Medical Treatment of Arthritis, Hip Dysplasia and Other Joint Disease (Part 3)

Drs. Foster & Smith Educational Staff

Oral Joint Supplements | Injectable Agents | Other Oral Supplements | Anti-inflammatory & Pain Relievers

It is never easy to see a beloved companion pet and friend in pain. Medical treatment of dog arthritis and degenerative joint disease (osteoarthritis) has greatly improved in the last several years thanks to the introduction and approval of several new oral/injectable drugs and oral supplements. There is much you can do to help control the pain your pet may be feeling, make your pet more comfortable, and perhaps slow down the progression of his/her dog arthritis.

Oral Joint Supplements

- **Glucosamine and Chondroitin** - Glucosamine and chondroitin are two ingredients in oral supplements that have become widely used in treating both human and dog osteoarthritis. Due to the overwhelming success in treating patients with osteoarthritis, these products have come to the forefront of therapy and are becoming the most popular nutraceutical products for managing dog arthritis today.

Glucosamine is the major sugar found in glycosaminoglycans and hyaluronate. These are important building blocks in the synthesis and maintenance of cartilage in the joint. Chondroitin enhances the synthesis of glycosaminoglycans and inhibits damaging enzymes in the joint, which break down the cartilage.

When a dog has hip dysplasia or other osteoarthritis, the joint wears abnormally and the protective cartilage on the surface of the joint gets worn away and the resultant bone-to-bone contact creates pain. Glucosamine and chondroitin give the cartilage-forming cells (chondrocytes) the building blocks they need to synthesize new cartilage and to repair the existing damaged cartilage. These products are not painkillers; they work by actually healing the damage that has been done. These products generally take at least six weeks to begin to heal the cartilage and most animals need to be maintained on these products the rest of their lives to prevent further cartilage breakdown. These products are very safe and show very few side effects. There are many different glucosamine/chondroitin products on the market, but they are not all created equal. We have seen the best results from products that contain pure ingredients that are human grade in quality. Dog arthritis supplements such as Drs. Foster & Smith Joint Care or the veterinary-sold product Cosequin are several that fit this category.

- **Perna Mussels** - *Perna canaliculus*, or green-lipped mussel, is an edible shellfish found off the shores of New Zealand. The soft tissue is separated from the shell, washed several times, frozen, and freeze-dried. It is then processed into a fine powder and added to products. It is made up of 61% protein, 13% carbohydrates, 12% glycosaminoglycans (GAGs), 5% lipids (including eicosatetraenoic acids, or ETAs), 5% minerals, and 4% water. It also contains glucosamine, a GAG precursor and one of the building blocks of cartilage. Glucosamine, GAGs (unbranched chains of complex sugars) and ETAs (a type of Omega-3 fatty acids) are the compounds in the mussel believed to contribute to its beneficial effects. ETAs are the key ingredients that help in the anti-inflammatory activity and thereby the reduction of dog joint pain. GAGs are the main components of cartilage and the synovial fluid found in joints. Recommended oral supplements formulated with the above ingredients include Drs. Foster & Smith Joint Care, Joint Care with MSM, and Joint Guard® Treats.

[Back to top]

Injectable (Disease-Modifying Osteoarthritis Agents)

- **Polysulfated Glycosaminoglycan (Adequan)** - Adequan is a product that is administered as an injection. A series of injections are given over weeks and very often have favorable results. The cost and the inconvenience of weekly injections are a deterrent to some owners, especially since the oral glucosamine products are so effective. This product helps prevent the breakdown of cartilage and may help with the synthesis of new cartilage. The complete mechanism of action of this product is not completely understood, but appears to work on several different areas in cartilage protection and synthesis.

- **Hyaluronic Acid (Legend)** - Hyaluronic acid is an important component of joint fluid. Including it in the managment of osteoarthritis may protect the joint by increasing the lubricating action of the joint fluid and reducing inflammation. Most

*Unauthorized use of any images, thumbnails, illustrations, descriptions, article content, or registered trademarks of **Foster & Smith, Inc.** is strictly prohibited under copyright law. Site content, including photography, descriptions, pricing, promotions, and availability are subject to change without notice. These restrictions are necessary in order to protect not only our copyrighted intellectual property, but also the health of pets, since articles or images that are altered or edited after download could result in misinformation that may harm companion animals, aquatic life, or native species.*

of the research on hyaluronic acid has been done in people and horses, but it may also be effective in dogs. This is an injectable product which is administered directly into the joint.

[Back to top]

Other Oral Supplements

- **Methyl-sulfonyl-methane (MSM) -** MSM is a natural, sulfur-containing compound produced by kelp in the ocean. MSM is reported to enhance the structural integrity of connective tissue, and help reduce scar tissue by altering cross-linkages which contribute to scar formation. MSM has been promoted as having powerful anti-inflammatory and pain reducing properties.

