



# Flex+Max® Ingredients and Maintaining Equine Joint Health

A great deal of scientific research has gone into ensuring the efficacy of the state-of-the-art formula found in Absorbine's® Flex+Max® equine joint support supplement—the latest expression of Absorbine's® commitment to innovation backed by proven science. There's mounting evidence proving the efficacy of supplements in supporting equine joint mobility, a reflection of ongoing advancements in joint mobility research and ingredients. In fact, a research team at Sao Paulo University recently studied the lasting effects of adding a joint support supplement to horse care regimens.<sup>1</sup>

When we developed the first version of our Flex+® joint support supplement in 2001, it was critical that we utilized ingredients known to help support connective tissue and joint health. That led us to combine two types of glucosamine with methylsulfonylmethane (MSM) and rice bran. To help ensure that this equine supplement met the high expectations horse owners had for products bearing the Absorbine® name, we also made sure that solid research was a part of its development. We were actually one of the first companies in our industry to perform a clinical field study, allowing us to guarantee our supplement's performance.

Today's Flex+Max® builds on the advanced formula of that original Flex+®. We've added new ingredients, including *Boswellia serrata*, hyaluronic acid (HA), fenugreek seed, and flaxseed. We've also increased several active ingredients to the optimum levels recommended by experts.

*Further details on those premium Flex+Max® ingredients are listed below.*

## Chondroitin Sulphate 1,200 mg

Chondroitin acts as the body's lubricant for cartilage. Chondroitin is a naturally occurring molecule made by cartilage. It binds to cartilage's collagen cells and helps prevent further degradation by enhancing lubrication



within the joint. Combined with glucosamine, chondroitin can have a long-term, positive effect on joint health. According to the U.S. National Library of Medicine, "Chondroitin sulfates, whether they are absorbed intact or broken into their constituent components, similarly provide additional substrates for the formation of a healthy joint matrix."<sup>2</sup> Flex+Max® chondroitin comes from a non-bovine source.

## Bioavailability is Key

Flex+Max® is different because we use a special low molecular weight chondroitin to enhance its "bioavailability" to the joint. The molecule in Flex+Max® is five times smaller than chondroitin sulphate used in many other joint supplements. There have been successful human studies done using low molecular weight chondroitin sulphate.<sup>3</sup>

To understand how this works, let's use the analogy of sifting dirt in a garden. To get it really fine, you first sift it through a large screen. This removes the big rocks and large clumps of dirt. Then you move on to a finer screen. To get low molecular weight chondroitin, it is sifted through a finer "screen," which results in only the very small particles of chondroitin, thus making it much more "bioavailable" to the cartilage within a joint. We only use these smaller particles in Flex+Max®. This is one of the features that makes it such an effective, premium supplement.



### Glucosamine 10,000 mg

Glucosamine is one of the building blocks for new cartilage. “Glucosamine sulfate’s primary biological role in halting or reversing joint degeneration appears to be directly due to its ability to act as an essential substrate for, and to stimulate the biosynthesis of, the glycosaminoglycans and the hyaluronic acid backbone needed for the formation of proteoglycans found in the structural matrix of joints.”<sup>2</sup> More simply, the function of glucosamine in Flex+Max<sup>®</sup> is to make the building blocks of cartilage available to the body.

#### *Guaranteed Levels*

“Guaranteed levels of glucosamine and chondroitin” is a meaningful statement to consider when choosing a joint supplement. Levels of active ingredients in supplements can vary widely, which will drastically affect the results you see.

### Methylsulfonylmethane (MSM) 5,000 mg

MSM is a naturally occurring compound found in all vertebrates and is essential to many cell functions. People and animals ingest MSM from plants in small quantities. Adding supplemental MSM to the diet may help achieve normal cellular function within joints. It is found to be most beneficial when used in conjunction with glucosamine and chondroitin.

### Hyaluronic Acid (HA) 150 mg

Hyaluronic acid (HA) is a component of synovial fluid, the lubricating fluid inside joints. HA is often injected directly into the joint by a veterinarian. This practice is common because HA has a large molecule size and is difficult for the body to assimilate. Therefore, our experts advised that we include HA at generous levels to give the animal’s body a greater opportunity to utilize the HA.

### Flaxseed 11 g

Flaxseed and flaxseed oil are often used to balance omega-3s. Research demonstrates that omega-3s may help with discomfort associated with normal daily exercise.

### Rice Bran 5.6 g

Rice bran is the outer husk of the rice grain, and is separated during the conversion of brown rice to white rice. We designed Flex+Max<sup>®</sup> to have minimal filler material, but some “carrier materials” are necessary to deliver the active ingredients to cell structures within joints. We chose rice bran as a carrier because it contains beneficial compounds—tocotrienols (a form of vitamin E), gamma-oryzanol, and beta-sitosterol—rather than common fillers that do not enhance the supplement further.

### Boswellia Serrata 130 mg

The Boswellia serrata tree is commonly found in India. “The therapeutic value of its gum (guggulu) has been known for years.”<sup>4</sup> For centuries in India and African countries, this ancient herb has been used in traditional medicine to help treat sore joints.

### Fenugreek

Fenugreek is an annual plant with small, round leaves that produces a scent reminiscent of maple syrup. One of the unique advances discovered in our clinical field studies was the extremely high palatability of fenugreek—it was an irresistible flavor for 100% of the horses tested. This allows us to guarantee 100% palatability for Flex+Max<sup>®</sup>. We guarantee that even picky eaters will not “eat around” this supplement.

<sup>1</sup> Urinary glycosaminoglycans in horse osteoarthritis. Effects of chondroitin sulfate and glucosamine.  
<http://www.ncbi.nlm.nih.gov/pubmed/21925689>

<sup>2</sup> The role of glucosamine sulfate and chondroitin sulfates in the treatment of degenerative joint disease.  
<http://www.ncbi.nlm.nih.gov/pubmed/9600024>

<sup>3</sup> Efficacy of a combination of FCHG49 glucosamine hydrochloride, TRH122 low molecular weight sodium chondroitin sulfate and manganese ascorbate in the management of knee osteoarthritis.  
<http://www.ncbi.nlm.nih.gov/pubmed/10966840>

<sup>4</sup> Efficacy and tolerability of Boswellia serrata extract in treatment of osteoarthritis of knee—a randomized double blind placebo controlled trial.  
<http://www.ncbi.nlm.nih.gov/pubmed/12622457>