



canine arthritis management

5x5x5 The Management System for Canine Osteoarthritis



/CAMarthritis

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5x5x5

A Guideline for Clinicians, nurses, animal physical therapists and non-clinical staff

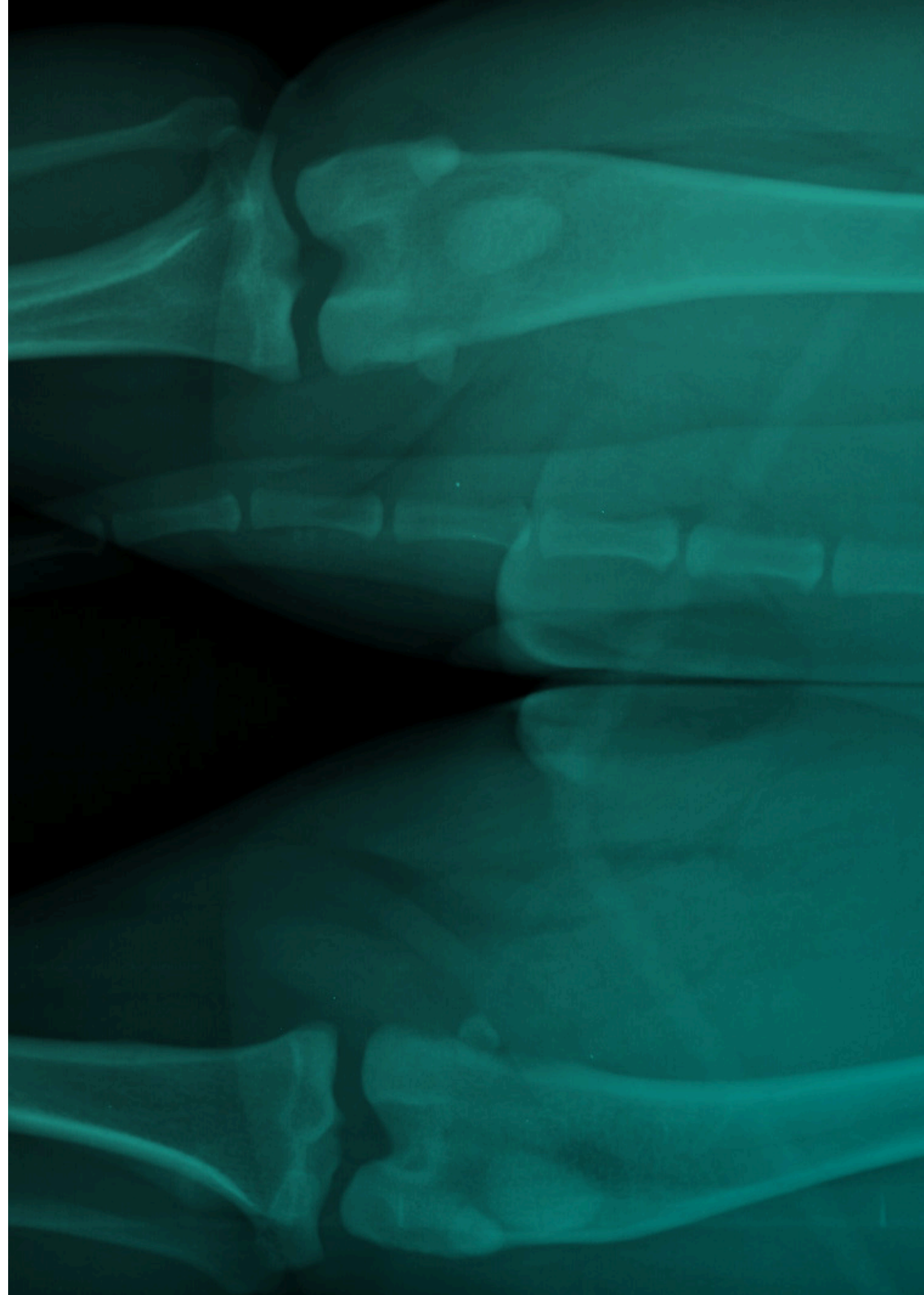
The 5x5x5 system has been designed to help clinicians structure a therapeutic plan by linking the five stages of management to five grades of osteoarthritis with five scores of pain.


