

 **OSHA**[®] Training Institute
Education Center

Keene State College

Fatigue In the Workplace

Lev Pobirsky

What is Fatigue?

- ▶ A state of physical or mental weariness that results in reduced alertness
- ▶ The result of a lack of adequate sleep
- ▶ A sleep debt that accumulates until paid off with adequate sleep

Is this an issue?

Fatigue Facts

- ▶ 70% of U.S. workers feel chronically fatigued
- ▶ Losing two hours of sleep is similar to the effect of having 2 alcoholic drinks
- ▶ Fatigued drivers are 3x more likely to have a collision
- ▶ 60% of night shift workers get less than 7 hours of sleep a day
- ▶ Risk of injury on a night shift is 30% greater than day shift
- ▶ 97% of fatigued workers have decreased cognitive performance

Fatigue Facts

- ▶ Workers with sleep issues are 1.62x more likely to get injured
- ▶ 93% of employers believe fatigue is an issue; 72% of employees agree
- ▶ Only 20% of employees understand what occupational fatigue is
- ▶ Fatigued workers lose 5.5 hours of productivity per week
- ▶ Fatigue costs employers \$136 billion/year in lost productivity, absenteeism, and injury
- ▶ 97% of fatigued workers have decreased cognitive performance

Causes of Fatigue

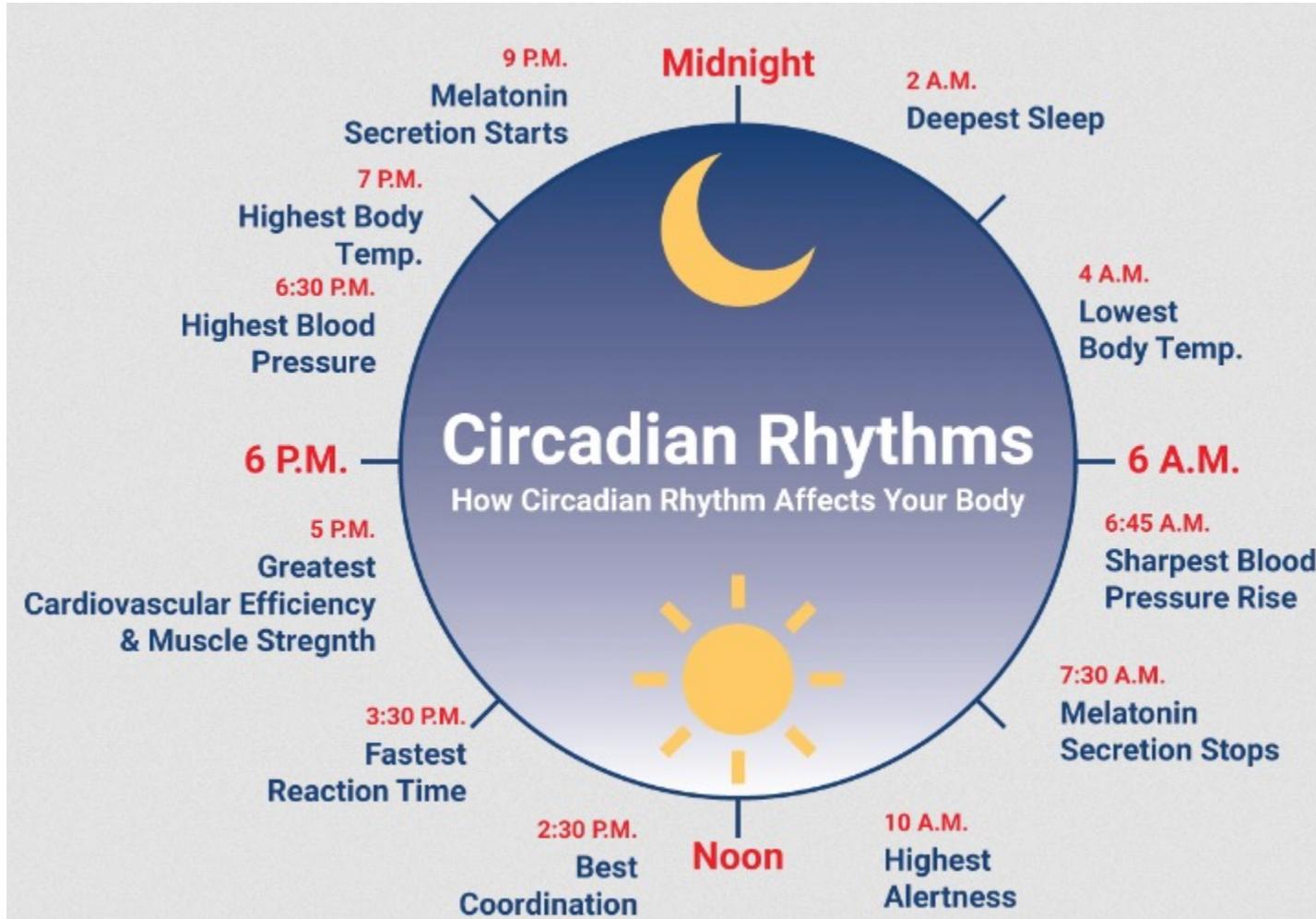
Fatigue can be the result of a variety of factors:

