

## Glucosamine–Chondroitin Supplements

Dr. Christine King

In this article I thought I'd share with you the results of a neat little study that was published recently, in which an oral glucosamine–chondroitin supplement was evaluated in show hunters and jumpers.<sup>1</sup>

The study was conducted by a veterinarian in private practice and it examined the frequency of hock injections in a group of 10 adult show horses (hunters, jumpers, and a couple of eventers) over an 8-year period. All of the horses were trained and managed by the same professional trainer throughout the study period.

For the first 2 years, no oral glucosamine–chondroitin (glu-chon) supplement was used in any of the horses, and for the following 6 years a glu-chon supplement (GLC 5500 by GLC Direct) was given daily to every horse in training.

The basic question asked in this study was whether oral glu-chon supplementation decreased the requirement for hock injections: injections of hyaluronan (HA) and a corticosteroid into the lower hock joints to maintain soundness throughout the competition season. Here is what the veterinarian found:

In the 2 years before beginning oral glu-chon supplementation, the average number of hock injections required per horse was 1.7 per year, and the average injection interval was 6.8 months. Of course, some individuals required more and others less, but injection every 6–7 months was the group average before beginning supplementation.

Following daily supplementation with an oral glu-chon product, the average number of hock injections required per horse dropped to 0.7 per year, and the average injection interval increased to 10.8 months. The veterinarian commented that horses who had required 2 to 3 hock injections per year to maintain their performance were able to perform well with one injection or less per year once on the oral glu-chon supplement.

She also noted that the horses who were experiencing the most obvious hock pain (and needed more frequent hock injections) in the first 2 years of the study responded more dramatically to glu-chon supplementation than did horses who needed hock injections less frequently at the start of the study.

Also significant is the fact that, despite the horses being several years older at the conclusion of the study and having been in consistent work throughout the study, the need for hock injections decreased over the study period. At the conclusion of the study, the average age was 15.8 years (range, 11 to 23 years). That makes these findings even more remarkable. (I happen to think that skilled riding and management probably played a huge part in the long-term health and soundness of these horses, but that aspect was not addressed in the study.)

The veterinarian noted that it took 6–8 months of daily supplementation before there was a noticeable decrease in the incidence of hock pain or the need for hock injections in this group of working horses. Other studies of oral glucosamine and/or chondroitin supplements in horses typically have concluded after 6–8 weeks. That point is worth bearing in mind when deciding whether a particular joint supplement is having any effect on an individual horse. I'm just as impatient for results as the next person, so this study is a good reminder to all of us to be patient and give these nutraceutical agents enough time to do their job before deciding on their worth.

There were two other good reminders for me in this study. One was to ensure that the horse receives an adequate daily dose of the oral glu-chon supplement. Based on the findings of this study and the author's review of the veterinary literature, she advised a combined total daily dose of at least 9 grams (that's 9,000 milligrams) of active glucosamine-chondroitin for the average 1000-lb horse. (By combined total, I mean add the amount of glucosamine and the amount of chondroitin.) Some other studies used a combined total of 12 grams (12,000 mg) of active glucosamine-chondroitin, so the general consensus seems to be a total daily dose of 9 to 12 grams. That daily dose can be—and may even best be—halved and given twice a day, as was done in this study (5 grams, morning and evening).

The other reminder was that the form of glucosamine probably is important. In horses, the intestinal absorption of the hydrochloride (HCl) form of glucosamine is very poor (<10%). The sulfate or sulphate form probably fares much better, although more research still needs to be done in horses before we can be confident about that.

In closing, I just want to mention that oral supplements will not keep a horse sound and performing well if you don't have the other bases covered. They include great

nutrition, trimming/shoeing, dental care, saddle fit, task-specific training and fitness, and a mindful, well-balanced rider.

**Reference:**

1. Rodgers MR. Effects of oral glucosamine and chondroitin sulfates supplementation on frequency of intra-articular therapy of the horse tarsus. *International Journal of Applied Research in Veterinary Medicine*, vol. 4, no. 2, 2006.

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