Extremity Trauma Health Outcomes

Rehabilitation and Multiple Limb Amputations: A Clinical Report of Patients Injured in Combat

Service members who sustained multiple limb amputations in the Iraq and Afghanistan conflicts present new challenges for rehabilitation care providers at the Department of Defense (DoD) and U.S. Department of Veterans Affairs (VA). These patients were among the most serious cases of complex blast injuries in the Afghanistan conflict including high-level amputations (e.g., hip disarticulation). Researchers at the Naval Health Research Center (NHRC; San Diego, California) described the outpatient rehabilitation program for patients with multiple limb amputations enrolled in the Comprehensive Combat and Complex Casualty Care (C5) facility at the Naval Medical Center San Diego (San Diego, California). Injury-specific data were reviewed for 29 of these patients wounded by blast weaponry in Afghanistan in 2010 or 2011 and captured by the NHRC's Expeditionary Medical Encounter Database. Their median Injury Severity Score was 27 (n = 29; range, 11-54). Patients averaged seven moderate-to-serious injuries (Abbreviated Injury Scale scores = or > 2), including multiple injuries to lower limbs and injuries to the torso and/or upper limbs (*Melcer et al. 2016*).

All patients received care from numerous clinics, particularly physical therapy during the first six months postinjury. Clinic use generally declined after the first six months except for prosthetic devices and repairs. The clinical team implemented the Mayo-Portland Adaptability Inventory, 4th Revision (MPAI-4) to assess functioning at outpatient program initiation and discharge (n = 23). At program discharge, most patients had improved scores for the MPAI-4 items assessing mobility, pain, and transportation, but not employment (Figure 1). Case reports described rehabilitation for two patients with triple amputations and illustrated multispecialty care and contrasting solutions for limb prostheses.

These findings afford DoD and VA providers a better understanding of this unique patient population.

This study was funded by the Navy Bureau of Medicine and Surgery Wounded, Ill, and Injured Program.

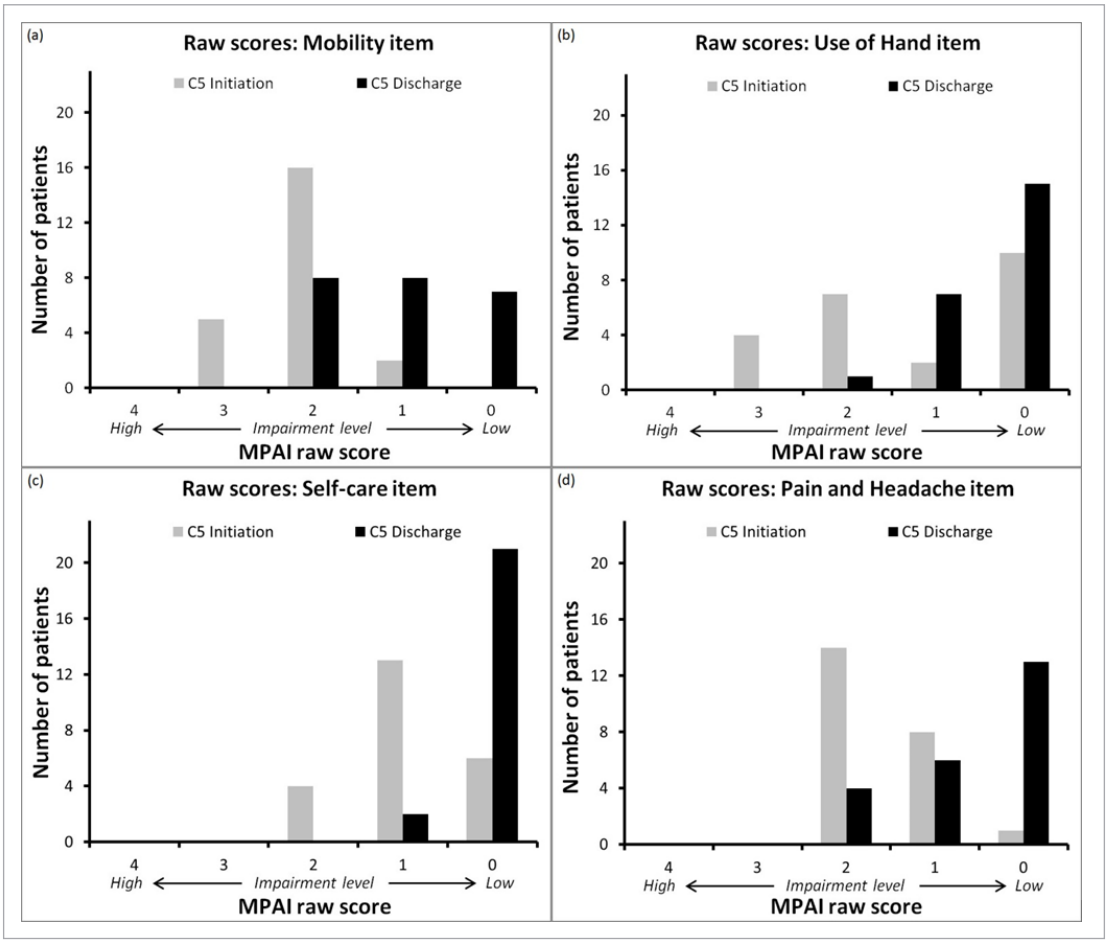

FIGURE 1: Frequency of patients (n = 23) at program initiation and discharge with MPAI-4 raw scores for the (a) mobility, (b) use of hand, (c) self-care, and (d) pain and headache items. MPAI-4 raw scores: 4 = impairment interferes with activity >75 percent of the time; 3 = impairment interferes with activity 25–50 percent of the time; 2 = impairment interferes with activity <25 percent of the time; 1 = impairment does not significantly interfere with activity; 0 = no impairment. C5 = Comprehensive Combat and Complex Casualty Care. (Figure 2 from Melcer et al. (2016) used with permission from the authors)

REFERENCES:

Melcer, T., Pyo, J., Walker, J., Quinn, K., Lebedda, M., Neises, K., Nguyen, C., and Galarneau, M. 2016. "Rehabilitation and Multiple Limb Amputations: A Clinical Report of Patients Injured in Combat." J Rehabil Res Dev 53 (6):1045-1060. doi: 10.1682/JRRD.2014.09.0219.