



# NAFMP - Part Two

North American Fatigue  
Management Program

## Driver Ed & Training



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# Presenter



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# Instructions

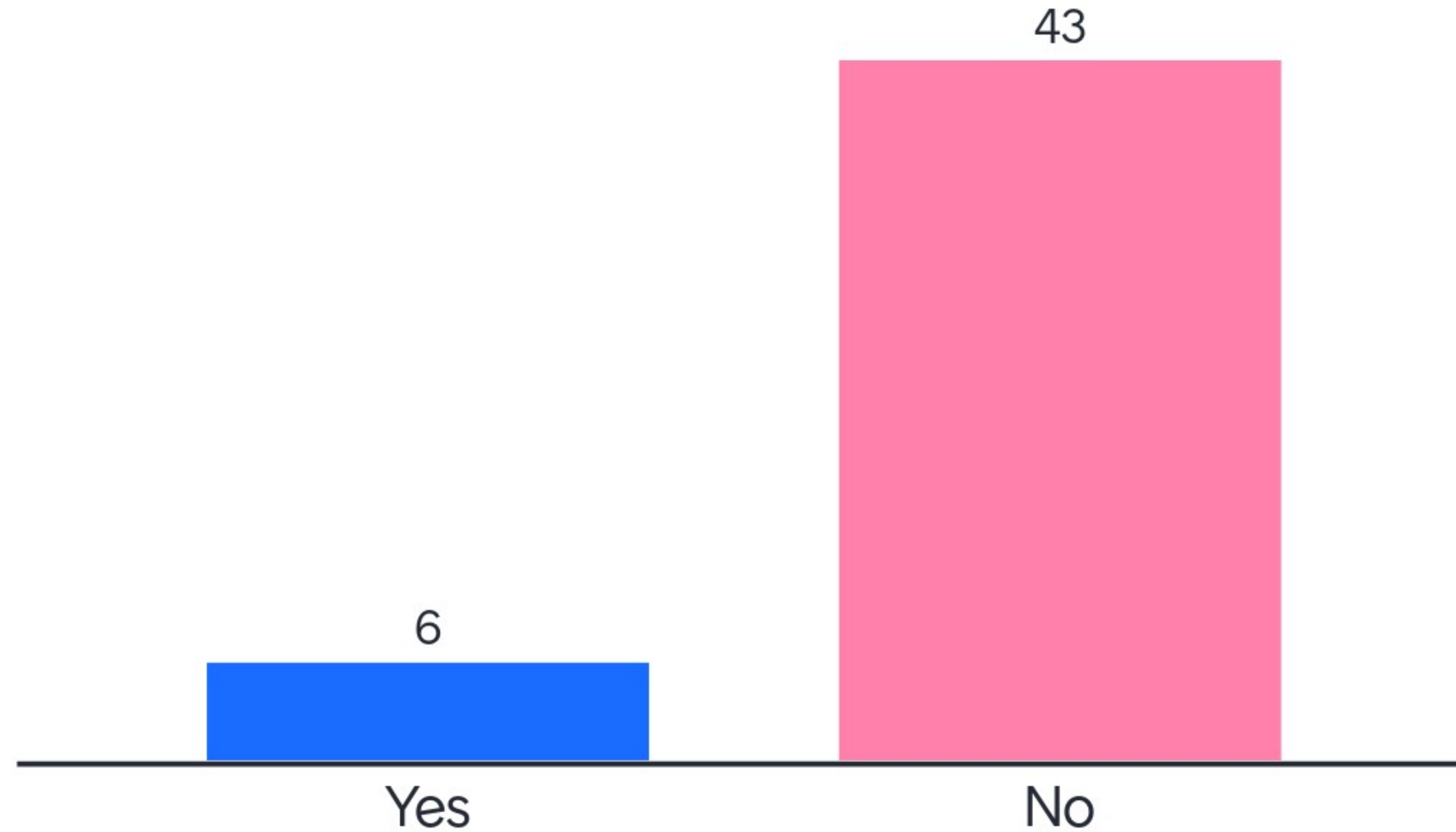
Go to  
**[www.menti.com](https://www.menti.com)**

Enter the code



Or use QR code

# Did you watch the NAFMP Part One session?



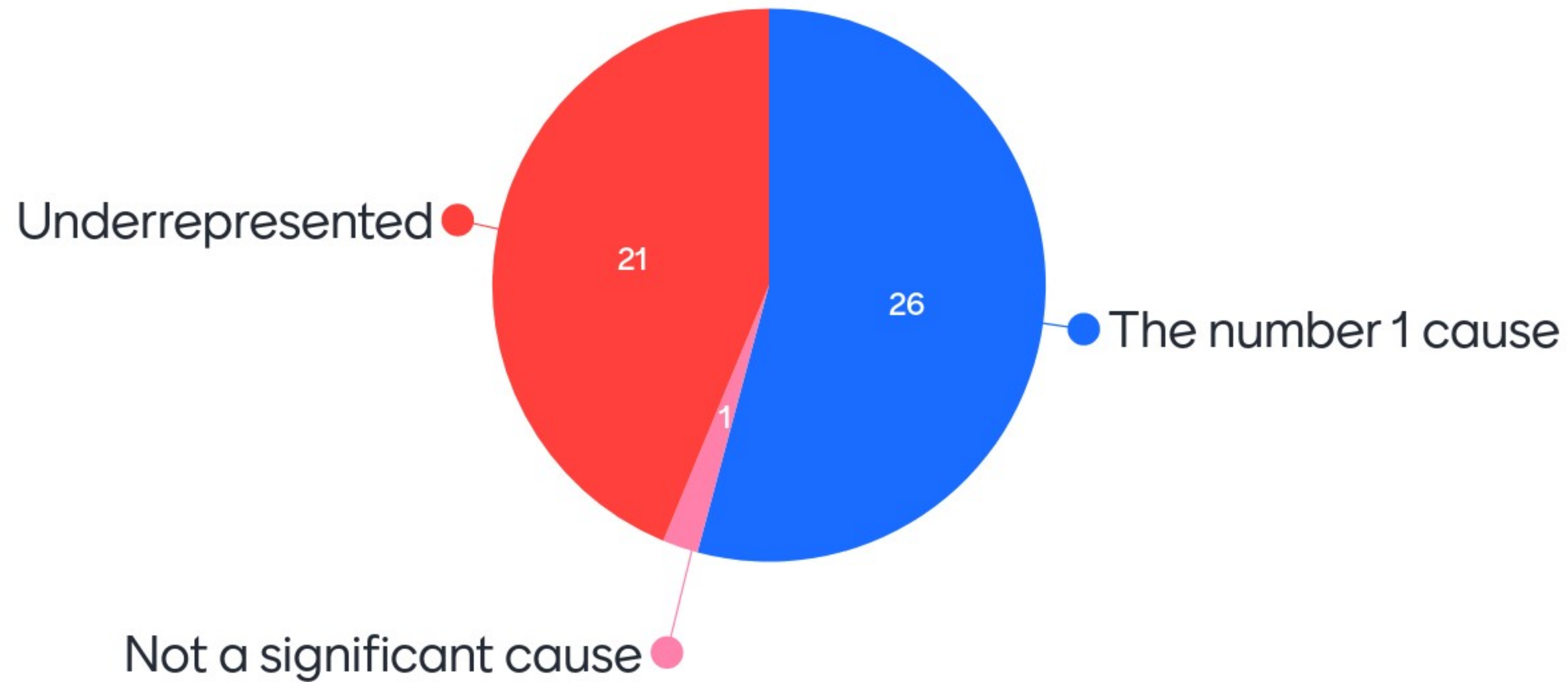


# NAFMP Part I - Recap

1. Complicated Problem
2. Comprehensive Solution
3. Online Resources
4. Recipe



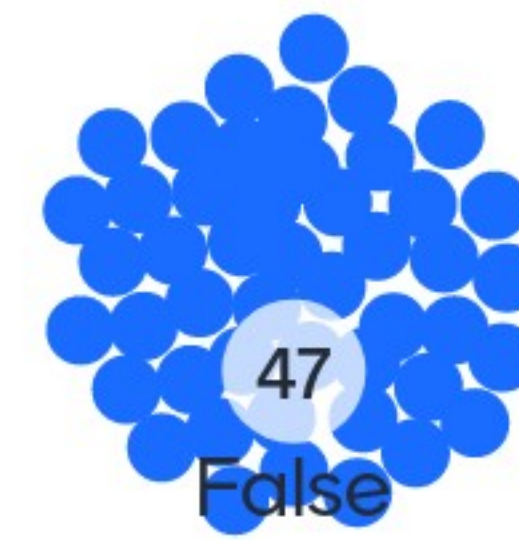
# In crash statistics, driver fatigue is...





# The only cause of fatigue is insufficient sleep...

0  
True





# What does a fatigue crash look like?

Fatal

Lane cross, rear-end, etc...

Almost anything

Sideswipe

Can be any crash

Often out of control

Single vehicle

Leaving the roadway.

Rear end collision



# What does a fatigue crash look like?

Ran off road

Fixed objects

Fatal brakesnone used

Someone killed

Impact without braking

Not pretty

Harsh crash

No effort to avoid

Do not react

# What does a fatigue crash look like?

Rear end

Amazing passengers

Bad

Passengers

Distractios

Motor coach driving is 5% driving and 95% other requirements.

Family issues

Pasengers



# Why motorcoach driving worsens fatigue?

Passengers

Nighttime

People factor.

Amazing passengers

Stress, awareness required to drive.

Days are longer due to group activities.