The overriding aims are to ensure that owners understand:

- their dog's condition
- the progression of the disease and its life-long nature
- treatment options available to them

The clarity provided through staging will encourage owners to follow a gold standard protocol for identification, diagnosis, treatment, and reassessment, leading to owners working alongside veterinary professionals.

The 5x5x5 is an effective tool for inter-clinician communication; the proposed workflow (see page 4) ensures a seamless continuation of care across all members of the veterinary team. The 5x5x5 system supports succinct divisions between stages which enables economy of resources within the practice and promotes all staff into defined and respected job roles.





Canine osteoarthritis is a progressive and debilitating disease that requires updates and modifications to the treatment plan as the disease evolves.

The goals through the treatment plan are:

- recognising the clinical signs of the disease as early as possible in the disease process
- alleviating the dogs discomfort
- slowing the occurrence of further degenerative changes
- restoring the affected joint or joints and surrounding soft tissue to as near normal and pain free function as possible

Actions taken to achieve these goals need to be routinely reconsidered for optimal results. Through using the 5x5x5 system, owner compliance, which is often a significant obstacle to this approach, is maintained.

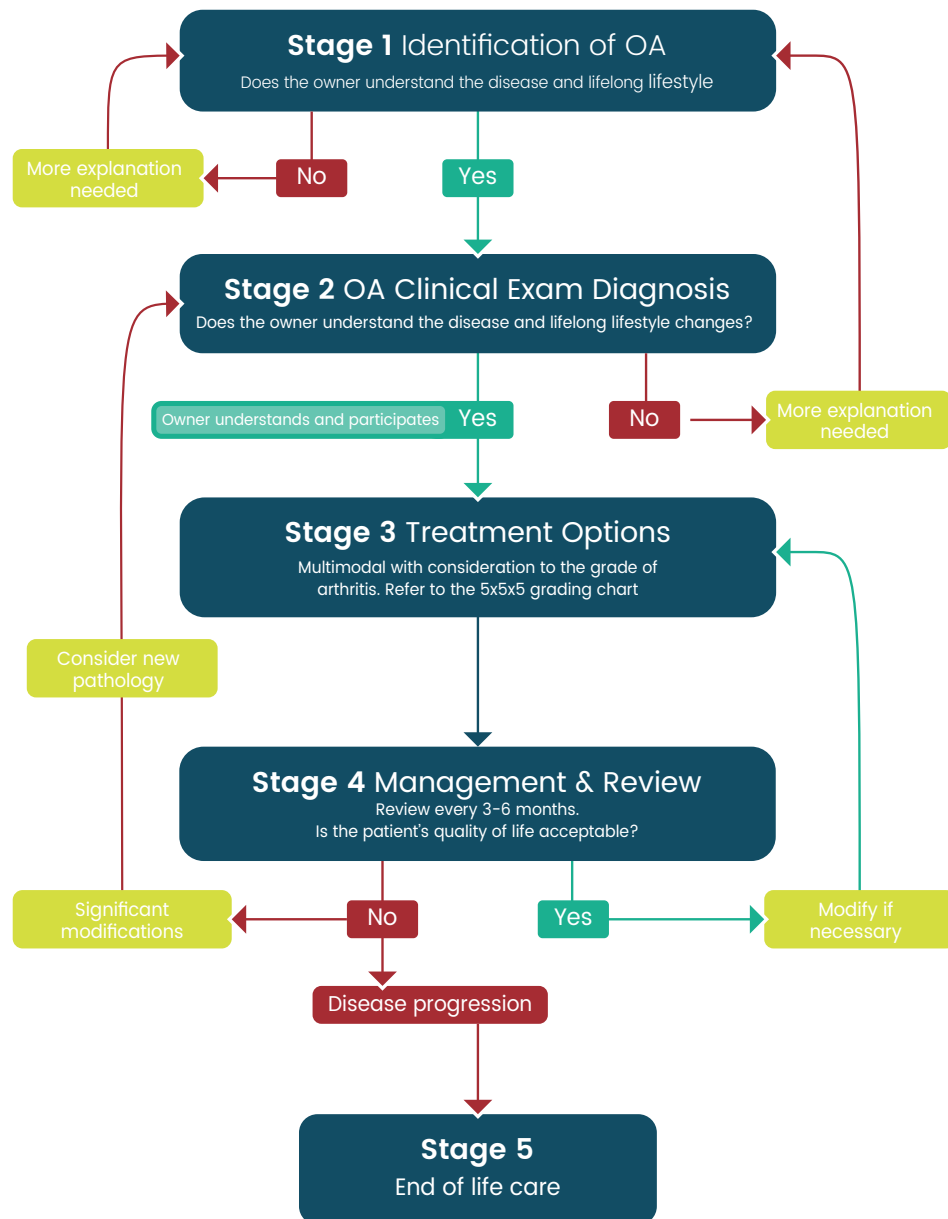


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5x5x5 The Importance of Staging Canine OA

