INTRODUCTION
In medical practice, it is assumed that the two knees are equal in the amount of knee laxity prior to an injury. Therefore, when diagnosing and assessing the extent of the injury and setting rehabilitation goals, the un-injured side is used for comparison.

The effect of dominance is evident in the upper extremity (dominant shoulder being lower than the non-dominant and differences in grip strength) (Lee, Yang, Kim, Choy, 2013; Nicolay, Walker, 2005; and Ramsi, Swanik KA, Swank CB, Straub, Mattacola, 2004), but the effect of dominance on the lower extremity has not been established in the literature.

Past research studies have identified differences in anterior knee laxity between the right and left lower extremity (Rosene and Forgarty, 1999; Sernet, et al., 2004; Lin, et al. 2009; Markolf, Graff-Radord, and Amstutz, 1978; Ergun, Islegen, and Taskiran, 2004). Due to the use of different methods and comparison groups, overall the literature has been non-conclusive.

So what if the two knees do not have similar amounts of laxity to start with? This would make the use of the un-injured side for comparison less effective when assessing and treating knee injuries.

The purpose of this study was to compare the amount of anterior translation of theibia on the femur in dominant and non-dominant knees of collegiate soccer players and age matched normals.

METHODS

Subjects
30 collegiate level soccer players (mean age 20.57 +/- 1.87, range 18-26)
28 age matched normals (mean age 21.71 +/- 1.72, range 19-25)

Procedure
Anterior tibial translation (ATT) was tested on each knee at each testing condition of 67 N, 89N, 134 N, manual maximum drawer test, and quadriceps active drawer test using the KT 1000 arthrometer. Two trials were completed for each knee and averaged together for analysis. After testing, each subject reported on the backside of the questionnaire his or her dominant leg (defined as the preferred kicking leg). This blinded the tester to the dominant extremity until post-testing.

RESULTS

There is a difference in the amount of ATT between Non-dominant and dominant knees in both groups, with the non-dominant knee having greater ATT displacement values. No significant difference in ATT was found between groups when comparing soccer players to age-matched normals.

CONCLUSION

Leg dominance has a significant effect on anterior knee laxity, with the non-dominant leg having greater ATT values. This makes the clinical use of the contralateral leg as a comparison for the degree of joint laxity suboptimal for rehabilitation. While recognizing that the contralateral leg is the only tool available for the clinician to compare the injured extremity to, it may be important to keep in mind that the extremities may not have been similar prior injury. When evaluating the patient, the clinician may want to assess leg dominance as part of the examination to help determine which leg may have had a greater amount of ATT prior to injury.