TEST-RETEST RELIABILITY OF SINGLE ARM CLOSED KINETIC CHAIN UPPER EXTREMITY STABILITY TEST

Andy Waldhelm, Eddie Austin, Stephanie Kanine, Mareli Klopper, Ron Masri

South College
School of Physical Therapy

Introduction

There is a lack of research on return to sport assessment in the upper extremities

The Closed Kinetic Chain Upper Extremity Stability Test is commonly used to assess power and muscular endurance but:

- Does not provide information on limb asymmetry
- Does not individualize hand starting position

Purpose

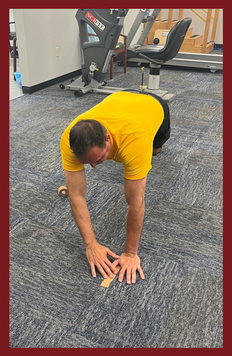
The aim of this study is to determine the test-retest reliability of a new single arm CKCUEST which is individualized by the participant's arm length and since the test is performed with one arm at a time, limb symmetry can be determined.

Subjects

Participants included 12 healthy individuals, 3 female, 9 males with an average age of 23.6. All participants provided verbal and written consent before they participated.

Methods

- Two testing sessions, 3 to 7 days apart
- Test was performed in the push-up position, thumbs placed parallel and at a distance equal to the arm length of the participant's dominant arm with feet shoulder-width apart.
- Participants were instructed to keep their testing hand stable on the floor while the other hand reached across their body to touch the opposite hand, then return to the starting position which is marked with athletic tape.
- Participants performed the movement as quickly as possible for 15 seconds with each time returning to the starting position counting as one touch.
- Touches were not counted if the participant did not touch the stationary hand, did not return to the starting position, if the participant moved their feet from shoulder width apart.
- One practice trial and three test trials with each hand, alternating stationary hands.
- The average number of touches for the three trials was used for analysis. Interclass Correlation Coefficients (ICC(3,1)) were used to determine test-retest reliability.



Results

Test-retest reliability was excellent with ICC=.942 for the dominant arm and ICC=.966 for the non-dominant arm.

Conclusion

Results indicate the new single arm CKCUEST, which is individualized by arm length and provides a limb symmetry measurement, is very reliable among healthy young adults.

The new single CKCUEST is a reliable measurement, but more research is needed to determine if it can be used to identify individuals at risk for injury or safe to return to sport following an upper extremity injury.

References

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