

# Alcohol consumption greatly increases serious injury risk for heavy and moderate drinkers

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Researchers know that alcohol impairs coordination and the ability to perceive and respond to hazards, and that hangovers impair neurocognitive performance and psychomotor vigilance. This study closely examined alcohol-related injuries admitted to hospital, finding that alcohol greatly increases risk for serious injury.

Results will be published in the January 2012 issue of *Alcoholism: Clinical & Experimental Research* and are currently available at Early View.

"We know that [alcohol](#) is more heavily involved in fatalities than injuries," said Ted R. Miller, a senior research scientist at the Pacific Institute for Research and Evaluation and corresponding author for the study. "It is less clear whether and how heavily alcohol is involved in serious [injury](#)."

"It is important to understand the proportion of injury attributable to alcohol for those injuries which are more severe and subsequently hospitalized, compared to those not needing hospitalization," said Cheryl J. Cherpitel, a senior scientist with the Alcohol Research Group. "Taken together, both are important for a more comprehensive understanding of the proportional decline in injury in the absence of alcohol."

The study authors combined national alcohol consumption data with

alcohol metabolism rates to estimate hours that [heavy drinkers](#) versus other drinkers and non-drinkers spent as "alcohol positive" versus "alcohol negative" within one calendar year.

"If we know how much alcohol people drink, we can estimate how many hours per day people are alcohol-positive versus alcohol-negative," explained Miller. "Dividing the number of alcohol-positive injuries by the number of alcohol-positive hours indicates injury-risk when alcohol-positive. A similar calculation gives the alcohol-negative risk."

Results showed that alcohol consumption is a major cause of hospitalized injury. Even though heavy drinkers generally lead risky lifestyles, and even though they tolerate alcohol better than most drinkers, their injury risks still tripled when they drank.

"Risk during hours that people were alcohol-positive was 4.5 times their risk when sober," said Miller. "Heavy drinkers claim they can handle their alcohol. Within limits, that's true. Alcohol raises a heavy drinker's injury risk less than an average person's risk. Still, a heavy drinker is three times more likely to be injured during an alcohol-positive than a sober hour. Possibly due to hangover effects, heavy drinkers also are 1.35 times as likely as other people to be injured when sober. Alcohol especially raises risk for assault, near drowning, non-elderly fall, and pedestrian injuries. An estimated 36 percent of hospitalized assaults and 21 percent of all injuries are attributable to alcohol use by the injured person."

"Non-heavy drinkers also seem to have a higher risk of injury-related hospitalization when alcohol positive compared to alcohol-positive heavy drinkers," said Cherpitel, "likely due to their not being accustomed to alcohol's effects, while heavier drinkers have developed a tolerance to alcohol and are therefore less affected by the same amount of alcohol. It is also possible that heavier drinkers may have consumed so much

alcohol that they are unable to place themselves in risky situations that may result in injury; for example, they may become a passenger in a vehicle and sleep rather than attempt to drive. These findings are similar to those from our emergency-room studies."

"Our estimates set the stage for injury-warning labels on alcohol bottles," said Miller. "They also suggest what percentage of public injury cost justifiably could be recovered through alcohol taxes. Moderate drinking has not traditionally been considered hazardous. Yet from an injury viewpoint, it appears to be more hazardous per drink than regular heavy drinking. Moderate drinkers who occasionally drink to excess suffer more injuries than heavy drinkers per alcohol-positive hour. Nonetheless, intervention rarely has been targeted to this group because its high risk was hidden."

"Certainly these findings point to the importance of screening and brief intervention in clinical practice," added Cherpitel, "as well as advancing public health knowledge regarding the potential effects of even small quantities of alcohol. Injury research needs to consider that even a small amount of [alcohol](#) in less experienced drinkers can be especially dangerous when undertaking potentially risky activities such as driving or using heavy equipment."

Provided by Alcoholism: Clinical & Experimental Research

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