



# Clinical Guidelines for Veterinarians Practicing in a Pari-Mutuel Environment

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American Association of Equine Practitioners  
4075 Iron Works Parkway  
Lexington, KY 40511  
(859) 233-0147  
[www.aaep.org](http://www.aaep.org)

## **Introduction**

The American Association of Equine Practitioners was founded in 1954 by 11 racetrack practitioners. The mission of the AAEP is to improve the health and welfare of the horse, to further the professional development of its members, and to provide resources and leadership for the benefit of the equine industry. This long history of commitment to the racing industry makes the AAEP uniquely qualified to speak to the issues of health and welfare of the racing horse and the professional conduct of veterinarians who care for them.

In August 2008, the AAEP convened a group of veterinarians from across the country to help address a number of important issues in pari-mutuel racing. The impetus for this meeting was a series of recent catastrophic injuries in high-profile Thoroughbred races. The AAEP Racing Committee has worked during the last two years to “put the horse first” in what has become an industry-wide effort to reform Thoroughbred racing in the United States. The AAEP Racing Committee issued white papers in 2009 with recommendations for protecting the safety and welfare of Thoroughbred and Quarter Horse racehorses. A white paper specific to Standardbred racing was developed in 2010.

From the beginning of our work, we have understood the need and the expectation for veterinarians to examine their role in medication usage in a pari-mutuel environment. The result of our efforts is this document, “Clinical Guidelines for Veterinarians Practicing in a Pari-Mutuel Racing Environment.”

What is a “clinical practice” document? First, this document is **not** intended to be a generic standard of practice. This document is intended to provide guidelines for practitioners who practice on racehorses and to recognize and promote practices that many veterinarians currently use to place the health, safety and welfare uppermost in their daily work. The AAEP recognizes that the practice of equine veterinary medicine can vary significantly from state to state, due in part to the variance that exists among applicable state laws (including a given state’s veterinary practice act or its racing laws) and the various diagnostic and therapeutic options available to veterinarians in any given location.

As a result, this document should not be interpreted as an attempt to establish a particular standard of care for veterinary practice in a particular racetrack or training center setting, nor should it be used in legal or regulatory proceedings. Instead, it should be viewed for what it is: a collection of practices that the AAEP believes places an appropriate emphasis on the health, safety and welfare of the racehorse and should serve as a model for the entire racing industry. We also expect this document to evolve with review over time.

Throughout the document you will find references to the Racing Medication and Testing Consortium (RMTC) guidelines. The AAEP strongly supports the efforts by the RMTC and the Association of Racing Commissioners International (ARCI) to promote responsible use of medication in racing and to establish uniform medication rules and meaningful penalty structures throughout all the racing jurisdictions in North America. You can view the RMTC medication guidelines on-line at [www.rmtcnet.com](http://www.rmtcnet.com).

## Executive Summary

To a very large extent, the use of medication in the current business model of racing is driven by entry date. The entry date is the date when a horse is entered into a race, and this date varies between racing jurisdictions. The AAEP believes that making health care decisions based on the entry date is not fundamentally in the best interest of the horse. Repeated references throughout the document follow an underlying affirmation that all medical treatments of the racehorse should be based upon a veterinary diagnosis with appropriate time allowed following the treatment of an injury to assure that the horse is recovered prior to racing. This is an unqualified departure from the current status quo.

Additional core recommendations are as follows:

- All therapeutic treatments for a horse involved in racing or race training should be based upon a specific diagnosis and administered in the context of a valid and transparent owner-trainer-veterinarian relationship.
- No medication should be administered to a horse on the day of the race, except furosemide, the administration of which is outlined specifically in the guidelines created by the Racing Medication and Testing Consortium (RMTC).
- Furosemide should be administered in a controlled environment that meets the criteria for stringent security protocol to ensure the integrity of racing and the safety of each individual horse.
- Any medication administration prior to race day should be administered in accordance with RMTC guidelines with specific adherence to published withdrawal times, where provided ([www.rmtcnet.com](http://www.rmtcnet.com))
- The RMTC recommends a 10-day withdrawal period after shockwave treatment, but conflicting evidence indicates the need for more research to determine the time frame for safe use of shockwave therapy prior to racing.
- There is no evidence showing that the use of hyperbaric oxygen therapy prior to exercise affects the performance of the equine athlete. However, until appropriate withdrawal times can be established for the use of hyperbaric oxygen therapy in horses, it should not be performed after the entry date.
- Caution in the selection, timing and frequency of use of any intra-articular corticosteroids in high-motion joints is prudent practice.
- Scientific research has demonstrated that most of the commonly used intra-articular corticosteroids produce prolonged periods of therapeutic effect, measured in weeks.<sup>3</sup> Nevertheless, it is known that these products are being used very close to race day in some cases. The lack of control of such practices is not in the best interest of the horse.
- Intra-articular use of local anesthetics is indicated for diagnostic procedures only.
- Under no circumstances should local anesthetics, anti-nociceptive agents nor neurotoxic agents be used intra-articularly, intrathecally or peri-articularly prior to competition.
- Under no circumstances should perineural treatments be used to desensitize a portion of the body prior to competition.
- The AAEP recommends that integrative therapies be based upon a valid medical diagnosis, be administered by or under the direct supervision of a licensed veterinarian and be documented in the horse's medical record.

