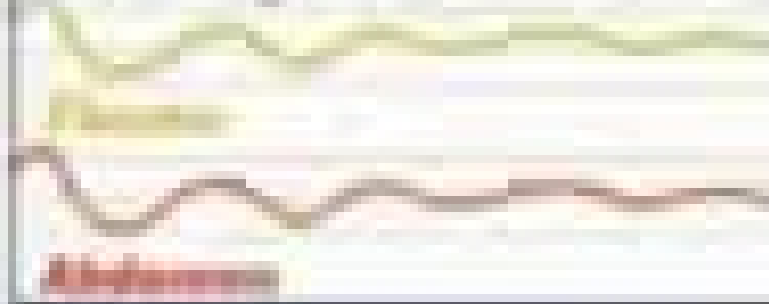


Flow

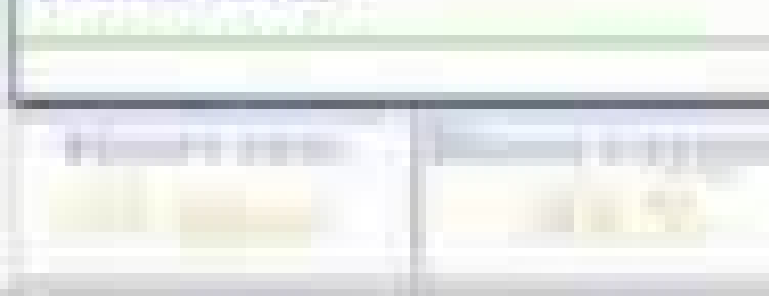
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Breathing effort



Mask leak



RESMED

- Health Implications

- Metabolic syndrome
  - Non-alcoholic fatty liver disease
  - Diabetes
  - Cardiovascular disease
  - Hypertension
  - Lipid abnormalities
  - Polycystic ovarian cancer
  - Dementia
- Diminished quality of life
- Clinical depression
- Decreased sex drive and performance

- Safety Implications

- EDS – Asleep at the wheel
- Decline in cognitive function
- Impaired driving performance
- Decreased reaction time
- No braking: serious crashes
  - More fatalities
  - More costly

## Sleep Disorders

# Corporate Responsibilities Poll



- Implementing a SDMP may result in a significant ROI from
  - Savings on medical costs
  - Reduction in crashes
  - Greater retention rate
  - All of the above
  - None of the above
- What type of education should be included as part of a SDMP?
  - Overview of sleep disorders
  - Health and safety implications of sleep disorders
  - OSA testing and treatment information
  - Carrier's sleep disorders program
  - All of the above
  - None of the above

# Carrier Corporate Responsibilities

## - Return-On-Investment



- Report on Schneider National Inc. OSA Implementation Program showed a significant return on investment
  - Significant savings on medical costs for diagnosed and treated drivers
    - Drivers diagnosed and treated with CPAP, **average savings of \$550 per driver/month**
  - 73% reduction in preventable crashes among drivers treated for OSA
  - Retention rate of treated OSA drivers was 2.3 times greater than for all company drivers

# Carrier Corporate Responsibilities - Potential Legal Liability Issues



- Currently no federal mandates requiring carriers to screen, test, treat, and monitor drivers with OSA
- Motor carrier may not require or permit a driver to operate a CMV if the driver has a condition — including OSA— that would affect his or her ability to safely operate the vehicle
- Successfully treated drivers may regain their “medically-qualified-to-drive” status

# Carrier Corporate Responsibilities - Legal Risk Management Strategies



- **Carrier Policies**
  - Consistent with federal regulatory rules and recommendations
- **Education**
  - Safety culture: Managers, trainers, dispatchers, drivers, families
  - NAFMP Modules
- **Documentation**
  - Accurate & up-to-date documentation showing consistent implementation of FMP
- **Communication**
  - Verify and document PAP compliance
  - Remove any driver who fails to meet regulatory minimum requirements
- **Confidentiality**
  - Driver health records
- **Consultation**
  - Regularly consult with legal counsel on related policies, procedures, and practices

# Carrier Corporate Responsibilities

## - OSA Crashes Sample Claim Litigation



- Carrier should have known the driver had a sleep disorder
  - Evidence: driver medical examination reports, carrier health records, reports of witnessed EDS in the workplace, etc.
- Carrier did not monitor and follow-up with a driver with OSA who was prescribed PAP treatment
  - Evidence: driver logs, electronic treatment records, etc.
- Carrier's Fatigue Management Program (FMP) was inappropriate, incomplete, or not implemented
  - Evidence: carrier records, driver logs, employee testimonials

## Carrier Corporate Responsibilities

# SDMP Implementation Steps



1. Education
2. Screening
3. Testing
4. Treatment
5. Monitoring

# Step 1: Education



- OSA Education – NAFMP Module 8 for Drivers
  - Signs and symptoms of OSA and sleep disorders
  - Health and safety implications of OSA
  - Testimonials (success stories)
  - Health & wellness
  - Treatment options
- OSA testing and treatment information
- Your sleep disorders program
  - Roles, responsibilities, policies & procedures
- Announcements, fliers, newsletters, videos
- Family Support – NAFMP Module 4

