



Assessing Clinical Relevance of Weight Distribution as Measured on a Stance Analyzer Through Comparison with Lameness Determined on a Pressure Sensitive Walkway and Clinical Diagnosis.

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Introduction: Objective analysis of lameness is an important component in the work-up of orthopedic disease and monitoring recovery. Weight distribution, and off-loading, of the stance is a commonly used subjective assessment during the orthopedic examination. The clinical relevance of limb off-loading has not yet been established. The study aim was to assess off-loading on a stance analyzer (SA) and correlation with lameness, measured on a pressure sensitive walkway (PSW), and clinical diagnosis as determined at surgery.

Materials/Methods: Medium to large breed dogs (n=25) presenting for surgery were included in the study. The total pressure index (TPI) was used to determine lameness on the PSW. Normal weight distribution was considered 30/30/20/20 with a TPI standard deviation (SD) 2% of and a SA SD of 5%. Detection of limb off-loading was statistically compared to objective gait analysis and clinical diagnosis.

Results: The PSW identified 20 (80%) patients as objectively lame (OL). When compared to the OL group, the SA had an 85% sensitivity (17/20) and 60% specificity (3/5). The positive predictive value (PPV) was 89% (17/19) and the negative predictive value was 50% (3/6). When compared to the entire study population, the SA had a sensitivity of 76%.

Discussion/Conclusion: SA sensitivity reported here is higher than previous reports, which may be due to canine population being primarily large breed dogs with lameness requiring surgical correction. Further investigation is needed to assess if SA is sensitive to changes in lameness.

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