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Overview of Injuries among U.S. Active-Duty Service Members

What is an injury?

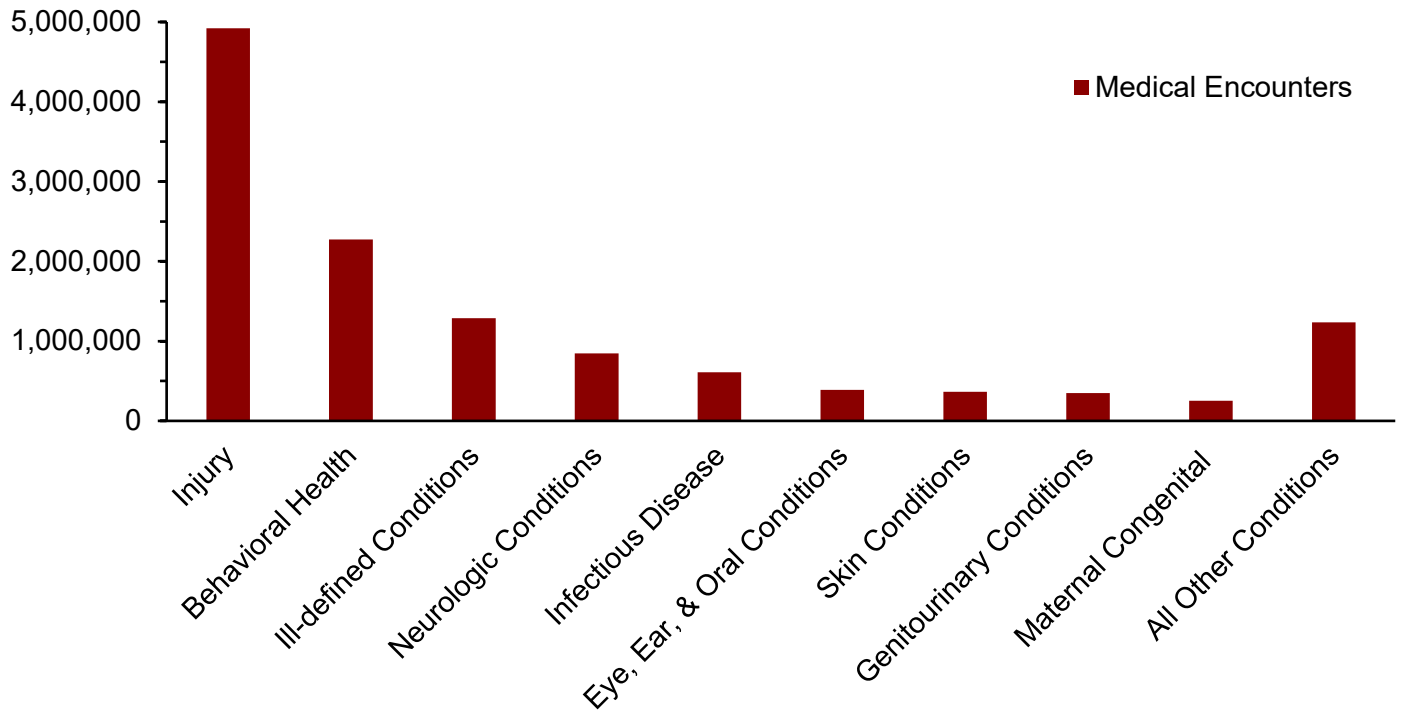
An injury is damage to the body from an external source (e.g., mechanical, environmental, radiation, or electrical).[1] Injuries can result from too much energy or a lack of energy (e.g., absence of oxygen or heat). Injuries do not include genetic, degenerative, mental, or pathogenic conditions.

What is the burden of injuries for Service members?

Over half of active-duty Service members, or approximately 700,000 personnel, are injured annually, impacting medical readiness.

- Injuries account for the highest number of medical encounters and personnel affected (Figure 1).[2]
- Active-duty Service members experience a staggering **25 million limited duty days** (i.e., cumulative time of Service members who are unable to perform required tasks without worsening an injury) annually due to musculoskeletal injuries (MSKI).[3]
- Both overuse and traumatic sudden impact injuries contribute to limited duty days, impacting Service member preparedness.

Figure 1. Relative Burden of Top DoD Active-Duty Injuries compared to Other Health Conditions, 2021



What are common injuries?

- Low back pain
- Knee sprains
- Shoulder strains
- Ankle sprains

Of the new injuries, 96% are caused by mechanical energy sources (like falls or lifting heavy objects).

