Testimony of Sheila Lyons, DVM

Medication and Performance-Enhancing Drugs in Horse Racing

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Thank you Chairman Rockefeller, Ranking Member Hutchinson, and members of the Committee for allowing me to testify today. I ask that my full written remarks be included in the hearing record.

My name is Sheila Lyons and I am a veterinarian who specializes in equine sports medicine and physical medicine and rehabilitation. My private veterinary consulting practice is both national and international in scope which provides me with a view of the horse racing industry and the veterinary profession that includes many distinct regulatory jurisdictions. I am the founder of the American College of Veterinary Sports Medicine and Rehabilitation® and a member of The American Academy of Physical Medicine and Rehabilitation. My patients have included some of the world's best race horses but I have regularly provided veterinary services to horses at every level of this sport for nearly thirty years.

I want to thank Senator Udall, Congressman Whitfield and the Committee Members for this consideration of the need to create federal legislation to regulate the horse racing industry so that horses and riders are better protected. In addition, the public's ethical interests and integrity must be honored and assured in the conduct of this Pari-Mutuel sport. I see this critical review of the standards of practice in the horse racing industry and for the veterinary profession as having life saving potential - for horses and riders, and for the industry itself. We need national oversight by a regulatory authority that is not of the industry because the horse racing industry has demonstrated an inability or unwillingness to regulate itself and State veterinary boards often lack the resources or mechanisms to intervene in areas that come under the jurisdiction of horse racing regulators.

I have listened to this prolonged drug debate go on for more than three decades and I continuously confront the drug battle on behalf of each and every one of my racing patients. Some of the questions that have been debated and discussed for many years include - Is this drug performance enhancing? What drugs are really being used in these horses? Is that one safe at the current dosages permitted by racing commissions? What are the risks associated with a particular drug or other therapy? Is any drug's use humane? What I haven't heard is the key to understanding the effect of drugs on these animals and the key to answering these questions about responsible drug use and horse racing safety and integrity. It is the context in which a drug is administered that determines its fate as either appropriate therapy to enable recovery or as an injury masking or performance enhancing agent.

The unique authority and privilege that veterinarians have to administer, prescribe and dispense drugs is granted not through racing commissions but through licensure by State Veterinary Boards. Once licensed, veterinarians are required to strictly adhere to the standards of practice that regulate our profession. There are no exemptions for veterinarians who work with race horses. We are required to keep comprehensive patient records which demonstrate adherence to these strictly defined standards of practice for

every patient, for each dose of every drug and we must make these records available to our clients upon request. But this is not what is happening at these race tracks. And this is the real drug problem that underlies the intolerable rate of permanent injury and death of race horses and their riders.

To illustrate this point- about ten years ago I provided expert witness testimony for a State Attorney General's office in a case that began with DEA violations for a few race track veterinarians who had failed to maintain proper drug inventory, patient records and storage conditions for controlled substances. The veterinarians, in their interview with the DEA, reportedly defended their suspiciously large purchase history for the controlled drug, by declaring that "Race track vets are simply drug whores for the trainers." They asserted that they were not required to have a veterinarian-patient relationship, a working diagnosis or a record of physical examination and they stated that they only needed to abide by racing industry regulations because their patients were race horses. They were wrong.

I was the only veterinarian with expertise in equine sports medicine willing to testify on behalf of the Attorney General's prosecutor and Veterinary Board. I tried to get colleagues to help but despite agreeing with the seriousness of the violations of standards in practice, not one would publicly take the only scientifically defensible position because they would not speak out against the industry's wishes and the veterinary profession's commercial interests and each colleague warned me that by doing so I would invite professional and political difficulties for myself. Yet we prevailed. What followed was a reaction of the racing industry to "look at the issue". In California, within weeks of the decision, an industry association led by a race track veterinarian introduced legislation proposing that sport horses and their veterinarians be exempt from this requirement for meeting the strict standards of practice regarding the administration and prescription of drugs. Fortunately it was defeated. What this showed is that some real clout when it comes to getting rid of illegal non-therapeutic use of drugs in race horses lies in the agency that *conditionally* grants licensed veterinarians the authority to prescribe, dispense and administer drugs to horses in the first place. If the regulations are enforced by these State Veterinary Licensing Boards, we could end all discussion about drugs and sport horses as it would be moot because it could not occur.

