

VetSpec[®] for dogs

Joint Care for Your Dog

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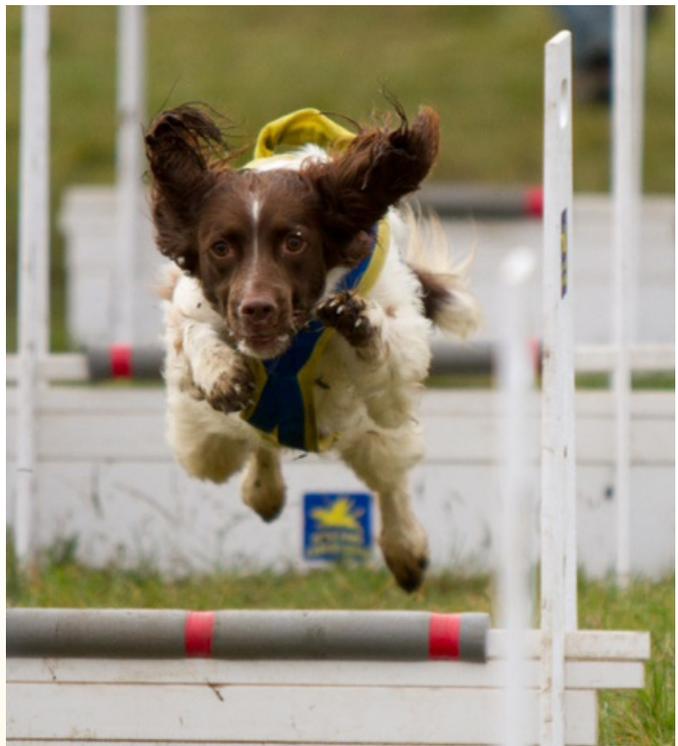
Osteoarthritis:

Osteoarthritis is a very common condition of dogs. Estimates of prevalence in dog populations suggest that around 20% of dogs are affected (1 in 5) and if one considers older dogs, more than 8 years old, this figure rises to 80% (4 in 5). This makes it one of the more common reasons for dog owners visiting the vet.

Larger dogs are more often troubled, with breeds such as Labrador Retrievers, German Shepherd Dogs and Rottweilers being particularly susceptible. The disease can follow on from accidental damage, causing traumatic injury to the joint and its supporting tissues, but it frequently manifests as an age related problem, as it does in human beings. Hard work and associated wear and tear on the joints is associated with osteoarthritis, abnormalities or imperfections of conformation can exaggerate the effects of age and wear and tear.

Conditions such as hip dysplasia and Osteochondritis Dissecans (OCD) found particularly in the giant breeds, e.g. St Bernard and Great Dane, will predispose to early onset of the disease in younger dogs.

It is increasingly clear that obesity is a very important risk factor in the onset and progression of the disease in dogs as well as in human beings. This is not only due to the extra strain placed on joints by carrying excess weight but there is evidence that obese individuals have higher levels of inflammatory agents in their systems that could contribute to joint damage.



Osteoarthritis is a complicated mixture of degenerative, inflammatory and repair processes. It affects synovial joints which are the majority of joints in the body but the joints in the limbs, particularly hips, stifles and elbows are most commonly affected. The joints eventually become stiff and painful and this results in loss of mobility both of the limb in question, and inevitably of the dog itself, as it becomes more and more reluctant to take exercise. The structure of a typical synovial joint is represented in diagram 1. The main parts of the joint affected by osteoarthritis are the articular cartilage and the synovial membrane and synovial fluid.

What is synovial fluid?

Synovial fluid is a lubricating and shock absorbing fluid which is contained within the synovial membrane and fills the joint cavity (see diagram). Its main function is to reduce friction between articular cartilages during movement; it needs to be viscous in order to do this.

What is cartilage?

Articular (joint) cartilage is a thin layer of specialised tissue (see diagram) covering the end of bones. Its principal function is to provide a smooth, lubricated surface for low friction joint movement.

Focus on osteoarthritis:

Osteoarthritis involves the breakdown of substances within synovial fluid which leads to a thinning of the usually thick and viscous fluid. As a consequence, cartilage which lines the joint surfaces is worn away.

Destruction of this cartilage can arise from repeated trauma and/or excessive use, which is why these changes are frequently identified as dogs get older. Pain, swelling, lameness and reduced mobility occur as a result and life-long treatment/management of the condition is usually required.

Disease management:

Management of osteoarthritis is a complex affair since it is such a complex disease. In some cases where trauma is the inciting cause then surgery can be helpful and prescribing pain relief and anti-inflammatory drugs is necessary especially in the later stages of the disease. These drugs are in no way curative and are very much a means of making the patient's life more comfortable.

