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A Team-Based Approach to Feline Osteoarthritis

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What Is Osteoarthritis?

Osteoarthritis (OA), also referred to as degenerative joint disease, is a chronic, degenerative condition resulting in loss of cartilage. This condition is associated with pain, stiffness, decreased mobility, and inflammation in affected pets.

Unlike dogs, in which OA is often secondary to a previous injury or preexisting developmental disease,[1] most cases of feline OA have no identifiable underlying cause and are considered primary or idiopathic in nature.[2] However, there are identified factors that may increase a cat’s likelihood of developing OA, including advancing age, congenital abnormalities (eg, hip dysplasia, patellar luxation), trauma, breed predisposition, and acromegaly.[2] Obesity may also be a risk factor for feline OA; this link has been demonstrated in other species, but it has not yet been verified in cats.[2]

Why Is Feline Osteoarthritis Important?

The true prevalence of feline OA is unknown and difficult to assess.[2] Studies have demonstrated that 61% of cats ≥6 years of age and 90% of cats >12 years of age have radiographic evidence of degenerative joint disease[3,4]; however, the clinical signs of feline OA are not always readily apparent or recognizable, as they tend to be subtle in nature. Therefore, feline OA is likely underdiagnosed in the veterinary profession, with only 13% of affected cats in one study having received a diagnosis.[5]

Although some cats may appear asymptomatic for OA, OA is a painful condition, even in cats that do not show obvious physical signs of pain. These changes may disrupt the human–animal bond, even in cats that are not showing significant evidence of pain.

OA is a progressive condition that worsens over time. This condition requires long-term management, which is focused on slowing the progression of disease, reducing clinical signs, and maintaining patient quality of life. A comprehensive management plan should involve increased movement and exercise, consistent pain control, and maintaining pets in their ideal weight range.

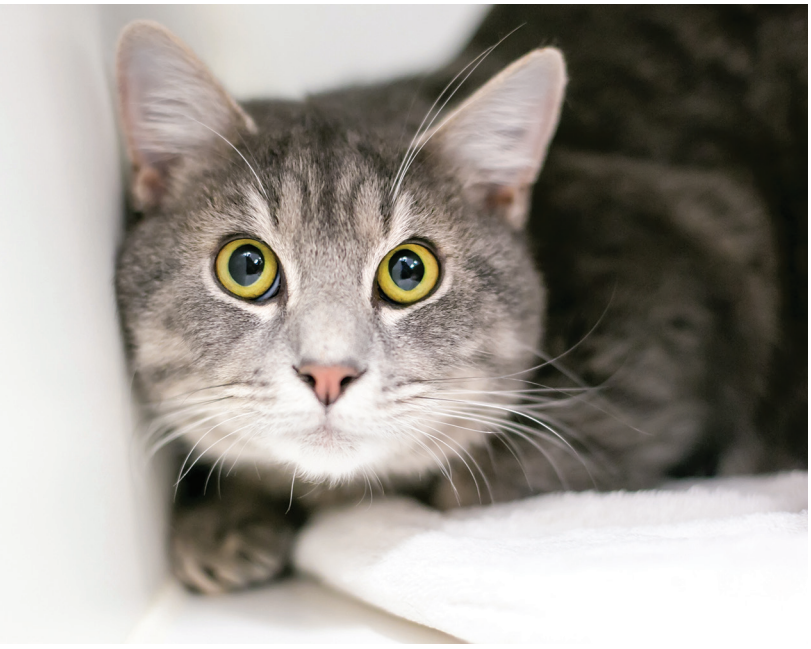
Diagnosis of Feline Osteoarthritis

Feline OA can present a diagnostic challenge. Because OA is typically not as clinically apparent in cats as it is in dogs, this condition has historically been underdiagnosed. Although dogs with OA often show obvious evidence of lameness (eg, limping, struggling with stairs), overt lameness is uncommon in cats with OA.[2]

When clinical signs of OA do occur in cats, they tend to be subtle in nature and often include behavioral changes. For example, owners may note that their cat is grooming less effectively, reluctant to jump up to high areas, sleeping more than usual, experiencing changes in litter box habits, and/or less playful/social than they were previously.[2] These signs may be mistaken for other illnesses or attributed to normal aging, making the diagnosis of OA a challenge. In addition, a cat's instincts make them naturally inclined to hide and mask signs of illness and pain, so even small changes in behavior or mobility can indicate significant underlying pain,[6] meaning cats with severe OA may demonstrate only mild clinical signs.

Physical examination plays a key role in the diagnosis of OA, but it comes with limitations. Many cats are tense in the veterinary clinic due to fear, anxiety, and stress associated with transportation and veterinary visits. This can limit the veterinary team's ability to effectively palpate the joints and evaluate for pain.[7] Therefore, it is important to develop strategies to overcome these limitations.

