

## Joint Laxity is Predictive of Injury in Women's Collegiate Soccer Players

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### ABSTRACT

Joint laxity assessment has been purported to be a valid and reliable screening tool for injury prediction in multiple populations. **PURPOSE:** The purpose of this investigation was to assess relationships which may exist between joint laxity and injury rates throughout a women's NCAA Division II Collegiate Soccer season. **METHODS:** Twenty-eight women (age  $19.7 \pm 1.6$  yrs, height  $1.6 \pm 0.5$  m, mass  $63.4 \pm 7.9$  kg) were assessed using the Lachman, anterior drawer of the ankle, medial and lateral talar tilt, and Thessaly's tests prior to a competitive season. Injury rates, types, and time lost from participation were tracked throughout the season. Injury information was coded and categorized each week in the following: acute vs. chronic; soft vs. hard tissue; upper vs. lower body; specific anatomical location; contact vs. non-contact; week of injury occurrence; practice days missed from injury; and games missed from injury. Association was measured via a Spearman's rank correlation coefficient and a stepwise linear regression was performed for any variables which showed significant correlation to determine predictive relationships which may exist. Joint laxity tests were evaluated independently by multiple raters and inter-rater reliability was high (Cohen's Kappa = 0.901-1.0,  $p=0.001$ ). Statistical significance was set *a priori* at  $p \leq 0.05$ . **RESULTS:** Significant correlation and prediction were observed between joint laxity as assessed via the anterior drawer of the ankle test and injury ( $r=0.57$ ,  $p \leq 0.05$ ;  $Y=2.6-0.80(X)$ ,  $p=0.001$ ). **CONCLUSION:** The main finding of this investigation is that joint laxity as assessed via the anterior drawer of the ankle test was associated with joint and ligament injuries in women's collegiate soccer athletes through the course of a competitive season. Additional investigations should explore mechanisms behind this relationship. In addition, sports medicine professionals and coaches may wish to consider the use of this test as a potential screening tool for injury risk as well as interventions to enhance joint stability for athletes who are suspected of being positive on this test.