Different work hours

Daytime and nighttime driving

Loss of life - responsible for so many others

# Why motorcoach driving worsens fatigue?

Distance

Switch of shift

Inconsistent schedule

Distractions

Dispatch unaware of situations

Stress from traffic

Many Passengers on Bus

Long Days

Usually drive long distances



# Why motorcoach driving worsens fatigue?

They have customers

Distractions

Your cargo talks, makes noise and demand attention.

Stress

A

Schedule

Stressful

Passenger demands

A lot of long distances driven

# Why motorcoach driving worsens fatigue?

 Mentimeter

No

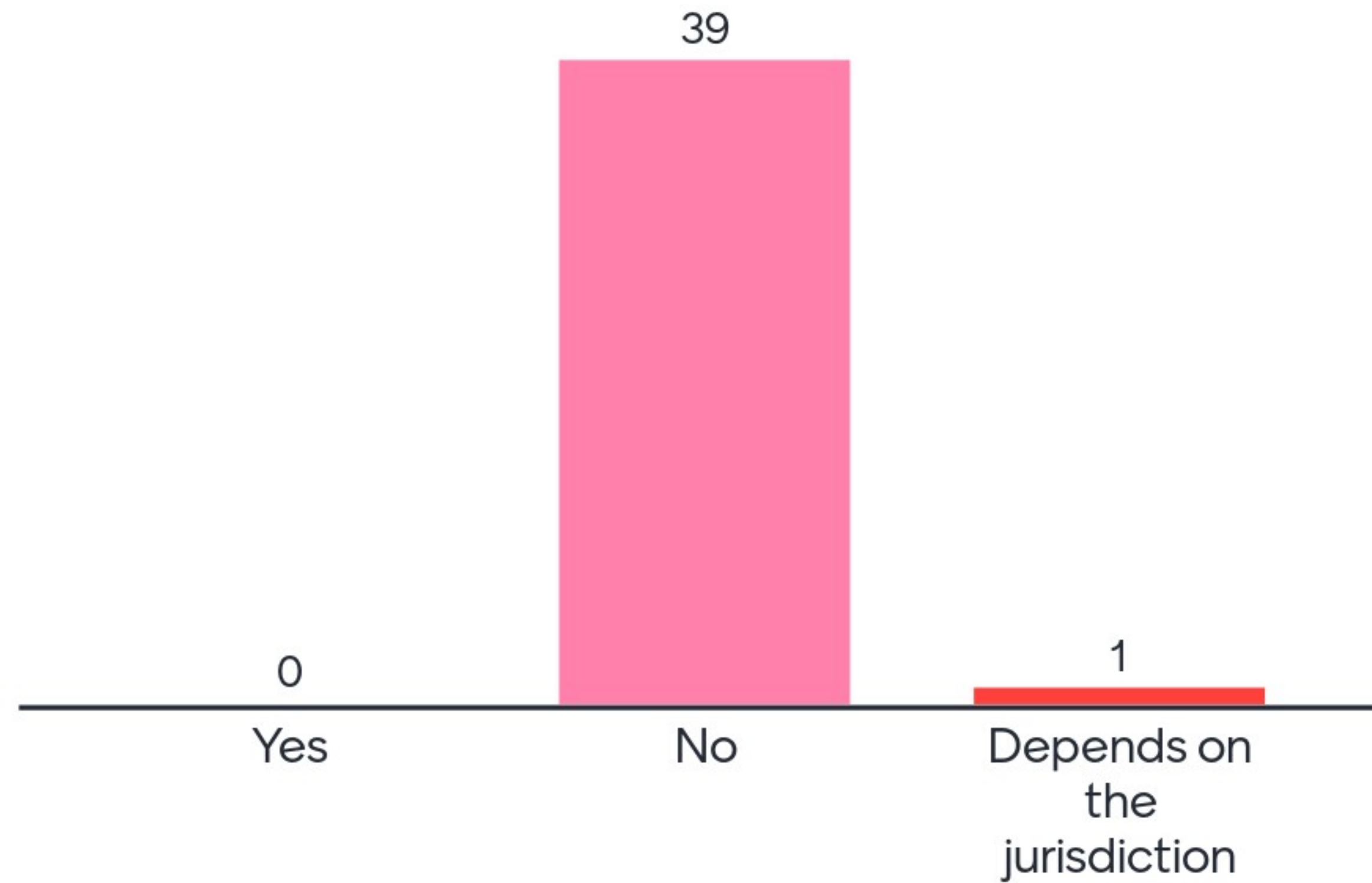
Stress

25





# Is driver fatigue fully regulated through HOS rules?





## Resources

- [nafmp.org](https://nafmp.org)
- [Implementation Manual](#)
- [eLearning Platform](#)
- [Train-the-Trainer: Module 5](#)
- [PowerPoint Presentations](#)
- [ROI Calculator](#)
- [Webinars – Slides/Recording & Future](#)



# Benefits

- 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)

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



# NAFMP - Part Two: Driver Ed & Training

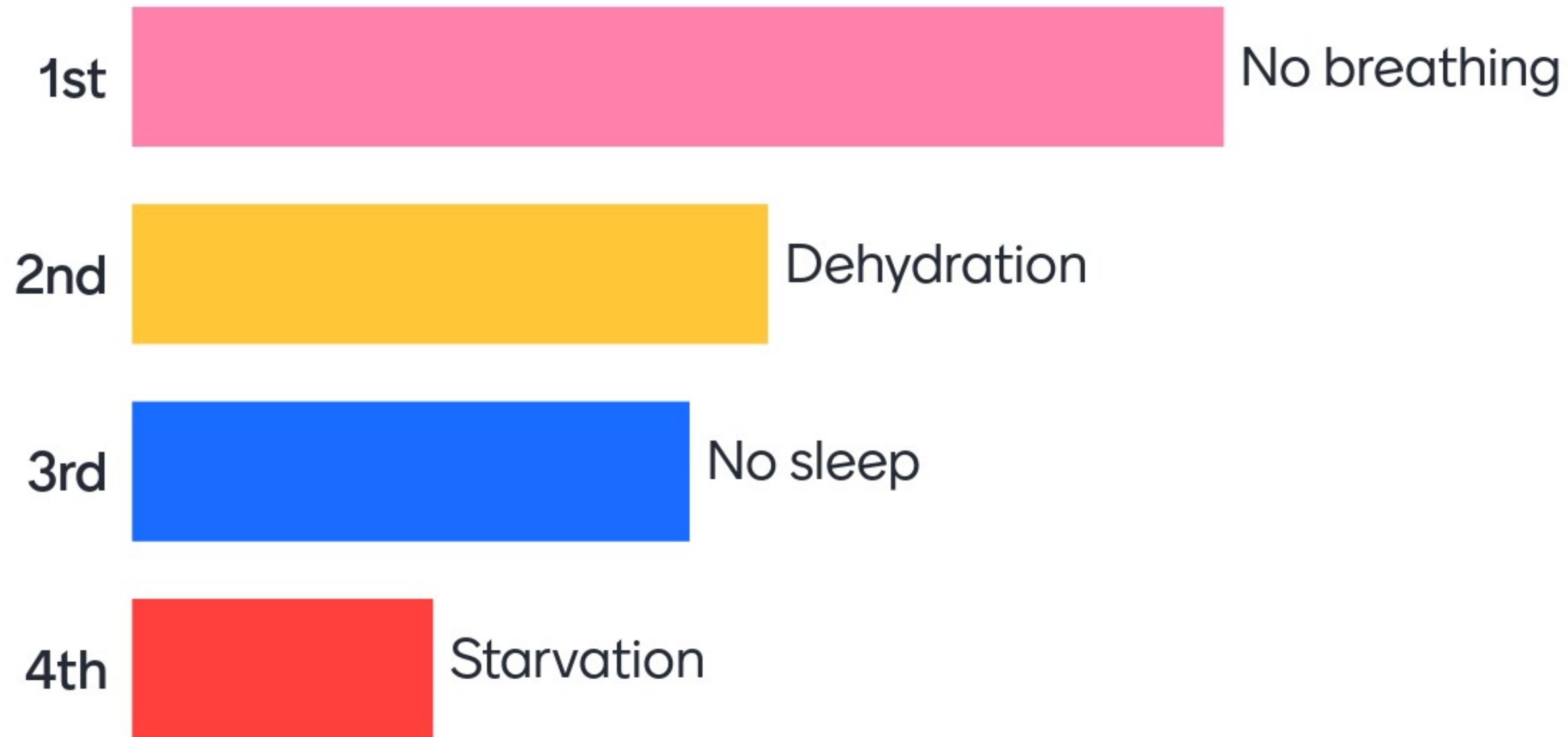
1. Five Wellness Keys
2. Fatigue Susceptibility
3. Objective Signs of Fatigue
4. Strategies
5. Next Steps