- the body's natural rhythms
- work schedule
- type of task
- work environment
- non work-related issues

The Body Clock

- ▶ Known as **circadian rhythms**
- ▶ Operates on a 24-hour cycle
- ▶ Makes you sleepy when it's dark and awake when it's light
- ▶ Controls a variety of body functions:
 - Sleepiness
 - Digestion
 - Hormone production
 - Body temperature

Circadian Rhythms



Sleep

- ▶ Most people need between 7 and 9 hours per day
 - Myths?
- ▶ It's **not** true that you need less sleep as you get older
- ▶ When you sleep makes a difference in how much you get
- ▶ Sleep is best obtained in a single block

A Serious Safety Hazard

When you're fatigued:

- your reaction time is slower
- you have trouble concentrating & remembering
- you may have difficulty communicating clearly with co-workers
- you may fall asleep on the job
- there's a greater risk you'll make a safety-critical mistake

Being fatigued can make you a risk to yourself, your co-workers, and the public

Consequences for Health

- Fatigue has an impact outside work
- Studies have found that shiftworkers are more likely to suffer from:
 - irritability, stress, anxiety, and depression
 - gastrointestinal problems
 - cardiovascular illnesses
 - reproductive problems

Shift Work

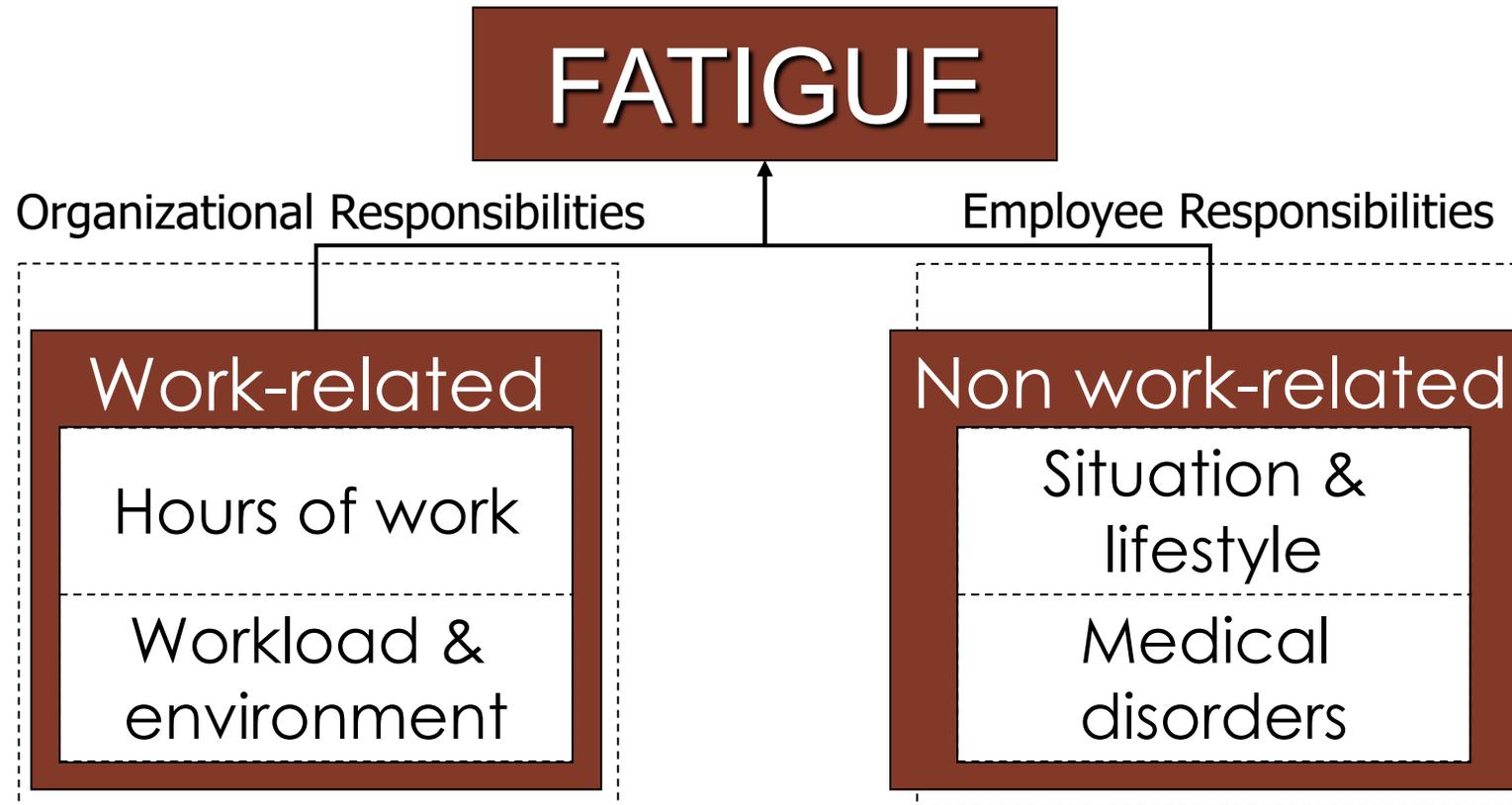
- ▶ What is “Shift Work” and why is it Important?
 - It is: Groups of people working together alternating with other groups to create a cohesive and productive workplace 24 hours a day, 7 days a week.
 - It effects: Staffing levels, schedules, workload responsibility and morale.
 - It is important because: We all deal with shift work - directly or indirectly.

