



**Optimizing Equine Health: Best Practices for Prioritizing
Well-being in Horses in International Competition**

Introduction

Veterinary care at international equestrian competitions is a challenging endeavor. The veterinarian must support the equine athlete in competition without risking their health while also balancing the goals of the rider and owner. When competing at all levels of competition, the safety and well-being of horses must not be compromised. US Equestrian hosted a Veterinary Summit in Ocala, Florida, attended by a diverse group of veterinarians, including present and past U.S. and international Team Veterinarians, veterinarians involved in research, horseracing, and senior executives of US Equestrian. The goal was to facilitate frank and open discussions on various equine diagnostic and treatment topics and to publish material from the Summit to serve as Best Practices for veterinarians treating international sport horses, including guidance for veterinarians treating national horses at all levels of competition.

US Equestrian views horses as equine partners whose safety and well-being are always paramount, inside and outside of the competition ring. It is a shared responsibility among the veterinarian, trainer, rider, groom, owner, and governing bodies. It is essential to recognize that the veterinarian's primary responsibility is to the horse, not to the rider, trainer, or owner. At times, the veterinarian must engage in difficult discussions about the horse's ability or capability to compete. It is essential to acknowledge the pressure to compete, and the mindset of doing what is 'necessary' to get the horse in the ring can come with a cost. At the same time, a detailed history and in-depth examination can help a veterinarian diagnose and manage the risks associated with a competition horse.

Definition of 'Fitness to Compete'

"Fitness to compete" is not a soundness examination. It can vary depending on the discipline and what the horse is being asked to do; however, the relevant regulatory body is responsible for defining this concept and ensuring that all officials understand the definition. The Federation Equestre Internationale (FEI) defines Fitness to Compete as the horse's overall readiness and suitability to participate in competition, encompassing its health status, vaccination history, and freedom from doping and the use of inappropriate medication. However, the FEI emphasizes the evaluation of soundness as the preemptive test to establish fitness to compete. Veterinarians believe they should have more responsibility in determining fitness to compete at a Horse Inspection as opposed to being overruled by the Ground Jury. Suppose a horse is observed to be lame. In that case, the veterinarian should instruct the rider to take the horse to the holding box and evaluate whether its lameness is cause for elimination or if the examination and explanation from the rider, trainer, or owner are consistent with its fitness to compete. It is imperative to differentiate between asymmetry and lameness with pain; the horse with pain must be

removed from the competition. The use of Artificial Intelligence (AI) and objective motion analysis for horse inspections may offer benefits. Still, it may also be impractical and costly. The accumulation of data and correlation with visual observations over time can provide a measure of confidence, allowing horses with consistent asymmetry to be evaluated based on their own normal range.

Appropriate Examinations

Regular examinations are valuable and should include an in-depth review of basic wellness, bloodwork, metabolic testing, and a discussion of nutrition. Veterinarians should perform examinations quarterly when the horse is out of competition and more frequently when it is intensely competing, possibly every 2-4 weeks. Vaccinations should be administered by a veterinarian twice a year, following a thorough examination. When a presenting complaint is identified, the overall examination should evaluate for issues that may be contributing to the complaint and may include assessing the suitability of the horse for the discipline pursued. Horses should be evaluated both in hand and under saddle, as some issues may become clearer when the horse is actively working. Saddle fit and tack also need to be assessed. Being familiar with a horse when it is healthy can provide a baseline and a sense of when a horse is being pushed beyond its limits or has an issue arise. The focus for the examinations may differ depending on when the evaluation takes place (pre-, post-, or during) competition- but it should always be consistent and thorough.