# 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



# What will kill you faster? Please rank:





# Importance of Sleep: Biology

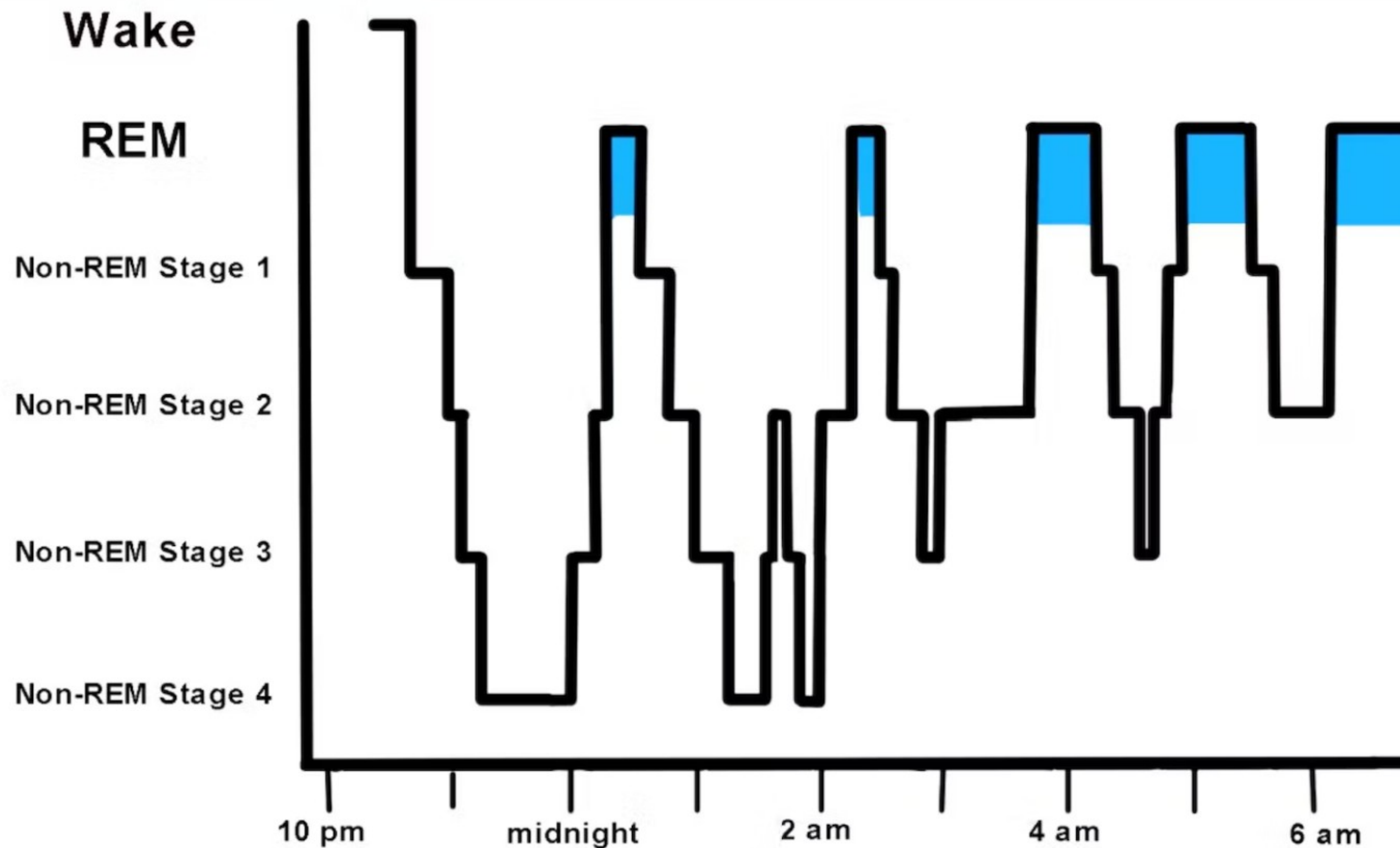
## Sleep Functions

- Energy recharge
- Cellular restoration
- Brain function
- Emotional wellbeing
- Metabolism maintenance
- Immunity enhancement
- Heart health

## Sleep Deprivation Effects

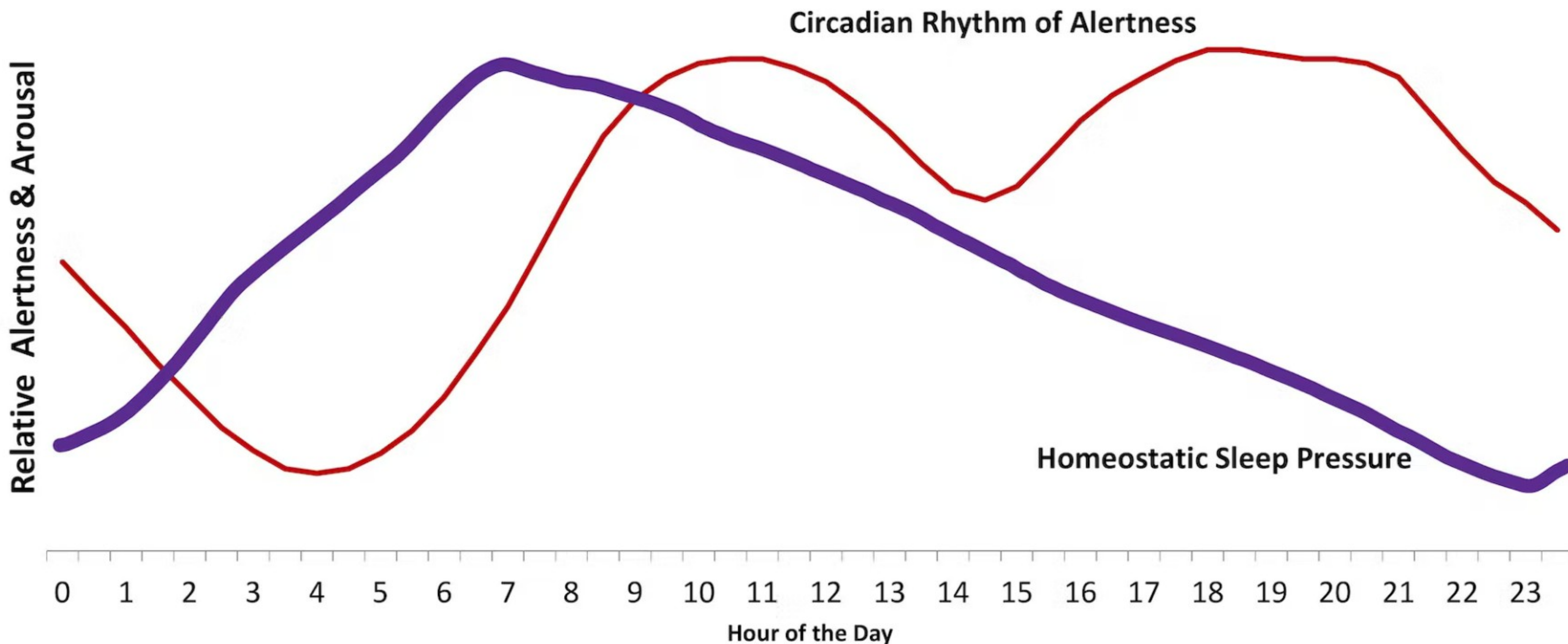
- Metabolic disorder
  - Increased appetite
  - Obesity
  - Increased diabetes risk
  - Increased blood pressure
  - Increased risk of heart disease
- Reduced immune system functioning
- Gastrointestinal problems
- Disrupts relationships
  - Irritability
  - Infertility
- Worsens psychiatric conditions
  - Alzheimer's disease, anxiety, depression, bipolar disorder, suicide, stroke, chronic pain
- Decreased quality of life & Increased sick days

