

Validity and reliability of the Dutch version of the Cumberland Ankle Instability Tool (CAIT)

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Abstract

Background: Many questionnaires exist to evaluate foot and ankle complaints. Only a few have been validated for patients with ankle instability. These questionnaires, however, do not evaluate instability specific complaints.

Purpose: To develop a Dutch translated version of the Cumberland Ankle Instability Tool (CAIT) and test its psychometric properties in the Dutch population.

Methods: The CAIT was translated into the Dutch language using a forward-backward translation design. All subsequent patients visiting the outpatient clinic were asked to fill out a questionnaire containing the CAIT, the Foot and Ankle Outcome Score (FAOS) and the Numeric Rating Scale (NRS)-pain. One week later patients were asked to fill out a second questionnaire online containing the CAIT and NRS-pain. With this data, the construct validity, test-retest reliability, internal consistency, measurement error and ceiling and floor effects were assessed. Additionally a cut-off value was calculated, to discriminate between stable and unstable ankles, in patients with ankle complaints.

Results: Construct validity showed moderate correlations between the CAIT and FAOS subscales (Spearman's correlation coefficient (SCC) 0.36-0.43), and the NRS pain (SCC -0.55). Test-retest reliability showed to be moderate with an Intraclass Correlation Coefficient of 0.679. Internal consistency was high (Cronbach's $\alpha = 0.856$). No ceiling or floor effects were detected. The cut-off value was found at 11.5 points of the total CAIT score (range 0-30).

Conclusion: Based on the results the Dutch version of the CAIT is a valid and reliable questionnaire to assess ankle instability in the Dutch population and to differentiate between a functionally instable and stable ankle.