

Musculoskeletal Disorders

# Canine Hip Dysplasia



Hip dysplasia is a developmental orthopedic condition characterized by coxofemoral joint laxity, which results in abnormal joint loading. Typically, the condition progresses to osteoarthritis. Similar to other developmental orthopedic conditions, hip dysplasia is more common in large and giant breed dogs. Affected dogs may present with clinical signs, e.g., stiffness, difficulty rising or jumping, or shortened stride length, as puppies (with hip instability) or as adults (when the disease has progressed to osteoarthritis). However, clinical signs are variable and often do not correlate to the severity of radiographic changes.<sup>1</sup>

Hip dysplasia is a heritable condition whose development may be influenced by other factors, such as over-exercise.<sup>1</sup> Diet may play a role in its development as well as in management of osteoarthritis.

## Key Messages

- In at-risk dogs, maintenance of lean body condition is key to reducing incidence and severity of hip dysplasia and subsequent hip osteoarthritis.
  - Purina research showed that maintaining lean body condition from puppyhood reduced the development and severity of hip dysplasia and osteoarthritis.<sup>2,3</sup>
    - Hip dysplasia was seen in 50% fewer dogs at 2 years old and, when present, was much less severe in the lean-fed versus full-fed group.<sup>2</sup>
    - The lean-fed dogs developed hip osteoarthritis at a median age of 12 years versus 6 years of age in the full-fed group.<sup>3</sup>
- Another study showed that in overweight dogs with hip osteoarthritis, lameness scores improved after weight loss.<sup>4</sup>
- Avoiding excess calories helps prevent too rapid growth, which can stress the developing skeletal system and predispose to skeletal and cartilage abnormalities.
  - Puppies should be fed a growth diet or a diet labeled for "all life stages" until they reach adulthood, at a level to ensure steady, but not rapid, growth.
    - Large and giant breed dogs may not reach adulthood until 18-24 months of age.
    - Large and giant breed puppies may benefit from a less energy dense growth diet labeled specifically for large and giant breeds.

- Feeding for a slower, more controlled growth rate will not affect the dog's adult size.
- Once disease has progressed to osteoarthritis, a multimodal management approach including targeted nutrition can help improve mobility as well as slow the progression of joint damage.

## References

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