	Summary of action	Aims
1	Identification of suspect OA by owner / vet / veterinary team <ul style="list-style-type: none"> • Communication with the owner re the potential disease presence and importance of diagnosis • Discussion with owner re lifelong nature and requirement for adjusting treatment plan • Understanding owner expectation and resources 	<ul style="list-style-type: none"> • Utilising the full veterinary team in identification of potential disease will ensure cases are detected earlier in the disease process offering more treatment options and better long term results • Owner understanding of potential disease, its progression and its clinical presentation will improve compliance to long term care • Understanding and creating expectations will lead to improved long term communication between vet and owner • Identify cases that need additional attention with regards to owner understanding and compliance
2	Confirmation of OA <ul style="list-style-type: none"> • Full orthopaedic exam and diagnostic imaging +/- other diagnostic modalities • Grading of each OA joint 	<ul style="list-style-type: none"> • Ensuring a thorough work up is performed to ensure accurate diagnosis as well as identify multifocal OA cases • Ensuring concurrent and associated diseases are identified • Identify the grade of the osteoarthritis and encourage all treatment options available • Ensure the location of pain and the level of pain is acknowledged
3	Initial treatment plan <ul style="list-style-type: none"> • Consideration of the pathophysiology of the disease process and potential treatment • Employment of the ABCDEF (analgesia / body condition score and diet / care with environmental and drug toxicity / disease modifications / exercise / follow up) strategy to ensure a multimodal approach is advocated • Discussion regarding ALL treatment modalities suitable and available to that owner 	<ul style="list-style-type: none"> • To ensure that all treatment options are offered to the client • To ensure that the owner is encouraged to embrace pain relieving and disease slowing lifestyle changes • To ensure that the client's expectations and financial resources are recorded • To ensure appropriate use and understanding of NSAIDs by the owner
4	Adjusting maintenance plan <ul style="list-style-type: none"> • Regular reassessments encouraged through the OA record card, to tailor treatment plan to pain state and disease progression • Ensuring all avenues of management are frequently reviewed and adjusted 	<ul style="list-style-type: none"> • To encourage owner compliance through seen value of the repeat consults • To ensure no emergence of concurrent disease, or associated side effects • To prevent/ minimise episodes of acute destabilisation
5	End of life care/ acceptance <ul style="list-style-type: none"> • Initiation of end of life consideration and quality of life assessment • Encourage access to pet bereavement facilities • To make arrangements for euthanasia • Case review for ongoing practice learning 	<ul style="list-style-type: none"> • To ensure the owner understands all avenues have been pursued and the quality of life of their dog is now in question • To prepare owner for bereavement and plan an appropriate euthanasia • To review the practice approach and areas that can be improved

5x5x5 The Workflow



5x5x5 The Importance of Grading Canine OA

	Clinical an imaging observations	Joint pathology
1	History of damage, dysplasia or surgery Intermittent lameness Little visible on radiographs	Early cartilage pathology with some surface disruption Early synovitis
2	Intermittent or mild lameness Some discomfort on manipulation Mild effusion Early marginal osteophytes Early subchondral sclerosis Synovial fluid less viscous	Cartilage focal fissuring Established mild patchy synovitis
3	Stiffness Some reduction of joint movement Crepitus / some pain Sclerosis and osteophytes X-Ray Synovial fluid physical changes	Cartilage with some focal erosions Chronic synovitis Osteophytes obvious at margins Some fibrous hypertrophy of joint capsule
4	Obvious thickening and restriction of joint Crepitus and pain Marked bony changes visible on X-Ray Effusion and synovial fluid changes possible	Cartilage loss and erosion Established chronic synovitis with thickened fibrotic synovium Peripheral nociceptor transformation Osteophytes obvious Thickening of fibrous joint capsule
5	Obvious pain on manipulation Reduced movement in enlarged joint Crepitus obvious Limited response to pain medication	Extensive cartilage loss and disruption Bone remodeling under cartilage with deformation of joint Chronic synovitis with extensive fibrosis Peripheral and central neuroperception increase with central plasticity Extensive marginal osteophytes Very thickened joint capsule

5x5x5 Grading and Potential Treatment Options of Canine OA

Arthritis is a progressive long term disease with changing pathophysiology through its course. Initially synovitis and early cartilage damage predominate being replaced over time by chronic fibrosis, extensive cartilage loss, subchondral bone exposure and bone remodelling. The pain state also changes through the disease course independent of the joint pathology. This changing clinical presentation offers the clinician a variety of treatment options to target the disease process. Through a simplified grading system potential treatment options can be explored.