- All medical treatments and diagnostic procedures performed on horses in a racetrack or training center setting should be documented in a medical record.
- A timely, complete and readily accessible medical record should be presented to regulatory authorities as necessary to document significant examination findings and treatments administered to all horses in training at race tracks and training facilities.
- The AAEP recommends that practitioners should not reuse needles, syringes or any equipment that might be contaminated with blood or other body fluids.
- In consideration of the limitations of rescue and rehabilitation resources, it is critical that the racetrack practitioner realistically triage individual horses in order to provide the best opportunity for horses that are most suitable for riding, driving or showing activities.
- All communication with owners and trainers should be consistent with a transparent owner-trainer-veterinarian relationship.
- Practice vehicles should only contain medications that are legal for veterinary use under FDA guidelines, with appropriate compliance to labeling, refrigeration instructions, and expiration dates. Additionally, certain other products approved by racing regulatory authorities, such as homeopathic remedies may be included.
- The veterinarian should limit the use of compounded drugs to unique needs in specific patients and limit the use of compounded drugs to those uses for which a physiological response to therapy or systemic drug concentrations can be monitored, or those for which no other method or route of drug delivery is practical.

## **Clinical Guidelines: Medication Philosophies and Recommendations**

All therapeutic treatments for a horse involved in racing or race training should be based upon a specific diagnosis and administered in the context of a valid and transparent owner-trainer-veterinarian relationship. These treatments should be scheduled and administered with an underlying recognition that the health and safety of the horse is the ultimate objective. All therapeutic procedures should be performed with a sufficient interval provided to evaluate the response to treatment prior to racing. Medical treatment of a horse that is entered to race is subject to regulation by racing authorities and should be conducted as below:

- I. Race-Day Medication Administration:** No medication should be administered to a horse on the day of the race, except furosemide, the administration of which is outlined specifically in the guidelines created by the Racing Medication and Testing Consortium (RMTC). Furosemide should be administered in a controlled environment that meets the criteria for stringent security protocol to ensure the integrity of racing and the safety of each individual horse.
  
- II. Medication Administration Prior to Race Day:** Any medication administration prior to race day should be administered in accordance with RMTC guidelines with specific adherence to published withdrawal times, where provided ([www.rmtcnet.com](http://www.rmtcnet.com)), subject to state medication rules to the contrary, in which case the state's medication rules for the administration of the particular medication apply.
  
- III. Intra-articular and Intrathecal Medications:** Treatment of joints and other synovial structures for inflammation is a medically sound practice. In general, treatment programs for joint inflammation in the horse should strive to include both symptom modifying and disease-modifying medications. In the past, intra-articular (IA) corticosteroids were the principal product available to the practitioner for treatment of inflamed joints, but this has changed in recent years with the introduction of medications such as sodium hyaluronate (HA), polysulfated glycosaminoglycans (PSGAG), and biologic treatments such as IRAP.<sup>1,2</sup> Even with new therapies on the horizon, corticosteroids still play a valuable and necessary role in the management of equine joint inflammation.

Controversy exists surrounding the potential for damage to equine joints by IA corticosteroids. More recently, research has refuted many of the perceived harmful effects.<sup>3,4</sup> While methylprednisolone has been shown to have degradative effects on articular cartilage, other corticosteroids such as betamethasone and triamcinolone acetonide have been proven to have no adverse effects on cartilage.<sup>5,6</sup> In fact, triamcinolone acetonide has been shown to be protective for cartilage in the inflamed joint.<sup>5</sup> Caution in the selection, timing and frequency of use of any of these products in high-motion joints is prudent practice.

