



US DEPARTMENT OF DEFENSE BLAST INJURY RESEARCH PROGRAM COORDINATING OFFICE

Quality of Life

Functional Status and Quality of Life in Service Members with Deployment-related Amputations

Extremity injuries comprised the largest proportion of injuries in the most recent conflicts, and the most serious of these are amputations. Service members with amputations experience numerous challenges, yet few studies have explored long-term functional limitations associated with amputation or the impact of functional status on quality of life (QOL). Data from the Wounded Warrior Recovery Project (WWRP), a longitudinal examination of QOL among combat-injured Service members, was used by the Naval Health Research Center to help address this gap. Between June and December 2016, WWRP participants indicating they used a lower limb prosthesis reported on their functional status using the 20-item Orthotics and Prosthetics Users™ Survey (OPUS). The present study examined functional status and QOL among participants with a deployment-related lower limb amputation (n = 81). Functional status was indicated by summing OPUS items, with lower scores representing lower levels of impairment. Overall QOL and four unique QOL attributes were computed using the Quality of Well-Being Scale Self-Administered (Eskridge, McCabe, et al. 2017; Figure 1).

Of the 81 participants, 72 percent had a below knee amputation, while 28 percent had an above knee amputation. In addition, 84 percent had a unilateral lower limb amputation, and 16 percent had a bilateral lower limb amputation. Subjects with a unilateral lower limb amputation had significantly higher mean total OPUS scores (higher representing better outcomes) compared with bilateral lower limb amputation subjects (47.6 versus 37.8; $p < 0.01$) (Figures 2, 3, and 4).

Considering the lifelong challenges facing service members with deployment-related amputations, assessing functional status and QOL is a critical first step toward optimizing care to improve long-term outcomes.

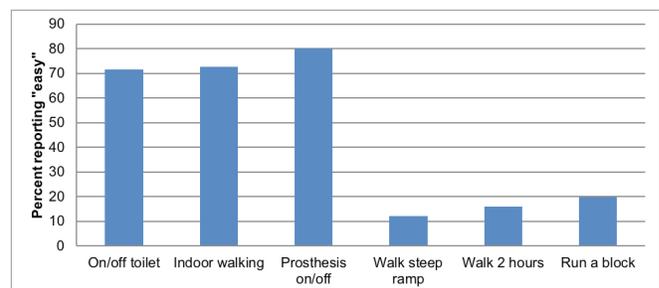


FIGURE 1: Three least and most difficult activities as assessed by OPUS. Figure legend. Over 70 percent of participants reported everyday household activities as "easy," while fewer than 20 percent of participants reported high level activities as "easy." (Figure used with permission from the authors)

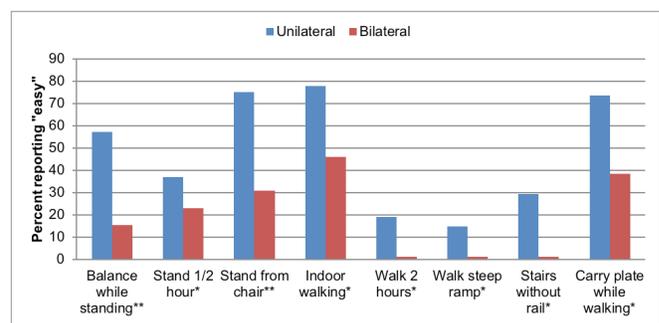


FIGURE 2: Significant difference in reported difficulty: Unilateral/bilateral. Figure legend. Eight out of twenty survey items were significantly different between unilateral and bilateral amputations. Participants with unilateral amputations consistently reporting these activities as "easy" compared to bilateral amputations. * $p < 0.05$; ** $p < 0.01$; Fisher exact test. (Figure used with permission from the authors)





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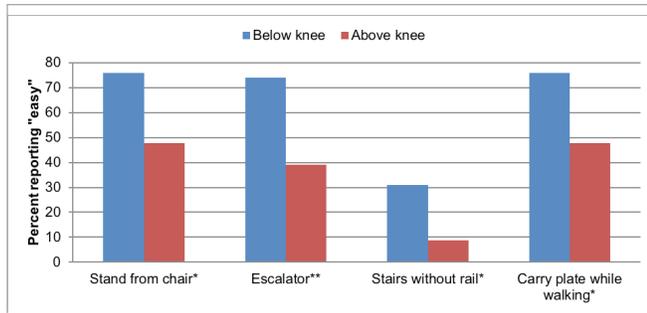


FIGURE 3: Significant difference in reported difficulty: Below knee/above knee. Figure legend: Fewer differences in individual activities between below and above knee amputation compared with unilateral and bilateral amputations. * $p < 0.05$; ** $p < 0.01$; Fisher exact test. (Figure used with permission from the authors)

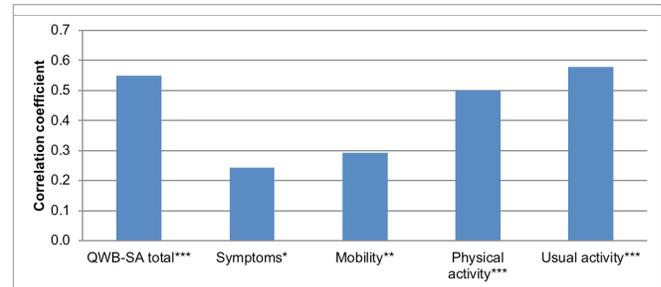


FIGURE 4: Correlation with total OPUS score and total QWB and attributes. Figure legend. Significant correlation exists between total OPUS scores and total QWB-SA score as well as the four attributes, with moderate correlations with total QWB-SA scores, physical activity, and usual activity attributes. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$ (Figure used with permission from the authors)

REFERENCES:

Eskridge, S. L., McCabe, C. T., Sack, D. I., Skidmore, J., Clouser, M. C., and Galarneau, M. R. 2017. "Functional Status and Quality of Life in Service Members with Deployment-Related Amputations." Military Health System Research Symposium (MHSRS), Kissimmee, FL, August 27-30, 2017.