# Sleep Architecture





# Sleep Drivers: The Clock & the Timer





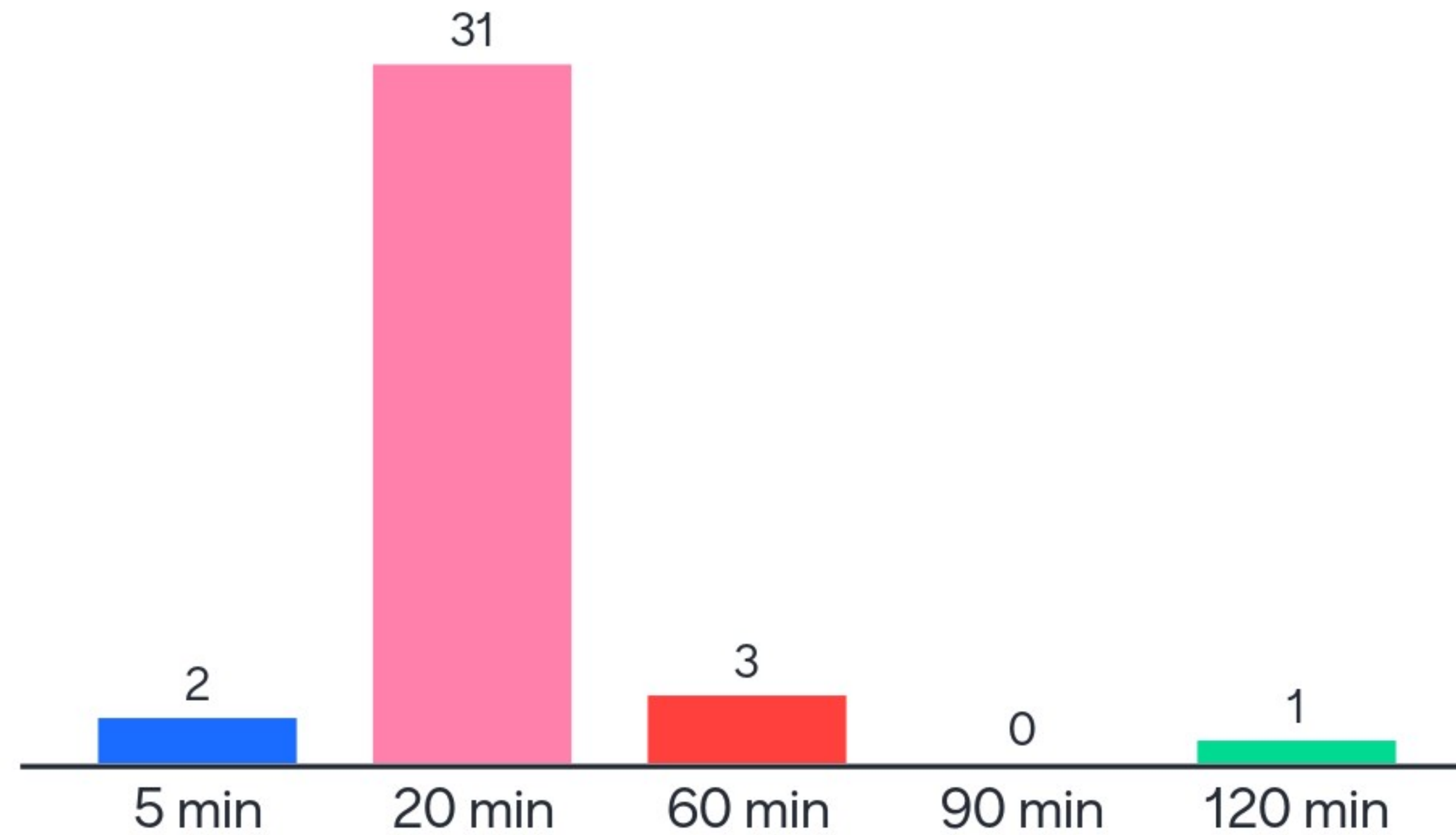
# Energy Stimulation Hygiene

- Light
- Temperature
- Sound
- Substances
  - Food
  - Caffeine
  - Alcohol
  - Nicotine
  - Amphetamines
  - Medications

# Energy Release Hygiene

- Exercise
  - Early: Cardio & Strength
  - Anytime: Stretching & Breathing (Blow your nose & sleep position)
- Make bed the sleep trigger
  - Spine alignment
    - Supportive bed & pillows
- If cannot sleep after 20 min
  - Get up
  - Don't throw a party
  - Do something relaxing
- Relax
  - Land worries on paper
  - Meditate, practice yoga, pray or read something calming
  - Intimacy

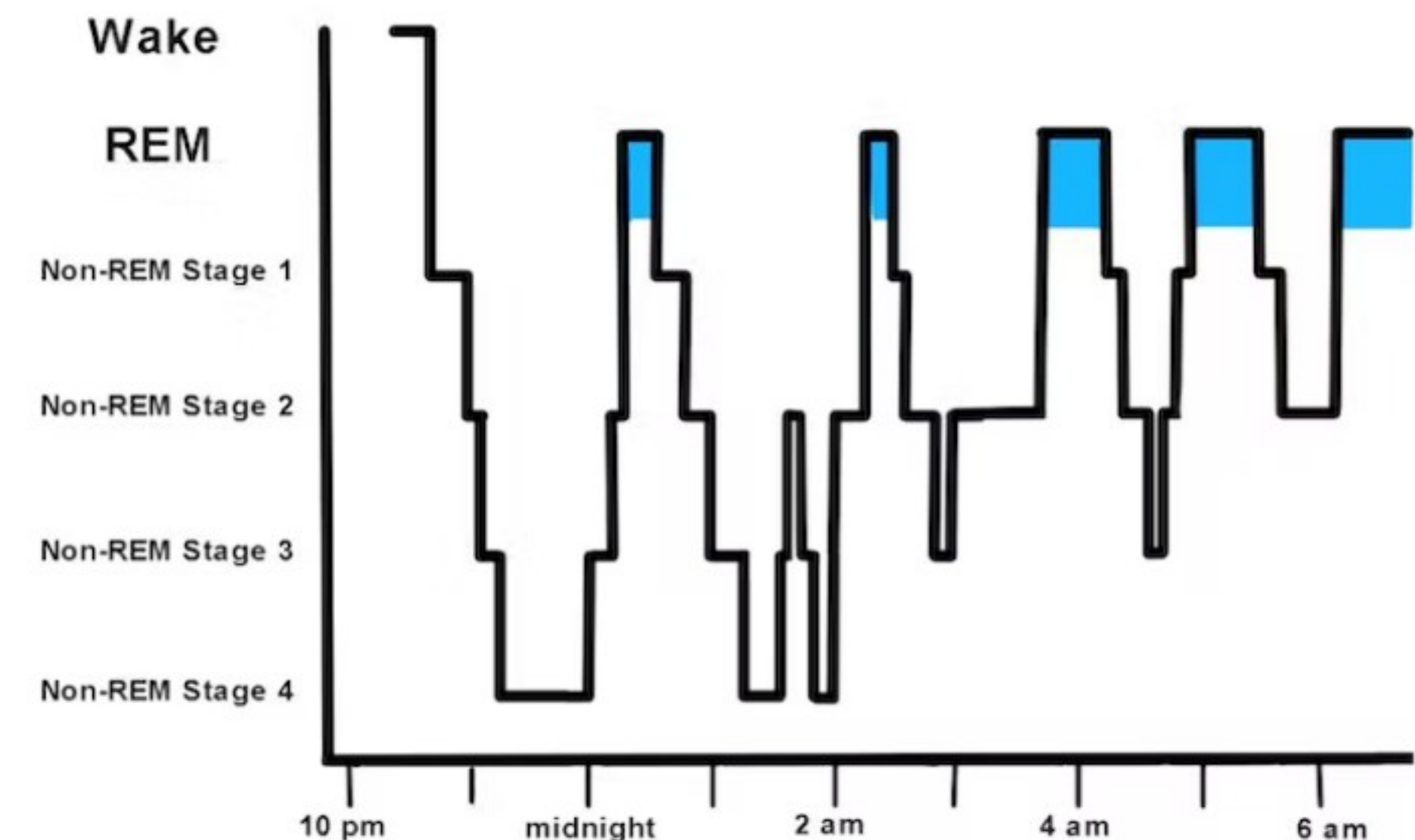
# What is the optimal duration of a nap? Select all that apply:



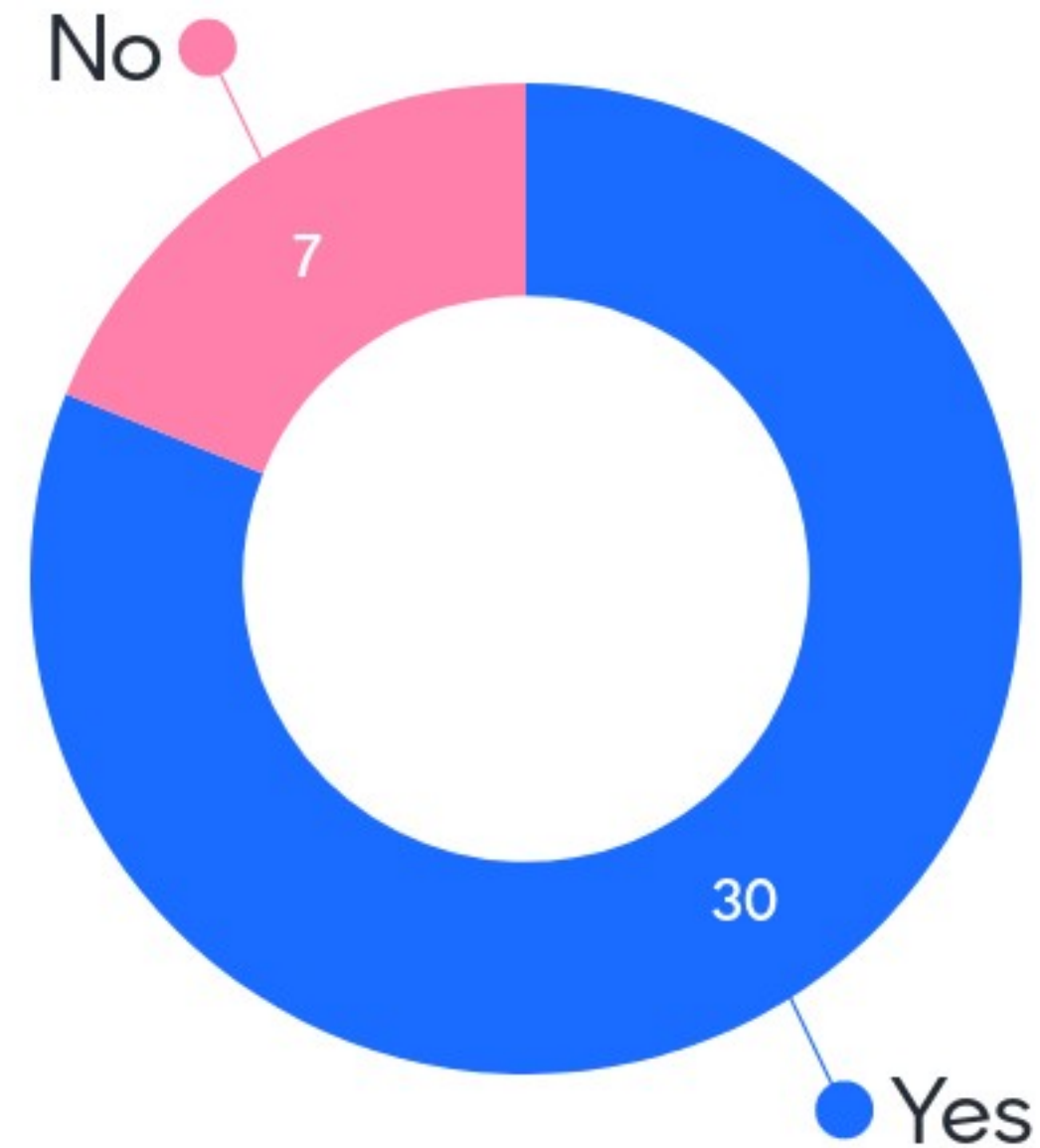


# Naps & Sleep Inertia

- Naps
  - Best fatigue countermeasure
  - Improves alertness & performance
  - Planned naps reduced subsequent dozing by 50% & errors by 34%
  - Optimal duration 20 min / 90 min
  - Longer naps may delay onset of next main sleep
- Sleep inertia
  - Grogginess upon awakening
  - May last 20 minutes or more
  - May affect driving
  - Caffeine may help



