 RELIABILITY OF INSTRUMENTED EXAMINATION OF KNEE LAXITY

PURPOSE
The use of knee joint arthrometers has become widespread in the assessment and follow-up of anterior cruciate ligament injuries. In addition, most anterior cruciate ligament research involves the use of a knee joint arthrometer for the measurement of anterior tibial translation. Anterior tibial translation in the patient with anterior instability is indicative of the integrity of the anterior cruciate ligament.

Queale et al. have demonstrated that the Medmetric KT-2000 arthrometer is reliable between trials as well as between days and testers. Recently, in Europe, Monitored Rehab Systems introduced the Kneelax as another means of quantitatively measuring anterior tibial translation at the knee.

The purpose of this study was to assess the reliability of the Kneelax 3 joint arthrometer in the measurements of anterior tibial translation as well as comparing the device of the KT-2000.

RELEVANCE
This study fits into the World Congress central theme of Dimensions of Excellence by evaluating the reliability of effectiveness of the Kneelax 3 joint arthrometer.

SUBJECTS
18 Knees from 9 healthy individuals (mean age = 26.6 years) voluntarily consented to participate in this study.

ANALYSIS/RESULTS
Means and standard deviations for anterior tibial translation were calculated for each device. A repeated measured ANOVA for each set of variables was calculated. Within days, intertrial reliability was extremely high for both the Kneelax 3 and KT-2000 (.95). Interested reliability was also high for the Kneelax 3 (.92) and slightly lower for the KT-2000 (.85).

Between day reliability was higher for the Kneelax 3 (.94) than for the KT-2000 (.80).

CONCLUSIONS
It can be concluded from this study that both devices for measuring anterior tibial translation have a high degree of reliability. Between day reliability which takes into account the added variable of removing and reattaching the device, which is often performed in the clinical setting, was high for both devices, however significantly higher for the Kneelax 3 than for the KT-2000.

This is an important finding in that it will allow for repeated measures of ACL integrity following injury-repair.