

STEPPING INTO THE FUTURE

Osteoarthritis Management



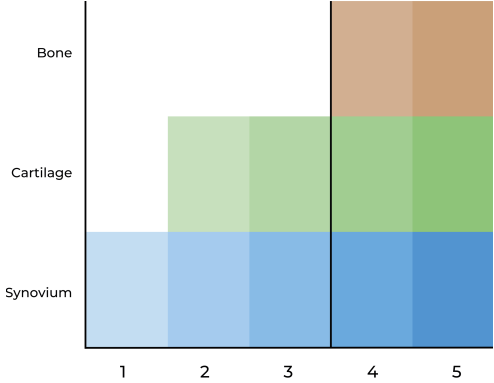
NUPSALA CLINIC
MUSCULOSKELETAL

The Problem

Chronic Disease

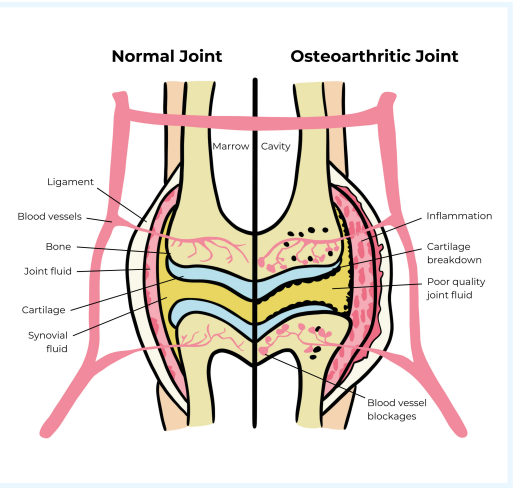
Arthritis is a very slowly progressing and irreversible disease and simply means “Inflamed Joint.” There are distinct types of Arthritis and the most common in pets is Osteoarthritis where there can be pain, swelling, damage to essential structures such as cartilage, and often new bone formation. Sometimes the two names are used interchangeably.

OA Grade	Description
1	<ul style="list-style-type: none">• Suspicion based on history and possibly joint incongruity• No radiographic OA changes
2	<ul style="list-style-type: none">• Mild clinical signs, discomfort on examination of joint• Early radiographic OA changes
3	<ul style="list-style-type: none">• Moderate clinical signs• Reduced ROM of joint and crepitus• Moderate radiographic OA changes
4	<ul style="list-style-type: none">• Overt clinical signs• Crepitus, thickening of the joint and pain on manipulation• Obvious radiographic OA changes
5	<ul style="list-style-type: none">• Pronounced clinical signs• Severe joint changes on palpation and associated pain• End stage joint disease on radiographs

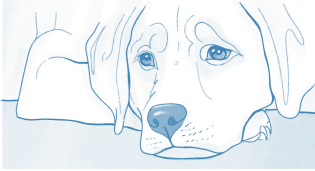


What causes Arthritis?

What triggers Osteoarthritis is not fully understood but a common theory is that it is caused by either abnormal forces on normal structures (e.g. due to the angle of a joint being abnormal), or normal forces on abnormal structures (e.g. normal weight bearing down on damaged cartilage). The result of whatever triggers the osteoarthritis is microscopic damage which causes the release of inflammatory chemicals. These cause more inflammation, and more damage, and so the condition progresses.

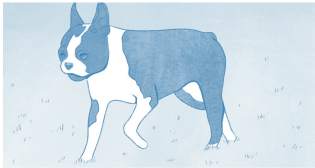


TOP 10 EARLY WARNING SIGNS



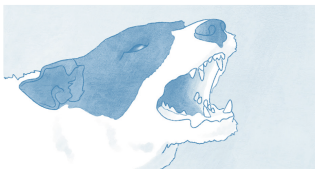
No more big 'Hello'!

Your dog isn't as exuberant as normal when he comes to greet you. He might still have a smile on his face, but he's not able to rise so quickly and run towards you.



Altered Gait

Your dog is putting more weight on the unaffected limbs and appearing rigid, as we would if we had a bad joint.



Irritability

Like us humans when we're in pain – your dog is irritable and may snap or bite when approached or handled, particularly if the petting or handling is increasing their pain.

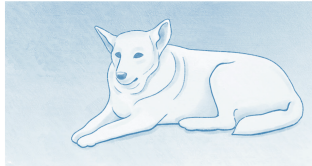
Loss of appetite

Depending on the amount and type of pain your dog is in, he may go off food.



Licking

Your dog will continually lick at the underlying painful joint, occasionally causing patches of saliva staining.



Weight gain

Your dog may spend more time resting or sleeping and become reluctant to exercise which can lead to weight gain and exacerbate the disease.



Stiffness

Especially after exercise and prolonged periods of rest. Your dog may adopt a 'bunny hopping' movement.



Difficulty Rising

Your dog may struggle to get up after lying down and appear stiff and find it difficult to get up and down stairs or to jump in and out of the car.



Time alone

Your dog's behaviour may change in that he wants to go off by himself more, particularly to warm and soft places to sleep.



Muscle wastage

There may be muscle atrophy (reduction in the size of the muscle) in the affected limb because the dog is using it less, or at least putting less weight on it and an associated weakness due to decreased use of the limb.