# Do you fall asleep while watching a movie or while stopped at a traffic stop?



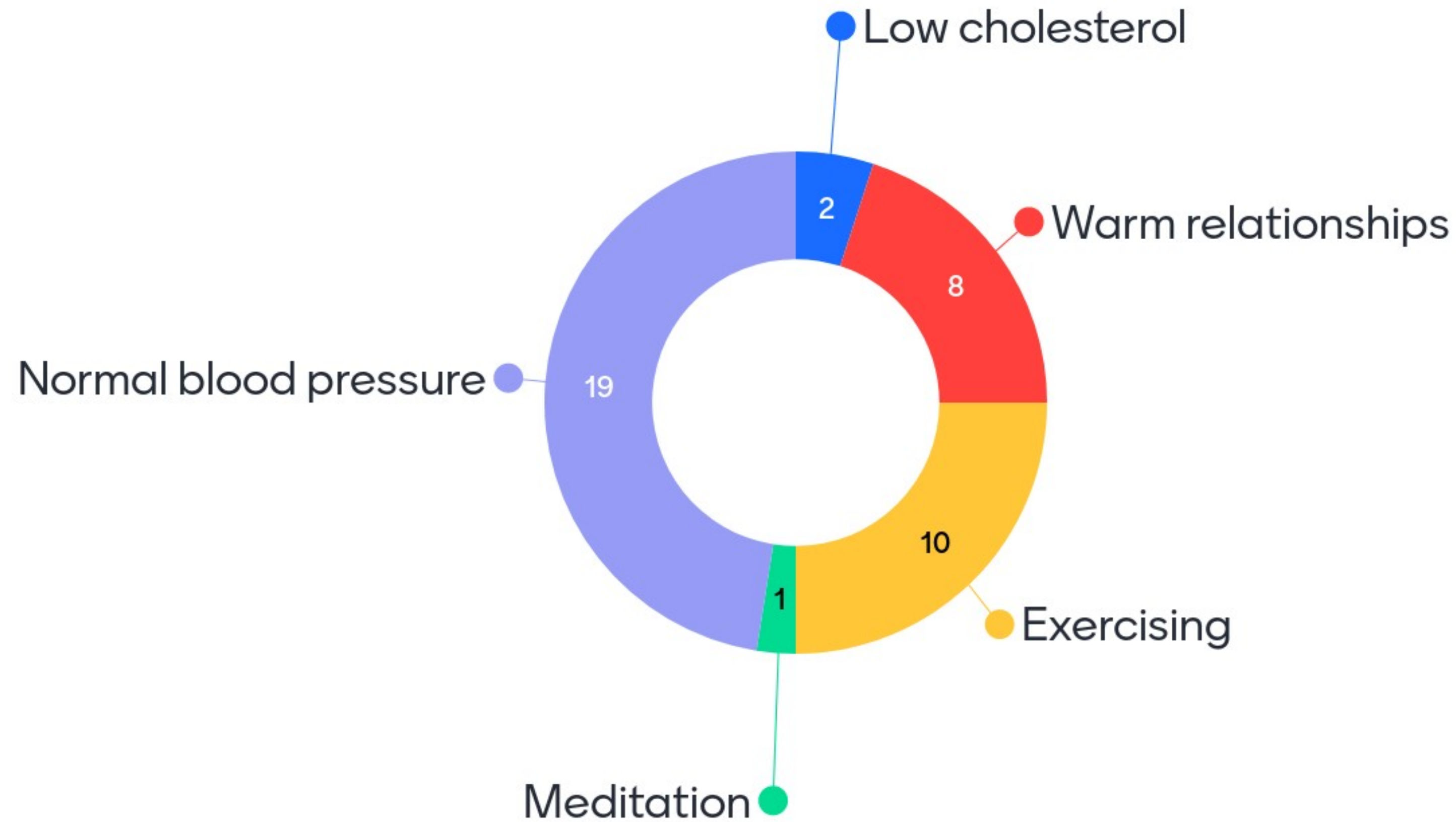


# How to Payback a Sleep Debt?

- Sleep debt
- Full night sleep
- May require several nights of full sleep
- Avoid deprivation
- Sleep until you wake up
- Make extra deposits on the weekend



# What is the single most important predictor of wellbeing and longevity?



# 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)



# Stress Effects

- Headaches
- Sleep disturbances
- Difficulty concentrating
- Short temper
- Upset stomach
- Job dissatisfaction
- Low morale

# Positive Behaviors

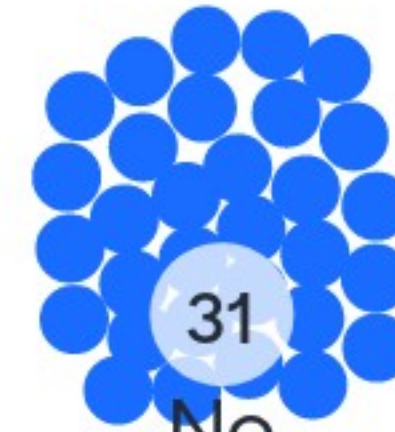
- Positive outlook and behaviors
- Balance between work and personal life
- Pursue personal interests
- Support network
- Try to improve job environment
- Get serious about relaxing
  - Relaxation breathing
  - Short walks
  - Meditation
  - Reading
  - Find method that works best for you



# The purpose of diets is to lose weight



Yes



No

# Weight Loss Is the Wrong Goal

## Where Does Body Weight Come From

- Liquids, Bones, Muscles, Fat
- Weight loss is regained in 1-5 years
- May lack essential nutrients and may be harmful
- May take pleasure out of eating
- May lead to eating disorders
- Snake oil is medical quackery
- Goal is to stay healthy, enjoy food and share it with others



# Obesity vs Metabolic Syndrome

- U.S. Adults (240 million)
  - 70% Non-Obese (168 million)
    - 60% Healthy (101 million)
    - 40% Metabolic Syndrome (TOFI) (67 million)
  - 30% Obese (72 million)
    - 20% Healthy (14 million)
    - 80% Metabolic Syndrome (58 million)
  - Total healthy: 115 million
  - Total Metabolic Syndrome: 125 million
- Metabolic Syndrome
  - Non-alcoholic fatty liver disease
  - Diabetes
  - Cardiovascular disease
  - Hypertension
  - Lipid abnormalities
  - Polycystic ovarian cancer
  - Dementia

- 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



# Malnutrition

- 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
  - Excess sugar
  - Excess protein
  - Drugs

