

# ADEQUAN®

## (polysulfated glycosaminoglycan)

### Getting ahead of Equine Degenerative Joint Disease

By Betsy LaBelle

Adequan® i.m. (polysulfated glycosaminoglycan), the only product approved by the FDA for the intramuscular treatment of non-infectious degenerative and/or traumatic joint dysfunction and associated lameness of the carpal and hock joints in horses, has been a great help to the horse industry. For the past 25 years and counting, veterinarians have depended on Adequan® i.m. for the treatment of degenerative joint disease in horses.

#### LEARNING ABOUT THE JOINT AND ABOUT ADEQUAN® I.M. (POLYSULFATED GLYCOSAMINOGLYCAN), – WEAR, TEAR AND REPAIR

What is degenerative joint disease? Cartilage is smooth living tissue that is water-filled on the end of bones. Articular cartilage provides a smooth, lubricated surface that reduces friction and aids in compression of joints. A lot of training and competing can take a toll on articular cartilage. Degeneration of cartilage is usually due to chronic inflammation in the joint. This inflammation can further break down the cartilage over

time, and left untreated, eventually wears away the cartilage, yielding degenerative joint disease.

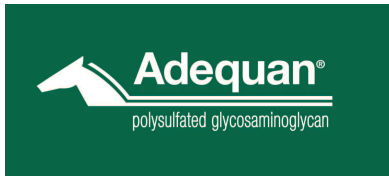
Degenerative joint disease is a deterioration of the cartilage tissue that supports weight-bearing joints. Once the cartilage is thinned or lost, the constant concussion of cartilage and bone against each other causes pain, swelling and stiffness. Common abnormal bone formations known as spurs can develop as a result of this damaged bone, leading to even further swelling, stiffness and pain.

A thin flaccid membrane called the synovium is responsible for producing the thick hyaluronan fluid that helps keep the cartilage nourished and aids in joints running smoothly. Joint disease is a cyclical disease because as the synovium becomes inflamed and thickened, the deterioration of the cartilage progresses in this ongoing cycle.

Cartilage deterioration leads to thin and dry cartilage where sufficient compression and lubrication in the joint environment no longer exists. If the bone surfaces experience more concussion, this results in additional pain and inflammation to the surrounding tissues. With ongoing recurrent insult, the bone adapts and remodels and can become thicker, sclerotic and develop osteophytes, or bone spurs. The joints most commonly affected in horses include the carpus, fetlocks, hocks, stifles, and any weight-bearing joints. Ongoing changes to the articular cartilage are difficult to detect as this tissue does not have an abundant nerve supply. Understanding the disease is essential to recognizing the subtle changes in your horse and when to intervene. Therefore, it is best to address any symptom of a decrease in stride length before the degenerative joint disease process advances and cartilage deteriorates.



Mandy McCutcheon



#### HOW ADEQUAN® I.M. CAN HELP YOUR HORSE

For long-term equine joint health, it is about keeping joints functioning optimally, and Adequan® i.m. (polysulfated glycosaminoglycan) assists with this by stimulating cartilage repair. The health of the cartilage is critical to the performance of the joint. Adequan® i.m. relieves pain caused by swelling and inflammation, restores synovial lubrication, decreases inflammation of the synovial membrane, stops the disease cycle and also inhibits harmful enzymes that attack the synovial fluid and cartilage. When the natural “wear and tear” process in your horse’s joints is disrupted, non-infectious degenerative joint disease begins. Adequan® i.m. is the ideal treatment for degenerative joint disease.

Adequan® i.m., labeled for intramuscular use, is a potent enzyme inhibitor that addresses degenerative joint disease in the carpal or hock joints while stimulating cartilage repair and reversing joint disease. Extensive studies of Adequan® i.m. have proven that it passes through the synovial membrane and is absorbed into the articular cartilage. Adequan® i.m. is the only FDA-approved intramuscular polysulfated glycosaminoglycan. Only FDA-approved drugs are independently proven, tested and scrutinized routinely.

Studies<sup>1</sup> confirm that the labeled dose of Adequan® i.m. achieves detectable levels in the joints in two hours post-i.m. injection. Adequan® influences the chondrocytes to upregulate and produce the main components of the articular cartilage. The correct labeled dose of Adequan® i.m. is 500 mg every four days for 28 days in the muscle. It is important to adhere to the recommended dosage for maximal benefit. Riders often comment that by the third or fourth dose, they will begin to feel benefits in training. The dosing every four days or 96 hours is able to achieve a steady state in the articular cartilage.

The Adequan® i.m. labeled dose is considered a treatment dose, not a loading dose. Work with your veterinary team to determine the optimum time to treat with Adequan® i.m. To help understand the subtle signs of lameness, you can keep a lameness journal to recognize when your horse is not moving in its usual stride and with its usual power.



Andrea Fappani

#### BRIEF SUMMARY

*There are no known contraindications to the use of intramuscular Adequan® i.m. brand Polysulfated Glycosaminoglycan in horses. Studies have not been conducted to establish safety in breeding horses. WARNING: Do not use in horses intended for human consumption. Not for use in humans. Keep this and all medications out of the reach of children. Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian. Each 5 mL contains 500 mg Polysulfated Glycosaminoglycan. Brief Summary Indications: For the intramuscular treatment of non-infectious degenerative and/or traumatic joint dysfunction and associated lameness of the carpal and hock joints in horses.*

*See Product Package Insert at [www.adequan.com](http://www.adequan.com) for Full Prescribing Information.*

*References: 1. Burba DJ, Collier MA, Default LE, Hanson-Painton O, Thompson HC, Holder CL: In vivo kinetic study on uptake and distribution of intramuscular tritium-labeled polysulfated glycosaminoglycan in equine body fluid compartments and articular cartilage in an osteochondral defect model. *The Journal of Equine Veterinary Science*. 1993; 696-703.*

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