Upon first entering the examination room, the veterinary team should pay careful attention to the patient's gait and movement. The patient should be observed from a distance as the veterinary team watches them move around the examination room freely and for signs of stiffness. Each limb should be evaluated individually, and each joint should be assessed for effusion, muscle atrophy, crepitus, pain on flexion or extension, and range of motion. If the cat will not permit a thorough orthopedic examination, sedation should be considered. Despite the limitations inherent in feline physical examinations, they can hold valuable information.



Radiography can serve as a confirmatory diagnostic test for feline OA. Although clinical signs and physical examination findings may lead to a presumptive diagnosis of OA, it is ideal to obtain radiographs to confirm the diagnosis and further evaluate any joints of concern. The physical examination should be used to determine which joints to image. However, if the physical examination is inconclusive, multiple radiographs may be necessary. The most common sites of feline OA are the shoulders, elbows, spine, hip, and tarsi.[3,4] The primary radiographic indicator of OA is the development of osteophytes, but synovial effusion, soft tissue swelling, narrowed joint space, and opacities within the joint can also serve as secondary indicators of OA.[2] The limitations of radiography should be considered when detecting OA, as radiographic changes may not always be evident even when joint degeneration is present.[8]

Treatment of Feline Osteoarthritis

Successful treatment of OA requires a multimodal approach. A combination of medication, supplements, diet, and exercise or physical therapy should be considered.

Solensia™ (frunevetmab injection) is the first and only anti-nerve growth factor (NGF) monoclonal antibody (mAb) approved in the United States for the control of OA pain in cats. With a once-monthly injection, Solensia can result in a reduction of pain associated with feline OA by interrupting the body's pain signals.[9,10] This mAb therapy targets NGF, which plays a role in the pain and inflammation associated with feline OA.

In a field study of 275 client-owned cats with clinical signs of OA (confirmed via radiography) and treated with Solensia over a 3-month period, 77% of owners reported seeing improvement in signs of pain.[11] In another study of

client-owned cats, after just 3 weeks of treatment, the mean activity levels of cats receiving Solensia was 12.9% greater than the placebo group.[12] In an additional study, 56 cats received 3 monthly injections of Solensia, with all owners reporting improvement in their cat's quality of life by day 14, and this benefit persisted throughout the remainder of the study.[13] An additional benefit of Solensia as compared with oral medication is that it allows owners to avoid the need for daily medication administration, which can be problematic for cats and their owners and disruptive to the human–animal bond.

In a clinical trial, the most common side effects were vomiting and injection site discomfort; administration of Solensia may also be associated with scabbing on the head and neck, dermatitis, and pruritus.[9] Solensia has not been evaluated for use in cats for longer than 6 months or with concurrent use of NSAIDs.[9] In a field study that included cats with International Renal Interest Society (IRIS) stage 1 and 2 chronic renal disease, Solensia was found to be well tolerated.[14] Solensia is contraindicated in cats that are hypersensitive to it, as well as in pregnant and lactating queens.[9]

Other pain management options such as NSAIDs (eg, meloxicam, robenacoxib) can also play a role in the management of pain and inflammation associated with OA, but they can have drawbacks. Although meloxicam and robenacoxib are considered safe and effective in cats, side effects can and do occur. In addition, they are not approved for long-term use in cats in the United States.[15] The prevalence of NSAID-associated adverse effects in cats is unknown, but these adverse effects may include GI ulceration, liver toxicity, renal toxicity, and prolonged bleeding times.[15] It is estimated that ≤69% of cats with OA have concurrent chronic kidney disease.[15] NSAIDs should be used with caution in cats with chronic kidney disease as well as in cats with other comorbidities.[15]

Gabapentin has been used to treat neuropathic pain in humans and other species, and it is frequently used in the management of feline OA as a second-tier pain management option.[16] Although it lacks anti-inflammatory benefits, there is evidence to support its use in the management of pain associated with feline OA.[17]

Tramadol is a weak mu-opioid receptor agonist that has also been used for pain control in veterinary patients and is considered a third-tier option for pain management in cats.[16] Although tramadol has been shown to have no benefit in dogs, there is evidence to support its use in cats with OA.[18] Like gabapentin, however, tramadol does not address the underlying inflammation that accompanies OA.

Some studies support the use of omega-3–enriched diets or supplements in patients with arthritis.[6] Because supplements lack the requirement of FDA approval, concerns can arise regarding the quality and efficacy of commercially available supplements.