# What food choice would you recommend to drivers while on the road?

Nut

Salad

Cut up veggies

Carrots

Salad

Chicken



# 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

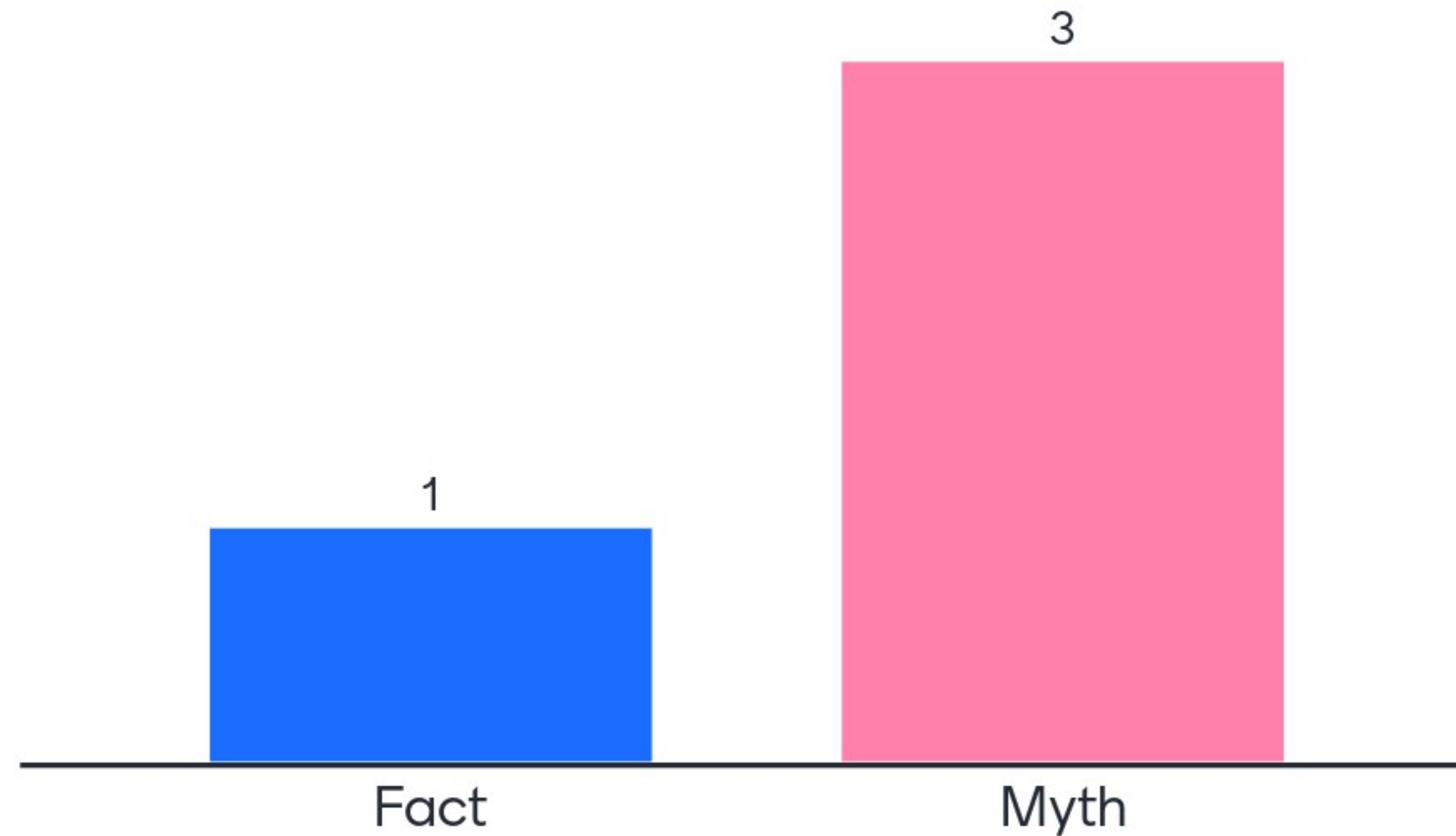


# Sample Food Choices on the Road

- 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



# I drink caffeinated drinks all day and sleep just fine



- 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



# To unwind and sleep better, it helps to take a night cap



Fact



Myth

# Alcohol

- 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](http://www.smokefree.gov) or
  - Click [www.hc-sc.gc.ca](http://www.hc-sc.gc.ca)

# Amphetamines

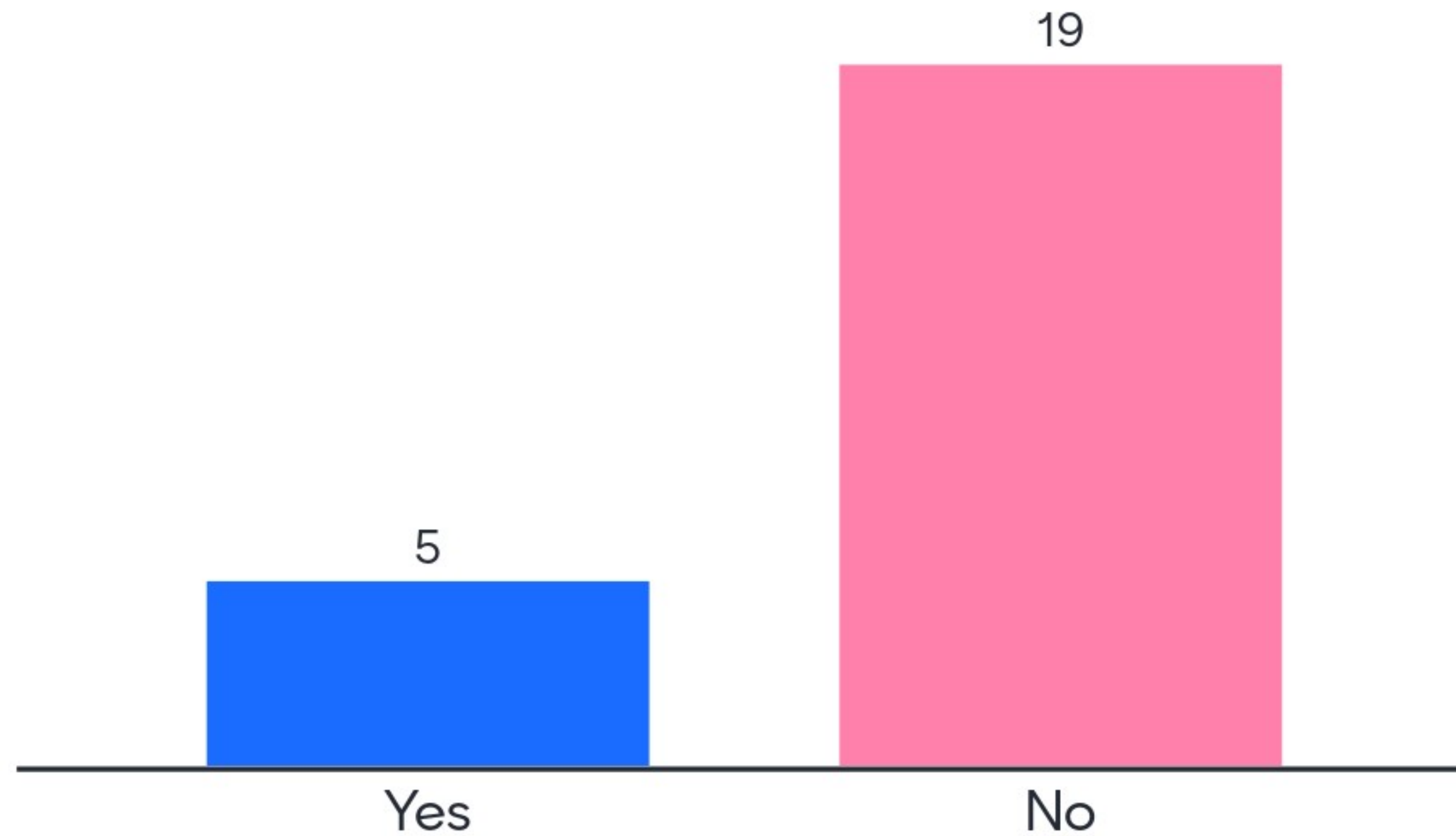
- Illegal or available only with a prescription
- Too strong for general use
- Increase activity level but do not improve performance reliably
- Increase heart rate and metabolism, sometimes dangerously
- Often you “crash” several hours after use