Fatigue Management

Fatigue management involves:

- ▶ Policies/responsibilities
- ▶ Risk assessment
- ▶ Hazard controls/action plans
- ▶ Training and education
- ▶ Ongoing review and improvement

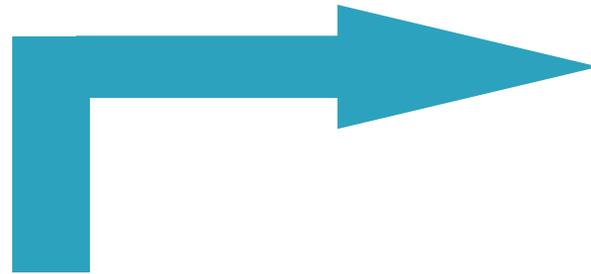
Joint Responsibility for Fatigue



WHAT ARE UNUSUAL WORK SCHEDULES?

- ▶ Anything other than M-F Day Shift, 40 hours per week.
- ▶ Night work (during hours normally reserved for sleep).
- ▶ Rotating shift work.
- ▶ Extended work day schedules (regular 10- or 12-hour shifts). Based on 40-hour week.
- ▶ Extended workweek schedules (regular 50- to 80-hour workweeks).

SAFETY RESEARCH



Shiftwork,
Extended Workday
Schedules

FATIGUE



ERRORS



ACCIDENTS

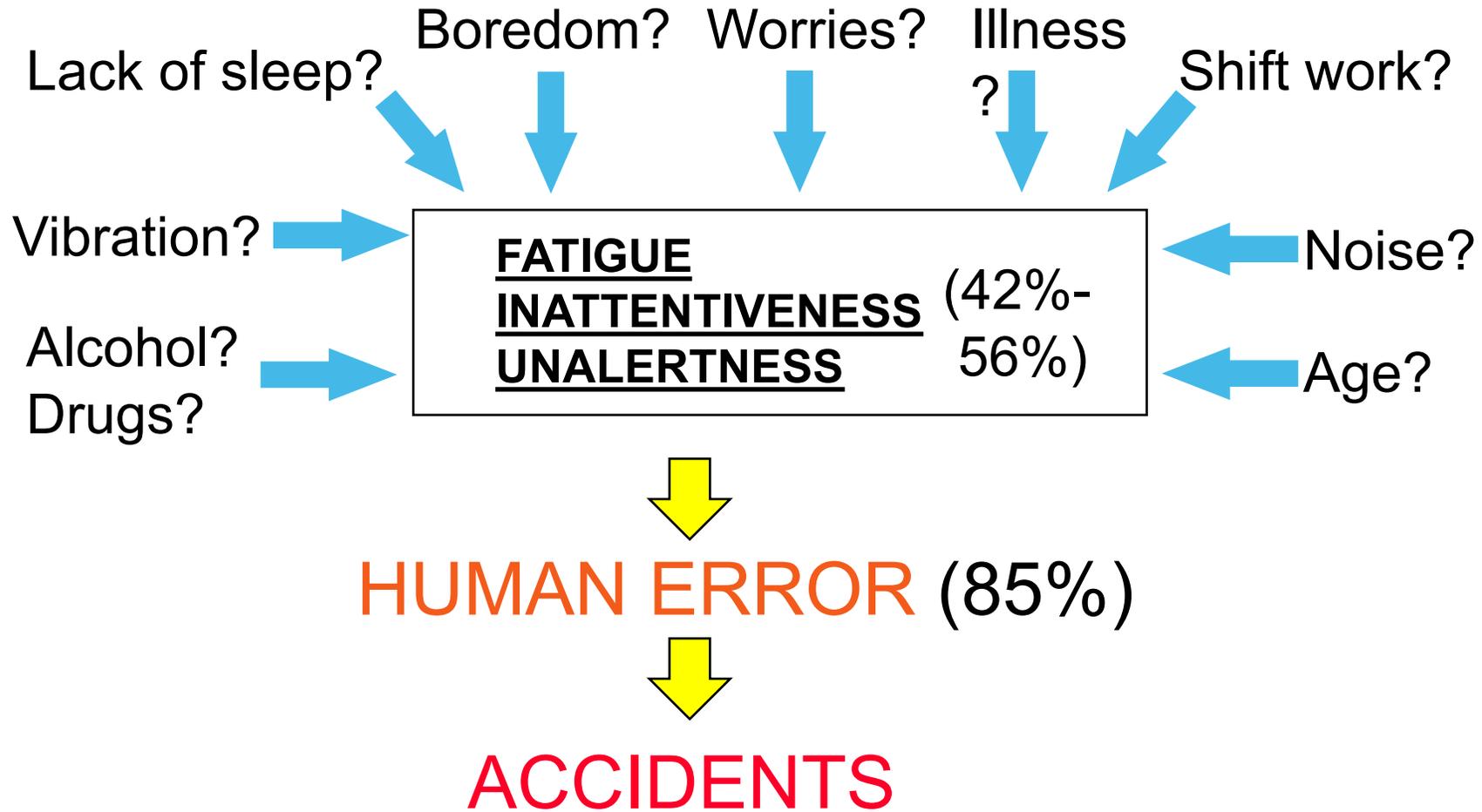


INJURIES



FATALITIES

ACCIDENT CAUSATION MODEL



WHAT CAN MANAGEMENT DO?

There are some things managers can do to reduce fatigue hazards:

- 1) CHANGE THE NATURE OF THE JOB
- 2) CHANGE THE JOB ENVIRONMENT
- 3) PROVIDE TRAINING TO ENHANCE COPING SKILLS
- 4) CHANGE THE WORK SCHEDULE

HOW DO YOU KNOW SOMEONE NEEDS HELP?

