

## Abstract

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#### Evaluation of the relationship between Orthopedic Foundation for Animals' hip joint scores and PennHIP distraction index values in dogs

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**Objective**—To compare 2 screening methods for detecting evidence of hip dysplasia (Orthopedic Foundation for Animals [OFA] and PennHIP) in dogs.

**Design**—Diagnostic test evaluation study.

**Animals**—439 dogs  $\geq$  24 months of age that received routine hip joint screening from June 1987 through July 2008.

**Procedures**—Dogs were sedated, and PennHIP radiography was performed (hip joint—extended [HE], compression, and distraction radiographic views). The HE radiographic view was submitted for OFA evaluation. A copy of the HE radiographic view plus the compression and distraction radiographic views were submitted for routine PennHIP evaluation, including quantification of hip joint laxity via the distraction index (DI).

**Results**—14% (60/439) of dogs had hip joints scored as excellent by OFA standards; however, 52% (31/60) of those had a DI  $\geq$  0.30 (range, 0.14 to 0.61). Eighty-two percent of (183/223) dogs with OFA-rated good hip joints had a DI  $\geq$  0.30 (range, 0.10 to 0.77), and 94% (79/84) of dogs with OFA-rated fair hip joints had a DI  $\geq$  0.30 (range, 0.14 to 0.77). Of all dogs with fair to excellent hip joints by OFA standards, 80% (293/367) had a DI  $\geq$  0.30. All dogs with OFA-rated borderline hip joints or mild, moderate, or severe hip dysplasia had a DI  $\geq$  0.30 (range, 0.30 to 0.83).

**Conclusion and Clinical Relevance**—Dogs judged as phenotypically normal by the OFA harbored clinically important passive hip joint laxity as determined via distraction radiography. Results suggested that OFA scoring of HE radiographs underestimated susceptibility to osteoarthritis in dogs, which may impede progress in reducing or eliminating hip dysplasia through breeding.