Baker & McVeigh Equine Hospital CAPE (PTY) LTD

Dr. J. McVeigh B.V.M.S M.R.C.V.S. - Principal
Dr. A.G Cameron B.V.M.S M.R.C.V.S - Partner
Dr. D. Timpson B.V.Sc M.R.C.V.S - Partner
Dr. A. Clements B.V.Sc Cert.E.S (Orth) M.R.C.V.S - Partner
Dr. E. Alsop B.V.Sc Cert.E.M (Intmed) M.R.C.V.S
Dr. B. Gillespie B.V.Sc BSc

BAKER & McVEIGH
Equine Hospital
CAPE

P.O Box 55290, Sunset Beach, 7435
Tel: +27 (21) 552 3450
Fax: +27 (21) 552 3225
Email: cape@mcveigh.co.za
Website: www.bakermcveigh.com

DURBAN, SA CAPE TOWN, SA NEWMARKET, UK YORKSHIRE, UK CHANTILLY, FRANCE

Lubrication for the Nation-oral joint supplements

There are ALOT of equine products out there. You can shop for supplements, until you drop!!! Following on from the last two articles on OA and joint treatments, this months information sheet will attempt to lift the fog on joint supplements, separating the Jimmy Choo's from the bargain bin supplements! Joint supplements in horses do work, and there is more and more research data proving this, but with over 70 different brands on the market, how do owners know which to go for?

How to choose a joint supplement?

There are many different joint supplements on the market. They are all of varying quality and varying ingredients. These 'Nutraceuticals' are not strictly regulated by the medicines council/FDA and they may claim to contain ingredients that they in fact don't. Individual horses with similar conditions may respond differently to the same product and this also needs to be considered when selecting the joint supplement that is right for your horse. The phrase 'buyer beware' should be applied when buying supplements, and before you buy, READ THE LABEL.

Always read the label and ingredients list.

Due to the wide variation in the quality and quantity of products within various joint supplements, the **ACCLAIM** system has been set up.

A name you recognize Do you recognize the manufacturer's name as an established company?

Clinical experience Have the products been tested in clinical trials with reports in peer-reviewed journals? Companies who support clinical research and have their products tested in clinical trials for safety, efficacy, and bioavailability with results published in peer-reviewed journals are more likely to have a quality product.

Contents Are the contents clearly indicated on the product label?

***Label* claims** Are the product label claims based on scientific study results? If they sound too good to be true, then they probably are! Label claims based on scientific results rather than testimonials, are much more reliable. Avoid products that claim to 'diagnose, treat, cure or prevent' disease. These are illegal claims and these products should be avoided.

Administration directions Are administration recommendations clear and easy to follow? The amount of active ingredient administered per dose per day should be easily calculated. Some labels aim to deliberately confuse, by using lots of different units, e.g. ounces, milligrams, i.u's. Look for products with clear administration recommendations and recommended doses based on clinical research/trials.

Identification of lot Is there an identification of lot number, tracking system, and quality control? This provides evidence that the company are trying to ensure quality control.

Tamper resistant packaging is a good idea. Producing a product that is more akin to an actual pharmaceutical drug shows long term dedication/investment by the company to the product.

Manufacturer information Is manufacturer and contact information included on the label? Manufacturer information, contact information and customer support should be clearly marked on the label. Companies employing veterinarians to answer technical questions are preferred.

What should be in a joint supplement?

Glucosamine

Glucosamine is the most well studied ingredient in joint supplements. It comes as either glucosamine sulfate or glucosamine hydrochloride. Both are effective as they are broken down to the active ingredient. Glucosamine is the basic building block of all connective tissues, including cartilage, in all forms of life. Glucosamine is usually either manufactured in a pure form or isolated from sources high in glucosamine, like the outer coverings of shellfish. Some products may contain "natural sources" of glucosamine, such as the sternum or trachea (windpipe) from cattle or hydrolyzed collagen from other sources (skin, tendons, ligaments). Hydrolyzed collagen will be mentioned below, but when shopping for glucosamine, it's best to stick with either the manufactured pure glucosamine or shellfish sources.

Glucosamine has been shown to relieve pain, as well as slowing down cartilage breakdown. A daily dose of 6000-10000mg per day has been recommended.

Chondroitin

Chondroitin sulphate is a major part of cartilage, bone and connective tissue within the body. There is some evidence tom suggest that chondroitin provides mild pain relief. An effective dose has been shown to be up to 5000mg per day.

Glucosamine and Chondroitin combined

The most recent research shows superior results when combining the two together, when compared to using either substance on its own. What you may find in many equine supplements is that in products that contain both, the amount is less than in the products containing only one. It has never been proven that by combing chondroitin and glucosamine together that you can lower the dose of each. So remember when reading the labels, the SUBSTANCE and its AMOUNT are important. From what is available in the current market, the best option is to choose a product containing a full dose of glucosamine and as close to the correct dose as possible of chondroitin.

