Extremity Trauma Health Outcomes

Four-year Health Outcomes Following Combat Amputation and Limb Salvage

Little research has described the long-term health outcomes of Service members who had combat-related amputation or leg-threatening injury in the Iraq and Afghanistan conflicts. Researchers at the Naval Health Research Center (San Diego, California) conducted retrospective analysis of Department of Defense and U.S. Department of Veterans Affairs health data for Service members who sustained combat-related lower limb injuries with (1) unilateral amputation within 90 days postinjury (early amputation, n = 440), (2) unilateral amputation more than 90 days postinjury (late amputation, n = 78), or (3) leg-threatening injuries without amputation (limb salvage, n = 107). Service member medical records were analyzed for four years postinjury. After adjusting for group differences, early amputation was generally associated with a lower or similar prevalence for adverse physical and psychological diagnoses (e.g., pain, osteoarthritis, posttraumatic stress disorder [PTSD]) versus late amputation and/or limb salvage. By contrast, early amputation was associated with an increased likelihood of osteoporosis during the first year postinjury. The prevalence of PTSD increased for all patient groups across the first four years, particularly in the second year postinjury (*Melcer, Walker, et al. 2017*; Figures 1 and 2).

These findings can inform and optimize the specific treatment pathways that address the physical and psychological healthcare needs of patients who undergo early or late amputation and limb salvage.

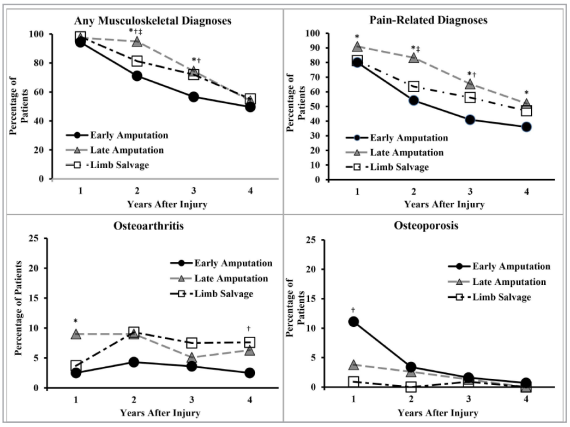

FIGURE 1: Prevalence of Selected Physical Health Complications by Time After Injury. Statistically significant difference between groups, using chi-square or Fisher's exact test as appropriate, $p < 0.05$ were *early amputation versus late amputation, [2]early amputation versus limb salvage, and [3]late amputation versus limb salvage. (Figure from Melcer, Walker, et al. (2017) used with permission from the authors)

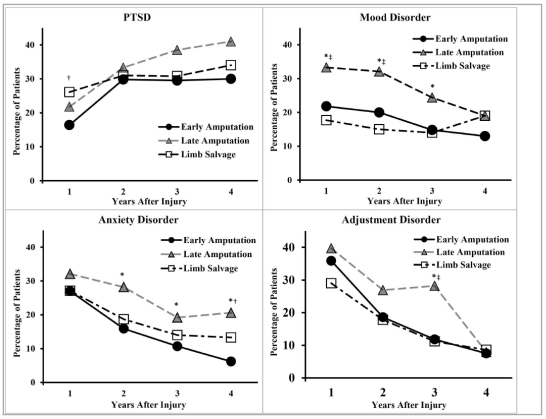

FIGURE 2: Prevalence of Selected Psychological Disorders by Time After Injury. Statistically significant difference between groups, using chi-square or Fisher's exact test as appropriate, $p < 0.05$ were *early amputation versus late amputation, [2]early amputation versus limb salvage, and [3]late amputation versus limb salvage. PTSD = posttraumatic stress disorder. (Figure from Melcer, Walker, et al. (2017) used with permission from the authors)

This study was funded by Extremity Trauma and Amputation Center of Excellence and the Navy Bureau of Medicine and Surgery Wounded, Ill, and Injured.

REFERENCES:

Melcer, T., Walker, J., Bhatnagar, V., Richard, E., Sechriest, V. F., 2nd, and Galarneau, M. 2017. "A Comparison of Four-Year Health Outcomes Following Combat Amputation and Limb Salvage." PLoS One 12 (1):e0170569. doi: 10.1371/journal.pone.0170569.