# 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

# Based on what I learned today, I should stop taking sleeping pills immediately

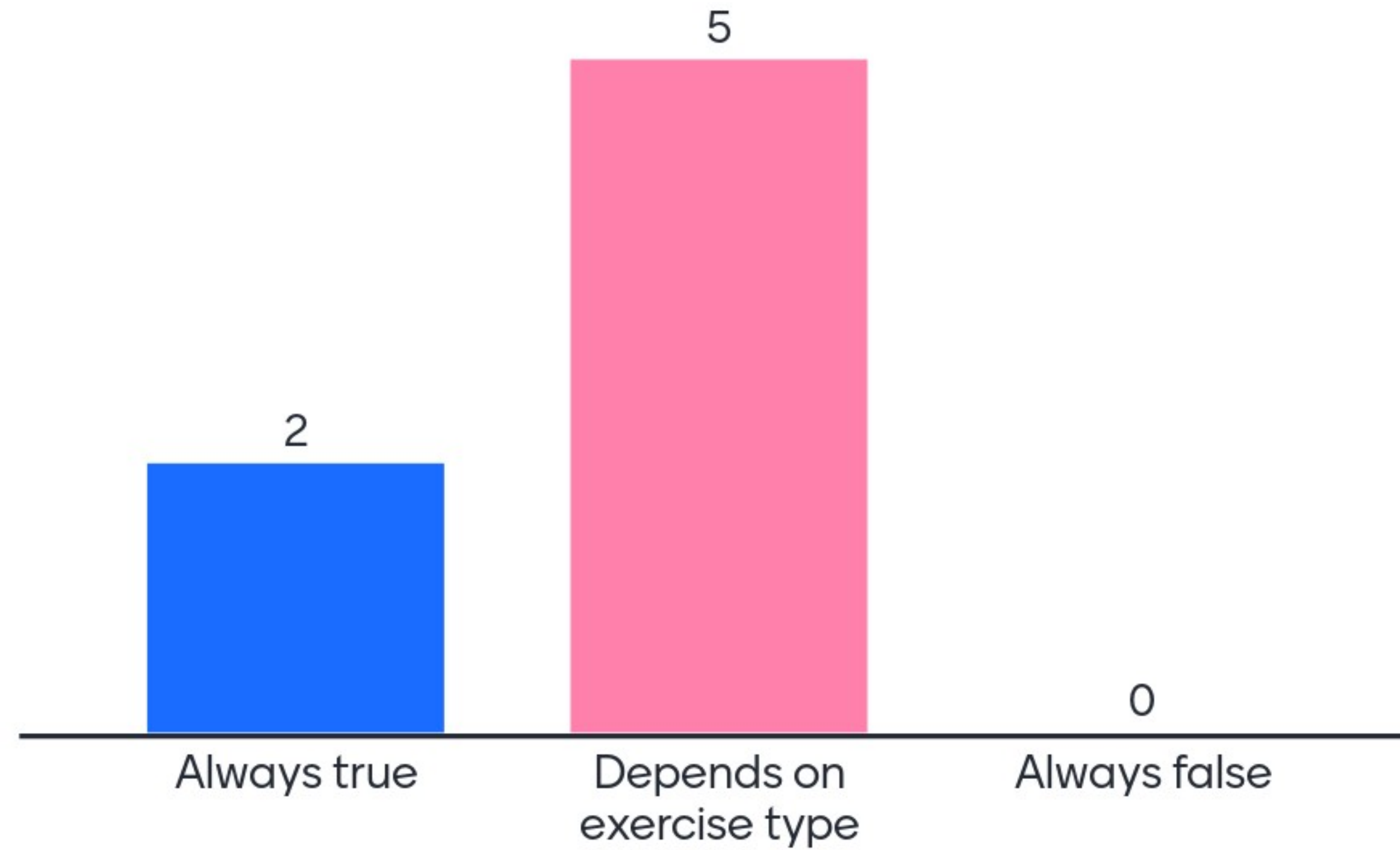




# Other Medications

- 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

# Exercising right before going to sleep is not recommended...



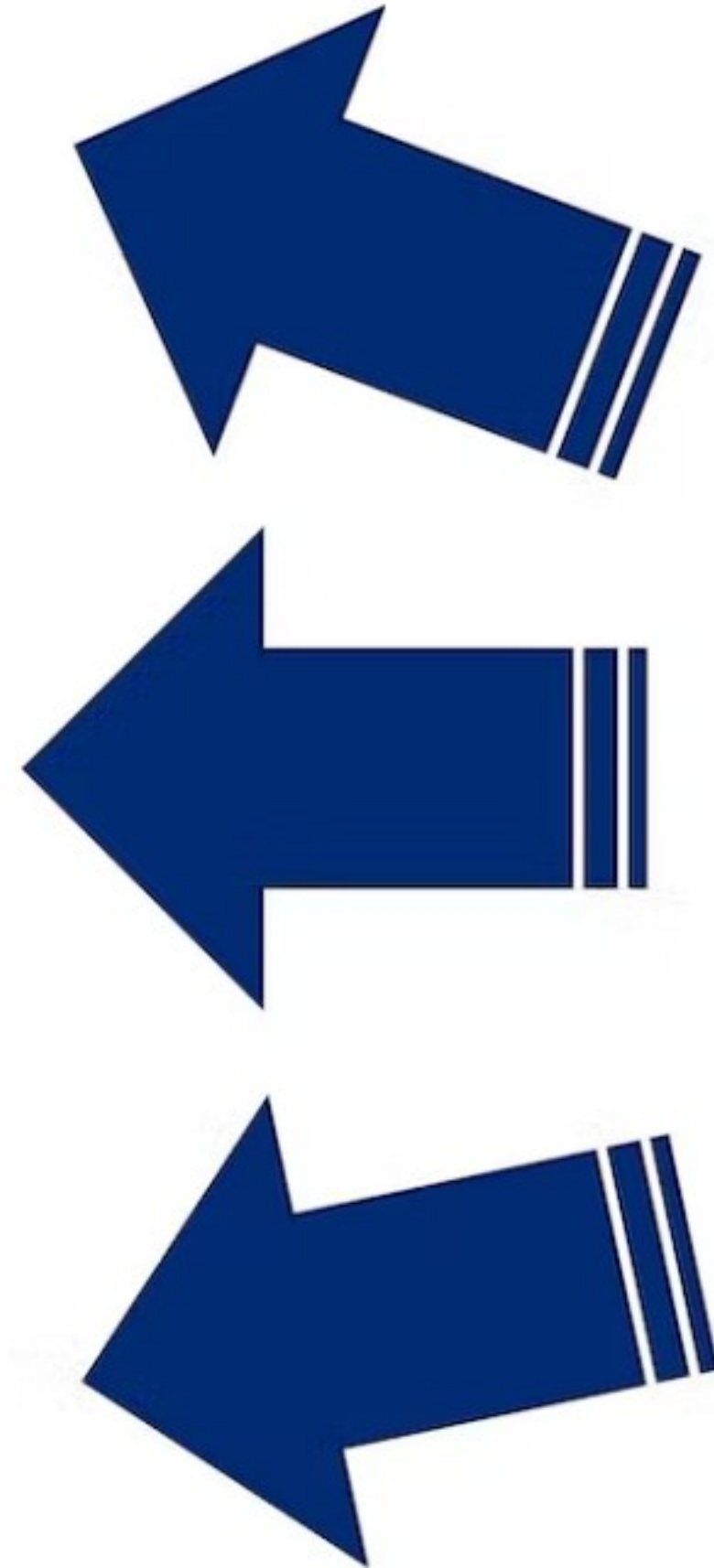


1. Cardiopulmonary
2. Strength bearing
3. Stretching & balancing

- 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

# Wellness Affects All Body Systems

- Messaging
  - Nervous
  - Endocrine
  - Immune
  - Reproductive
- Plumbing
  - Respiratory
  - Cardiovascular
  - Digestive
  - Urinary
- Support
  - Skeletal
  - Muscular
  - Integumentary



- Sleep
- Positive Relationships
- Positive Behaviors
- Nutrition
- Exercise



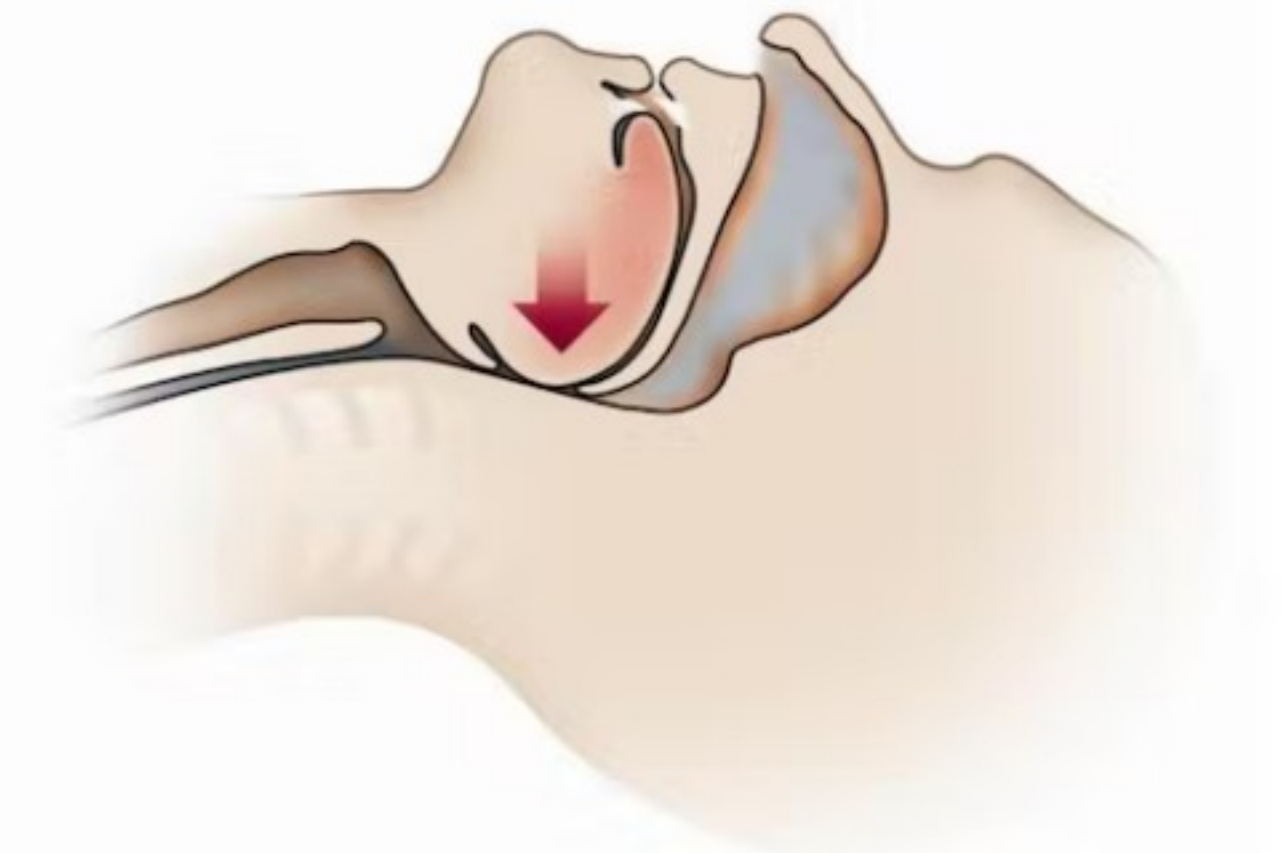
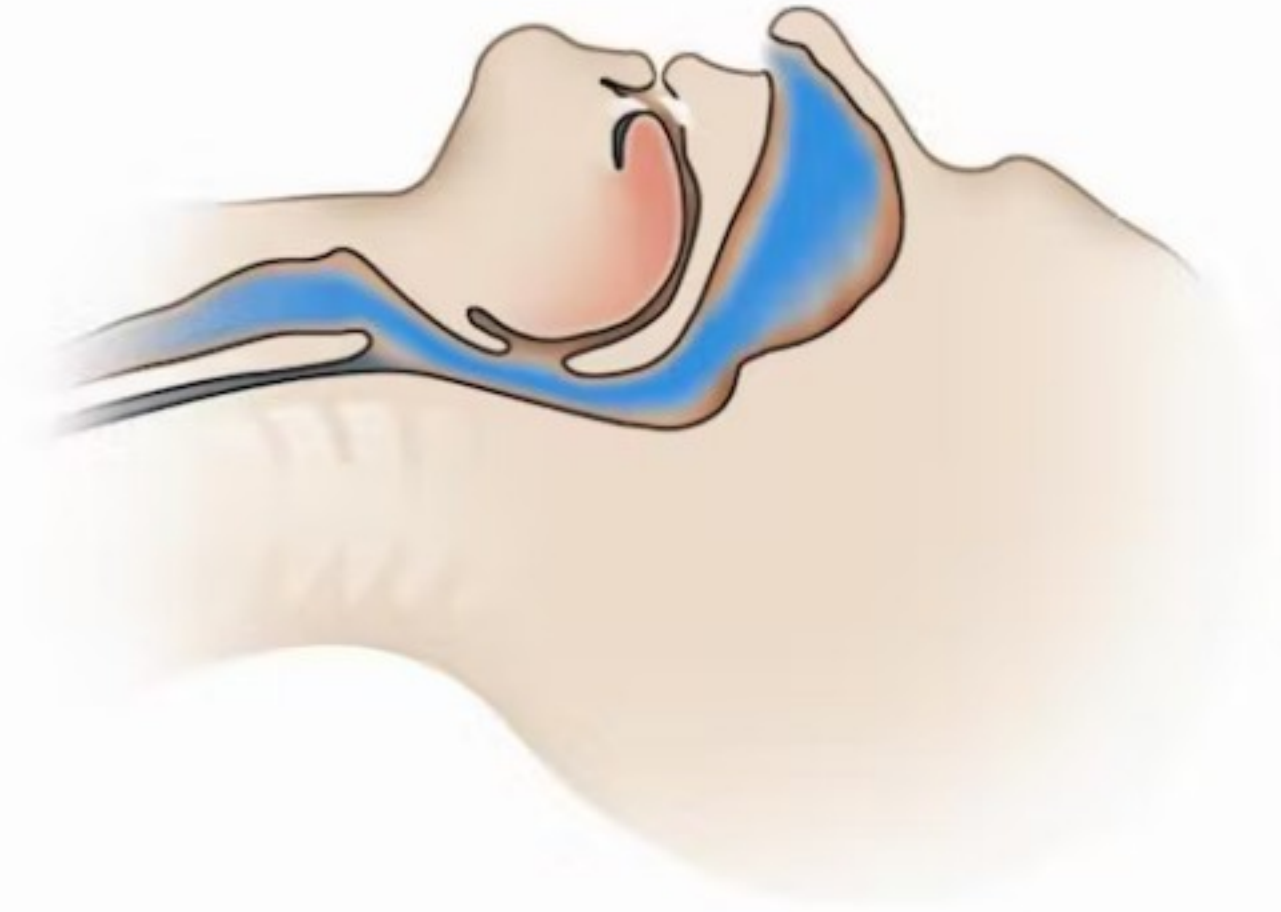
# Fatigue Susceptibility