Diagnostic tools can help in examining challenging cases before prescribing treatment. In today's increasingly digital world, we can examine aspects of equine athletes that we would have never dreamed of 20 years ago. Nowadays, MRI and CT scans are readily available in standing units that pose minimal risk to the horse, as opposed to the versions of these tests just a few years ago, which required general anesthesia—a risk few owners of upper-level sport horses were willing to take. Like any advanced diagnostic imaging technique, MRI and CT scans should not be used spuriously or as a shotgun approach but rather as an essential adjunct to a comprehensive lameness or soundness exam to answer a specific question. In such circumstances, it will be beneficial as both a diagnostic and prognostic tool to help clinicians determine whether a horse can safely compete or whether rest, further treatment, or conditioning is a better alternative. Additionally, some clinicians may find it helpful to request an opinion from a radiologist or another experienced colleague in complex cases.

Discussions with the trainer, rider, and owner are critical to understanding the horse. They should include history, nutrition, training level, fitness, conformation, foot structure, and any supplements the horse is receiving. Open and honest communication is essential and should also occur with other veterinarians entrusted with the horse's care. Medical

records must be complete and include observations, diagnostics, and therapeutic options. Documentation should consist of objective information rather than just impressions. Confidentiality is essential but should not impede the appropriate evaluation and treatment of the horse. Critical in the discussion is a review of risks in competing, especially if the horse is not fit to compete.

Performance is often the measure of the success of a horse. Such assessment should include remaining injury-free. More focus must be placed on preventing injuries rather than treating them, as many problems can be avoided early on.

Muscle Recovery

There are many perceived tools for muscle recovery. Still, rest will always be the most important, whether it's time off from competition or training. It is essential to recognize that time off from training does not mean the horse is not working to maintain its overall fitness. Muscle recovery is often overlooked when it comes to training or acute preparations for competition and is frequently only emphasized following competition or between phases of competition. Understanding what a horse needs specifically for optimal recovery begins in training and requires a personalized approach rather than a one-size-fits-all mentality. For example, as an equine athlete ages, more recovery time may be required. Many products boast 'muscle recovery' functions but fall short in rationale from a physiological perspective and a lack of supportive research. **Preparation and rest** remain the best tools for a horse to recover from the challenges of competition. A thorough diet and nutrition evaluation can help limit the need for interventions to support muscle recovery following competition. Intravenous fluids are beneficial for horses recovering from strenuous exercise; however, they can be overused. Fluid therapy should address objective deficiencies and be administered judiciously; the arbitrary use of fluids with vitamins and minerals added is not acceptable.

Overtraining and Over-Competing

Overtraining and over-competing pose significant threats to horse health and welfare and must be discussed with the trainer, owner, and rider. An appropriate balance between rest and competition or training is essential to the longevity of a competing horse. Wearable technology can provide objective measurements, including volume of work, movement characteristics, cardiopulmonary recovery, and a baseline to determine how a horse may be exceeding or failing in response to training and competition. Overtraining is dangerous and can be just as detrimental as not being fit to train or compete. It is essential to vary training methods and limit repetitive motion exercises to minimize the impact on specific anatomical

structures and reduce the risk of injuries due to overuse, particularly in dressage, as performing challenging movements excessively can increase the likelihood of injury.

Competing excessively is challenging to measure because it is individualized to the horse and the discipline. What may be acceptable for one horse could lead to injuries and poor performance in another horse or discipline. For this reason, a horse needs to be examined and evaluated regularly, and a discussion among the veterinarian, trainer, owner, and rider must occur as it may be necessary for the veterinarian to recommend fewer competitive rides. Veterinarians, riders, trainers, and owners must **prioritize the horse's best interests over performance.**

Standardization of Treatment Options

At the international level of competition, the FEI has scrutinized treatment options permitted within the confines of the event and has provided guidance to veterinary delegates about what could be acceptable, but there remains a difference in the way veterinary delegates permit or deny individual treatments; what was allowed at one competition may not be permitted at a competition the following week. One example is the use of fluid therapy. The use of fluids varies between disciplines for apparent reasons. Still, there are different interpretations within the discipline on a week-to-week basis. It would benefit horses and the balance of competition if the FEI provided more guidance and criteria for the most common requests for treatment. The lack of a consistently applied standardized approach from the FEI places responsibility on individual veterinary delegates, resulting in inconsistencies across regions and continents. The prohibition on same-day treatment that recently took effect is a step in the right direction. Still, more could be done to reinforce the philosophy that appropriate preparation would limit the need for treatment between rounds.

