

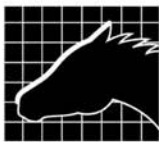
# 17th

## PROCEEDINGS OF THE 2010 KENTUCKY EQUINE RESEARCH NUTRITION CONFERENCE

### Feeding and Veterinary Management OF THE SPORT HORSE



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## Drug Testing for the Equine Athlete

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The United States Equestriann Federation (USEF) is the national governing body for equestrian sport and is a member of the U.S. Olympic Committee. The USEF is responsible for enforcing the rules for 28 breeds and disciplines. This organization was formerly known as the American Horse Shows Association (AHSA). The name may have changed, but the mission of its Equine Drugs and Medications Program has stayed the same since its inception in 1970.

Over the last 40 years, the Equine Drugs and Medications Program has worked to protect the welfare of equine athletes and ensure the balance of competition. Currently, the program utilizes veterinarians and technicians around the country to collect blood and urine samples from horses competing at USEF events.

The USEF also contracts with the American Quarter Horse Association (AQHA), the United States Polo Association (USPA), the American Endurance Ride Conference (AERC), and assorted other state and national groups to implement their respective drug rules. Additionally, the USEF is responsible for testing at competitions throughout the U.S. that are conducted under the rules of the Fédération Equestre Internationale (FEI), the international governing body of equestrian sport that has its headquarters in Lausanne, Switzerland.

In recent years, nearly 17,000 blood and urine samples were collected and analyzed by the program annually. These samples represent nearly 13,000 horses randomly selected for testing. Since 1995, the USEF has operated its own Equine Drug Testing and Research Laboratory.

Drugs and medications are classified by the USEF's Drugs and Medications rule as being permitted, restricted, or forbidden. Permitted substances include dewormers, antibiotics (except procaine penicillin), antifungals, antiprotozoals, vitamins, electrolytes, and antiulcer medications. Caution is urged if using so-called herbal or natural products. The plant origin of any ingredient does not preclude it from containing a pharmacologically potent forbidden substance. Plants are commonly the source for forbidden substances (e.g., cocaine, reserpine, and marijuana all come from plants).

Restricted medications include specific nonsteroidal anti-inflammatory drugs (NSAIDs), methocarbamol (muscle relaxant), and dexamethasone (corticosteroid). Restricted drugs are allowed to be present in the horse at the time of competition provided they do not exceed the levels specifically set for each drug.

Until recently, two NSAIDs (only ones that have been approved) are permitted in a horse's system at the same time, as long as neither is found in excess of their respective restrictive levels. One exception to this is flunixin and phenylbutazone, which are not permitted to be present in a horse at the same time. The recommendation is for a seven-day withdrawal from one of these two NSAIDs before initiating treatment with the other. In addition to flunixin and phenylbutazone, other NSAIDs that are allowed below restrictive levels include naproxen (Naprosyn<sup>®</sup>), meclufenamic acid (Arquel<sup>®</sup>), firocoxib (Equioxx<sup>®</sup>), diclofenac (Surpass<sup>®</sup>), and ketoprofen (Ketofen<sup>®</sup>).

While the presence of two of the seven approved and quantitatively restricted NSAIDs in a horse will still be allowed prior to December 2011 (with the exception of the forbidden combination of phenylbu-

tazone [bute] and flunixin meglumine [Banamine®]), it is important to note that new restrictions are in place concerning their use. Beginning April, 1, 2010, anyone administering two NSAIDs to a horse within five days prior to participating at a USEF-licensed competition will be required to complete and file a NSAID Disclosure Form with the USEF Steward/Technical Delegate or his or her Designated Competition Office Representative. This form will allow the USEF Equine Drugs and Medications Program to collect valuable data regarding the use of NSAIDs in competition horses.

Specific dose and time recommendations are published for all restricted medications to aid competitors, trainers, and veterinarians in maintaining compliance with the USEF's drug rules.

Forbidden medications and substances include those that may affect the cardiovascular, respiratory, or central nervous systems, or those that have a behavior-altering effect. This includes any stimulant, depressant, tranquilizer, local anesthetic, psychotropic substance, or drug that might affect the performance of a horse and/or pony including corticosteroids and analgesics. Some forbidden medications may be used for legitimate emergency treatment if proper steps are taken.

