

# Headphone-distracted pedestrians face death, serious injury: study

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Listen up, pedestrians wearing headphones. Can you hear the trains or cars around you? Many probably can't, especially young adult males. Serious injuries to pedestrians listening to headphones have more than tripled in six years, according to new research from the University of Maryland School of Medicine and the University of Maryland Medical Center in Baltimore. In many cases, the cars or trains are sounding horns that the pedestrians cannot hear, leading to fatalities in nearly three-quarters of cases.

"Everybody is aware of the risk of cell phones and texting in automobiles, but I see more and more teens distracted with the latest devices and headphones in their ears," says lead author Richard Lichenstein, M.D., associate professor of pediatrics at the University of Maryland School of Medicine and director of pediatric emergency medicine research at the University of Maryland Medical Center. "Unfortunately as we make more and more enticing devices, the risk of injury from distraction and blocking out other sounds increases."

Dr. Lichenstein and his colleagues studied retrospective case reports from the National Electronic Injury Surveillance System, the U.S. Consumer Product Safety Commission, Google News Archives, and Westlaw Campus Research databases for reports published between 2004 and 2011 of pedestrian injuries or fatalities from crashes involving trains or motor vehicles. Cases involving headphone use were extracted and summarized. The research is published online today in the journal *Injury Prevention*.

Researchers reviewed 116 accident cases from 2004 to 2011 in which injured pedestrians were documented to be using headphones. Seventy percent of the 116 accidents resulted in death to the pedestrian. More than two-thirds of victims were male (68 percent) and under the age of 30 (67 percent). More than half of the moving vehicles involved in the accidents were trains (55 percent), and nearly a third (29 percent) of the vehicles reported sounding some type of warning horn prior to the crash. The increased incidence of accidents over the years closely corresponds to documented rising popularity of auditory technologies with headphones.

"This research is a wonderful example of taking what our physicians see every day in the hospital and applying a broader scientific view to uncover a troubling societal problem that needs greater awareness," says E. Albert Reece, M.D., Ph.D., M.B.A., vice president for medical affairs at the University of Maryland and John Z. and Akiko K. Bowers Distinguished Professor and dean of the University of Maryland School of Medicine. "I hope that these results will help to significantly reduce incidence of injuries and lead us to a better understanding of how such injuries occur and how we can prevent them."

Dr. Lichenstein and his colleagues noted two likely phenomena associated with these injuries and deaths: distraction and sensory deprivation. The distraction caused by the use of electronic devices has been coined "inattentive blindness," in which multiple stimuli divide the brain's mental resource allocation. In cases of headphone-wearing pedestrian collisions with vehicles, the distraction is intensified by sensory deprivation, in which the pedestrian's ability to hear a train or car warning signal is masked by the sounds produced by the portable electronic device and headphones.

Dr. Lichenstein says the study was initiated after reviewing a tragic pediatric death where a local teen died crossing railroad tracks. The teen

was noted to be wearing headphones and did not avoid the oncoming train despite auditory alarms. Further review revealed other cases not only in Maryland but in other states too. "As a pediatric emergency physician and someone interested in safety and prevention, I saw this as an opportunity to -- at minimum -- alert parents of teens and young adults of the potential risk of wearing headphones where moving vehicles are present," he says.

**More information:** Lichenstein R, Smith D, Ambrose J, Moody L. "Headphone use and pedestrian injury and death in the United States: 2004-2011." *Injury Prevention*. Published online January 17, 2012. doi:10.1136/injuryprev-2011-040161

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