We should therefore focus on delaying the onset of the disease for as long as possible and slowing down its progress as much as possible. This is particularly important in those categories of dog where we know the risks are high. This includes the large breeds and working dogs (e.g. sheepdogs, gundogs, agility competitors). This approach is known as multi-modal management because it attacks the problem from a number of different angles. In addition to surgical and pharmaceutical approaches already mentioned the multi-modal approach involves:

- **Weight control:** being overweight is a well recognised risk factor both from a wear and tear and inflammatory point of view. Consequently, maintaining optimal body weight is essential for successful disease management.
- **Regular exercise:** this is useful in controlling weight but it has also been shown that exercise in mice will result in the body producing its own anti-inflammatory factors.
- **Diet:** as well as its role in maintaining optimal body weight, a healthy balanced diet is essential for the health and integrity of the joints. Nutritional supplements directed to supporting the synovial structures are a very important branch of the multi-modal approach to management of osteoarthritis. Factors of particular interest are:

- **Glucosamine**

Glucosamine is one of the major components involved in the formation of Glycosaminoglycan's (GAG's), including chondroitin. GAG's are essential constituents of synovial fluid, where they are important factors in maintaining its viscosity. They are also important in cartilage, where alongside collagen fibres and water, they form the matrix which gives cartilage its structure.

- **Chondroitin**

Chondroitin is a glycosaminoglycan. It is a major structural component of cartilage and provides much of its resistance to compressive forces.

Both glucosamine and chondroitin play an important role in joint lubrication and shock absorption and are necessary to maintain and restore healthy joint function.

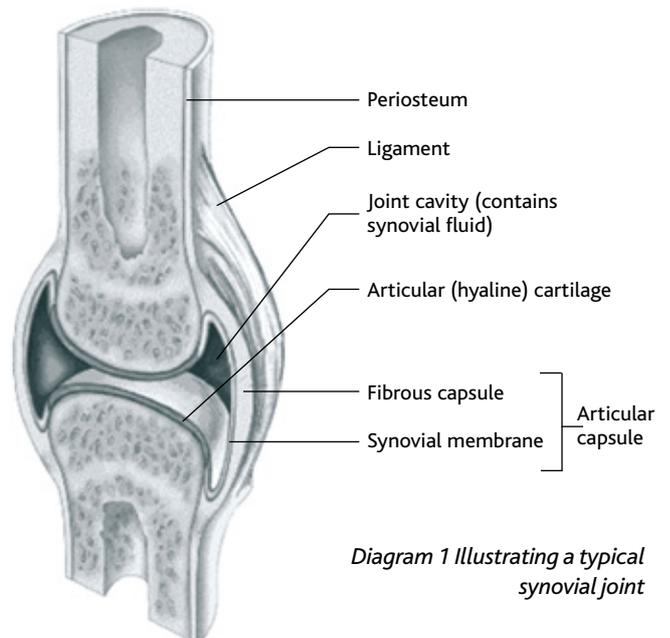


Diagram 1 Illustrating a typical synovial joint

- **Omega-3 fatty acids**

Omega-3 fatty acids are considered Essential Fatty Acids (EFAs): they are necessary for health but the body can't make them, therefore, they have to be provided by the diet. Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) are both omega-3 fatty acids and oily fish and fish oil supplements provide a very good source. Dogs with inflammatory conditions, such as arthritis, can benefit from supplementation of these omega-3's which reduce the production of inflammatory substances. Research has demonstrated an improvement of clinical signs in dogs with arthritis when supplemented with omega-3 fatty acids.

- **MSM**

MSM (Methylsulfonylmethane) is a bioavailable source of sulphur. It supports the synthesis of collagen, the main structural protein of connective tissues such as tendons, ligaments and muscles which can all play a part in stabilising joints and minimising wear and tear. MSM promotes the dispersion of fluid at injury sites via its role in the permeability of cell walls. Note: additional MSM is not required in high quality and high meat dog foods (50% meat and above) because they are high in amino acids rich in bioavailable sulphur.

- **Antioxidants**

Vitamin E and C are antioxidants. These neutralise excess damaging substances, called free radicals, which are produced as a consequence of inflammation in and around the joint.

These agents are used to supplement the diet of dogs at risk and need to be given daily from an early age to slow the development of disease. Because of the insidious nature of the disease it has often progressed to a relatively advanced stage before the patients show signs of being affected. This makes subsequent management more difficult. Therefore daily joint mobility supplements are frequently recommended to patients at risk from an early age.

It is also important that the supplements used are of the highest quality and that they be administered at the correct dose. Poor quality products, improperly administered can only have suboptimal benefit.

The best and most efficient means of providing these agents, to dogs known to be at risk of osteoarthritis, is by incorporation into the daily ration. In this way your dog will consume the required amount of high quality supplements every day with his dinner.