Therapeutic Options

There are numerous therapies to aid the competing equine athlete, and intra-articular injections are not benign procedures. Depending on the frequency and specific medication, they can be detrimental. There are no recognized 'maintenance joint injections' schedules that are accepted. Veterinarians should only inject joints after a thorough examination, diagnosis, and discussion with the owner, rider, and trainer about the potential risks and expectations associated with such treatment. Joints must never be injected at the request of a trainer, rider, or owner unless a veterinarian has performed a diagnostic exam and the injection is warranted.

The rise in the use of orthobiologics over the last decade has been astronomical. From the use of IRAP to ProStride to PRP and A2M and amnion products, these biological treatments derived from the horse or other horses have taken over almost half of

the intra-articular products used to inject in horse joints. Although there are a variety of contradictory papers in the literature on the efficacy of orthobiological products, they remain popular among veterinarians and competitors within the sport. There is a growing sense and evidence in human literature that repeated intra-articular injections over time may be injurious to joint cartilage. As a result, veterinarians have sought alternatives that may have a less detrimental impact on the joint. While most veterinarians acknowledge that there should be more research on these products, they're also willing to use them to extend the competitive lifetime of equine athletes.

Extracorporeal Shockwave Therapy is an excellent tool for treating and rehabilitating orthopedic injuries. Its use should be limited to veterinarians with a valid veterinarian-client-patient relationship (VCPR) and used under their direct supervision. Veterinarians should discontinue the use of shockwave at least three days before competition. Horses that require treatment after that should be withdrawn from competition. New research suggests that specific biomarkers may help control the use of shockwave therapy on competitive horses. The AAEP has recently released a position statement regarding the use of extracorporeal shockwave therapy (<https://aaep.org/resource/position-statement-on-the-use-of-extracorporeal-shockwave-therapy-eswt/>).

Homeopathy

Homeopathy is the use of highly diluted substances, some that are unmeasurable in the product, to have a healing effect. There is little scientific evidence to support the use of these preparations. Instead of maintaining the dilution of the 'active' ingredients, many so-called Homeopathic labeled products currently contain much higher levels of the principal ingredient, contrary to traditional homeopathic theory. At present, the U.S. Food and Drug Administration (FDA) has not approved any homeopathic products or substances for use in humans or horses (<https://www.fda.gov/drugs/information-drug-class/homeopathic-products>). In many cases, the use of homeopathic products in horses aims to provide an appearance of effective treatment, and their use has become more prevalent because they are currently permitted under international rules. Still, homeopathy can be dangerous and is not a viable treatment option.

Supplements

The FDA does not regulate the supplement industry, and equine supplements are most commonly marketed based on the potential benefits anticipated in other species. Most supplements rely on testimonials and anecdotal observations for their marketing claims rather than prospective, peer-reviewed research on horses. The FDA does not analyze, verify efficacy, review label accuracy, or evaluate for safety any supplements intended for humans

or horses. Supplements for deficiencies are helpful when a deficiency has been identified but can also be dangerous when administered unnecessarily. The United States Anti-Doping Agency (USADA) does not recommend human athletes take supplements as they lack evidence of their effectiveness, and there is a concern over their source and the possibility of them containing a prohibited substance. There have been numerous findings of banned substances in equine supplements, including at the Olympic Level.

