

# Heightened injury risk linked to shift length for emergency services clinicians

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Working shifts of 16 to 24 hours in length is linked to a 60% heightened risk of injury and illness among emergency services (EMS) clinicians, compared to shifts of 8-12 hours, finds research published online in *Occupational & Environmental Medicine*.

This risk rises in tandem with shift length, the findings show.

The nature of the job requires physical strength to lift and move patients, clear mental focus to deliver medical care in uniquely stressful and often chaotic situations, and sufficient alertness to drive safely, say the researchers.

Yet EMS clinicians often work 12 or 24 hours at a time, and the evidence from other healthcare professions suggests that prolonged work hours increase the risk of injuries and may compromise patient safety.

In a bid to find out what impact working long hours might have on EMS clinicians, the researchers looked at three years of shift schedules—totalling almost 1 million shifts, involving more than 4000 employees—and 950 occupational health records for 14 large emergency medical services agencies in the US.

The analysis showed that the risk of an occupational injury or illness increased as shifts lengthened.

Shifts longer than 12 hours were associated with a 50% heightened risk

of sustaining an injury compared with shifts of less than 12 hours, after taking account of other relevant factors, such as employer type, night or day shift, employment status, and how often the EMS crew had previously worked together.

The risk associated with shifts lasting 16-24 hours was more than double that of shifts up to 8 hours.

The researchers caution that theirs is an observational study, so no definitive conclusions can be drawn about cause and effect.

"Despite this, these data show a consistent message," they write. "The findings are early observational evidence of a preventable exposure associated with injury and illness and should be tested further in a randomized design."

**More information:** An observational study of shift length, crew familiarity, and occupational injury and illness in emergency and medical services workers, [DOI: 10.1136/oemed-2015-102966](https://doi.org/10.1136/oemed-2015-102966)

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