

Equine Joint Supplements

Nutritional supplements aimed at helping joints; seek products with research from reputable companies

Joint Supplements

Supplements designed for joint health are purported to decrease inflammation, increase mobility, provide the “building blocks” for articular cartilage synthesis, or otherwise contribute to the overall health of moveable joints.¹

These supplements often are used for young, athletic horses to try to protect the healthy horse from injury, for treatment for a joint injury, and in older horses to try to counteract a lifetime of joint wear-and-tear.



Many people administer oral joint health supplements to young, healthy, athletic horses with the intention of “protecting” the joints from damage.

Oral Supplements

Oral joint health supplements (OJHS) are the most popular type of nutritional supplement administered to horses, particularly those products containing glucosamine, chondroitin sulfate, hyaluronic acid, and methylsulfonylmethane (MSM).² Other ingredients sometimes included in oral joint health supplements are cetyl myristoleate, avocado/soybean unsaponifiable extracts (ASU), vitamins, minerals, and herbs such as devil’s claw, grapeseed extract, yucca, and/or garlic.

While there is limited *in vitro* (in the lab) data and no *in vivo* (in the live horse) data, it is suggested that these ingredients function by providing precursor molecules needed to synthesize articular cartilage (e.g., sulfur, glucosamine), exerting anti-inflammatory effects, inhibiting enzymes that break down cartilage, and/or promoting the synthesis of various components of the articular cartilage matrix.³

Efficacy of OJHS

Some products containing glucosamine and chondroitin sulfate, avocado/soybean

unsaponifiable (ASU) extracts, hyaluronic acid, and cetyl myristoleate are the only products that have undergone scientific research in horses. A number of other ingredients are included in commercial products, but these ingredients lack supporting *in vivo* data.

Research on a product containing cetyl myristoleate, glucosamine hydrochloride, MSM, and hydrolyzed collagen showed significantly improved lameness score, lameness at the walk, response to joint flexion, lameness after flexion, and quality of life.⁴

Use Caution with Oral Supplements

Like all animal dietary supplements, oral joint health supplements are not manufactured like pharmaceutical drugs and are essentially void of any form of government regulation regarding quality assurance/quality control. As a result, poor-quality products are available.

For example, one study analyzing 23 commercially available oral joint health supplements found that nine (39.1%) contained less glucosamine than indicated on

the manufacturer’s label. This means that more than one-third of tested products were delivering sub-therapeutic dosages of glucosamine.

Poor-quality products are unlikely to be effective, delay the use of potentially beneficial treatments, and are an economic drain on unsuspecting consumers.⁵

Potential safety issues associated with oral joint health supplements are contamination, hypersensitivities (allergic reactions), drug-supplement interactions (these have been reported for many commonly administered herbs such as yucca, ginseng, flaxseed, and Echinacea), and contribution to, or worsening of, insulin resistance/equine metabolic syndrome.

This latter potential contraindication stems from a hypothesis generated in human medicine that glucosamine negatively impacts patients with type 2 diabetes mellitus. To date, there is no evidence that glucosamine has any impact on glucose or insulin levels in horses.

The “ACCLAIM” system is a seven-step process that helps consumers evaluate oral joint health supplement product labels with the goal of identifying quality products more likely to benefit the horse.

The letters stand for:

A: A name you recognize;

C: Clinical experience (published studies on efficacy);

C: Contents;

L: Label claims;

A: Administration recommendations;

I: Identification of lot; and

M: Manufacturer information.

Oral Products

As noted above, oral joint health

supplements contain many types of ingredients. The two most common are:

Glucosamine This is a type of sugar found concentrated in joint cartilage. It acts as a precursor for the building block units found within articular cartilage.

Chondroitin sulfate This is the predominant glycosaminoglycan found in adult articular cartilage. *In vitro* studies have demonstrated it is effective in inhibiting the enzymes associated with inflammation and tissue destruction. Absorption might be a problem.⁶

Supplement Safety

Ingredients included in veterinary nutritional supplements are widely considered safe, and few reports of adverse events following administration of these products in horses exist. While the United States Food and Drug Administration (FDA) is ultimately responsible for the government regulation of veterinary nutritional supplements, these products rank near the bottom of the FDA's pecking order. As such, poor-quality products, including those that do not contain the type or amount of ingredient listed on the

label, have sub-therapeutic (low) dosages, or are potentially contaminated with harmful chemicals (e.g., pesticides and heavy metals) or ingredients included in other types of supplements manufactured in the same facility due to inadequate cleaning of equipment, are commercially available.

Some supplement manufacturers are members of a private group called the National Animal Supplement Council (NASC). NASC's mission is to work constructively and cooperatively with state and federal regulatory agencies to ensure that animal owners have continuing access to products while creating systems to ensure quality and risk management. This is a self-regulated group.

In 2003 the NASC established an adverse event reporting system, and it also works to ensure the animal supplement industry is conducting itself responsibly by the following means:

- Established current good manufacturing practices (cGMPs) in 2004.
- Established product labeling guidelines.
- Established a scientific advisory

committee, providing independent oversight for ingredients.

- This committee submitted risk stratification recommendations to FDA-CVM for all ingredients in members' products (over 850 ingredients were reviewed).
- Established an independent quality audit program to verify implementation by member companies. 🐾

REFERENCES

1. Oke, S. Oral joint supplements for horses. www.TheHorse.com/11958.
2. Packaged Facts. Pet Supplements and Nutraceutical Treats in the U.S. February 2008. www.packagedfacts.com/pet-supplements-market-c1641/.
3. Oke, S.L.; McIlwraith, C.W. Review of the potential indications and contraindications of oral joint health supplements. *AAEP Proceedings*. 2008; 54:261-267.
4. West, C. Myristol's effects on clinical joint disease. 2008. www.TheHorse.com/11553.
5. Oke, S.; Aghazadeh-Habashi, A.; Weese, J.S.; Jamali, F. Evaluation of glucosamine levels in commercial equine oral supplements for joints. *Equine Vet J*. 2006;38:93-95.
6. Sellnow, L. Older Horses Part IV: Hoof and Joint Care. www.TheHorse.com/10624.

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Reasons to consider Myristol:

- Supported by research (Clinical Trial AAEP 2007)
- Highest levels of cetyl myristoleate available
- A comprehensive blend of ingredients with added collagen
- Manufactured in the USA