Appropriate Interpretation and Application of a Clinical Classification Scheme to Describe Dynamic Knee Stability After ACL Injury

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To the Editor: We would like to point out inaccuracies in the interpretation and application of our work in a recent article by Melnyk et al. (2007) that reported on changes in stretch reflex excitability after anterior cruciate ligament (ACL) rupture. Subjects were divided into two groups (“coper” and “noncoper”) based on responses to four questions about the subjective symptom of knee giving way. Subjects that experienced giving way were classified as noncopers. The authors stated that their classification scheme was “more strict” than the classification scheme used in our work in which patients may ultimately be classified as copers in spite of experiencing one episode of giving way. Furthermore, the authors stated they did not use physical scores for their classification because their criterion of interest was the symptom of giving way.

Our clinical classification scheme was developed to differentiate the neuromuscular characteristics and response to rehabilitation of individuals that return to high-level function after ACL injury (copers) and those who cannot because of giving way (noncopers). Our operational definition of copers includes a return to high-demand activities (e.g., those that require cutting, jumping, or pivoting) without symptoms of giving way (Snyder-Mackler et al. 1997), and the definition has evolved to require this for 1 yr (Rudolph et al. 2001). We specifically chose these criteria because many patients with ACL injury are able to function without giving way as long as they reduce their activity level (Ciccotti et al. 1994); we perceive this as adapting to the injury as opposed to showing coping mechanisms. In addition, the 1-yr requirement was set because it is our clinical experience that patients can often return to high-demand sports for short periods of time before experiencing giving way. We contend that the classification scheme used by Melnyk et al. is less rigorous as their coper group was <1 yr from injury and was only required to report the absence of giving way during activities of daily living.

Eastlack et al. (1999) conducted the initial study in defining the characteristics of coper and noncoper groups. A combination of self-report and physical scores (i.e., single-leg cross-over hop test) predicted coper and non-coper groups with 97% sensitivity and 92% specificity. Fitzgerald et al. (2000) applied a similar battery of tests within the first 6 mo after ACL injury to acutely differentiate potential copers from noncopers. Together, self-report and physical scores accounted for 72% of the variance in the group assignment. Although one episode of giving way was allowed for potential coper assignment, 79% of potential copers returned to high-demand activities without giving way, which is superior to success rates reported in the literature for nonoperative management (Fitzgerald et al. 2000). The results of these studies indicate the importance and contribution of physical scores in defining capacity for dynamically stabilizing the ACL-injured knee.

Although we are excited to see references to our work, it is important to clarify that classification based on the symptom of giving way alone is not comparable with our classification scheme. We are concerned that the use of similar classification categories (e.g., copers and noncopers), without application of our screening tool, will confuse the readership and produce a misconception that results of the Melnyk et al. paper can be directly compared with our studies.

References