- **Creatine -** Creatine is an amino acid derivative formed in the liver, kidneys, and pancreas from the amino acids arginine, glycine, and methionine. It is found in red meat and fish. Creatine is not a muscle builder, but aids in the body production of adenosine triphosphate (ATP), a fuel, for short, intense bursts of energy. In humans, it builds lean body mass by helping the muscle work longer, allowing one to train harder, lift more weight, and have more repetitions. It is the increase in exercise which results in building muscle, not creatine alone. When combined with exercise, creatine may be helpful in dogs with muscle atrophy associated with dog osteoarthritis.
- **Omega-3 Fatty Acids -** Omega-3 fatty acids are often used for the management of the signs of atopy in dogs. Because of their anti-inflammatory properties, some have advocated their use in dogs with osteoarthritis. Research studies are under way to determine their effectiveness in the management of dog
- **Duralactin -** Recently, a patented ingredient obtained from the milk of grass-fed cows has been studied and marketed for long-term management of musculoskeletal disorders in dogs. It is called Duralactin, has anti-inflammatory properties, and is a non-prescription product. It may be used as a primary supportive nutritional aid to help manage inflammation or in conjunction with non-steroidal anti-inflammatory drugs (NSAIDs) or corticosteroids.

- **S-Adenosyl-L-methionine (SAMe, Denosyl SD4) -** A recent product, Denosyl SD4, has been advocated for the management of osteoarthritis in people. The efficacy of this product for the management of osteoarthritis in animals has not been fully determined; however, it is being used as a treatment for liver disease in dogs and cats. It has both anti-inflammatory and pain relieving properties.

- **Tetracyclines -** Some tetracyclines such as Doxycycline and Minocycline have been shown to inhibit enzymes that break down cartilage. The results of one research study suggested that doxycyline reduced the degeneration of cartilage in dogs with ruptured cruciate ligaments. Further studies need to be done to evaluate the benefit of these tetracyclines in the treatment of osteoarthritis in dogs.

[Back to top]

Anti-inflammatory and Pain Relievers

- **Buffered Aspirin -** Buffered aspirin is an excellent anti-inflammatory and painkiller in dogs. (Do NOT give your cat aspirin unless prescribed by your veterinarian.) It can be used along with glucosamine/chondroitin products. With all aspirin products used in dogs, there is a risk of intestinal upset or in rare cases, gastric ulceration. Because of these problems, it is recommended that if a dog develops signs of GI upset, the product be discontinued until a veterinary exam can be performed. (By giving aspirin with a meal, you may be able to reduce the possibility of side effects.) Using buffered aspirin formulated just for dogs makes dosage and administration much easier.

- **Carprofen (Rimadyl, Novox), Etodolac (EtoGesic), Deracoxib (Deramaxx), Ketoprofen, Meloxicam** - These are non-steroidal anti-inflammatory drugs (NSAIDs) developed for use in dogs with osteoarthritis. They are strong and effective painkillers and anti-inflammatory agents. They are prescription products and because of potential side effects, careful adherence to dosing quantity and frequency must be followed. Most manufacturers recommend periodic bloodwork to be done on animals that are on these products to monitor any developing liver or other problems resulting from their use. These products are often used initially with glucosamine therapy and then as the glucosamine product begins to work, the NSAID dose may be reduced or even eliminated. Any NSAID should not be used with aspirin, corticosteroids, or other NSAIDs. Acetaminophen (Tylenol), and ibuprofen have many more potential side effects and are not recommended without veterinary guidance.

- **Corticosteroids -** Corticosteroids have been used for many years to treat the pain and inflammation associated with osteoarthritis; however, their use is controversial. Corticosteroids act as a potent anti-inflammatory, but unfortunately, have many undesirable short- and long-term side effects. Because of these side effects and the advent of newer, more specific drugs, corticosteroids are generally only used in older animals with flare-ups where all other pain control products have failed. Corticosteroids are a prescription product and come in both a pill and injectable form.

[Back to top]

Part 3 of 3

*Unauthorized use of any images, thumbnails, illustrations, descriptions, article content, or registered trademarks of **Foster & Smith, Inc.** is strictly prohibited under copyright law. Site content, including photography, descriptions, pricing, promotions, and availability are subject to change without notice. These restrictions are necessary in order to protect not only our copyrighted intellectual property, but also the health of pets, since articles or images that are altered or edited after download could result in misinformation that may harm companion animals, aquatic life, or native species.*

Nutritional products to help you treat your dog's arthritis symptoms:

Joint Supplements

Vitamins

Healthy Diet

Pain Relievers

*Unauthorized use of any images, thumbnails, illustrations, descriptions, article content, or registered trademarks of **Foster & Smith, Inc.** is strictly prohibited under copyright law. Site content, including photography, descriptions, pricing, promotions, and availability are subject to change without notice. These restrictions are necessary in order to protect not only our copyrighted intellectual property, but also the health of pets, since articles or images that are altered or edited after download could result in misinformation that may harm companion animals, aquatic life, or native species.*