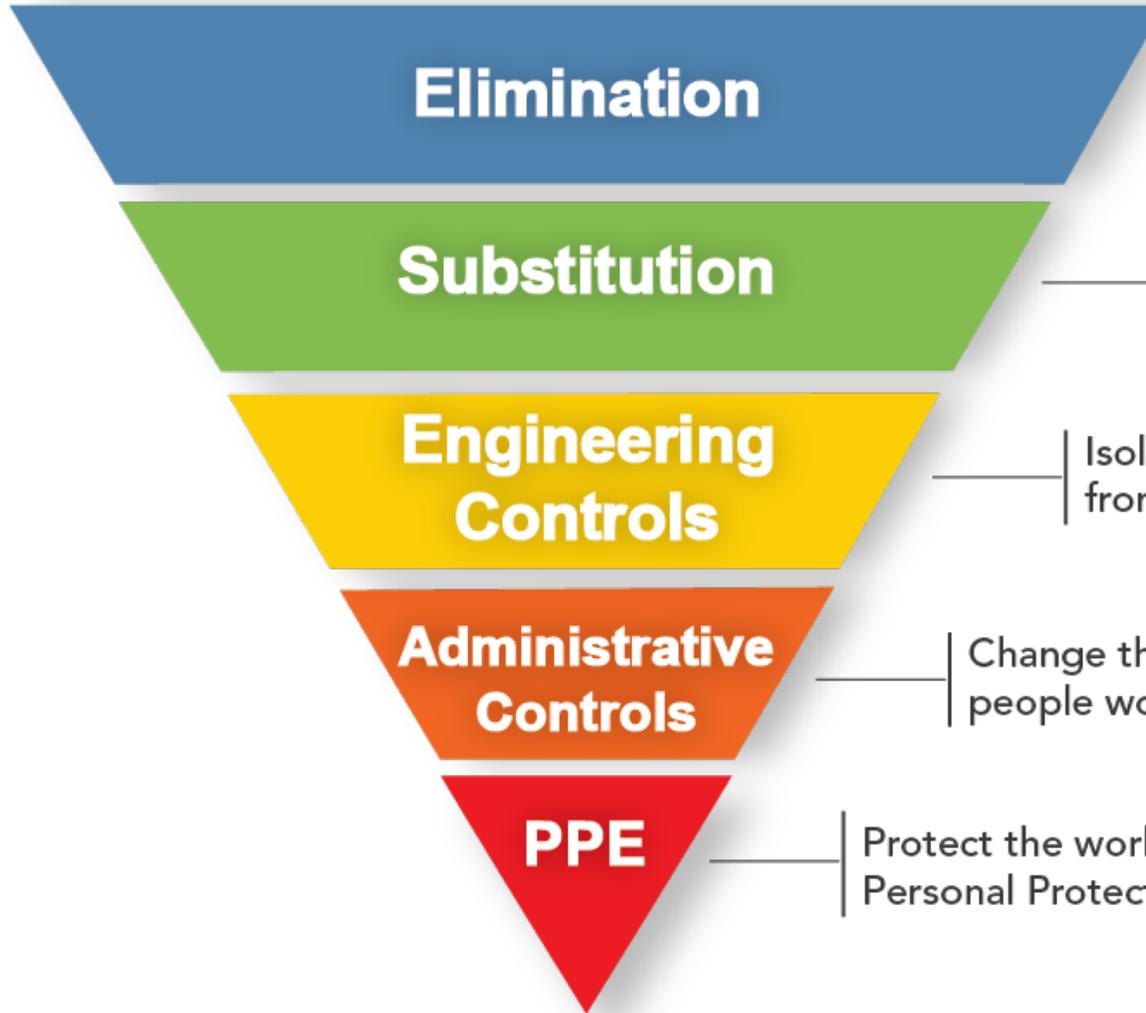
- 1. Tired, Weariness, or Sleepiness** – Drooping heads, incessant yawning, and eyelids that seem to be closing are the most obvious indicators that a worker is fatigued and needs time to recover before costly errors or accidents happen.
- 2. Irritability** – Workers can be irritable for many reasons, including problems at home, financial stress, conflict with coworkers, etc. Another reason may be the lack of rest. It is a good idea to watch for patterns of irritability or a newly developed “bad attitude,” especially when combined with other signs on the list above.
- 3. Reduced Alertness, Concentration, or Memory** – Watch for workers who appear to have trouble focusing or who can’t recall seemingly simple things, like what they just said or did. Having difficulty solving problems can also be an indicator of fatigue.
- 4. Lack of Motivation** – Employees who appear to suddenly lack motivation to do their job, and do it well, may seem lazy but this is generally a sign of broader issues, including fatigue.
- 5. Increased Mistakes or Lapses in Judgment** – If a worker who is otherwise proven to be competent and good at their job starts making frequent errors or poor choices, it might be a sign of sleep deprivation or fatigue.
- 6. Headaches** – Headaches are a sign of fatigue, but they can also be a sign of dehydration. Before deciding it is fatigue, make sure all workers are adequately hydrated on the job, even when it is not hot outside.
- 7. Increased Susceptibility to Illness** – Workers who are suddenly taking more time off due to illness may be experiencing fatigue. Insufficient sleep wears the body down and affects a person’s ability to fight colds, flu, and other illnesses. With an increase in fatigue, it’s not uncommon to see a rise in absenteeism.

Hierarchy of Controls

Most effective



Least effective



Elimination

Physically remove the hazard

Substitution

Replace the hazard

Engineering Controls

Isolate people from the hazard

Administrative Controls

Change the way people work

PPE

Protect the worker with Personal Protective Equipment