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OA Staging Chart Simple Steps to Communicate Canine Arthritis

Arthritis is a progressive disease which relies on owner compliance to get the best long-term results. Through using a staging system owners know where they are within the management plan.

The 5x5x5 not only encourages owners to perform a full work-up prior to initiating treatment, it also provides a guide on treatment options and prepares them for end of life decisions when all treatment options have been trialled.

The 5x5x5 ensures simple and effective communication between colleagues with regards to which stage in the treatment plan the owner and dog have reached and the options available to them relative to the grade of the disease the pain score of the dog.

Stage	Description
1	Identification of suspect OA by owner / vet / veterinary team
2	Confirmation of OA
3	Initial treatment plan
4	Adjusting maintenance plan
5	End of life care / acceptance



Grading Chart Simple Steps to Understand and Tailor Treatment of Canine Osteoarthritis

Arthritis has a complicated changing pathophysiology which requires different interventions at different phases of the disease process. By grading the condition through clinical examination and diagnostic imaging a targeted approach becomes a reality in preference to “blanket” treatment.

This is not a validated methodology, but is functional in first opinion veterinary management of the disease. Early onset arthritis will consist of pain on use and manipulation but little else, whereas end stage arthritis will be seen as a grossly thickened, dysfunctional joint with limited range of motion and crepitus. The treatment options for these 2 grades is very different.

With new interventions in intra-articular medicine, understanding the joint environment is imperative when choosing appropriate products.

OA Grade	Description
1	Suspicion based on history Recognised incongruity No OA changes on radiographs
2	Mild clinical signs Discomfort on examination of joint Early OA changes on radiographs
3	Moderate clinical signs Reduced range of motion of joint & crepitus Moderate OA changes on radiographs
4	Overt clinical signs Crepitus, thickening of the joint & pain Obvious OA changes on radiographs
5	Pronounced clinical signs Severe joint changes on palpation End stage joint disease on radiographs

Pain Scoring Chart Simple Steps to Prioritise Treatment of Canine Osteoarthritis

The main clinical sign of arthritis is pain. If left unattended the end result will be chronic pain and a quality of life issues thus, addressing and communicating the dog's pain status is imperative to ensure effective treatments are being employed.

By acknowledging changes in the dog's behaviour, posture and mobility a suitable pain score can be subjectively calculated. Understanding this pain scale will aid in driving owner compliance, encourage multi-modal management, and reduce the likelihood of chronic pain states developing in these dogs.

Pain Score	Description
1	Mild behavioural changes / not themselves Mild discomfort Possible lameness / gait change
2	Behavioural changes noted Less capable and enthusiastic Mild lameness / gait change Pain response on joint manipulation
3	Overt behavioural changes noted Reluctance to move Obviously lame / gait change Moderate pain on joint manipulation
4	Quiet / aversive / significant behavioural changes Significantly lame / gait change Guarding or reactive to handling Overt pain on joint manipulation
5	Depressed Significantly lame Reactive to handling / touch Severe pain within joint & region Distressing to see

5x5x5 About CAM

The intention of CAM is to provide resources to help change owners, vets and the public's perception of how to diagnose and treat chronic pain in animals, which will then lead to improved lives for the dogs and their owners.

Through the provision of simple tools such as the 5 x 5 x 5 we can improve the identification, diagnosis and treatment of canine arthritis, as well as influence effective communication and compliance from the owner.

CAM understands the complexity and long term nature of arthritis, as well as the wide range of owners and dogs affected by this disease.

CAM believes that each case is unique and must be treated with this in mind. CAM strives to continue providing resources that veterinarians and owners can rely upon for current, effective and dynamic advice.

Please refer to www.caninearthritis.co.uk for further advice for owners, as well as #CAMarthritis on Facebook, Twitter and Instagram.



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