

# What Is Your Diagnosis?

In cooperation with

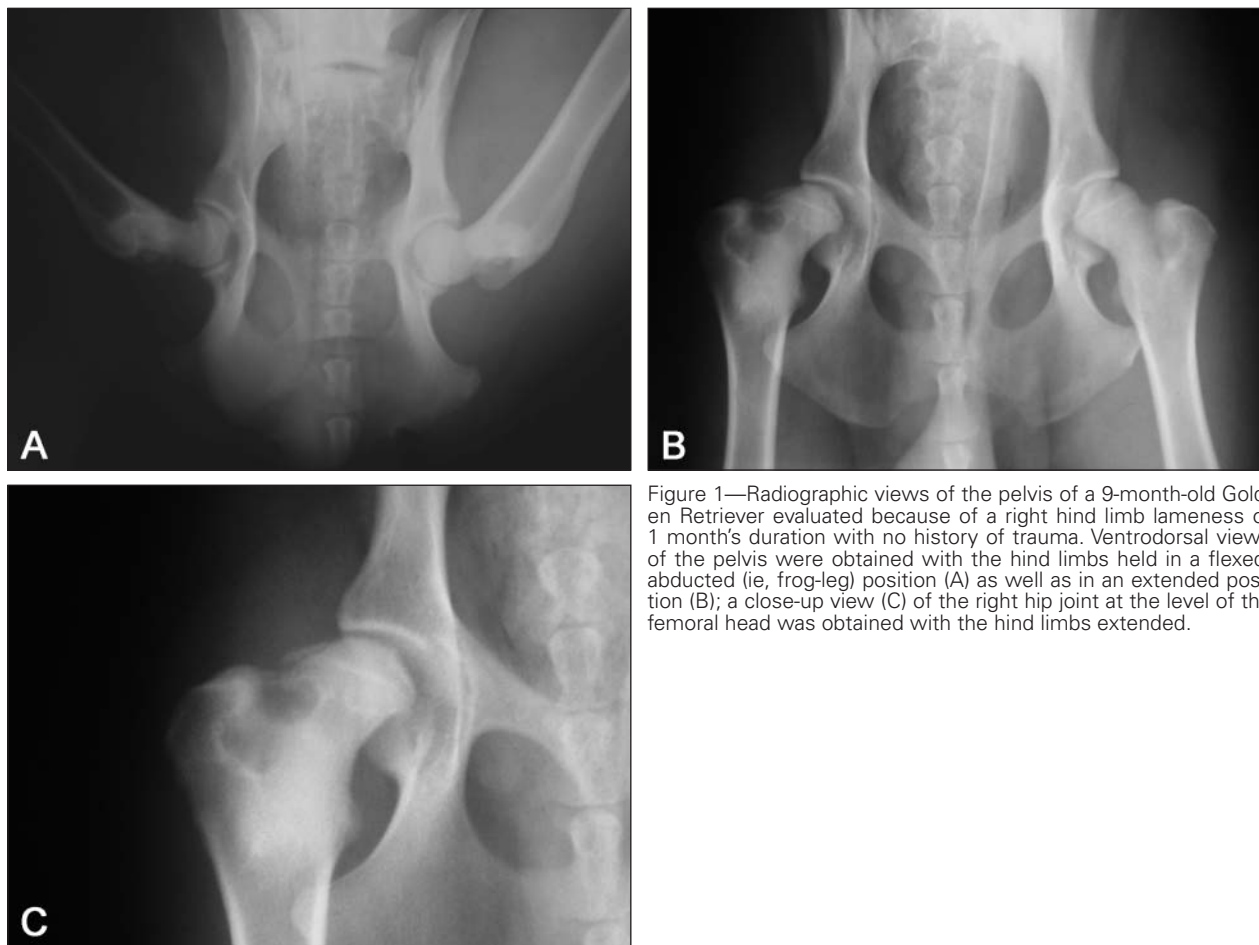


Figure 1—Radiographic views of the pelvis of a 9-month-old Golden Retriever evaluated because of a right hind limb lameness of 1 month's duration with no history of trauma. Ventrodorsal views of the pelvis were obtained with the hind limbs held in a flexed, abducted (ie, frog-leg) position (A) as well as in an extended position (B); a close-up view (C) of the right hip joint at the level of the femoral head was obtained with the hind limbs extended.

## History

A 9-month-old sexually intact male Golden Retriever weighing 34 kg (75 lb) was admitted to the veterinary medical teaching hospital because of a right hind limb lameness of 1 month's duration with no history of trauma. The dog previously had osteochondritis dissecans (OCD) of each humeral head, which was surgically treated approximately 60 days prior to admission. Physical examination revealed signs of pain on manipulation of the right hip joint and moderate atrophy of the muscles of the right hip joint. While the dog was in dorsal recumbency, radiographs of the pelvis were obtained with the hind limbs held in a flexed, abducted (frog-leg) position as well as in an extended position (Figure 1).