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Overuse Injuries:

- Overuse injuries occur from a repeated, low-intensity force over time. Tissue damage occurs as the stress overwhelms the tissue's normal ability to recover. Out of all new injuries, 69% are MSKI caused by overuse.[1]
- Pain is often the first symptom and can start suddenly or gradually.
- Back and joint pain, stress fractures, shin splints, Achilles tendinitis, and bursitis are common overuse injuries.[4,5]

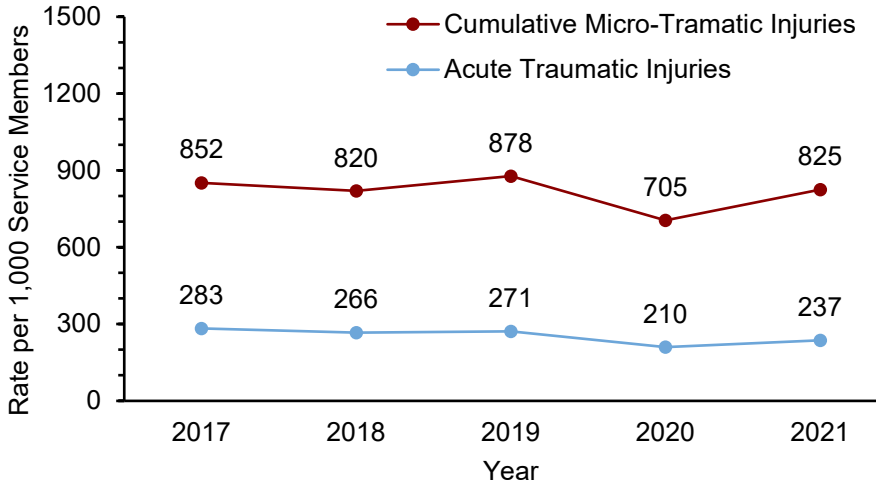
Traumatic Injuries:

- Traumatic injuries occur instantaneously from a high-intensity force or an abrupt movement such as a fall, a blow to the body, an awkward twist when lifting, or a sharp pivot.
- Injuries can also happen from a single, powerful force or sudden movement (like a fall or awkward lift). These are called traumatic or acute MSKI.

How have MSKI changed over time?

The majority of injuries among all Services are cumulative overuse injuries. See Figure 2 for military injury rate trends for 2017–2021, as reported in the 2021 *DOD Health of the Force* report.[6]

Figure 2. DoD Active-Duty Injury Trends, 2017–2021



How can leaders prevent MSKI?

Focusing on preventing MSKI can significantly reduce lost and limited duty days. While some injuries are unavoidable, many can be prevented!

- **Armed Forces Wellness Centers (AFWCs)** deliver evidence-based programs to target key injury risk factors and improve Service member readiness by reducing injury risk. https://ph.health.mil/organization/hpw/Pages/ArmyWellnessCenters.aspx
- **The Consortium for Health and Military Performance** provides research-based resources to maximize performance, fitness, wellness, and nutrition. https://www.hprc-online.org/ and https://rx3.usuhs.edu/
- **The Defense Centers for Public Health – Aberdeen (DCPH-A) Ergonomics Program** provides work-related ergonomic assessments and consultations to identify, assess, and recommend controls to minimize exposure to risk factors. https://ph.health.mil/topics/workplacehealth/ergo/Pages/default.aspx
- **The DCPH-A Injury Prevention Branch** provides military MSKI-related public health services. https://ph.health.mil/topics/discond/ptsaip/Pages/default.aspx

References

1 Hauschild V, et al. 2017. *A Taxonomy of Injuries for Public Health Monitoring and Reporting.* http://www.dtic.mil/docs/citations/AD1039481

2 Defense Centers for Public Health–Aberdeen. 2023. *U.S. All Services Injury Surveillance 2021 Summary.*

3 Ruscio BA, et al. 2010. "A process to identify military injury prevention priorities based on injury type and limited duty days." *Am J Prev Med* 38(1 Suppl):S19-S33. https://doi.org:10.1016/j.amepre.2009.10.004

4 Molloy JM, et al. 2020. "Musculoskeletal Injuries and United States Army Readiness Part 1: Overview of Injuries and their Strategic Impact." *Mil Med* 185(9-10):e1461-e1471. https://doi.org:10.1093/milmed/usaa027

5 Lovalekar M, et al. 2021. "Musculoskeletal injuries in military personnel–Descriptive epidemiology, risk factor identification, and prevention." *J Sci Med Sport* 24(10):963-969. https://doi.org:10.1016/j.jsams.2021.03.016

6 Armed Forces Health Surveillance Division. *DOD Health of the Force 2021*. https://www.health.mil/Reference-Center/Technical-Documents/2022/12/14/DOD-Health-of-the-Force-2021