Scientific research has demonstrated that most of the commonly used IA corticosteroids produce prolonged periods of therapeutic effect, measured in weeks.<sup>3</sup> Nevertheless, it is known that these products are being used very close to race day in some cases. The lack of control of such practices is not in the best interest of the horse. Research in the form of

administration studies must be completed on the various IA corticosteroids to create effective and reliable regulation of these products with post-race testing.

The AAEP recognizes that the practice of veterinary medicine, particularly in a pari-mutuel environment, does not take place in a vacuum devoid of economic considerations. However, from a medical standpoint, the AAEP believes that entry-driven procedures are generally not in the best interest of the horse. It is with this goal in mind, that clinicians in a pari-mutuel environment are encouraged to make sound treatment decisions particularly with reference to the use of IA corticosteroids that allow for adequate time to properly diagnose, treat, and evaluate the horse's response to intra-articular therapy prior to racing. Additionally, until such time as security and testing technology can insure proper adherence to scientifically validated withdrawal times, practitioners in a pari-mutuel environment should make these treatment decisions with the health and welfare of the horse as the uppermost concern.

Intra-articular use of local anesthetics is indicated for diagnostic procedures only. Under no circumstances should local anesthetics, anti-nociceptive agents nor neurotoxic agents be used intra-articularly, intratheacally or peri-articularly prior to competition.

- IV. Perineural Injections:** Perineural injections involve the placement of local anesthetics, anti-nociceptive or neurotoxic agents adjacent to nerves in order to desensitize a portion of the body and should be limited to diagnostic use or to enable standing surgical or medical procedures. Under no circumstances should perineural treatments be used to desensitize a portion of the body prior to competition.
  
- V. Subcutaneous & Intramuscular Therapies:** These treatments include subcutaneous or intra-muscular injection of corticosteroids, pitcher plant extract or internal blisters to treat painful conditions. They should be used in conjunction with a specific diagnosis, and the timing of these therapies should provide an adequate opportunity to evaluate treatment results prior to racing.

The AAEP strongly supports current efforts to increase uniformity among the state rules on the use of medication in racehorses. The AAEP recognizes, however, that the efforts to achieve this uniformity are still ongoing, and there may be situations where the recommendations contained in this document conflict with existing medication rules in a given jurisdiction. When this conflict occurs, veterinarians are urged to follow the regulations that exist in their states.

## **Adjunctive Therapeutic Treatments**

- I. Extracorporeal Shockwave Therapy:** The extent and duration of the analgesic effect of ESWT is a matter of great interest and some controversy. One scientific investigation of the analgesic effect of non-focused ESWT found no cutaneous analgesia.<sup>7</sup> Two studies investigating the analgesic effect of focused extracorporeal shock wave therapy similarly found no significant analgesic effect.<sup>8,9</sup> Other studies have demonstrated an analgesic effect

with focused ESWT and radial pressure wave therapy that persisted for 2 or 3 days.<sup>10-12</sup> This analgesic effect is likely related to decreased sensory nerve conduction velocity.<sup>13</sup>

The RMTC currently recommends that ESWT not be administered within 10 days of racing. Unless there are compelling reasons to the contrary, in circumstances where medication/treatment regulations require additional withdrawal time than that supported by scientific data, the AAEP encourages regulatory agencies to re-examine their position in light of current information. In the meantime, veterinarians must practice in accordance with existing regulations.

**II. Hyperbaric Oxygen Therapy:** The primary benefit of hyperbaric oxygen therapy is in the enhancement of healing of difficult medical conditions. A recent position statement issued by the Veterinary Hyperbaric Medicine Society (August 2009) on the use of hyperbaric oxygen therapy in performance horses included the following points:

- The use of hyperbaric oxygen therapy has the potential to accelerate the normal healing process and thus the potential to enhance the health and welfare of the horse.
- There is no evidence that the use of hyperbaric oxygen therapy prior to exercise affects the performance of the equine athlete. Furthermore, research in human hyperbaric medicine indicates that there is no performance enhancement, even when hyperbaric therapy is administered immediately prior to exercise.
- Oxygen administered by hyperbaric means or by nasal cannula is not any different from oxygen obtained from breathing air at normal atmospheric pressure, other than there is just more of it. The increase in blood and tissue oxygen concentration following hyperbaric therapy is extremely short lived and may be as short as sixty minutes in most tissues and even as short as five minutes in the blood.