Annually, the USEF Drugs and Medications Program tests between 800 to 1,000 days of competition.

Violations include detection of sedatives and long-acting tranquilizers, excessive amounts of restricted medications (NSAIDs), antihistamines, and a lengthy list of miscellaneous substances. Penalties can include suspensions and/or fines and the return of all winnings. Fines for the above cases ranged from \$750 to \$5000, with suspensions of up to five months.

Not all positive findings may be violations. If conditions for the therapeutic administration of a forbidden substance have been met, a positive finding can be considered in compliance with the rule and therefore not a violation. A Medication Report is used to document a 24-hour withdrawal from competition, prescription or administration by a veterinarian, and the use of medication as a legitimate therapy.

The Fédération Equestre Internationale (FEI) is the international governing body for international horse sport and regulates the upper levels of dressage, jumping, eventing, driving, reining, endurance, vaulting, and para-equestrian competition. While the USEF is the national governing body for equestrian sport and claims almost 30 breed and discipline members, it works with the FEI on the above-named disciplines and operates the USEF Equine Drug Testing and Research Laboratory, which serves as the FEI testing lab in the Western Hemisphere.

The FEI medication rule is different from the national rule and has a shorter list of permitted substances. A significant point in the FEI rules states that most medications and drugs are prohibited if detected in a horse at the time of competition. The FEI's philosophy is that a horse should compete on its own merits without any unfair advantage that might be gained through the use of drugs. This is also to prevent horses from injuring themselves or their athletic potential by using drugs to mask unfitness, lameness, or disease.

Until recently, the Equine Prohibited List included three classes of Prohibited Substances: Doping, Medication Class A and Medication Class B. "Doping" implies a serious attempt may have been made to influence a horse's performance. "Medication Class A" and "Medication Class B" indicate the finding of a prohibited substance that can be used in the bona fide veterinary treatment of a horse.

In response to the high-profile doping cases from the 2008 Olympic Games, the FEI convened the Commission on Equine Anti-Doping & Medication, chaired by Professor Arne Ljungqvist, Vice-President of the World Anti-Doping Agency (WADA). The purpose of this committee was to recommend a practical

course of action to establish the best possible system to promote drug-free equine sport. Experience over time has shown that athletes and their advisers have been confused about exactly what is and what is not prohibited since the category approach was not immediately obvious to nonveterinarians. The FEI Clean Sport Commission (chaired by Professor Ljungqvist) reported in 2009, and among several recommendations, it proposed that a detailed approach be taken to the Equine Prohibited List. Within the List it was felt that there should be a clear distinction expressed between doping substances and commonly used medications.

The result has been the development of a Prohibited Substances List. All substances and medications on this list are forbidden to be found in a competing horse, but there are two categories within the list.

Banned substances are substances that have been deemed by the FEI to have no legitimate use in equine medicine and/or have a high potential for abuse (e.g., human antidepressants, antipsychotics, nervous system stimulants, etc.).

Controlled Medication substances includes an exhaustive list of medications prohibited in competition. It is made up of all known substances that are recognized as therapeutic and/or commonly used, but have the potential to enhance performance at certain levels. Some examples might be anti-inflammatories (see note below about allowed levels), local anesthetics, bronchodilators, cough suppressants, and other commonly and uncommonly used medications. Clearly, substances on this list may also enhance performance depending on the timing and size of dose.

The difference in these two categories is specific to the sanctions that could be applied when a violation occurs. A violation involving a Banned substance (i.e., doping) will carry a two-year suspension. A violation involving a Controlled Medication substance carries lesser sanctions but could still carry a two-year suspension. In addition to suspensions, fines are also levied upon the person responsible.

Certain medications remain permitted under FEI rules. These currently include rehydration fluids, antibiotics with the exception of procaine penicillin, and antiparasitic drugs (dewormers) with the exception of levamisole. In addition, some drugs to treat or prevent gastric ulcers may be given (e.g., ranitidine, cimetidine, and omeprazole). The use of altrenogest (Regumate®) is currently permitted for mares with estrus-related behavioral problems. Only saline is permitted as an inhalation therapy in a competition horse.