Vitamins & Minerals

Vitamins and minerals play a crucial role in supporting the health and performance of high-performance horses, whose intense training and competition schedules place increased demands on their bodies. These nutrients are essential for energy metabolism, muscle function, bone integrity, and immune response. For example, B-complex vitamins support energy production, while vitamin E and selenium act as antioxidants that help mitigate muscle damage from oxidative stress. Calcium and phosphorus are vital for strong bones, while electrolytes such as sodium, potassium, and chloride are key for maintaining hydration and proper nerve and muscle function. Because high-performance horses may not obtain adequate levels from forage and grain alone, carefully balanced oral supplementation is often necessary to prevent deficiencies and optimize athletic performance. However, the supplementation with vitamins and minerals is excessive, and injectable administration is unnecessary. It is not effective for recovery or treatment of pain. The systemic use of vitamins and minerals, such as Vitamin E and Selenium, can be fatal in some circumstances. Another consideration is that we do not know or understand all the interactions the vitamins may have with each other. For instance, vitamin E supplementation can interfere with vitamin K, potentially leading to bleeding episodes. Tailored feeding programs, based on individual needs and veterinary guidance, are essential and should be the focus in preventing deficiencies.

Wearable Technology

The ability to record work variables from horses actively training or competing has proven successful in some disciplines, such as eventing. US Equestrian has recently passed a rule permitting the use of biometric sensors and equipment in competition, provided the device is not accessible to the competitor while on the field of play. Wearable technologies should be further developed and explored for the ability to measure, monitor, and quantify the workload horses experience while training and on the field of play. Biometric devices are currently being used extensively in horseracing around the world to measure and compare training techniques, as well as evaluate gait analysis for irregularities or minor lameness. The goal is to identify horses at risk for catastrophic failure and possibly provide an opportunity for intervention. Available devices range from phone-based to body-based, which may or

may not include EKG capabilities and systems that focus on a three-dimensional analysis of movement. The ability to detect and capture the data is available, and a goal should be to research and identify applications for this data to benefit horse management in training and the ring. An application for biometric data collection is being developed to monitor horses during travel and ensure their safety. Wearable technology is being utilized to assess horses as they travel by land or air, and this technology could be further expanded to all levels of competitive horses, as every horse could benefit. Wearable technology can monitor horses' exposure to environmental conditions, such as heat and pollution, and may be a tool to determine when horses should not compete or train due to the potential to jeopardize their welfare.

Research Initiatives

- Competition numbers: how often, how frequent the horse competed compared to success, age, and injuries; also look at the longevity of the various levels of competition correlated with frequency
- Appropriate nutrition to limit the need for post-competition 'muscle recovery' treatments
- Evaluation of potential 'recovery' biomarkers to assess appropriate treatments to aid in recovery
- Evaluation of wearable technology to evaluate fitness and preparation (already being done in eventing); pollution, heat, shipping
- Detection of shockwave biomarkers

Summary

This document discusses best practices for veterinary care at international equestrian competitions, emphasizing the health and safety of horses while balancing the interests of riders, trainers, and owners.

- **Veterinary Summit Overview:** US Equestrian hosted a Veterinary Summit to discuss equine diagnostic and treatment topics and to establish best practices for treating sport horses.
- **Shared Responsibility:** The safety of horses is a collective responsibility, with veterinarians prioritizing the horse's health over competitive pressures.
- **Fitness to Compete Definition:** Fitness to compete is defined by the horse's overall readiness, health status, and freedom from doping, with veterinarians advocating for greater authority in determining fitness.

- **Regular Examinations:** Regular and thorough examinations, including wellness reviews and nutritional assessments, are crucial for maintaining horse health, especially during competition.
- **Advanced Diagnostic Tools:** Modern diagnostic tools, such as MRI and CT scans, should be used judiciously to assist in evaluating a horse's readiness for competition.
- **Communication and Documentation:** Open communication among the horse's care team and thorough record-keeping are crucial for effective treatment and a comprehensive understanding of the horse's health.
- **Muscle Recovery Importance:** Rest is the most critical factor for muscle recovery, and understanding individual horse needs is vital for effective recovery strategies.
- **Overtraining Risks:** Overtraining and excessive competition can harm horse health, necessitating discussions about training balance and the use of technology to monitor horse performance.

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