

# New research leads to improved bunk bed safety standards

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Ryan was just four years old when he went to sleep on his bunk bed one night and never woke up. His mother found him strangled to death the next morning with his neck caught between the vertical post of his side ladder and mattress.

Ryan is not the only child to have strangled in the space between a bunk bed ladder and mattress. Since 1983, other incidents have been reported to the [Consumer Product Safety Commission](#) (CPSC). In the Forensic Ergonomics Special Issue of *Ergonomics in Design: The Quarterly of Human Factors Applications*, HF/E researcher Carol Pollack-Nelson, PhD, discusses how a thorough human factors/ergonomics analysis of bunk beds might have prevented Ryan's death.

Head and neck entrapments have occurred in many consumer products over the years, prompting millions of recalls and changes in standards and government legislation. The bunk bed industry tried to address the hazard by developing a standard that specifies spacing limitations intended to prevent such entrapment risks in bunk bed end panels. However, these specifications do not apply to the space between the ladder and the side of the bunk bed. As a result, the head and neck entrapment risk in this part of a bunk bed still exists and has never been addressed by any legislation—until very recently.

"A child's sleep environment—whether it is a crib, a toddler bed, or a bunk bed—should be a safe haven," says Pollack-Nelson. "Parents should be able to put the child to [sleep](#) without concern that the child

will be injured or killed in the bed itself. Head and neck entrapment should not be permitted in any components of a bed that is intended for use by children."

Pollack-Nelson included her HF/E research on head and neck entrapment in a July 2010 petition to the CPSC to encourage revisions in a mandatory bunk bed standard that could help to prevent deaths among children like Ryan. The CPSC published the petition, which is pending action and may see a decision before the end of 2011. In the meantime, the American Society for Testing and Materials Subcommittee for Bunk Beds met in March to address the petition and is taking action to revise the standard before the end of this year.

"I am very pleased that the industry is taking this hazard seriously by amending the voluntary standard," says Pollack-Nelson. "I am hopeful that changes to the standard will prevent other children from becoming entrapped in bunk bed side structures."

The expertise of forensic human factors/ergonomics professionals is vitally important in the development of industry standards to ensure that those standards promote safe designs. Similar case studies involving the role of forensic [ergonomics](#) in safety standards, civil litigation, and government legislation are featured in the upcoming special issue of EID, now online.

**More information:** "Fatality in the Side of a Bunk Bed"  
[erg.sagepub.com/content/19/1/9.full.pdf+html](http://erg.sagepub.com/content/19/1/9.full.pdf+html)

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