Health Outcomes Following Extremity Trauma

Five-Year Health Care Utilization Trends Following Combat Amputation

Over 90 percent of patients who sustained major limb amputations in the Iraq and Afghanistan conflicts have received care from both the Department of Defense (DoD) and the Department of Veteran Affairs (VA) medical facilities in the years after injury. Little previous research has described the types of clinics and care received at these facilities, the post-injury timing for the various types of care, and the levels of patient flow and/or care between DoD and VA facilities. This had been partly due to the difficulty of accessing and integrating DoD and VA health data. As part of the ongoing work of defining and understanding the extremity trauma and amputation populations, the Extremity Trauma and Amputation Center of Excellence (EACE) funded this study. The present study population was 581 patients who sustained combat-related, unilateral limb amputations from 2003–2008, representing approximately 95 percent of the unilateral amputation population for that period.[1] Patients were divided into upper extremity (n = 141) and lower extremity groups (n = 440), and their clinical experience was tracked for five years post-injury using both DoD and VA national databases, with the last patients completing five year follow ups in 2013. DoD clinic codes are recorded as Medical Expense Performance Reporting System codes, while the VA uses Decision Support System identifiers, commonly referred to as Stop Codes. For some clinic types, there is not a one-to-one correspondence between the DoD and the VA clinic codes. Overall results were tracked year-to-year over the five-year period for those who stayed in DoD clinics, those who migrated to VA clinics, and those who used both DoD and VA clinics. For most patients in the unilateral amputation group, there was not a distinct transition from DoD clinics exclusively to VA clinics exclusively. Rather the majority used both DoD and VA clinics in the first two years post-injury. The overall result was a steady decline in the percentage of patients treated at both DoD and VA facilities in the same year, and a sharp rise in the percent of patients treated exclusively at VA facilities. Gradual but significant declines in the use of DoD clinics from year one post-injury to year three post-injury were seen in the physical and occupational therapy clinics as well as the orthopedic and psychiatric clinics. By the fifth year post-injury, over 75 percent of the upper and lower amputation groups had migrated exclusively to VA clinics, with the social work, mental health, and physical therapy clinics having the largest number of patients. While most patients with major limb amputations transitioned to VA clinics within five years post-injury, the transition from DoD clinics was gradual, with the majority of patients using both DoD and VA clinics for several years. Possible future research should include more in-depth analysis of specific clinic types and examination of usage patterns by demographic or health condition subgroups.

This research provides an initial evidence base to help DoD and VA healthcare systems and providers improve planning and coordination for the multiple years of rehabilitation care required following combat-related amputations. To our knowledge, the present study provides some of the first results to identify the different types and post-injury timing for outpatient clinical care used by patients as well as whether the care is provided by DoD, VA or both healthcare systems. Ultimately this research can optimize long-term clinical treatment pathways for patients with combat-related amputations.

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1 Walker J., Melcer T., Bhatnagar V., Richard E., Galarneau M.R. (2016). Five-Year Health Care Utilization Trends Following Combat Amputation. Presented at the Military Health Systems Research Symposium. Kissimmee, Florida.