



# Privately-Owned Vehicle-Related Injuries

## What injuries are associated with privately-owned vehicles (POVs)?

*Fatalities* are often the primary focus of programs and policies to improve motor vehicle driver safety. Though fatal injuries are the most severe outcome of crashes involving a moving vehicle, *nonfatal injuries* occur more frequently and can involve substantial medical care and can result in either permanent or temporary disability. Examples include head trauma, fractures, and contusions or lacerations to internal organs.<sup>1</sup>

The injury rates and associated risk factors depend in part on the types of vehicle involved, such as cars, trucks, all-terrain vehicles, and motorcycles. Since more people drive cars or trucks for routine personal transport than any other type of vehicle, privately-owned vehicles (POVs) are a primary focus of many studies regarding motor vehicle related injuries. This factsheet focuses on POVs; see separate factsheets for injuries related to motorcycles and military vehicles.



Image: U.S. Army Combat Readiness Center

## Why are privately-owned motor vehicle-related injuries a concern to the Army?

Of the reported 105 Army accidental ground fatalities in fiscal year (FY) 2015, 71 (68%) were due to POV accidents.<sup>2</sup> The US Army Combat Readiness Center reports 476 Army Service members were injured in POV accidents in FY 2015.<sup>2</sup>

Among Army personnel, hospitalized POV-related injuries result in an average of 8.6 days of hospitalization, 10.8 lost-duty days, and 3.2 days of limited duty.<sup>3</sup> The average cost of a POV injury among Soldiers is \$51,129 per crash, including cost of pay while away from work, medical treatment, dependent survival, unused training compensation, disability retirement, and burial (if applicable).<sup>3</sup> This equates to a total annual cost for nonfatal Army POV injuries of about \$15-20 million.<sup>3</sup>

## What are common characteristics of Army privately-owned motor vehicle-related injuries?

Most Army POV-related injuries have occurred within the continental United States, but not on an Army installation.<sup>3</sup>

Leading collision types among Army personnel include: running off the road or going forward, colliding with a moving vehicle, colliding with an object other than a vehicle, overturning, colliding while turning or backing up, and colliding with a pedestrian.<sup>3</sup>

Injuries tend to be more serious in situations where a seat belt is not used:<sup>1</sup>

- Common injuries among unbelted vehicle occupants include subarachnoid hemorrhage, rib fractures, lung contusions, and spleen laceration.
- Common injuries among belted vehicle occupants include sternum, rib, and clavicle fractures.

POV-related injuries appear to occur more frequently:<sup>3, 4</sup>

- Among males
- During federal holiday periods and the first 30 days after service members' return from deployment.

Minority Soldiers and those age 20 or younger have a higher risk of injury in a POV accident.<sup>5</sup>

## How can privately-owned motor vehicle-related injuries be prevented?

By recognizing the characteristics of common accidents among Army Soldiers, military leaders can target personnel most commonly involved in POV crashes. Programs and procedures should aim to reduce commonly identified behavioral factors that appear to increase risk of vehicle crash injuries:<sup>5-8</sup>

- Not wearing a seat belt
- Alcohol consumption
- Excessive speed
- Driving while drowsy
- Driving while talking on cell phone (handheld or hands-free)



Image: U.S. Army Combat Readiness Center

## How can you prevent privately-owned vehicle-related injuries?

The quality of evidence for preventing POV-related injuries varies widely. Though current science has not yet demonstrated the effectiveness of several of these measures, the prevention tactics described below are recommended practices to help reduce motor vehicle crashes and related injuries, some of which are supported by state law and Department of Defense and Army regulations.