# Step 2: Screening - Methods



- Questionnaires
  - Epworth Sleepiness Scale, Berlin, Functional Outcomes of Sleep, Pittsburg Sleep Quality
  - Limitations: Subjective & rely on willingness of respondent to report symptoms
- Objective assessments
  - Multiple Sleep Latency Test
  - Maintenance of Wakefulness Test
  - Limitations: Labor intensive, expensive
- Physical Examination
  - >30 BMI, > 15.5/17 neck circumference, >36/40 waist circumference, craniofacial features (receding chin, large tongue, small airway/mallampati score), micrognathia or retrognathia
- History
  - Family, metabolic disease, age 42 or older, male or postmenopausal female, untreated hypertension, type 2 diabetes, untreated hypothyroidism, loud snoring, witness apneas, stroke, coronary or artery disease

# Step 2: Screening - Recommendation



- Drivers who meet the following criteria should be required to undergo OSA testing:
  - Categorized as high risk for OSA according to the Berlin Questionnaire, **OR**
  - BMI  $\geq$  40 kg/m<sup>2</sup>, **OR**
  - Judged at risk for OSA from clinical physical examination evaluation **OR**
  - Admitted fatigue or sleeping during wakeful period **OR**
  - Involved in a sleep-related CMV crash

# Step 3: Testing



- Laboratory polysomnography (PSG) gold standard
  - Brain (EEG), heart, airflow, O<sub>2</sub> saturation, body movement
  - Apnea Hypopnea Index (AHI)
    - Mild: 5-15 per hour
    - Moderate: 15-30 per hour
    - Severe: >30 per hour
- Home Sleep Apnea Test (HST/HSAT)
  - Only appropriate for evaluation in high-risk populations without significant medical problems
  - Chain of custody must be secured
  - Validated against PSG
  - Objectively records oxygen saturation, nasal pressure, and sleep/wake time for a minimum of 5 hours

# Step 4: Treatment



- Positive airway pressure (PAP) devices
  - Continuous, automatic, bi-level
  - Effective when used properly/consistently
- Dental/oral appliances
  - Only for mild/moderate; Not for severe OSA
  - Monitoring compliance can be a challenge
- Surgery
  - Primarily for severe obstructive anatomy
  - Secondarily when PAP is not tolerable/adequate
- Lifestyle habits
  - NAFMP Module 3 & Top 10 Driver Must-Knows About Fatigue Management Webinar
  - Manage metabolic disease
  - Avoid alcohol/sedatives
  - Wellness keys
    - Sleep hygiene, positive relationships, positive behaviors, nutrition, exercise

# Step 5: Monitoring



- Compliance coaching & education
  - Mask discomfort, nasal congestion, eye irritation, being “tied” to a machine
- Drivers with OSA must demonstrate adequate PAP compliance and effectiveness to continue driving legally
- PAP treatment monitoring procedures must be in place for drivers
- Web-based
  - Recommended for monitoring following initiation of PAP treatment and at least until consistent and adequate PAP use has been established by patient
- PAP data cards
  - Recommended for long-term compliance monitoring or as backup to web-based data collection

# Step 5: Monitoring - Recommendations



- Individuals on PAP treatment for OSA must demonstrate and document compliance
  - Graded certification upon proof of compliance
    - 1 month, 3 months, 12 months
- Annual recertification required for individuals who have undergone surgical treatments
  - Sleep disorders testing with AHI < 10 AND
  - No daytime sleepiness

## SDMP Implementation Steps

# Supporting a SDMP & Facilitating Driver Behavior Poll



- Drivers must use their PAP device when at home; while on the road, PAP use is optional
  - True
  - False
- All PAP machines are one-size fits-all for any driver
  - True
  - False
- OSA and its health effects are irreversible
  - True
  - False

# Supporting a SDMP - Non-compliance



- Identify reasons

- Personal

- Don't like being tied to a PAP machine
    - Poor/restless sleep with PAP machine
    - Partner dislikes PAP machine

- Motivational

- Benefits of PAP use do not out-weigh drawbacks
    - Drivers dislike carriers mandating PAP use while drivers are not in service

- Driver bearing the cost

- Take actions

- Flag non-compliant drivers
  - Verbal warnings
  - Identify reason(s) for non-compliance
  - Work with driver to address problem(s)
  - Pay for or help with driver costs
  - Technical issues
  - Motivational issues
  - Temporary driving restrictions
  - Continued coaching/support
  - Termination/job redistribution

# Supporting an SDMP - Carrier Managers Can Help



- Advise driver on locations where idle restrictions are an issue
- Help locate PAP suppliers while driver is on the road
  - Supplies, repairs, replacement parts
- Shared efforts by managers and drivers contribute to the FMP
- Organize a PAP-users group to support drivers
  - Drivers may discuss experiences, challenges, solutions, tips, etc.
  - Support groups should actively engage and offer tips to drivers who experience challenges
  - Successful PAP users can provide invaluable help to others just starting treatment
  - Monitoring recommended