The FEI does make provisions if a horse needs medication and is scheduled to take part in a competition shortly. It is important to discuss options with a treating/team veterinarian. Different drugs take different times to clear from the horse's system. If several drugs are used at the same time, the detection periods can often be unpredictable and longer. With the exception of the permitted medications described above, the horse must be "clean" at the time of competition.

If a horse was treated during transport to an event or near the time of competition, or if there is any doubt as to whether a substance is still be present in the horse's system, it must be reported immediately upon arrival at the show to the FEI Veterinary Official. Permission should be requested to compete by arranging for the treating/team veterinarian to complete and sign the appropriate FEI Equine Temporary Use Exemption (ETUE), formerly known as the Medication Form.

If a horse needs veterinary assistance or treatment at an event, the treating/team veterinarian must request permission from the FEI Veterinary Delegate before administering the medication. The appropriate FEI Equine Temporary Use Exemption must be completed and sent to the FEI by the Veterinary Delegate.

## DRUG TESTING FOR THE EQUINE ATHLETE

Testing laboratories collect data on the detection times for certain substances commonly used in the routine veterinary treatment of sport horses. A list of established detection times can be found on the FEI Web site. It is very important to realize that a detection time is not the same as a withdrawal time. The detection time is the approximate period of time that a drug remains in a horse's system such that it can be detected by the laboratory and is provided only as a guide. The withdrawal time for a drug must be decided upon by the treating/team veterinarian and is likely to be based on the detection time plus a safety margin, chosen with the professional judgment and discretion of the veterinarian to allow for individual differences between horses such as size, metabolism, degree of fitness, and recent illness or disease, among other factors. The existence or nonexistence of a detection time for a particular substance shall not affect the validity of a positive finding or the determination of a medication or antidoping violation according to the FEI rules.

**FEI List of Detection Times**

Substance	Preparation	Dose	Route of administration	Number of horses	Detection time (hours)
Phenylbutazone	Equipalazone (Arnolds)	4.4 mg/kg/5 days/2x/day	oral	2	168 (7d)
	Phenylarthrite, Vetoquinol SA	8.8 mg/kg	i.v.	6	168
	Equipalazone, Intervet SA	8.8 mg/kg/2x/day 1 + 4.4 mg/kg/2x/day for 10 days	oral	6	168
Flunixin*	Finadyne, Schering-Plough	1 mg/kg	i.v.	4	144 (6d)
Ketoprofen**	Ketofen, Merial Animal Health	2.2 mg/kg/5 days/1x/day	i.v.	6	96 (4d)
Dipyron* (Metamizole)	Vetalgin, Intervet	30 mg/kg	i.v.	10	72 (3d)
Dembrexine	Sputolysin, Boehringer	0.3 mg/kg/ 9 doses at 12 hr intervals	oral	6	120 (5d)
Mepivacaine	Intra-Epicaine, Arnolds	0.07-0.09 mg/kg (2ml/40mg)	s.c. lateral lower limb	6	48 (2d)
		0.28-0.35 mg/kg (8ml/160mg)	s.c. neck	6	48 (2d)
Detomidine	Domosedan, Orion Pharma	0.02 mg/kg	i.v.	10	48 (2d)
Lidocaine		60-300 mg	s.c.	6	48 (2d)
Clenbuterol*	Ventipulmin	0.8 µg/kg/8 days/4x/day	oral	6	168 (7d)
N-butyl scopolamine	Buscopan mono	0.3 mg/kg	i.v.	6	24 (1d)
Dexamethasone		10 mg Na-phosphate	i.v.	6	48 (2d)
Triamcinolone acetonide	Kenacord retard 40 (40 mg/ml)	12 mg in one joint	i.a.	6	168 (7d)

\* Studies have shown that re-uptake of drugs (e.g. dipyron, flunixin, clenbuterol) through droppings of the horse or contaminated bedding can result in prolonged detection times. Therefore it is essential that stalls in which competition horses are under NSAID or other treatment are thoroughly cleaned daily. This applies particularly to oral medication administered in stables with straw bedding that is not replaced very frequently.