In a double-blind randomized controlled study performed at the University of California, investigators found that hyperbaric oxygen therapy administered to human athletes before exercise did not enhance performance or alter post-exercise blood lactate concentrations, peak heart rate or perceived exertion when compared with control subjects.<sup>14</sup> In another study performed at the University of Tokyo, investigators similarly found that hyperbaric oxygen therapy prior to exercise did not enhance high-intensity exercise performance of human athletes and there was no difference in muscle fatigue index, serum lactate concentration, heart rate or systemic blood pressure when compared with untreated control subjects.<sup>15</sup> Similar studies should be conducted in the horse in order to provide a scientific basis for appropriate withdrawal times for hyperbaric therapy. Until such scientific information is available, hyperbaric oxygen therapy should not be performed after the entry date.

**III. Acupuncture & Chiropractic Therapy:** Various forms of integrative therapies are being utilized at racetracks in North America, including but not limited to, acupuncture and chiropractic therapy. Further, it is recognized that these practices are being performed by lay people as well as licensed veterinarians. Efficacy of such treatments is generally a subject of

some debate. The AAEP recommends that integrative therapies be based upon a valid medical diagnosis, be administered by or under the direct supervision of a licensed veterinarian and be documented in the horse's medical record. The AAEP is not expressing any opinion on the efficacy of these treatments, or the lack thereof. Any administration of medications associated with the use of these therapies must be conducted within guidelines recommended by RMTTC.

## **Documentation of Veterinary Procedures**

All medical treatments and procedures performed on horses in a racetrack or training center setting should be documented. A medical records-based billing software which includes, at a minimum, the standards imposed by state veterinary practice acts for individual animals should be used by veterinarians to create and maintain a timely, complete and readily accessible medical record that can be presented to regulatory authorities as necessary to document treatments administered to all horses in training at race tracks and training facilities. Documentation of the use of all prescription drugs should conform to the requirements of the applicable state's veterinary practice act.

The significant findings of diagnostic examinations performed on horses in a racetrack or training center environment should be documented in the horse's medical record. Health certificates must be signed by the USDA:APHIS:VS accredited veterinarian who performed the examination in order to satisfy the animal health requirements inherent in such veterinary procedures.

## **Infectious Disease Control**

Management of infectious disease at the racetrack and training center is a high priority for the general health of the horses stabled there. Practicing veterinarians and regulatory veterinarians should work together with track management to identify index cases of infectious disease and have a plan in place for containing an outbreak and treating affected horses in order to protect the population at large. The AAEP guidelines for management of infectious disease may serve as a model for this program ([http://www.aaep.org/infectious\\_control.htm](http://www.aaep.org/infectious_control.htm)).

In consideration of the potential for transmission of infectious disease (e.g. Piroplasmosis or Equine Infectious Anemia) by contaminated needles and syringes, the AAEP recommends that practitioners should not reuse needles, syringes or any equipment that might be contaminated with blood or other body fluids.

## **Alternative Careers for Racehorses**

Veterinarians working at the racetrack on a daily basis have a good understanding of the physical condition and musculoskeletal status of racehorses in their care. When the racing careers of these horses are finished, veterinarians play an important role in guiding their transition to an alternative career. One of the most critical roles a veterinarian can play in this process is to properly assess the potential for use as a riding horse. In consideration of the limitations of rescue and rehabilitation resources, it is critical



that the racetrack practitioner realistically triage individual horses in order to provide the best opportunity for horses that are most suitable for riding, driving or showing activities. Horses with fractures or chronic conditions that require extensive rehabilitation may be suitable for breeding, pasture turnout potentially as an equine companion or limited work in correctional facility rehabilitation program, but are generally unsuitable for adoption and deplete the resources of rehabilitation/rescue agencies.

## **Business Model Recommendations**

Veterinary fee structures should place emphasis upon the value of professional services in addition to the administration and dispensing of medication. In addition, practitioners are encouraged to make themselves readily accessible to owners and trainers for consultation regarding diagnostic and therapeutic strategies or questions regarding the invoice. Invoices should accurately indicate all examinations, treatments and procedures performed on individual horses. Both the invoice and the medical history should avoid colloquial terminology and be in common medical terminology. It is recommended that the invoice with payment history be delivered directly to the owner or owner's agent with a copy to the trainer at least monthly. All communication with owners and trainers should be consistent with a transparent owner-trainer-veterinarian relationship.

## **Practice Vehicle Inventory**

Practice vehicles should only contain medications that are legal for veterinary use under FDA guidelines, with appropriate compliance to labeling, refrigeration instructions, and expiration dates. Additionally, certain other products approved by racing regulatory authorities, such as homeopathic remedies may be included. Controlled substances are to be stored and administered in accordance with state and Federal DEA requirements. All drugs, supplies and equipment should be maintained in a clean and useable condition in accordance with individual states' veterinary practice acts.

