

Comparing inter-examiner reliability levels when diagnosing male & female innominate dysfunctions using a hemi-pelvis compression lateralization test and pelvic landmark levels.

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Abstract

BACKGROUND: When diagnosing innominate somatic dysfunctions it may be relevant to recognize that structural, functional, and hormonal differences exist between male and female pelvises. The female pelvis is less massive, ilia are less sloped, and female hormones influence ligamentous tension. Despite these differences, few studies have analyzed gender effects on inter-examiner reliability when using palpatory diagnosis to diagnose innominate dysfunctions. In this study, we hypothesized that interexaminer reliability would be higher in male subjects than in female subjects due cyclic variability of hormonal influence of ligamentous tension in the female pelvis. The kappa (κ) statistic was selected to evaluate inter-examiner reliability as it is designed to eliminate agreement by chance. The agreement scale as proposed by Landis and Koch was used in the evaluation of the κ -value.

METHODS: This is a blinded single cohort inter-reliability study. Two osteopathic physicians-in-training participated in training sessions; after 80% agreement, study conduction began. Examiners performed the ASIS Compression Test (examiners [DO/MS candidates] agreed to stand on the subject's right side and alternatively doubly-compress each side two times) and visually assessed ASIS-PSIS heights (in the horizontal plane) bilaterally. Of 161 females and 169 males without low back pain the first 10 definitely positive and 10 definitely negative right compression tests registered by each evaluator were statistically analyzed consistent with an internationally recommended inter-examiner reliability protocol (Fédération Internationale de Médecine Manuelle [FIMM]). The FIMM protocol minimizes the effect of percent agreement between the two examiners as well as the prevalence of the dysfunction when calculating κ .

RESULTS: A $\kappa=0.800$ was determined for positive right ASIS compression tests in women compared to $\kappa=0.050$ for males. In contradistinction to our first hypothesis, when assessing right innominate dysfunction, male subjects garnered lower agreement than females. Both examiners found similar higher prevalence of right anteriorly rotated innominate somatic dysfunction in females.

CONCLUSIONS: Examiners showed substantial agreement when diagnosing dysfunctional right ASIS tests in the female population. Poor agreement was found when determining the dysfunctional ASIS tests in males.