Prevention tactic	Supporting Information
<b>USE SEAT BELTS:</b> <ul style="list-style-type: none"> <li>Wear at all times</li> </ul>	<ul style="list-style-type: none"> <li><b>Seat belt use reduces risk of moderate-to-critical injury by 50%.<sup>9</sup></b></li> <li>Soldiers who reported seat belt use only 0-50% of the time had 40% greater risk of hospitalization compared to those who wore a seat belt 100% of time.<sup>5</sup></li> <li>Enhanced enforcement of seat belt laws (i.e. increase number of officers on patrol, use of seat belt checkpoints, etc.) is associated with an increase in seat belt use and a decrease in injuries.<sup>10</sup></li> </ul>
<b>PREVENT/REDUCE DRINKING AND DRIVING:</b> <ul style="list-style-type: none"> <li>Don't have even one drink if you need to drive.</li> <li>If you have been drinking, get a ride home or call a taxi.</li> <li>Don't let friends drive impaired - take away their keys.</li> </ul>	<ul style="list-style-type: none"> <li><b>There is strong evidence that sobriety checkpoints are effective</b> in preventing alcohol-impaired driving and alcohol-related crashes.<sup>11</sup></li> <li>Though science hasn't yet provided evidence showing the effectiveness of other programs, alcohol is a well-established risk factor in vehicle injuries.<sup>5, 11</sup> Therefore, it is best to avoid any level of drinking and driving, and prevent others from doing so.</li> <li>The Army takes this seriously and has regulations that establish disciplinary actions for Soldiers involved in alcohol or drug related incidents. Actions can include barring the Soldier from reenlistment and/or administrative separation. Soldiers should be aware of these consequences and methods to avoid situations where they might drink and drive.<sup>12</sup></li> </ul>
<b>AVOID EXCESSIVE SPEED</b>	<ul style="list-style-type: none"> <li><b>The risk of injury or death from a crash doubles with each 3mph increase in speed in a 37mph speed limit area.<sup>13</sup></b></li> <li>Speed cameras reduce injury crashes between 8% and 50%, and reduce crashes resulting in fatalities or serious injuries between 11% and 44%.<sup>14</sup></li> </ul>
<b>STAY ALERT vs AVOID DROWSY DRIVING</b>	<ul style="list-style-type: none"> <li><b>Drowsy drivers are between four and six times more likely to be involved in a crash than if they were fully alert.<sup>15</sup></b></li> <li>Evidence has shown that reducing night-time driving will reduce risk, but regardless of time of day be aware of factors such as sleep, stress, and medications that can increase drowsiness.<sup>8</sup></li> </ul>
<b>DON'T USE CELL PHONES WHILE DRIVING</b>	<ul style="list-style-type: none"> <li><b>Drivers who use cell phones have 4 times the risk of a crash.<sup>6</sup></b></li> <li>Use of handheld cell phones while operating a motor vehicle on a DOD installation is prohibited.<sup>12</sup></li> <li>Though initial assessment has not shown that banning cell phone use among drivers results in a decrease in crashes, data is still being evaluated as cell-phone use has been identified as a key risk factor.<sup>6</sup></li> </ul>
<b>TRAINING &amp; RISK AWARENESS</b>	<ul style="list-style-type: none"> <li><b>Soldiers must complete a <u>Travel Risk Planning System (TRiPS)</u></b> POV risk assessment while operating a motor vehicle on leave, pass, or on travel out of the immediate local area, as per AR 385-10. A TRiPS assessment evaluates factors that can increase motor vehicle-related injury: <u>driving time</u>, <u>sleep</u>, <u>rest stops</u>, <u>alcohol consumption</u>, and <u>weather</u>.</li> <li>Though studies have not yet adequately shown that post-license driver education will reduce traffic crashes or injuries, the use of the TRiPs to identify and be aware of the risks before driving is a good practice.<sup>16</sup></li> </ul>

### Information Sources

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**FOR ADDITIONAL INFO/TOOLS (TRIPS, ARMY POLICY, TRAINING COURSE/BRIEFS, POSTERS, LICENSING):**  
<https://safety.army.mil/OFF-DUTY/PMV-4.aspx>