Extremity Trauma Health Outcomes

Comprehensive Evaluation of Deleterious Secondary Health Conditions Following Traumatic Extremity Injuries

Advances in field-based trauma care, surgical techniques, and protective equipment have collectively facilitated the survival of a historically large number of Service members following combat trauma; although many sustained significant composite tissue injuries to the extremities, including limb loss and limb salvage. Beyond the acute surgical and rehabilitative efforts that focus primarily on wound care and restoring mobility, traumatic limb loss and limb salvage are associated with several debilitating longer term secondary health conditions (e.g., low back pain, osteoarthritis, and cardiovascular disease [CVD]) that can adversely impact physical function and quality of life. Comprehensive, biopsychosocial based studies which aim to characterize the onset, progression, and recurrence of health conditions secondary to limb loss and salvage are currently underway (*Butowicz, Acasio, and Hendershot 2017, Butowicz, Dearth, and Hendershot 2017, Farrokhi, Mazzone, Schneider, et al. 2017, Golyski and Hendershot 2017, Hendershot, Butowicz, et al. 2017, Hendershot, Dearth, et al. 2017, Hendershot, Shojaei, and Bazrgari 2017, Yoder et al. 2017*; Figure 1). These studies were conducted by Extremity Trauma and Amputation Center of Excellence researchers (Walter Reed National Military Medical Center, San Antonio Military Medical Center, Naval Medical Center San Diego).

An increased prevalence of and risk for lower back pain, osteoarthritis, and CVD among the relatively young cohort of Service members with limb loss and limb salvage significantly impact physiological and psychological well-being, particularly over the next several decades of their lives.

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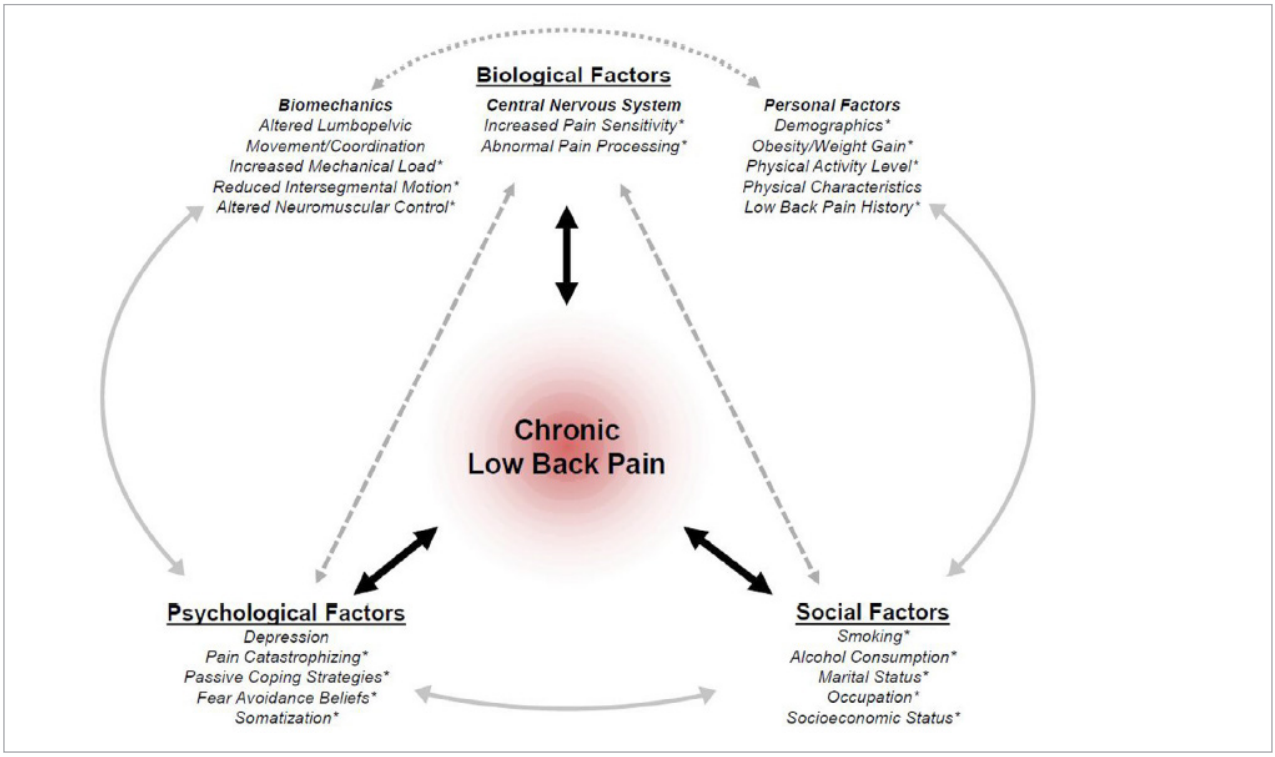

FIGURE 1: Individual components (and their potential associations) of the biopsychosocial model of low back pain likely influenced or amplified by lower limb amputation. The *symbol identifies the components of the model that are supported in the literature for the general low back pain patient population but lack validation by studies performed in patients with lower limb amputation and low back pain. (Figure from Farrokhi, Mazzone, Schneider, et al. (2017) used with permission from the authors)

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