

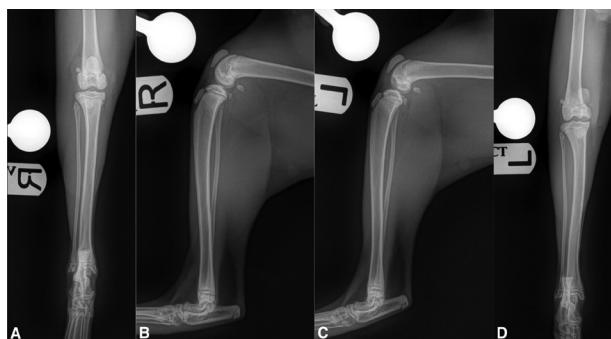
## What Is Your Diagnosis?

In collaboration with the American College of Veterinary Radiology

### Progressive hind limb gait abnormality in a 7-month-old female spayed domestic shorthaired cat

#### History

A 7-month-old spayed female domestic shorthaired cat was evaluated for a 2-month history of a progressive hind limb gait abnormality, potentially caused by entanglement in holiday lights. Physical examination revealed no overt lameness, mild discomfort on manipulation of the left stifle, and grades II and III medial patellar luxation (MPL) on the right and left, respectively. Radiographs were obtained of both stifles (**Figure 1**).



**Figure 1**—Right caudocranial (A), right lateral (B), left lateral (C), and left caudocranial (D) radiographic views of the stifle joint of a 7-month-old spayed female domestic shorthaired cat evaluated for a 2-month history of progressive hind limb gait abnormality.

**Formulate differential diagnoses, then continue reading.**

#### Diagnostic Imaging Findings and Interpretation

Radiographs of the stifles revealed moderate and marked effusions on the right and left, respectively; medial displacement of the left patella; and a

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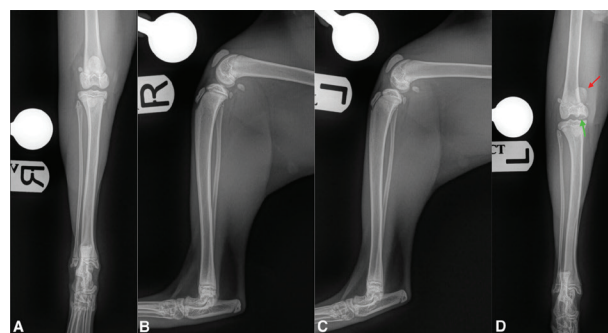
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large, well-defined, subchondral bone defect within the left medial femoral condyle with linear mineralized fragments distal to the defect (**Figure 2**). The radiographic changes were consistent with osteochondritis dissecans (OCD) of the medial femoral condyle on the left with a mineralized cartilage flap and concurrent MPL. The stifle effusion on the right was presumed to be related to the synovial inflammation caused by the persistent rubbing of the patella on the medial trochlear ridge.



**Figure 2**—Same radiograph images as in Figure 1. Note the osteochondritis dissecans lesion on the left medial femoral condyle (green arrow) and the medial patella luxation on the left stifle (red arrow).

Arthrocentesis of the left stifle revealed an increased volume of synovial fluid that, on cytology, contained an increased number of mononuclear cells, consistent with a noninflammatory arthropathy.

#### Treatment and Outcome

Bilateral lateral parapatellar stifle arthroscopies were performed. On the left, there was a large, loosely adhered portion of cartilage on the medial femoral condyle. The cartilage flap was removed and the underlying subchondral bone was debrided. For the treatment of MPL, bilateral antirotational fabellotibial sutures were placed using 0 polypropylene, and on the left, a lateral fabellopatellar suture was placed using 1 polydioxanone. The cat was discharged the following day, and at 4-week follow-up, the owner reported a progressive improvement in limb use and no signs of discomfort. At this time, no discomfort was identified on stifle manipulation, though both patellas would medially luxate during stifle flexion.

Histopathological evaluation of the cartilage flap showed fragments of mineralized cartilage and fibrocartilage, consistent with an OCD lesion.

## Comments

Osteochondrosis is a developmental disease affecting the articular cartilage.<sup>1-3</sup> Stifle OCD in dogs is most commonly seen on the lateral femoral condyle, although the medial femoral condyle can occasionally be affected.<sup>3</sup> OCD of the stifle in cats is rare, with only 2 cases previously reported, both located on the lateral femoral condyle.<sup>1,2</sup> To our knowledge, this is the first case of an OCD lesion affecting the medial femoral condyle in a cat.

The diagnosis of OCD in this case was supported by signalment and radiographic and surgical findings. Radiography has been proven to be sensitive and specific for the diagnosis of stifle OCD in dogs, with changes such as flattening of the affected femoral condyle, lysis of the underlying subchondral bone, and a mineralized cartilage flap similar to those identified in the present case.<sup>3</sup> Assessment of the craniocaudal projection is often most rewarding, as there is no superimposition of the femoral condyles, which can hamper interpretation. When lesions are small or equivocal on radiography, CT can be used to achieve the diagnosis and will also allow more accurate assessment of the size and location of the lesion.<sup>4</sup>

In the 2 previous reports, surgical treatment of feline stifle OCD was associated with good outcomes. Treatment included flap excision, joint mouse retrieval, removal of peripheral cartilage and loose tissue by

curettage, and forage, microfracture, and abrasion arthroplasty of the underlying subchondral bone. Surgical treatment of these lesions can be performed via arthrotomy, arthroscopy, or arthroscopic-assisted surgery,<sup>1,2</sup> but due to patient size and the concurrent MPL, an open approach was preferred in this case. In dogs, resurfacing of the subchondral defect has also been described using synthetic implants and osteochondral autografting or allografting.<sup>5</sup> In cats, resurfacing procedures have yet to be described.

This case report is the first to identify OCD of the medial femoral condyle in a cat. Debridement of the lesion was seemingly associated with an improvement in limb function and comfort, though the contribution of the concurrent MPL remains unknown.

## Acknowledgments

The authors declare that there were no conflicts of interest.

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