

Update on Fatigue and Impairment Management

Presented by Predictive Safety SRP, Inc.



FATIGUE AND IMPAIRMENT STATISTICS



Employees may not be capable of accurately judging their own risks when their **alertness is impaired**

Night shifts and rotating shifts report 2X missed workdays and are linked to an increased risk of accidents and injuries

Stress from outside sources contribute to loss of focus, irritability, low morale, accident increase

Drug and alcohol use contribute to over 25% of work-related accidents

STATISTICS ON POOR SLEEP



**The cost of unexamined sleep issues in employees
per 1,000 workers**

- **\$272,000 from absenteeism**
- **\$775,000 from presenteeism**
- **\$536,000 in additional health care costs**
- **Workers who sleep less than 6 hours in a 24 hour period cost employers more than six workdays a year in productivity**

ROI WITH FATIGUE MGMT PROGRAM

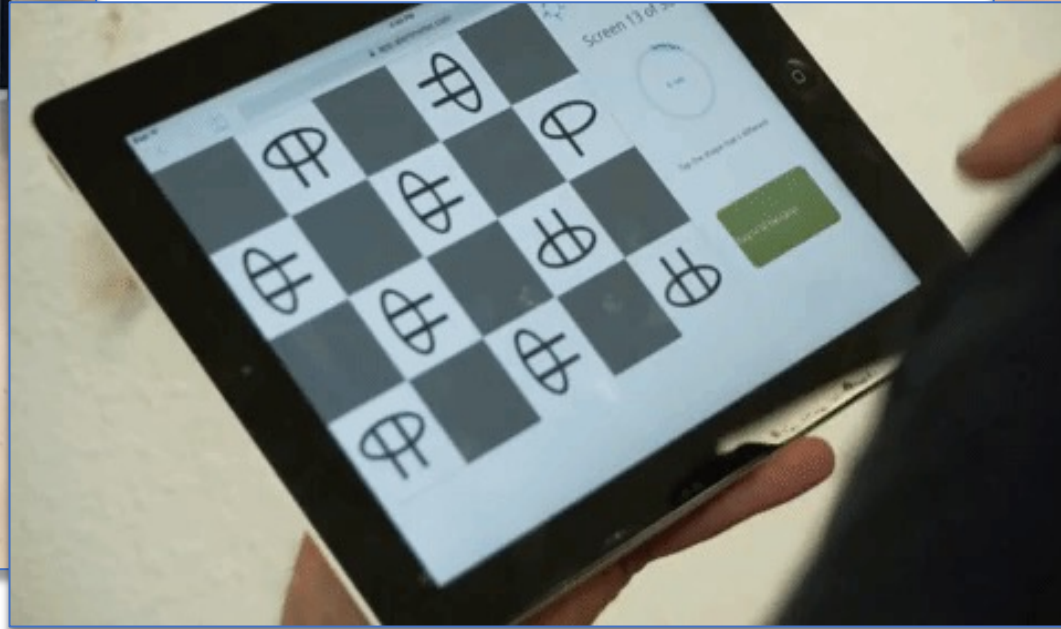


When fatigue is addressed and managed, we have seen up to:

- 35% Overall Reduction of Accidents
- 70% Reduction in Costs of Accidents
- 70% Reduction in Worker's Comp Claims

FATIGUE MANAGEMENT APPROACHES

1. Run a walk through for fatigue management impacts for your particular situation, remedy with universal countermeasures
2. Educate your workforce about how they can manage fatigue
3. Put a simple protocol into place for supervisory intervention



Which technology is right for your situation?

