



Safety Connection

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SAFETY RESEARCH

-  **Empowering construction safety culture through artificial intelligence: risk-based approach.** A [new article](#) published in Springer Nature examined how artificial intelligence (AI) can improve safety in the construction industry by shifting from traditional reactive safety practices to proactive, risk-based safety management. A key finding showed AI tools can strengthen construction safety culture by improving hazard detection, decision-making, and learning from incidents, leading to more proactive and reliable safety practices. However, it emphasizes that technology only succeeds when paired with strong leadership commitment, worker training, and trust-building, as AI cannot replace the human and organizational factors that ultimately shape safe behavior.
-  **A look at safety clutter; safety activities that take up time without making work safer.** The latest [peer-reviewed paper](#) from the University of Colorado's Construction Safety Research Alliance, published in the *Journal of Safety Research*, takes a hard look at "safety clutter"—the meetings, forms, checklists, and tasks that soak up time and attention without making work safer. The researchers found that this clutter distracts teams from the real work of preventing serious injuries and fatalities (SIF) in construction. Their taxonomy gives construction organizations a practical way to identify and remove low-value safety activities so companies can focus on the controls that truly reduce SIF risk.
-  **Effects of rigid and back-support exoskeletons during simulated shingling.** Roofing tasks—especially shingling—present unique ergonomic challenges due to the demands of working on sloped surfaces. A [new study from Applied Ergonomics](#) evaluated passive back-support exoskeletons (BSEs) and evaluated their effects during roof shingling tasks. Researchers found rigid back-support exoskeletons slightly reduced lumbar muscle activation, while soft exoskeletons reduced trunk flexion without changing muscle activation. Both types lowered perceived low-back exertion, but each introduced different trade-offs such as increased leg discomfort with rigid devices and higher shoulder exertion with soft ones.
-  **How inadequate safety leadership contributes to unsafe behavior and fatal accidents in construction.** A new [study from Safety Science](#) examined 169 fatal construction accidents and found that inadequate safety leadership at both senior management and frontline supervisory levels is a major contributor to unsafe worker behavior. The researchers showed that when senior leaders fail to demonstrate safety concern, coaching, and motivation, supervisors and workers are more likely to ignore personal protective equipment (PPE) requirements and safe operating procedures. The findings highlight that safety problems are rooted not only in worker actions but also in leadership failures throughout the organization and suggest that stronger safety leadership at all management levels is essential for preventing accidents and improving workplace safety.

CONSTRUCTION SAFETY TRENDS

-  **Safety Management in the Construction Industry 2026.** The latest [SmartMarket Report](#) from Dodge Construction Network and CPWR—The Center for Construction Research and Training—shows that safety management in construction is advancing, but progress remains uneven across the industry. Much of the recent improvement has been driven by small contractors through greater adoption of online training and stronger safety management practices. The report also identifies heat illness prevention and mental health as growing industry priorities, while adoption of emerging safety technologies—including artificial intelligence (AI), predictive hazard identification, and wearable devices—remains limited. Overall, the findings suggest that although construction's safety culture continues to improve, significant opportunities remain to strengthen preconstruction safety planning, expand worker well-being initiatives, and accelerate the use of technology to reduce risk.
-  **CPWR Data Bulletin: Construction Injury Trends by Major Subsector.** A [new CPWR-The Center for Construction Research and Training Data Bulletin](#) examines injuries in construction, which remains one of the most dangerous industries in the U.S. Findings show that nonfatal injury rates have generally declined across all construction subsectors since 2011, but Construction of Buildings is the only subsector where both nonfatal and fatal injuries have recently increased. Fatality patterns differ sharply by subsector: falls dominate deaths in Construction of Buildings and Specialty Trade Contractors, while transportation incidents are the leading cause in Heavy and Civil Engineering. These differences highlight how distinct work environments and hazards shape injury risks across the industry.