FACT SHEET

U.S. ARMY PUBLIC HEALTH CENTER

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MOTORCYCLE-RELATED INJURIES

What injuries are associated with motorcycles?

Fatalities are unfortunately a common outcome of motorcycle crashes. Traumatic brain injury (TBI) is one of the leading causes of fatal as well as non-fatal injury from motorcycle crashes.[1] Fractures of legs and arms are also common.[2]

Why are motorcycle-related injuries a concern to the Army?

Motorcycle-related fatal and non-fatal injuries have devastating impacts on the U.S. military and the Army, causing hundreds of deaths and severe injuries each year.[3] It has been estimated that for every one Army motorcycle-related death there are five motorcycle-related hospitalizations and 22 outpatient visits.[4]

Although only 16% of active duty service members report riding motorcycles, they accounted for roughly 50% of vehicle fatalities.[5,6]

On average, Soldiers hospitalized for motorcycle-related injuries spent 13 days in the hospital, lost 20 days from work duty, and had four days of restricted work.[7] Medical and lost duty costs for Army motorcycle-related injuries can be over a $100,000.[3]

Source: U.S. Army Combat Readiness Center, Motorcycle 101 Briefing – downloadable at: https://safety.army.mil/OFF-DUTY/PMV-2/Training.aspx

What are the risk factors for motorcycle-related injuries?

Approximately two-thirds of motorcycle crashes involve another vehicle, the other third involve only the motorcyclist.[8,9] While common sense may suggest weather-related factors such as rain or slick, icy roads increase risk of a motorcycle injury, data indicate several individual characteristics or behaviors are more frequently associated with these accidents.

Males and those under 29 years of age are at greatest risk for having a motorcycle accident.[1,4,5,10] This demographic represents a substantial proportion of the military population, therefore it is especially important that military leadership try to address the behaviors that further contribute to a higher risk.

The three leading factors associated with motorcycle fatalities include: 1) alcohol use, 2) helmet use, and 3) lack of sleep. These critical behavioral risks can be fixed by an educated operator.[5] Use of helmets is mandated for Active Duty personnel[11] and is a proven way to save lives. In 2019, in states without universal helmet laws, 57% of motorcyclists killed were not wearing helmets, compared to 9% in states with universal helmet laws.[12]

Similar factors are statistically associated with a higher risk of non-fatal motorcycle-related injuries:[1,10,13,14]

- Alcohol consumption
- Not wearing a Department of Transportation (DOT)-compliant helmet
- Excessive speed
- Lacking a valid motorcycle license
- Novice rider
- Not wearing proper protective clothing
- Not wearing high-visibility clothing

Source: U.S. Army Combat Readiness Center

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How can you prevent motorcycle-related injuries?

Prevention Tactic	Supporting Information
HELMETS: • DOT- and Army-compliant, worn at all times[15]	• **Helmet use is proven to prevent motorcycle crash-related injuries.** Helmet use is estimated to reduce the risk of fatal injuries by 42% and reduce non-fatal head injuries by 69%.[9,16] Helmets are life-saving, cost-effective, and have saved billions of dollars in the U.S.[17]
DO NOT DRINK AND DRIVE: • Don't have even one drink if you will be operating a motorcycle • If you have been drinking, get a ride home • Don't let friends drive impaired – take away their keys	• Army Regulations outline disciplinary actions and requirements for monitoring Soldiers involved in alcohol or drug related incidents. Actions can include a bar to reenlistment and/or administrative separation. Soldiers should be aware of these consequences and learn how to avoid situations where they might drink and drive.[18] • There are **a number of proven community-based strategies to reduce drunk driving** (such as sobriety checkpoints and mass media campaigns).[19] If drunk driving is a concern in your community, consider working with public health and law enforcement organizations to address the problem.
AVOID EXCESSIVE SPEED	• Though there are no specific data for examining the effect of speed limits on motorcycle crashes, **speed camera networks** were found to decrease crashes that injured motorcyclists by 63%.[1]
LICENSE AND TRAIN • State and local licenses[15] • Motorcycle Safety Foundation-based Basic Rider Course[15]	• **Army unit commanders will ensure private motor vehicle safety inspections** are conducted; motorcycle inspections will include verification of rider training, licensing and personal protective equipment.[15] • While the extent that proper training will reduce the risk of crashes and injuries has still not been adequately studied, the greater amount of accidents in novice and unlicensed motorcyclists point to the benefits of training and licensing.[14]
PERSONAL PROTECTIVE EQUIPMENT (PPE): • Wear clothing suitable for motorcycle riding	• In addition to a DOT-compliant helmet, Army motorcyclists and passengers must wear: **eye protection** that meets American National Standards Institute (ANSI) Z87.1, **long pants**, **long-sleeve shirts**, **sturdy, over-the-ankle footwear**, and **full-fingered gloves**.[6,12,15] • Certified motorcycle jackets with padded sleeves, shoulders, and spine are recommended to prevent or reduce the severity of trunk injuries. Padded clothing has been shown to reduce the risk of fractures.[2,12] • **Wearing high-visibility clothing** has been found to reduce risk of having a crash.[1,12]

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