\*\* For ketoprofen, administration of topical treatment has resulted in prolonged detection times. Administration of ketoprofen as a topical treatment is therefore not recommended.

Please note that substances listed on the Web site must not be considered “permitted medication.” The value of using substances listed on the Web site to treat your horse is that relatively good information about detection times is available. Always refer to the FEI Web site for the latest information.

The FEI and USEF differ in opinion regarding who is held responsible for drug violations. The Person Responsible under FEI rules is the competitor who rides or drives the horse during an event, but the owner and other support personnel including grooms and veterinarians may be regarded as additional Persons Responsible. In vaulting, the longeur is an additional Person Responsible. Competitors under 18 years of age remain the Persons Responsible. However, a representative, who must be over 18, must be nominated when the entry form is submitted.

Under the FEI Rules, the Person Responsible is strictly liable whenever a Prohibited Substance is found in a horse. This means that a violation occurs whether or not the Person Responsible intentionally or unintentionally, knowingly or unknowingly, used a Prohibited Substance or was negligent or otherwise at fault. It is very important therefore for the Person Responsible and his veterinarian to understand not only what is prohibited, but also what might potentially cause an inadvertent violation. In the case of a borrowed horse, the competitor remains the Person Responsible. Therefore, riding a borrowed horse requires the rider to assure himself that he has full information on all possible treatments and medications that have been or may have been administered to the horse.

Under USEF rules, the Person Responsible is the individual who signs as the trainer of the horse on the competition entry blank. If it becomes apparent that other individuals had care, custody, and control of the horse identified with a forbidden substance, these individuals may share in the responsibility of a drug violation. Under both sets of rules, the Person Responsible must stay with the horse or arrange for a groom or other appropriate representative to be present throughout the whole procedure.

The FEI and USEF differ slightly in the selection and testing of horses. Under FEI rules, most winning horses are tested routinely and others are selected at random. A horse may also be chosen if the Ground Jury is concerned about a horse’s performance. Testing plans are communicated to the testing veterinarian by the FEI Veterinary Delegate. Horses competing at USEF competitions are selected randomly by the testing team with more of an emphasis on high-placing horses.

Usually urine and blood are collected from each horse selected for testing. Each sample will be split into two, known as samples A and B. The splitting of the samples is consistent with the principles of WADA. The B samples are stored securely awaiting any required testing at a later date. At FEI competitions, sometimes other samples may be taken such as leg bandages, hair, or swabs. All samples will be carefully collected, labeled, and sealed, and the Person Responsible or their representative will be asked to sign that the procedure has been witnessed. Following the completion of the collection process the samples will be secured until they are sent to the laboratory.

A minimum level of stable security is obligatory in the majority of FEI competitions, mostly to ensure rest for the horses and for stewarding purposes. In certain lower level events, the FEI requirements are sometimes waived. However, regardless of the level of stable security, the competitor is still the Person Responsible. This means that an absence of stable security cannot be used as a valid excuse if a horse tests positive.

There is evidence that some drugs excreted in a horse’s urine can be ingested if the horse eats its bedding (particularly straw). You should always ensure that your horse has clean bedding and that the

bedding could not have been contaminated by another horse. If a horse receives medication, make sure that the medicines administered cannot spread to competition horses in adjacent stables. Isoxsuprine (a treatment sometimes used for navicular disease and laminitis) is one example of a well-known contaminating substance.

If a horse is treated, do not subsequently stable a competition horse in the same stall without thoroughly cleaning it. Do not feed a horse from a bucket used for a treated horse. Keep a medical record for your horse as well as for any borrowed horses. Ask the treating/team veterinarian and the grooms to document in writing all treatments administered to the horse, specifically stating date, time, substance(s) administered, dose, and route (e.g., intravenous) as well as name and qualifications of veterinarian.

### R E S O U R C E S

USEF Equine Drugs and Medications Program, (800) 633-2472 or  
[www.usef.org/contentpage2.aspx?id=dm](http://www.usef.org/contentpage2.aspx?id=dm)

United States Equestrian Federation, [www.usef.org](http://www.usef.org)

Federation Equestre Internationale, [www.feい.org](http://www.feి.org), [www.feicleansport.org](http://www.feicleansport.org)