Static weight bearing can be a valuable objective measure of patient recovery from orthopedic surgery or following physiotherapy. Gait analysis conducted on dynamic force platforms remains the gold standard for evaluating lameness, although it can be complex and costly. This study evaluated conventional bathroom scales for measuring changes in hindlimb static weight bearing in dogs with unilateral osteoarthritis (OA) of the stifle. The study group (n = 43) had undergone surgical treatment to repair a ruptured cruciate, had subsequent OA in the surgical knee, and were compared with healthy controls (n = 21).

Static weight bearing was measured using 2 identical factory-calibrated bathroom scales, 1 under each hindlimb. Measurements were recorded from both scales while the dog stood as straight and square as possible. Weight measurements were compared against subjective evaluation of static weight bearing, orthopedic examination for degree of lameness, dynamic force platform evaluation, radiographic examination (OA dogs only), and overall clinical assessment. Sensitivity and specificity for the OA group were 39% and 85%, respectively. Agreement between the bathroom scale method and dynamic force platform analysis was slight to moderate. Bathroom scales can be a useful objective measure of lameness, particularly when measuring response to physical therapy, although small sample size and inability to rule out OA in the control group may have compromised findings.

Commentary
This study found that bathroom scales could detect large differences in symmetry and had variable agreement with the other tests (0%–75%). The statistical kappa agreement between the scales and other testing modalities was fairly low.

Although bathroom scales are much cheaper than a force plate system, their use for determining repeatable interpatient data is suspect. Given the higher specificity, the best use is likely detecting ongoing pain in individual dogs. When comparing this study with previous studies of asymmetry analyses, differences in statistical tests used notwithstanding, the bathroom scales seem inferior.1,2

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