COMPARISON OF HIP FLEXOR FLEXIBILITY IN PRONE WITH THE MODIFIED THOMAS TEST POSITION

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BACKGROUND AND PURPOSE: Hip flexor tightness is associated with several musculoskeletal conditions. Most often, hip flexor tightness is measured using the Modified Thomas Test, and published studies show fair to excellent reliability. For clinicians who utilize a prone position for hip flexor flexibility assessment, the reliability and validity are unknown. This study aimed to establish the psychometric properties of a prone measure of hip extension and compare it to the Modified Thomas Test.

SUBJECT(S): Forty healthy adults (12 men, 28 women), ages 22-44, participated. The subjects did not have a history of hip pathology or surgery.

METHODS AND MATERIALS: A cross-sectional non-experimental design was utilized. Two examiners measured hip flexibility bilaterally for each subject using a digital inclinometer and rated each hip as positive or negative in the Modified Thomas Test and prone positions. Measurements were re-tested by the second examiner one week later.

ANALYSES: Reliability was determined for both measurements using the Intraclass Correlation Coefficient (ICC). Paired t-tests, kappa coefficients, and chi-square analyses were used to compare positive and negative ratings.

RESULTS: ICC values of the prone test (inter-rater: .599; intra-rater: .736) and Modified Thomas Test (inter-rater: .887; intra-rater: .518) showed moderate to excellent agreement. Kappa values for the prone technique (inter-rater: .576, intra-rater: .679) and Modified Thomas Test (inter-rater: .545, intra-rater: .648) for therapist ratings showed moderate to substantial agreement. Chi-square analysis (4.251, p=0.39) showed association.

CONCLUSIONS: The prone measure of hip flexibility has some association with the Modified Thomas Test. The Modified Thomas test has better inter-rater reliability for inclinometer use but comparable agreement with the prone test for therapist dichotomous ratings.

IMPLICATIONS: This study informs clinicians that a prone testing position may have comparable utilization in the clinic with the Modified Thomas Test for making subjective judgments of hip flexor tightness.