These two susbstances are the CORNERSTONES of oral joint supplement treatment, with the current research knowledge that we have available.

Hyularonic Acid (HA)

HA is an important component of cartilage and joint fluid. There is an injectable form, as discussed in last month's information sheet. More recently it has become available as an oral supplement. It is also available in the States as a topical gel. It has been shown to be good for controlling heat, pain and swelling. Its absorption into the body is currently in question, and there is conflicting evidence as to whether oral HA can be taken up by the body and reach the sites where it is required.

There is a lot of anecdotal evidence that by adding HA to chondroitin and glucosamine, that a big improvement is made in some horses. The recommended dose is 100mg per day.

There are currently no gel formulations available in SA, but HA is present in many human beauty and skin products!!

Avocado and Soy- Unsaponifiables

These are plant fats. They have been shown to protect against cartilage breakdown in a study where OA was surgically induced. The plant fat supplemented horses had less cartilage breakdown than the none supplemented horses. They had no effect on pain although other studies have shown that they can inhibit/stop the release of inflammatory substances and increase the amount of growth factors required for cartilage repair. They are classified as chondroprotective and they have a built up effect, i.e. you won't see results quickly. There is no data on comparing these plant fats to glucosamine and chondroitin. An effective equine dose is 1200mg per day.

Methylsulfonylmethane-MSM

MSM is an effective anti inflammatory, but non one is sure how it works. There are only a few studies on amounts required, one value being 20000mg per day. Many commercial joint supplements add in MSM but not at this high an amount. It may be best to purchase a pure, separate source of MSM and add it to your chosen supplement at varying amounts and assess response.

Hydrolyzed collagen

Collagen is a protein that forms a framework for connective tissues within the body, including cartilage and bone. Hydrolyzed collagen are smaller molecules which are easier to digest and absorb. This naturally contains glucosamine, chondroitin and HA, but its benefits are thought to come from its own proteins and amino acids. There are currently no equine

studies on its effects on OA in horses, but it is well researched for its use in wound and ulcer healing in man. The dosages required in people are high, 40000mg per day.

Cetylated Fatty Acids- CMO

This product was first discovered in a strain of mice that were very resistant to OA. It has received mixed reviews and works better when combined with other substances. Minimum equine doses are likely to be at least 1400mg a day but there are no formal equine studies.

Green- Lipped Mussel Extracts.

Research performed in New Zealand has found that the use of a freeze dried green-lipped mussel product, helped horses with OA. Laboratory work has already proven that this substance has anti-inflammatory and antioxidant properties. The horses in the clinical trial had significantly improved lameness and flexion, with decreased joint pain when compared to the non treated horses. The researchers did caution readers and consumers that not all green-lipped mussel products will perform as well as the specific commercial product used in this study. 25mg/kg per day (12500mg) was the amount given. The extracts contain natural glucosamine, chondroitins, essential fatty acids and omega 3 and omega 6.

Vitamin C

Vitamin C is well known for its health benefits, but this is definitely an area where more is not necessarily better. Excessive amounts have been shown to possibly even damage cartilage. Horses can make their own Vitamin C. Recommended doses have been suggested at 4000mg per day, but a horse on good pasture will naturally consume 1000-2000mg per day from the grass.

Herbs

A wide variety of anti inflammatory herbs are often added to equine joint supplements. There are many herbs to choose from and there is no data on amounts required. Here are some of the more commonly used herbs:

Devils Claw:	2500mg per day
Yucca:	3000mg per day
Boswellia	500mg per day

Trace Elements

There are some trace elements that are required for cartilage metabolism. Most horse's diets will contain sufficient amounts, and it is not wise to supplement further as excess amounts of some minerals can cause problems. There is no 'arthritis mineral'. You should just try to ensure a well balanced complete diet for your horse.

Summary

Don't wait until your horse is severely lame before using joint supplements. Joints supplements can be safely used in a prophylactic way to try to prevent OA and degenerative joint disease.

Make sure your supplement includes GLUCOSAMINE at 6000-10000mg per day and CHONDROITIN at 5000mg. They seem to work better together than separately.

Hyularonic acid is most useful for acute flare ups, or horses with persistent heat and swelling, which represents ongoing inflammation.

Avocado, soy and cetylated fatty acids are all worth investing in, but are slow acting ingredients and they may well protect against further cartilage breakdown.

MSM is also worth investing in, and it is best to buy it SEPARATELY so that you can give the appropriate dose of 20000mg per day.

Don't worry about minerals and herbs. Concentrate your money towards GLUCOSAMINE, CHONDROTIN, HA and MSM.

What works for one horse may not work for another. If you're finding that your chosen joint supplement is not helping, try something else. Some horses may respond to the green lipped mussel extract supplements, but not to other glucosamine supplements.