# Supporting an SDMP

## - Common Myths & Misperceptions



- PAP therapy causes more sleep disruptions than having OSA
  - Proper equipment, mask fit, and machine settings are imperative
- All PAP machines are created equal
  - Vast differences in PAP machine types and brands
- PAP machines are noisy and disruptive
  - Current PAP devices are much quieter compared to snoring
- PAP is impossible or difficult to use in the truck
  - Technology enables PAP use in the truck
- Patients diagnosed with OSA and prescribed PAP will likely be on PAP for the rest of their life
  - Metabolic syndrome may increase the severity of OSA
  - Controlling metabolic syndrome may eliminate the need for PAP in some cases

# Facilitating Driver Behavior Change



- Establish safety culture
- Set good example
- Assess needs
- Develop a plan
- Implement program in supportive environment
- Evaluate and improve program
- Overcome ambivalence
- Target specific behaviors
  - PAP compliance
  - Communicate with staff
- Specific goals
  - Increasing PAP use
  - Lifestyle improvements
- Social support

## Supporting a SDMP & Facilitating Driver Behavior Change

- NAFMP Implementation Manual: Pages 85 – 118
- Recommendations
  - Trust & cooperation requires being up front and honest with drivers about OSA Program and what they are being screened for is important for drivers
  - Include subjective & objective assessments to screen drivers for OSA
    - Questionnaires, physical examinations and personal observations
  - Involve the carrier's occupational health team
  - Have a graded rating system for OSA screening to prioritize highest risk drivers
  - Provide early OSA educational video and information
    - Drivers and other staff to support drivers
    - Carrier's OSA Program
    - Treatment options, especially lifestyle modification and wellness habits

# Additional Report Recommendations



- OSA Testing
  - Laboratory PSG is gold standard for diagnosing OSA but it's expensive and requires access to sleep laboratory
  - HST is cost effective and convenient but there are chain-of-custody concerns
- OSA Treatment
  - APAP is the recommended first-line treatment
    - Providing drivers with the appropriate mask is crucial for success & compliance
    - Drivers should be aware of the detailed compliance monitoring protocols in place
      - Wireless compliance monitoring devices better for newly diagnosed
      - Data cards are acceptable for drivers with an established record of PAP compliance

# Final Report Recommendations



- Provide drivers with 24/7 support as they adjust to PAP treatment
  - First two weeks are critical
  - Parts, supplies, equipment
  - Solid support team
    - OSA Program team
    - OSA provider staff
- Driver support groups
  - Life changing event
  - Share problems and solutions
  - Driver champions to support fellow drivers
- Less than 24-hour turnaround
  - From tested to treatment set-up and sending OSA-positive drivers back on the road
- Communication and coordination by all OSA program players
  - Drivers, carrier staff, OSA provider staff

# Please Help Us Pass the Word



Please let drivers know about the NAFMP resources by distributing the NAFMP Postcard

- Place complimentary orders online by navigating to the bottom of [nafmp.org](http://nafmp.org)
  - Last item on footer menu: [Order Postcards](#)

**Fatigue is one of the main causes of heavy-vehicle crashes.**

Source: CCMTA – Human Factors Report

That's partly because we often overestimate how alert we really are. Many fatigued drivers who crashed and were lucky to survive, never felt tired.

The solution:

- Learn ways to eliminate the likelihood that you may get drowsy, tired or bored while driving.
- Identify what maintains your alertness and what reduces it.
- Become more productive, healthy and happy by better managing fatigue.



Take the free driver education course at [nafmp.org](http://nafmp.org).

**Your input matters.  
We want to hear from you.**

**Fatigue Management Community Forum**

Join the community of professional drivers, trainers, dispatchers, managers, executives, shippers, receivers and brokers to discuss, learn and share in conversations about fatigue management.

The forum is available at [lms.nafmp.org](http://lms.nafmp.org).

Add to the conversation by registering for free from any of the learning modules so you can post your questions, comments and feedback to the community forum.



# Upcoming Webinars and Course



- June 9
  - Webinar: Fatigue Management Technologies & ROI
- July 8
  - Webinar: Driver Scheduling for Shippers, Receivers and Brokers
- September 8
  - All-Day Course: NAFMP Train-the-Trainer

[nafmp.org/webinars/](http://nafmp.org/webinars/)

- Please let us know your NAFMP feedback
  - [nafmp.org/contact/](http://nafmp.org/contact/)
  - [rodolfog@cvsa.org](mailto:rodolfog@cvsa.org)
  - Fatigue Management Forum: [lms.nafmp.org](http://lms.nafmp.org)
- Please complete anonymous survey on this session at the end of the webinar

# Questions?



Thank you!

Recording and slides will be available at  
[nafmp.org/webinars/](http://nafmp.org/webinars/)

The image features a large, white, stylized logo for CVSA (Commercial Vehicle Safety Alliance) centered over a blue-tinted background. The background shows the front of a large truck with 'HEIL' and 'Peterbilt' branding, and two police officers standing nearby. The CVSA logo consists of the letters 'CVSA' in a bold, sans-serif font, with a registered trademark symbol (®) to the right.

CVSA®