## **Drug Compounding**

Legal drug compounding requires a valid veterinarian-client-patient relationship. The veterinarian should limit the use of compounded drugs to unique needs in specific patients and limit the use of compounded drugs to those uses for which a physiological response to therapy or systemic drug concentrations can be monitored, or those for which no other method or route of drug delivery is practical.

Further, medication withdrawal times are calculated only for FDA-labeled medication. For this reason, use of compounded medications in a racing environment is accompanied by an increased risk for a drug overage.

Developed by the AAEP Racing Committee:

Jay Addison, DVM	Chip Johnson, DVM
Kathleen Anderson, DVM	John Kimmel, DVM
Rick Arthur, DVM	Robert Lewis, DVM
Don Baker, DVM	Wayne McIlwraith, BVSc, PhD
Jeff Blea, DVM	Nicholas Meittinis, DVM
Larry Bramlage, DVM	John Mitchell, DVM
Tom Brokken, DVM	Foster Northrop, DVM, Vice Chair
Doug Corey, DVM	Gary Norwood, DVM
Reynolds Cowles, DVM	Scott Palmer, VMD, Chair
Tom David, DVM	Gregg Scoggins, DVM, JD
Steve Dey, VMD	Mary Scollay, DVM
Kevin Dunlavy, DVM	Bruce Solomon, DVM
Jim Gilman, DVM	Keith Soring, DVM
Eleanor Green, DVM	Harry Werner, VMD
Scott Hay, DVM	Nat White, DVM
Steve Hurlburt, DVM	John Whittaker, DVM
Martin Ivey, DVM	Daniel A. Wilson, DVM
	Bryan Young, DVM

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## **Glossary**

For the purposes of this document, the following definitions apply:

**clinical or practice guidelines:** Clinical or practice guidelines are defined by the [National Library of Medicine](#) as works consisting of a set of directions or principles to assist the health care practitioner with patient care decisions about appropriate diagnostic, therapeutic, or other clinical procedures for specific clinical circumstances. Practice guidelines may be developed by government agencies at any level, institutions, organizations such as professional societies or governing boards, or by the convening of expert panels. They can provide a foundation for assessing and evaluating the quality and effectiveness of health care in terms of measuring improved health, reduction of variation in services or procedures performed, and reduction of variation in outcomes of health care delivered. Clinical practice guidelines are guides only and may not apply to all clinical situations. Thus they are not intended to arbitrarily override clinicians' judgment.

**extracorporeal shockwave therapy (ESWT):** The application of acoustical shocks to bone or soft tissue to reduce inflammation, reduce pain and promote healing.

**high-motion joints:** Distal interphalangeal, metacarpophalangeal and metatarsophalangeal, radiocarpal and intercarpal, scapulohumeral, cubital, coxofemoral, femoropatellar, femorotibial and tarsocrural joints.

**hyperbaric oxygen therapy:** Administration of oxygen under pressure to provide increased oxygen levels to diseased tissues of the body in order to reduce inflammation and promote healing.

**integrative therapies:** Acupuncture and Chiropractic therapy which may be used alone or in conjunction with other medical therapies deemed in general to be more traditional or conventional.

**Interleukin-1 Receptor Antagonist Protein (IRAP) therapy:** Intra-articular injection of autologous plasma containing increased levels of an antagonist protein that prevents Interleukin-1 from binding to receptors on tissues within the joint, diminishing the inflammatory process.

**intra-articular (IA) injection:** An injection intended to deposit medication into a joint space, such as the carpus, tarsus or fetlock.

**intramuscular (IM) injection:** An injection intended to deposit medication in the horse's muscle, such as the muscles of the neck or hindquarters.

**intrahecal (IT) injection:** An injection intended to deposit medication into a synovial structure other than a joint, such as a tendon sheath.

**intravenous (IV) injection:** An injection intended to deposit medication in the horse's blood by way of a vein.

**medication:** Substances administered to horses for the purpose of preventing, treating or alleviating the clinical signs of disease or injury.

**perineural therapy:** The placement of a local anesthetic or other chemical agent adjacent to a nerve for the purpose of desensitizing a portion of the body, such as a joint, muscle or limb.

**subcutaneous (SQ) injection:** An injection intended to deposit medication just under the horse's skin.

**therapeutic procedure:** A veterinary activity intended to treat disease or injury of a horse.

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