Weight management also plays a key role in the treatment of feline OA. Not only do obese cats place more strain on their joints, but fat itself releases compounds that promote inflammation and may perpetuate arthritis.[19] Diets that promote weight reduction can play an important role in the management of feline OA. Some diets are specifically formulated for the treatment of OA; these diets often promote weight loss while also containing nutritional supplements that support joint health.

Low-intensity exercise can also be beneficial for cats with OA. Although it may be difficult to implement a structured exercise program, clients should seek out ways to incorporate play and other measures to increase their cat's daily activity. Effective pain management in OA patients can lead to a sudden increase in activity due to rapid pain relief; however, pet owners should encourage a gradual, staged return to activity to avoid injury (especially regarding jumping and vertical heights) as the patient regains strength.

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Managing Feline Osteoarthritis: A Team-Based Approach

Every member of the veterinary team has an important role to play in the screening, diagnosis, and management of feline OA. Instead of relying on the veterinarian to provide all patient care and client education related to OA, veterinary practices can maximize patient care by engaging the entire team in client education, patient screening, and OA management for affected cats.

Client Service Representative (CSR)

- Recognize potential clinical signs of feline OA during telephone conversations and front desk interactions.
- When OA is suspected, schedule diagnostic evaluations promptly and appropriately.
- Encourage cat owners to take videos of their cat walking and jumping at home in preparation for their appointment.
- Provide clients with checklists that can aid in the screening and diagnosis of OA.
- Have a basic understanding of feline OA to better aid in directing client questions accurately to a veterinary technician or veterinarian.
- Encourage clients to seek a diagnosis for suspected OA by informing them that there are a variety of treatment options available, including newer targeted therapies such as Solensia.
- Have a general awareness of common OA treatments, including Solensia for the control of OA pain.
- Express empathy, understanding, and encouragement for clients whose pets are diagnosed with OA.
- Schedule regular follow-up visits for cats with OA. Cats receiving Solensia require monthly appointments for repeated injections; prebook the first several visits for the client to encourage compliance.
- Encourage clients to contact the practice with any concerns about their cat's OA, including worsening clinical signs or changes in quality of life.
- Discuss potential financial solutions that may aid clients in the diagnosis and treatment of OA.

Practice Manager

- Create team training sessions to educate all members of the team on the diagnosis, management, and impacts of feline OA.
- Develop clinic protocols to support a team-based approach to the diagnosis and management of feline OA.

Veterinary Technician/ Assistant

- Understand the basic pathophysiology of OA to accurately answer client questions, recognize clinical signs, and educate clients.
- Recognize subtle behavioral signs of OA in the patient medical history and on initial triage examination.
- Ask clients questions to elicit information about subtle indicators of OA, especially in high-risk patients.
- Evaluate feline mobility at all patient visits to help the client gain an understanding of what is normal for their cat.
- Request that owners of cats ≥7 years of age fill out the Cat Osteoarthritis Pain Checklist to aid in screening for OA (see ***Suggested Reading***, page 6).
- Discuss financial solutions that may aid clients in the diagnosis and treatment of OA.
- Obtain diagnostic-quality radiographs for the diagnosis of OA.
- Educate clients about common treatment approaches for OA, including Solensia for the control of OA pain, and emphasize the benefits of multimodal treatment.
- Explain the need for ongoing, lifelong care in pets with OA, focusing on the role this care can play in maintaining and improving quality of life.
- Schedule regular follow-up visits for cats with OA. Cats receiving Solensia require monthly appointments for repeated injections; prebook the first 3 visits for the client to encourage compliance.
- Send home relevant educational handouts, appointment trackers, and symptom logs to support the care of patients with OA.
- For patients receiving Solensia, a posttreatment, return-to-activity guide can be distributed to help prevent injury that can occur following a rapid return to physical activity. See ***Suggested Reading***, page 6, or scan

the QR code for a return-to-activity plan to provide owners with.

