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Abstract Title:	**An Overview Of US Service Members With Combat-Related Amputation And Burn Injuries**
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Objective:	1) Discuss differences in injury characteristics between burn-injured service members with and without additional extremity injuries. 2) Recognize differences in injury characteristics between service members with burn-related amputation and the greater population of service members with non-related burn amputations. 3) Consider the impact differences in injury and amputation characteristics may have on treatment and outcomes.
Abstract:	**Background:** Burn injuries are a common combat injury and comprise anywhere from 5%–20% of battlefield injuries, with the hands and face being the most commonly affected areas. Burns to the extremities, particularly the hands, are especially devastating, with negative effects ranging from functional impairment to limb loss. To increase the understanding of the relationship between burn injuries and amputation, the present study provides a thorough description of burn-injured Service Members (SM) with combat-related amputation. **Methods:** Using injury-specific Abbreviated Injury Scale codes, the Expeditionary Medical Encounter Database (EMED)—a repository containing deployment-related medical encounter information—was queried for all Service Members (SM) with combat-related major amputations (those of partial hand or foot and greater) occurring from 2001 to 2017 (N = 1,705.) Of these, 65 sustained a concurrent burn injury and were further subset into 2 groups: 1) SM with amputation and burn injury but no additional extremity injury (AB; n = 10); and 2) SM with amputation and burn injury and additional extremity injury, such as fracture or open wound (ABE, n = 55.) Other data collected from the EMED included birthdate, sex, service branch, pay grade, injury mechanism, posture (mounted or dismounted), Injury Severity Score (ISS), amputation timing, and anatomical information. SM who died of wounds or were killed in action were excluded from this study. Descriptive statistics were used to characterize and assess the differences among SM based on presence or absence of extremity injury.

	Additionally, select measures from both AB and ABE groups were compared to the remaining group of SM with amputation and no burn injury (n = 1,640). **Results:** The AB group consisted of 10 SM with 10 amputations while the ABE group was comprised of 55 SM with 64 amputations. The entire population (N = 65) was exclusively male and the 2 groups were similar by: age at time of injury (27.0 years, AB; 25.9 years, ABE); service branch (AB, 90% Army, 10% Marine Corps; ABE, 80% Army, 17% Marine Corps); and pay grade (AB, 100% E1–E6; ABE, 87% E1–E6). Ninety-percent of the AB group was injured in a mounted blast event compared to 76% of the ABE group and only 42% of SM with amputations and no burns. The AB group was more likely to sustain severe injuries, with a mean ISS of 33.1, compared to 22.3 (ABE) and 18.4 for SM with amputations and no burns. The burden of total amputation was proportional between both AB and ABE groups. However, major differences in amputation location were observed. The AB group sustained exclusively UE amputations, while 81% of the ABE amputations were located in the lower extremities, similar to amputations with no burns at 86%. Finally, timing of amputation was similar between both AB and ABE groups, with 91% and 89%, respectively, sustaining delayed amputations (defined as occurring more than 24 hours after the injury event). In contrast, only 24% of amputations with no burns were delayed. **Conclusion:** This study provides an overview of US SM with burn-related combat amputations and a comparison between SM with and without any additional extremity injuries and additionally, SM with amputations with no burn injuries whatsoever. The information presented can be used to support and facilitate further research into those with burn-related combat amputations. Future steps include examining the combat burn-injured population as a whole and identifying factors associated with injury progression to delayed amputation.