



The Loss of a Limb

Limb loss can refer to the absence (or loss) of any part of an extremity, such as an arm or leg, due to surgical or traumatic amputation.¹ Military amputees, like the general military population, are typically young and healthy adults, while civilian amputees are more likely to be older adults with health issues.² Service members typically experience these traumatic injuries due to munitions blasts; such as from improvised explosive devices, landmines, and rocket-propelled grenades; small weapons fire, or motor vehicle accidents.^{2,3} Because of these munitions' blasts and the nature of military operations during the Global War on Terrorism (GWOT), lower-extremity amputations occur more frequently to service members than upper-extremity amputations.²

Prevalence:

- There are approximately 1.7 million people living with limb loss in the United States⁵
- The majority of new amputations occur due to complications of the vascular system (of or pertaining to the blood vessels), especially from diabetes⁷
- There have been over 1100 major or partial amputations during the GWOT⁷

These modern munitions deliver a high kinetic energy or force that can cause extensive injury to soft-tissue zones and may result in complicated wounds with long healing times.⁴ The blasts or explosions are capable of causing extensive injury to multiple extremities and also the amputation of more than one limb.⁴ When these munitions come into contact with a limb or limbs, a complex wound is created with fragments of the weapon and other debris driven into the body.⁴ The sheer force of the blast wave can completely remove clothing or boot(s) and therefore soft tissues may also peel away from the body.⁴ The blast also has the power to crush and strip bone(s), leaving exposed bone, a flap of skin, and other soft tissue with debris forced between planes (membranes that connect the skin to the muscles).⁴

Because of these factors, these amputations are complex and have no real counterpart in civilian trauma.⁴ It is difficult to immediately determine how much soft-tissue damage has occurred, these injuries often have much more soft-tissue damage than is initially apparent.⁴ It is very important to thoroughly examine the planes, failure to do so or to close the wounds prematurely may lead to sepsis (multisystem organ failure due to systemic infection) and the need to re-amputate more of the extremity at a higher and often less functional level.⁴

Today's military has advanced significantly in body armor, allowing many service members to live through these events.² Also, there is a system in place, medical evacuation, to provide injured service members in the battlefield with quicker access to advanced life support, effective technological care in the field, and then the ability to more rapidly transport the injured over long distances to highly capable hospitals or military treatment facilities.² Usually, after further medical evaluation, the injured are evacuated from the theater of war to Germany and then to the United States in approximately one week (on average).³ The majority of amputee service members receive a major portion of their initial amputee rehabilitation at the Amputee Center at Walter Reed Army Medical Center (WRAMC) in Washington, D.C. and Brooke Army Medical Center in Fort Sam Houston, TX.^{3,9}

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