



US DEPARTMENT OF DEFENSE

BLAST INJURY RESEARCH PROGRAM COORDINATING OFFICE

Extremity Injury Management

Low Back Pain in Persons with Lower Extremity Amputation: A Systematic Review of the Literature

Investigators at the Extremity Trauma and Amputation Center of Excellence (EACE; Tampa, FL) and the University of South Florida in Tampa, FL, performed a systematic review of the literature relating the presence and severity of lower back pain secondary to lower extremity amputation to determine the strength of evidence behind statements used to guide research and clinical practice (*Highsmith et al., 2018*). Eight empirical evidence-based statements were synthesized within the following categories: epidemiology, amputation level, function, disability, leg length, posture, spinal kinematics (mechanics), and osseointegrated (integrated into the bone) prostheses. Only the statements on epidemiology were moderately supported (by eight moderate quality studies). The four statements on amputation level, leg length, posture, and spinal kinematics were supported by evidence at the low confidence level. The remaining three statements on function, disability, and osseointegrated prosthetic use were all supported by single studies or had comparable evidence that disagreed with study findings rendering insufficient evidence to support the statements.

Based on the state of the current evidence, appropriate preventative and treatment strategies to manage lower back pain in persons with lower extremity amputation remain a knowledge gap for future study.

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REFERENCES:

Highsmith, M. J., Stevens, P. M., Orendurff, M. S., & Kannenberg, A. (2018). Advancements in prosthetics and orthotics: overview of the Journal of NeuroEngineering & Rehabilitation's special topic edition. *J Neuroeng Rehabil*, 15(Suppl 1), 52. doi:10.1186/s12984-018-0399-2