Determine whether additional imaging studies are required, or make your diagnosis from Figure 1—then turn the page →

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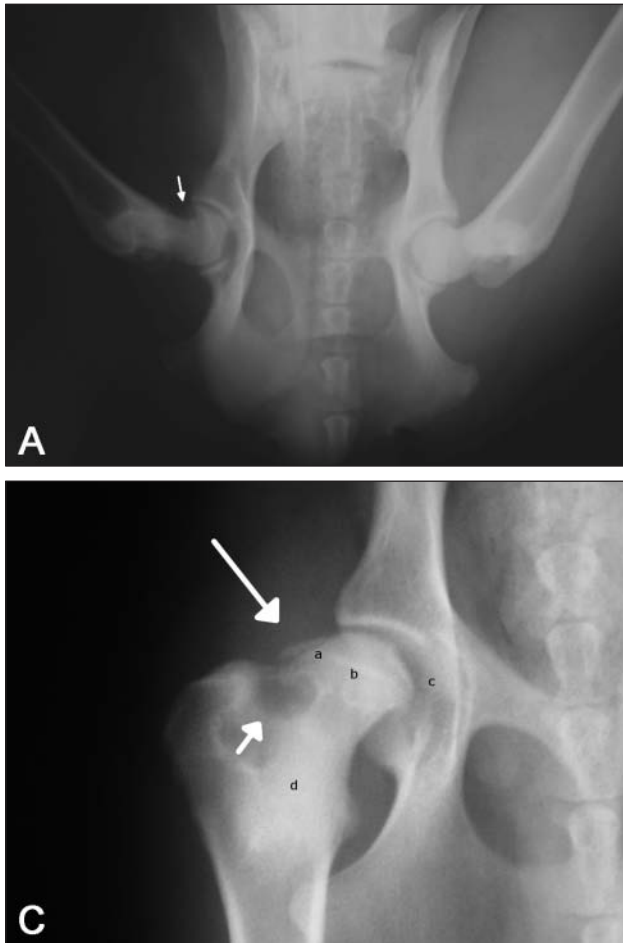


Figure 2—Same radiographic views as in Figure 1. A bone irregularity in the cranial aspect of the right femoral head (arrow) is evident on images obtained during hind limb flexion (A) and extension (B). On the close-up image (C) of the right hip joint, notice the mineralized fragment in the adjacent dorsal aspect of the articular surface (long arrow), flattened dorsocranial margin (a), subchondral bone sclerosis surrounding the lesion (b), and widened joint space (c). A radiolucent defect in the base of the femoral neck near the greater trochanter (short arrow) that is surrounded by a sclerotic zone (d) is also evident.

### Radiographic Findings and Interpretation

A mineralized fragment adjacent to the articular surface of the right femoral head is evident (Figure 2). The dorsocranial margin of the right femoral head is flattened and surrounded by subchondral bone sclerosis with a widened joint space. A concurrent radiolucent defect in the base of the right femoral neck that is surrounded by an area of sclerosis is also evident. Radiographic features of the left hip joint appear normal. Radiographic findings are suggestive of OCD of the right femoral head.

### Comments

Arthrotomy was performed by use of a craniolateral approach to confirm the presence of an OCD lesion on the articular surface of the femoral head of the right hip joint. The surrounding articular cartilage was raised and riddled with fissures. A mineralized cartilage flap was resected, and the cartilage bed was smoothed by scraping, followed by joint lavage with sterile saline (0.9% NaCl) solution. Denervation of the hip joint capsule was performed.<sup>1</sup> The dog was able to use the hind limb the next day; there were no signs of pain in the following months. Chondroprotective medical treatment with chondroitin sulfate was prescribed.

Osteochondritis dissecans is a clinical manifestation of osteochondrosis secondary to disturbances in endochondral ossification in which a cartilage flap is

lifted from the articular surface.<sup>2</sup> In dogs, the shoulder joint (ie, proximal portion of the humerus) is the most common site for OCD lesions.<sup>2</sup> The dog of this report previously had OCD lesions in each humerus, which were surgically treated approximately 60 days prior to admission for evaluation of right hind limb lameness. Other common sites for OCD in dogs include the medial humeral condyle, lateral femoral condyle, and the medial ridge of the tibial tarsal bone.<sup>3</sup> Causes of OCD have been related to genetic, nutritional, and traumatic factors.<sup>4</sup>

Osteochondritis dissecans of the articular surface of the femoral head is a rare finding in dogs.<sup>5,6</sup> Radiographic findings for the dog of this report as well as for 2 dogs of previous reports<sup>5,6</sup> included a radiolucent defect in the femoral neck surrounded by a sclerotic zone. A presumptive diagnosis of OCD of the femoral head can be attained through standard radiography. The presence of a mineralized fragment (joint mice) in the articular surface with radiolucent subchondral bone deficits and sclerosis are common radiographic findings of OCD. Confirmation of an OCD lesion can be achieved through arthroscopic evaluation or arthrotomy of the affected joint. When radiography is unrewarding, computed tomography can be helpful.

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