A veterinary specification super premium complete dog food will provide the level of DHA and EPA, glucosamine and chondroitin normally only found in veterinary grade nutritional supplements.

For dogs carrying excess weight, feeding a diet to support weight loss is an essential part of their management. An ideal way of supplying a high level of joint support, including all of the beneficial ingredients above, is to use a low-calorie, veterinary specification super premium complete dog food.

For owners that prefer to feed a wet or BARF type diet, veterinary specification supplements, which provide DHA and EPA, glucosamine, chondroitin and MSM are available and can be mixed into the dog's normal feed.





VetSpec **Puppy & Junior** Formula

VetSpec Puppy and Junior Formula contains highly specific supplements to ensure optimum growth and development of your young dog through to twelve months when it can be successfully transferred to VetSpec Healthy Dog Adult Formula (See below). VetSpec Puppy and Junior Formula is a Veterinary Specification, CEREAL-GRAIN-FREE, Super Premium dry dog food including 60% Chicken with added vegetables and herbs. It is a completely balanced dog food suitable for all puppies and junior dogs from 4 weeks of age. The prebiotics in the supplement help to maintain a healthy gut in dogs with sensitive stomachs. It is wheat gluten free with no added artificial colours, preservatives or artificial flavours.



VetSpec **Healthy Dog Adult** Formula

VetSpec Healthy Dog Adult Formula is an outstanding Veterinary Specification Healthy Dog Adult supplement in a CEREAL-GRAIN-FREE Super Premium dog food including 60% Chicken with added vegetables and herbs. It is a superb product for all dogs including show dogs and working dogs. The specialised supplements include Biotin and other associated nutrients to improve the coat and promote a supple skin for dogs that have problems in this area. The prebiotics in the supplement help to maintain a healthy gut in dogs with sensitive stomachs. It is wheat gluten free with no added artificial colours, preservatives or artificial flavours.



VetSpec **Omega-3 Joint Mobility** Formula

VetSpec Omega-3 Joint Mobility Formula is our highly successful Omega-3 Joint Mobility Supplement and VetSpec Healthy Dog Adult Formula (see above) combined to make one unique Veterinary Specification, CEREAL-GRAIN-FREE Super Premium dog food. The formula is rich in DHA and EPA (Omega-3s), glucosamine and chondroitin at levels only normally found in veterinary grade nutritional supplements. Omega-3 Joint Mobility Formula is ideal to provide nutritional support for dogs with poor mobility or those in hard work e.g. Dog Agility or Gun Dogs.



VetSpec **Calm & Focused** Formula

VetSpec Calm & Focused Formula is our very effective Calm & Focused Supplement and VetSpec Healthy Dog Adult Formula (see above) combined to make one unique Veterinary Specification, CEREAL-GRAIN-FREE Super Premium dog food. VetSpec Calm & Focused Formula is ideal for all dogs that get anxious and over-excitable, suffer from separation anxiety or fear loud noises like fireworks. It is also very helpful when training young dogs to improve focus and obedience. Its formulation includes tryptophan, prebiotics and magnesium.



VetSpec **SuperLite® Low-Calorie** Formula

Latest research would indicate that up to 45% of all dogs are overweight and this can lead to clinical problems later in life. VetSpec SuperLite® Low-Calorie Formula has all the benefits of VetSpec Healthy Dog Adult Formula (see above) but is on a base food with 20% less calories if fed as directed. This means that you can control your dog's weight but still feed a delicious feed, packed with high quality vitamins and minerals that your dog still needs on a daily basis. VetSpec SuperLite® Formula is an outstanding Veterinary Specification supplement in a CEREAL-GRAIN-FREE Super Premium dog food including 50% Chicken with added vegetables and herbs.



VetSpec **SuperLite® Senior** Formula

VetSpec SuperLite® Senior Formula is designed to address the nutritional challenges that dogs face as they reach their more senior years. It consists of a complex Veterinary Specification supplement within a CEREAL-GRAIN-FREE Super Premium dog food including 50% Chicken with added vegetables and herbs. In particular older dogs need optimum nutrition to support a healthy immune system, which means a diet rich in anti-oxidants such as Vitamins A, E, and C and other natural sources. They are also often overweight because they are less likely to be as active and therefore need less calories on a daily basis. Just as important for older dogs is that they need more nutritional support to maintain healthy flexible joints. These complex requirements are all now built into a single delicious complete dog food - VetSpec SuperLite® Senior Formula. When fed at the recommended rate additional individual supplements are therefore no longer required.

*Veterinary Specification Supplements in CEREAL-GRAIN-FREE
Super Premium Dog Foods*

For free nutritional advice: **Tel: 01845 565630**

Email: nutrition@vetspec.com www.vetspec.com