Categories of Fatigue or Alertness Testing

Driver technologies for detecting fatigue

Vehicle Operation Monitors

Jerking motions with steering or abrupt acceleration or braking

Driver Monitors with in-cab cameras

Detection of drowsy driving behavior

Actography Wearables

Hats that detect nodding off

Ocular Detection Glasses

Glasses with ocular monitors that detect changes in pupils

EEG Detection Hats

Hats that detect alertness changes in brain waves

Other Categories of Alertness technology

Wearable bands

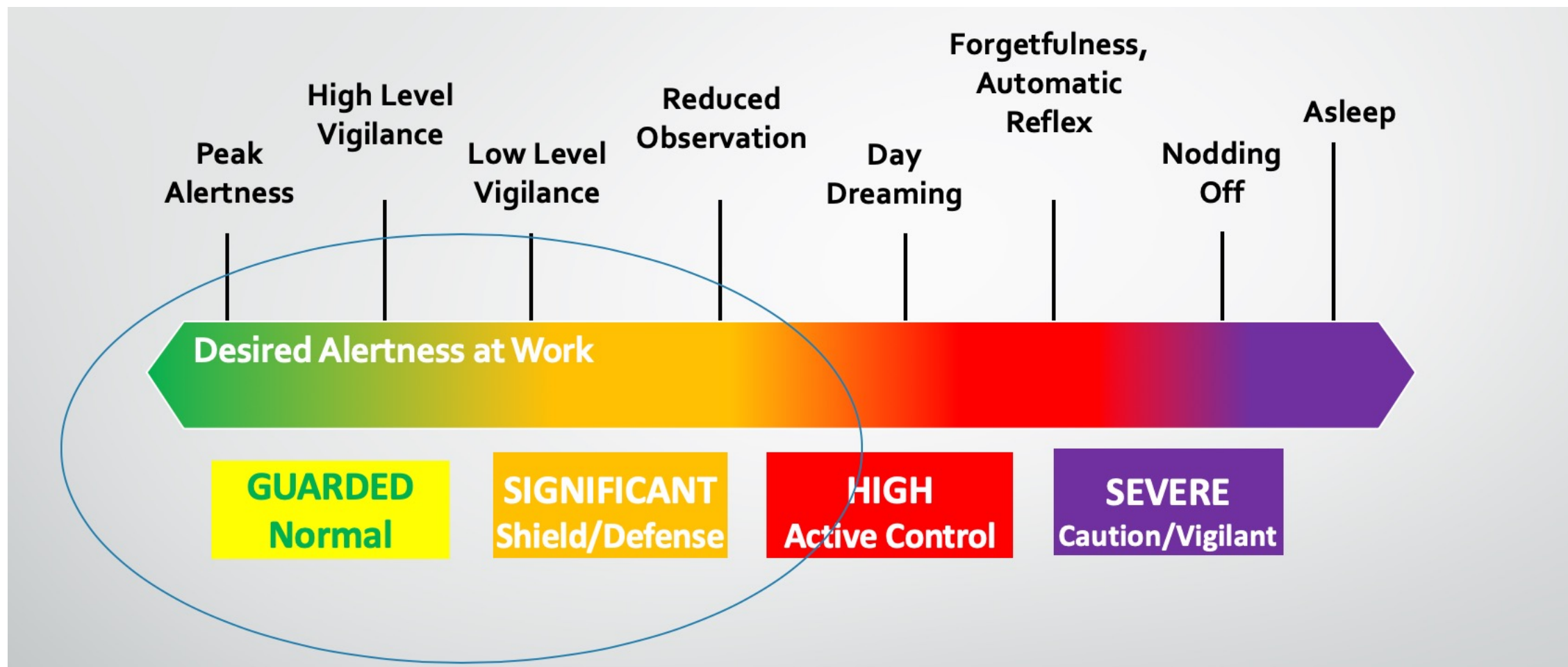
Often used to monitor bio-markers that show changes in blood pressure, resting heart rate, and sleep time