Diagnosis

Pain Assessment

At the Clinic we focus on three main assessments to try and evaluate your pet for pain. Once we have measured your animal's pain levels, we will help you understand what needs to be done to help improve your pet's comfort. This might involve medication, therapies such as physiotherapy, or the use of intra-articular medications.



HOLISTIC OVERVIEW

This examines all areas of your pet's life, their clinical history, lifestyle, responses to therapies, and incorporates a very thorough clinical examination looking for subtle changes that might indicate pain.



CLINICAL METROLOGY INSTRUMENTS

These are questionnaire based and look for changes in behaviour, temperament, and mobility to see if there are any patterns that might indicate degeneration.



BIOSENSORS

We are excited to be trialling PainTrace®, an innovative biosensor system that allows us to detect and measure pain. This can be useful in locating pain and monitoring its response to treatment.



At its most basic, gait analysis is just the study of movement. Traditionally, assessing an animal's mobility would involve observation, and potentially the use of a questionnaire, to try and determine if there are any gait abnormalities. This method can have a wide degree of inaccuracy and is termed Subjective (it depends upon the people making the observations) so we use a combination of Passive Stance and Dynamic Gait analysis to provide Objective, or fact based, analysis.

Passive Stance

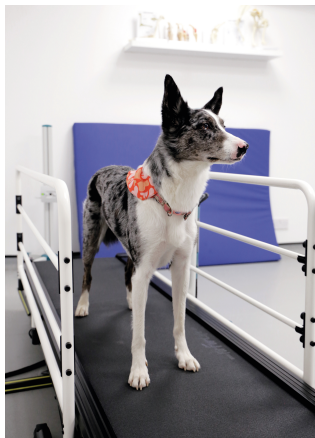
This is a mat with four quadrants that measure the amount of weight that is being supported by each limb. Typically, dogs will carry 60% of their bodyweight through their front legs, and 40% through their hind legs. Chronic pain can result in limbs being 'spared' by off-loading onto other legs. This can, in turn, lead to more stress through the other legs which can lead to compensatory gait issues.



Dynamic Gait Analysis

At the Clinic we use a Zebris CanidGait instrumented treadmill. The baseplate of the treadmill has over 15,000 pressure sensors, and in just 45 seconds can deliver a huge amount of data allowing a detailed assessment of your pet's mobility.

The treadmill is not used for the diagnosis of conditions,



but it is sensitive enough to detect lameness that is not yet visible to the naked eye which can help with isolation of painful areas, and it can be used to provide a baseline where there is significant pathology to track improvements following therapy.

The treadmill will quickly and reliably deliver gait parameters which look at how your dog moves. This includes step length, length of the gait cycle, speed, cadence, stance, and swing phase distribution. Videos are taken during the session and a comprehensive report then helps determine where your dog may be guarding a limb as it walks.

Walking on the treadmill can feel a little strange initially but after a short settling period most dogs get the hang of it and have a fun walk! Following the consultation, both you and your vet will receive a detailed report and

interpretation with recommendations which will allow a management plan for your animal's needs to be decided on.

Routine Dog Monitoring

Gait monitoring is an invaluable tool for getting a baseline on a dog when it is young, there are no known pathologies or musculoskeletal issues, and then we have something to compare to in the future. Having a baseline is important as there can be a wide variation in how dogs, even of the same age, breed, and sex, move. Your dog will be unique in many ways and having a baseline allows us to track it and look for very subtle changes that might be indicative of a problem.



Management

Pain Management Options

While there is no cure for Osteoarthritis, and it can be just as uncomfortable for animals as for people, it does not mean that our pets cannot live an active and fulfilling life. At the Nupsala MSK Clinic we will help you to understand all the strategies that will help your pet.

Joint Injections

This is an exciting and rapidly developing area and at the Clinic we have special interest in the application of these technologies to truly modify the joint environment, alter the inflammatory pathways, and provide comfort and mobility.



Physiotherapy

An often-overlooked aid to pain management and most useful early in the disease process to help keep joints mobile and functional. Photobiomodulation or Laser therapy is also extremely useful.



Sleep

Quality sleep on an orthopaedic bed moves pressure away from painful joints. Deep sleep is protective against chronic pain development, helps improve mood, and reduces morning stiffness. *(Photo and words by VetRelieve)*



Weight Management

This is critical for many reasons and is the single biggest impact you can have on your pet's arthritis journey. If you can keep your pet slim you will help them move – it is as simple as that!



Pain Relief

Getting your pet's pain under control will permit them to be more active, lose weight, and enjoy life again. It is important to understand that this is only one component of successful osteoarthritis control as these medications will not modify or slow the disease.



Surgery

While not a service we provide, there are times when surgery by a specialist orthopaedic surgeon is the only option to help an animal. We are specifically interested in maintaining comfort levels in animals that have had surgery as many of these will go on to develop significant osteoarthritis. If your pet has had joint surgery, then call us for advice.



There are other options but what is clear is that proper osteoarthritis management requires a comprehensive plan rather than just one approach. Our goal is improvement in your pet's mobility, comfort, and quality of life. We understand the concerns that pet owners have when their animal may be in pain, so we strive to provide a relaxed environment for you and your pet, while fully explaining your pet's conditions, treatment options, and provide pragmatic management plans.



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01664 778187 | nupsala-msk.co.uk | info@nupsala-msk.co.uk