- 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
  - $\geq 5$  = OSA
- OSA severity (mild, moderate, severe) based on rate
- Some people with severe OSA can have 100 per hour





OSA diagnosed and treated drivers are medically disqualified from operating a motorcoach

1  
True

2  
False

# OSA Risk and Warning Signs

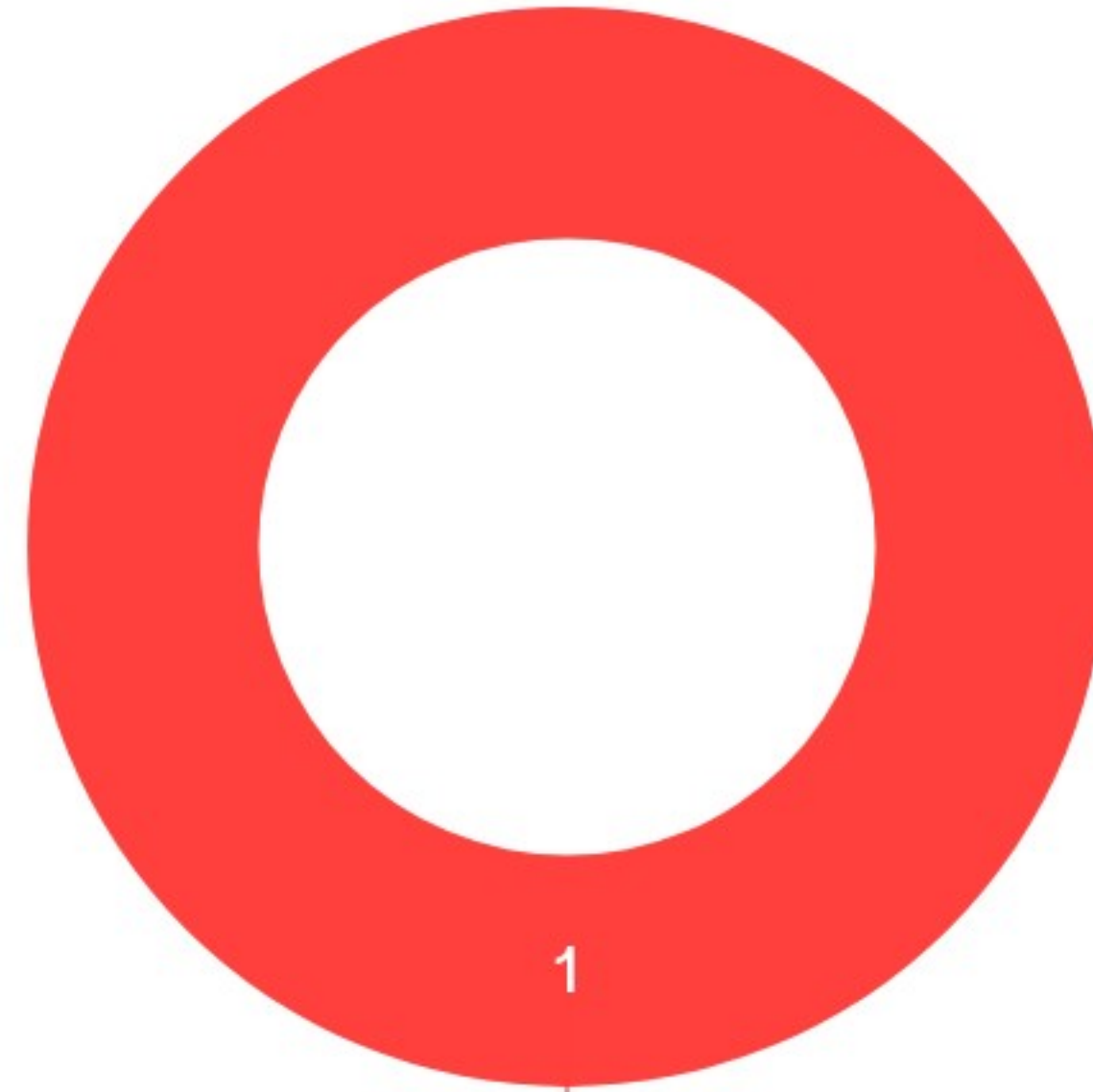
- OSA higher risk
  - Obese individuals, male, 40+ years old, large neck size, recessed chin, small jaw, large overbite, family history
- OSA warning signs
  - Reduced performance, loud and irregular snoring especially with gasping, high blood pressure, diabetes

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

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



# Drivers can tell when they are fatigued...



Rarely; that's why it's a problem ●

# 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



# General Strategies

- SLEEP!!!
  - Main sleep
  - Naps
- Maintain a healthful lifestyle
  - Follow the five wellness basics
- Practice sleep hygiene
  - Try to keep a regular schedule
  - Go with your circadian rhythm – don't fight it
  - Wind down before sleep
    - Less physical activity
    - Lower lights
- Be smart about caffeine use

# At-Home Strategies

- Get the best sleep possible before starting a trip or work week
- Communicate your sleep needs and get your family's support
- Bedroom should be:
  - Completely dark
  - Cool
  - Quiet
- Pre-sleep routine
- Be active but don't exhaust yourself. Take time to relax



# On-the-Road Strategies

- Try to get as much sleep on the road as you get at home
- Rest breaks with **naps** are most beneficial
- Rest breaks without naps
- Moving your body
- Conversation if it is not distracting
- Exercise
- Avoid heavy meals
- Wear your safety belt

# Night Driving Strategies

- Advantage of night driving: less traffic
- Disadvantages:
  - Fatigue, related to circadian rhythms
  - More drunk/reckless motorists
  - Poor visibility
- Use light and dark to “fool” your body:
  - Bright lights simulate daybreak
  - Dark simulates night and bedtime
- Use caffeine, but carefully
- Consider taking sleeper berth period/nap in pre-dawn hours
- Get more recovery sleep on weekends
- Not for everybody



# Dealing with Shift/Time Zones Strategies

- Be aware of your “body clock”
- Short trips/shift changes: stick with your regular sleep schedule
- Longer changes:
  - “Pre-adjust” before change
  - Shift your pre-bed, “evening” routine
  - Use light and dark to help you adjust
  - To stay awake, be physically active and interact with others
- Getting more sleep generally makes changes easier



# Team Driving Strategies

- Plan sleeper berth periods in advance to be compliant and beneficial
- When possible, take sleep periods during circadian valleys
- Avoid both caffeine and strenuous activity in hours before breaks
- Keep sleeper berth totally dark or use eyeshades
- Don't drive immediately after awakening
- Team driving is a partnership
- To sleep well, each driver must have full confidence in the other driver
- Driver should strive to be a "smooth operator"
- Agree on a game plan for sleep and rest that meets each driver's needs



# Next Steps

1. Create an account at [lms.nafmp.org](https://lms.nafmp.org) to watch any NAFMP courses
2. Download PowerPoint Files at [nafmp.org](https://nafmp.org)
3. Watch recordings of [NAFMP webinars](https://nafmp.org)

# What was the most important takeaway on driver fatigue that you learned today?

Two uses for the bed.

What causes it.

Diet and different sleep levels

The importance to implement sleep monitoring in the trainings

Good sleep patterns are essential

All of it was great

I'm sleepy now tbh

Not a bad subject

Understanding sleep cycles



# What was the most important takeaway on driver fatigue that you learned today?

Move schedule forward

A good sleep partner

Great job

# Questions?

Please keep safe, well & alert

Thank you!





# CVSA®