Psychomotor Vigilance Tests

Measures reaction time to stimuli

Fatigue and Alertness Testing

Measures cognitive performance compared to regular behavior

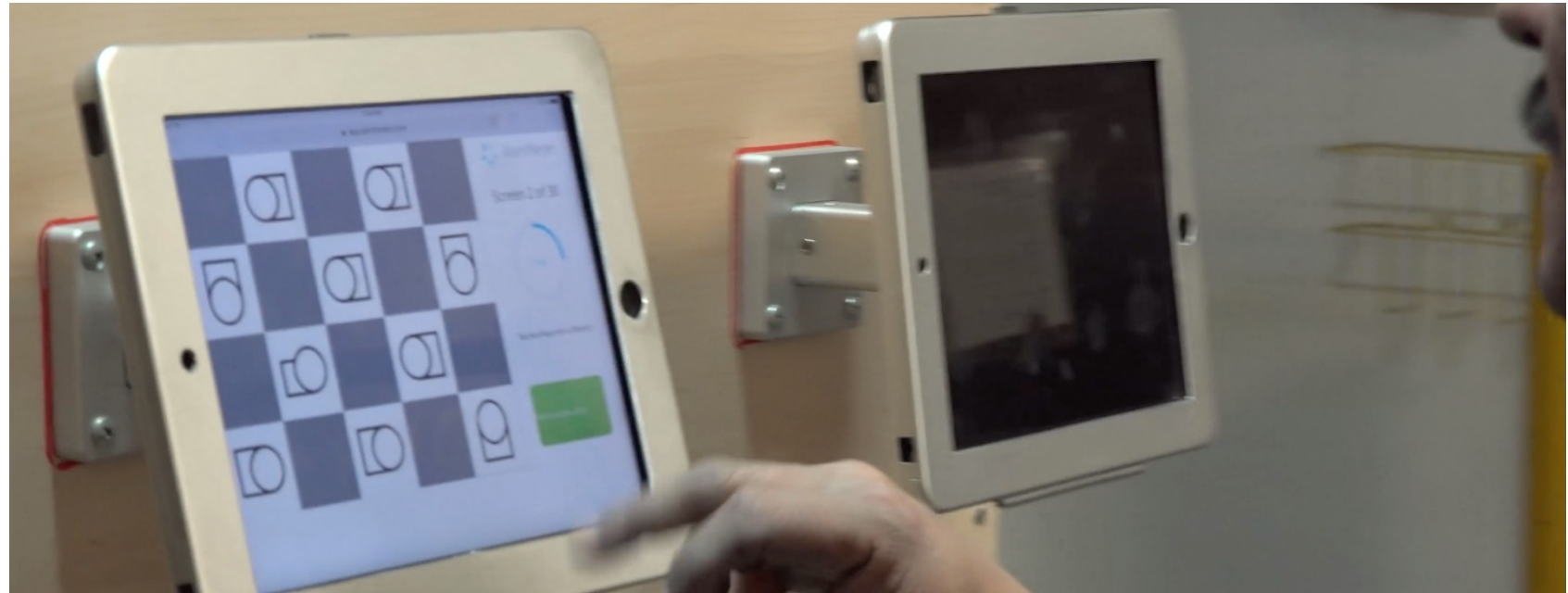


A DAY IN THE LIFE

How alertness testing works

A DAY IN THE LIFE

Start of Shift



A DAY IN THE LIFE

During the
Day or before
a critical task



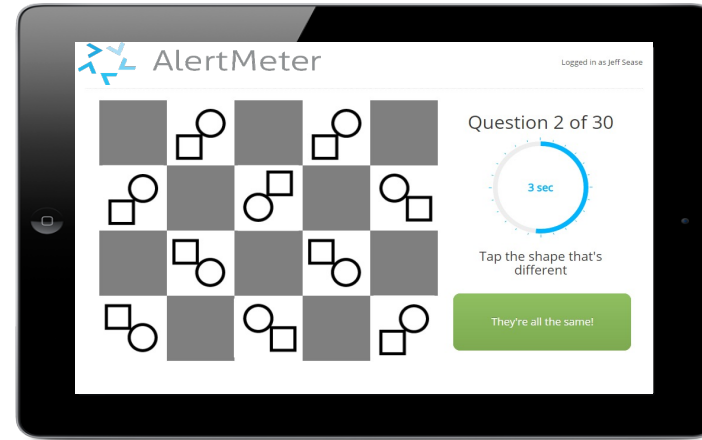
A DAY IN THE LIFE

Only compared to personal
baseline



A DAY IN THE LIFE

In rare circumstances, workers score outside their normal range.



Incorrect





A DAY IN THE LIFE

A designated supervisor
gets a notification on text
or email



A DAY IN THE LIFE

Company protocol is followed for a safety conversation with the worker to see what next steps need to be taken.



Known Cognitive Issues

- **Fatigue**
- **Illness**
- **Emotional Distress**
- **Heat Stress and Dehydration**
- **Unintended medication side effects**
- **Drugs or alcohol**
- **Medical issue**

Fatigue Management DIY

- Assess Fatigue Risk
- Examine Schedules
- Educate Workers
- Use NSC Fatigue Toolkit
- Develop Easy Protocol for Supervisors
- Support Work Environment Fatigue Countermeasures
- Pay attention to trends
- Decide which technologies work best for you
- Change from the Top Down – the whole company practices good fatigue management!