Safety

Keeping Solo Workers Safe—With New Tech Gear and Old-School Strategy

James Langford | Jan 23, 2025

Over time, social isolation can be as bad for your health as smoking 15 cigarettes a day, studies have shown. Being isolated on the job may lead to severe harm much more abruptly.

And, thanks to technological advances that support widespread ***use of robotics***, the phenomenon is increasing.

The automated equipment that can boost profit and productivity in manufacturing facilities as well as improve employee safety by limiting exposure to dangerous conditions also leaves more workers doing their jobs by themselves, according to the National Safety Council.

As a result, they face "increased risk of exposure to workplace hazards due to lack of assistance and supervision and the limited means of communication" to seek help in an emergency, officials with the National Institute for Occupational Safety and Health and the U.S. Occupational Safety and Health Administration say in a ***report***.

While many of the estimated 53 million lone workers in the U.S., Canada and Europe face the same hazards as peers in comparable industries, their solitude heightens the likelihood of worse outcomes than people injured while working with colleagues, the organization says in a 2023 white paper.

Solo workers lack "the practical benefit of co-workers, health and safety professionals, or supervisors to help or support them in meaningful ways," NIOSH and OSHA point out in their report.

Lethal Consequences in Emergencies

"For example, lone workers may have difficulty identifying the safest work practices when something

unexpected happens that isn't covered by a workplace policy," the agencies explain. "Perhaps most importantly, especially for workers in high-hazard industries, working alone can delay or deny a robust response to a workplace emergency. Investigations of 'unwitnessed' fatalities, in which a worker did not report at the end of the shift or whose body was discovered by a coworker, tragically illustrate what can happen when no co-workers are present to assist with lifesaving actions."

While neither OSHA nor the National Institute for Occupational Safety and Health has formally defined lone work, the report describes it as a potentially hazardous working condition when an individual cannot be seen or heard by another worker and where assistance is not readily available.

Lone workers are found in industries from manufacturing to transportation and agriculture. Some operate taxis and ride-share vehicles, while others do their jobs in remote locations like oil well sites, solar farms and rural power stations. They may also be on job sites with other employees but physically separated from them by walls in warehouses or vast acres of cropland on farms.

OSHA has, so far, not crafted detailed standards for lone workers, but it does monitor their safety through the general duty clause of the Occupational Safety and Health Act, which requires employers to provide hazard-free workplaces. ***Standard 1915.84*** also mandates that employers check in regularly with workers who are on the job by themselves.

Engineering Controls for Lone-Worker Hazards

Employers can curb the hazards of lone work by taking advantage of digital monitoring tools including wearables as well as by improving risk management practices. The American Society of Safety Professionals offers the following tips:

- ***Identify hazards*** that lone workers may encounter on the job
- Conduct a risk assessment by talking with or surveying workers and conducting formal jobsite or job-hazard analyses.
- Try to eliminate lone-worker hazards that pose a high risk for serious injuries and fatalities. Tactics may include using drones for inspections at elevated heights or employing autonomous mobile robots for entry into tight or confined spaces.
- Schedule high-risk tasks for normal business hours or when other workers can assist.
- Provide appropriate training and education for lone workers, including how to conduct their own task-hazard analyses.
- Establish communication procedures with solo workers, such as the use of ***two-way radios***, in-person check-ins, wearable technologies or cellphone check-ins.

Wireless technology, meanwhile, "can help companies stay connected to workers as they contend with a range of hazards, including heat exhaustion, fatigue, dehydration and poor air quality," Rick Pedley, CEO of occupational safety supplier PK Safety, wrote in a 2019 article in the journal ***Professional Safety***. "If something goes wrong in the field or working conditions change suddenly, these teams can take action immediately, which reduces the chances of workplace injuries."

Devices that help keep tabs on and protect isolated workers are referred to by safety professionals as "lone worker monitoring" technology and include functions such as app-based deployment, check-in and check-out procedures, live GPS, motion or fall detection, SOS panic alarms and two-way communication.

Some are also equipped with gas monitors, proximity sensors and have the capability to track physiological indicators such as heart and breath rates and temperature, according to the ***National Safety Council*** white paper.

One of their primary advantages is that they often use communication tools such as satellite links that go beyond the limitations of typical cellular technology.

That's important since 93 percent of isolated workers find themselves outside of cellular coverage at least some of the time, according to a survey of 224 workers and supervisors by ***TracPlus and Ground Control***, two providers of tracking and communication technology.

In Trouble, Outside of Signal Range

About 63 percent said they had encountered difficulty contacting someone because they couldn't get connectivity, and 19 percent reported trouble getting help after an accident.

While injury rates are largely unknown, according to the National Safety Council, a survey of 478 companies showed that 68 percent had experienced an incident with a lone worker in the past three years, with 20 percent being "quite severe" or "very severe."

Indiana utility ***NiSource***, whose field workers are often in remote areas where they might be isolated from help, began distributing Blackline Safety's G7 safety devices—which include fall and no-motion detectors, two-way voice and text messaging and GPS monitoring—a few years ago, according to a ***case study*** by the National Safety Council's Work to Zero initiative.

In one case, an employee used the device to call for help after getting locked in a basement, the report says.

Another employee's device detected high levels of carbon monoxide—an odorless, invisible but deadly gas—while he was eating lunch in a restaurant and enabled him to alert management before anyone was harmed.

What steps does your business take to keep isolated workers safe? Tell us in the comments below.