Veterinarian

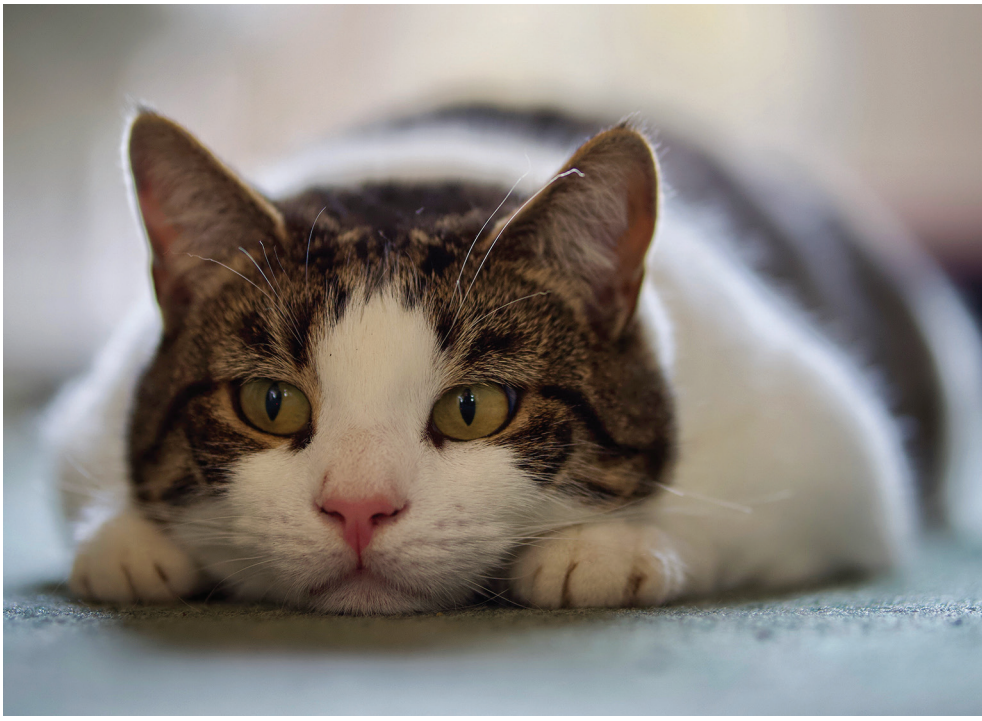
- Recognize clear and subtle indications of OA in the patient's medical history and physical examination.
- Ask open-ended questions and leverage questionnaires to elicit information about commonly missed signs of OA.
- Evaluate feline mobility at all patient visits to help the client understand their cat's normal mobility and educate them on how to recognize changes in mobility.
- Recommend radiography and other diagnostic testing for OA when appropriate.
- Consider medication trials for suspected OA, if radiography and/or other diagnostics are not authorized by the client.
- Interpret radiographic results, examination findings, and history to accurately diagnose OA, recognizing that OA is not always apparent on radiographs.[17]
- Educate clients about the pathophysiology and anticipated progression of OA, setting realistic client expectations.
- Create customized treatment plans for pets with OA, considering the pet's medical condition and client concerns.
- Provide guidance on how to avoid injury associated with increased activity following Solensia administration. See ***Suggested Reading*** or scan the QR code for a return-to-activity plan to provide owners with.
- Create a weight-management plan for patients above their ideal weight.
- Emphasize the importance of a multimodal approach to managing pain associated with OA, including both lifestyle modifications and pharmaceutical interventions.
- Educate clients about expected benefits and potential side effects associated with treatment options.
- Emphasize the need for ongoing veterinary care to manage OA.
- Communicate regularly with clients to monitor patient status and quality of life.
- Provide clients with resources to perform quality-of-life assessments at home.

Conclusion

Although the true prevalence of feline OA is unknown, it is likely that this condition affects a significant portion of feline patients. This is especially true for geriatric patients, but younger cats may also be affected.

Unlike dogs, which tend to demonstrate relatively clear clinical signs of OA, diagnosing feline OA requires a bit more detective work. Clinical signs of feline OA are often subtle, involving slight behavioral changes instead of visible lameness. Therefore, it is important to ensure that all members of the veterinary team are aware of the signs of OA in cats and that they are prepared to pass that knowledge along to clients.

When a cat is diagnosed with OA, a focus on multimodal therapy is essential. Regular follow-up care, such as monthly veterinary visits required for Solensia treatment, can improve not only the treatment of OA but also offer enhanced opportunities to manage preexisting comorbidities and other issues that may arise over the patient's lifespan.



IMPORTANT SAFETY INFORMATION

For use in cats only. Women who are pregnant, trying to conceive or breastfeeding should take extreme care to avoid self-injection. Allergic reactions, including anaphylaxis, could potentially occur with self-injection. SOLENSIA should not be used in breeding cats or in pregnant or lactating queens. SOLENSIA should not be administered to cats with a known allergy to frunevetmab. The most common adverse events reported in a clinical study were vomiting and injection site pain. See full Prescribing Information, **SolensiaPI.com**.

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Suggested Reading

SolensiaVetTeam.com

Zoetis. Cat osteoarthritis pain checklist. Zoetis website. https://www.zoetisus.com/content/_assets/docs/PDFs/ZPN/Feline-Osteoarthritis-Printable-Checklist-NA-02128.pdf

Zoetis. Get your cat back to their normal. Zoetis website. https://www.zoetisus.com/content/_assets/docs/PDFs/ZPN/Feline-OA-Back-to-Normal-Guide-SLN-00544.pdf

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