

CONSTRUCTION WORKER FATIGUE: MITIGATING RISKS THROUGH TECH & SAFETY CULTURE

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Due to the constant movement of people and equipment on a jobsite, construction jobs demand high levels of alertness. Sleep deprivation and fatigue affects many aspects of worker safety including response time, motor control and decision-making ability to name a few, and can easily go unnoticed.

Todd Dawson, Project Manager for Fatigue Services, Caterpillar Inc. shared facts and myths about fatigue in the workplace and some methods and tools to prevent it during an education session at CONEXPO-CON/AGG 2017. While technology in this arena advancing, company culture is just as important in mitigating the risks involved with fatigue.

FATIGUE AND WHAT CAUSES IT

There are many factors that go into mental and physical fatigue, according to Dawson. And no amount of coffee or energy drinks can compare to a good night's sleep. That being said, getting sleep, and the correct amount of sleep, is much easier said than done.

Between work, meals, household chores and a social life, modern schedules typically do not allow for ample sleep time. Working shifts late at night or early in the morning can make it even tougher. In other words, when it comes to sleep, the world is working against us. Fortunately, this is where Dawson and other fatigue study experts excel.

METHODS TO REDUCE CONSTRUCTION WORKER FATIGUE

There are several ways reduce or mitigate fatigue, that doesn't include more sleep: exercising, eating well and naps. These three behaviors are what make the difference between a well-rested and ready-to-work employee and a fatigued or groggy employee.

Still, there will be times that life throws you a curve ball and going to work fatigued is inevitable. This is where technology can help.

These technologies were created solely to avoid accidents derived from fatigue:

- SmartBand
- Fatigue Avoidance Scheduling Tool (FAST)
- Driver Safety System (DSS)
- SmartBand

Developed by a company called Fatigue Science and debuting in certain sectors of the military, the SmartBand is the newest technology in the fight against fatigue. Boasting a 93 percent accuracy in its various measurements, the SmartBand is something that workers wear 24/7 that observes things such as amount of sleep, quality of sleep, level of alertness and other measurable aspects that determine fatigue level. It ultimately helps see who is going to be fatigued and when.

FAST

The Fatigue Avoidance Scheduling Tool (FAST) works in a similar fashion. It is a program that looks at previous and current schedules of employees to see if shifts are “working”, in relative to fatigue. It analyzes when people have reported being fatigued and uses this information to generate alternative schedules or break times.

DSS

The Driver Safety System is a newly designed observation system meant to keep track of and check on fatigued workers. Armed with a constantly operating camera pointing in the direction of the equipment operator, the DSS is a piece of equipment that is placed inside the cab of any construction vehicle. The camera idly observes the operators face in look out for eyes being closed for more than 1.5 seconds or looking away from road for more than 4.5 seconds. If the camera observes one of these two behaviors, an alarm goes off and the seat vibrates rapidly. On top of this, the camera clips this occurrence and sends it to a monitoring center where it is reviewed. After that, a dispatcher calls the operator to discuss what just happened to see if they are okay.

Dawson asserted that the DSS and other technologies are not disciplinary devices, rather a cautionary and helpful device to protect people at work.

While people experiencing fatigue at work will exist as long as humans do, they can feel better knowing that there is technology out there to back them up.

Source: CONEXPO-CON/AGG