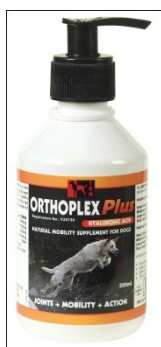
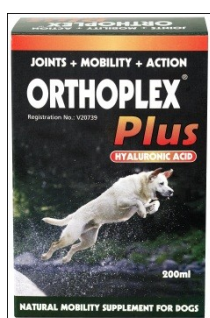




**Maximise Mobility with Orthoplex Plus HA**  
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Is your dog stiff in the morning when it wakes up or is it having difficulty in climbing stairs or having difficulty in climbing up onto its favourite couch in the lounge? If the answer is yes then your dog may be suffering from degenerative joint disease (DJD) and associated Osteoarthritis (OA).

The most common cause of DJD in dogs is Hip Dysplasia (HD). HD is caused by the abnormal development of the hip joint that results in DJD as a result of Joint instability. The instability in the joint results in Chondrocyte (cartilage cell) death, release of degenerative enzymes, synovitis and continued cartilage destruction and inflammation. This results in pain and lameness in the affected limb <sup>(1)</sup>.

The first line of treatment for a dog with OA is to give them Non steroidal Anti-inflammatory drugs (NSAIDS). These drugs will relieve the pain and inflammation which is very important <sup>(2)</sup>. However NSAIDS treat the symptoms of inflammation but NSAIDS do not assist in repairing damaged cartilage and there are risks of side effects with long term use of NSAIDS.

In addition to NSAIDS you can also use Orthoplex Plus for the treatment of OA. Orthoplex plus consists of Glucosamine HCL, Methylsulphonylmethane (MSM), Chondrotin Sulphate and Hyaluronic Acid. Orthoplex assists in repairing damaged cartilage and also assists in regeneration of the joint fluid in affected joints.

Hyaline (joint) cartilage consist of chondrocytes which synthesis the matrix in which the cells are imbedded. The matrix consists of collagen fibbers and proteoglycans. Proteoglycans consist of glycosaminoglycans (GAGs) that encircle a core protein. This complex is also bound to Hyaluronic acid <sup>(2)</sup>.

Glucosamine is important for the formation of GAG's and is therefore a major building block of the cartilage matrix. Chondrotin is the most abundant GAG in the cartilage matrix. Chondrotin binds large amounts of water which give cartilage its shock absorbing properties and Chondrotin also inhibits degradation enzymes that are active in injured joints <sup>(2)</sup>. Feeding a combination of Glucosamine and Chondrotin has been shown to improve lameness scores in dogs with synovitis<sup>(3)</sup> (inflammation of the joints) and to improve the quality of synovial fluid (joint fluid) in dogs with OA <sup>(4)</sup>.



Hyaluronic acid (HA) is a natural component of cartilage and joint fluid. Joint or synovial fluid lubricates joints ensuring fluid movement in joints. It has been shown that the concentration of HA is lower and the length of the HA chains is decreased in the joint fluid of diseased joints thus preventing the joint fluid from performing optimally. HA also has anti-inflammatory properties and contributes to the shock absorbing properties of cartilage<sup>(5)</sup>.

MSM has a high sulphur content and is used by the body to maintain connective tissue. MSM is thought to have anti-inflammatory activity and free radical scavenging ability. In a study in humans with OA, supplementation with MSM showed a 33% decrease in pain along with improvement in joint mobility, swelling and walking time<sup>(2)</sup>.

Orthoplex plus is a highly palatable liquid that is sold in a 200ml pump bottle. The liquid can be sprayed into the dog's mouth or mixed into its food. The high palatability of the product will ensure that your dog will consume the entire dose and the pump ensures accurate dosing.

OA is not always associated with cats as much as it is associated with dogs. However like dogs, as cats age they can develop DJD and OA. The causes of OA in cats are very similar to OA in dogs. However cats do not limp as readily as dog therefore behavioural changes are a more reliable sign that cats may be suffering from OA. Behaviour changes to look out for in a cat with OA are decreased appetite, poor grooming and matted hair coat, urinating and defecating outside the litter box, reluctance to walk or jump and reduced movement.

Cats showing any of the above behaviour changes should be taken to the vet for a clinical examination. If the diagnosis of DJD is made then Orthoplex Feline is the product of choice to alleviate the symptoms of DJD in cats. Orthoplex feline contains the same ingredients as Orthoplex Plus and comes in a 150ml bottle with a pump to ensure accurate dosing for cats. Like Orthoplex Plus, Orthoplex Feline is also highly palatable.

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