

TITLE: Treatment of Innominate Rotations: Impact on Spatial and Temporal Parameters of Gait

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ABSTRACT BODY:

Purpose/Hypothesis : Currently there are limited studies correlating biomechanical dysfunction of the pelvis with changes in gait. This study examined several spatial and temporal parameters of gait before and after manual therapy intervention for subjects with iliosacral rotations.

Materials/Methods : The presence of either an anterior or posterior innominate was determined by an orthopedic manual physical therapist who was a Fellow of the AAOMPT. This evaluation consisted of a subjective history, administration of the Fear Avoidance Behavior Questionnaire, examination of the spine, and iliosacral joint mobility and position testing. If the subject tested positive for an anterior or posterior innominate, then spatial and temporal parameters of gait were measured by performing three passes over the computerized GAITrite system. Subjects then underwent manual therapy treatment, including iliosacral manipulation, and repeat examination to determine that iliosacral dysfunction had been corrected. Once corrected, post-treatment spatial and temporal parameters of gait were repeated. The following gait parameters were recorded: velocity, step length, stride length, and toe in and toe out. Paired T-Tests were used to examine the pre- and post-treatment effects for both right anterior and right posterior.

Results : There was a significant difference found in pre- and post-treatment values for right anterior innominates for right stride length ($p < .05$). No significant differences were found for all other parameters.

Conclusions : This preliminary study, with just 7 subjects, indicates that after a manipulative treatment for iliosacral dysfunction changes are seen in stride length, but not velocity or toe in or toe out parameters of gait. Future studies, with larger numbers of subjects, may be needed to better define changes in gait due to pelvic girdle dysfunction.

Clinical Relevance : While pelvic girdle dysfunction is believed to alter lower extremity mechanics, these changes may not result in significant changes in gait. Practitioners should remain cautious in interpreting visual changes in gait when treating patients with suspected pelvic girdle dysfunction.

KEYWORDS: Innominate, Gait, Pelvis.