I was disappointed when at the conclusion of your hearing in 2008, in response to a final question from a Committee member, not one member of the panel placed the responsibility on the only participant who has the authority to provide the drugs in the first place - it is strictly the veterinarian who is absolutely and solely responsible. We can say no.

Regulatory agencies are necessary for all sports. But industry regulations should simply assert a higher or additional standard where appropriate and therapeutic drug use is concerned. Regulations should require that if I have a patient that needed, for example, an anti-inflammatory and pain killing drug for appropriate medical therapy, as the treating veterinarian I should report this treatment along with its therapeutic context for review so that if it meets the industry burden for "performance enhancing or injury

masking" then my patient should not be allowed to compete until the drug is out of its system. Instead what we have is a situation that works in reverse. One where veterinarians and horsemen look to the "limits" set by racing commissions for drug levels and dosing schedules as permission to administer them, non-therapeutically and outside of the standards in practice that regulate the veterinary profession as long as they do not exceed those limits.

Conducting a thorough physical examination of a patient; keeping comprehensive medical records in accordance with State veterinary licensing regulations; having a working diagnosis that must be supported by examination findings; recording a therapeutic plan; and reassessing the patient to determine the success or failure of these treatments while under a veterinarian's care should all be enforced. And if horses are acutely unwell and in need of drug therapy, then on this basis alone, they should not be allowed to race. If they are not unwell, they cannot be given medication under the law which regulates my profession. *"Race Horse" is not a diagnosis*, and a veterinarian must meet a higher standard of care in practice before administering medication. I believe that if your committee expands its view to include the government oversight that licensing boards are designed to provide, it will find a partner in the power it seeks to end this practice by enforcing the regulations that govern veterinary practice and change the industry as it must.

I once proposed, in a devil's advocacy position, that if at race tracks the veterinary profession wishes to waive the condition of necessitating a veterinarian-patient-client relationship then we should simply designate veterinary technicians to administer drugs at the trainers' request and stay out of this non-medical practice. And of course, not benefit from this "business". My colleagues were not in favor of this.

As a pre-veterinary student and throughout veterinary school at Tufts I worked at a racetrack that specializes in cheap claiming races in Boston for a veterinarian who had the largest practice there. It was my job to stay with his car and take drug orders all morning, while dispensing medication at the trainer's request. The only requests that were to be denied were those from clients who had not paid their bills. Then I spent the day filling syringes with the requested medications, I would find the right horse and hand the veterinarian the syringes. I had to tell him what was in them so that he would know if they had to be injected into the horse's muscle or the vein. This colleague later became the president of the AAEP, the largest trade association for equine veterinarians in the world. Of historical significance is the fact that this association originally formed when a small number of horse racing veterinarians got together specifically to provide a "united veterinary response" to assuage public's concern about the welfare of horses in racing. The more things change, the more they remain the same. This practice of veterinarians delivering drugs per order of the trainer is still the prevalent standard in this country.

I recommend to my racing clients that they race in Europe or elsewhere since the USA is the only major racing jurisdiction that supports this drug use outside of the standards in licensed veterinary practice. I will not allow them in my patients and yet the playing field is unreasonably unlevel when they must compete against drugged horses. It has

been my experience that clients want this better system of preparing their horses scientifically and protecting them from the abuse of drugs and overtraining. Real sports medicine works.

Through my nonprofit organization, Homecoming Farm, I developed a new specialty and offer educational programs through The American College of Veterinary Sports Medicine and Rehabilitation® (ACVSMR™) in association with physician colleagues who developed the analogous human medical specialty field. Our educational programs partner veterinary student interns with thoroughbred retirement facilities where they provide expert rehabilitation services to the horses. This structure enables research and offers priceless education to these students. For over two decades I have provided this free veterinary care to retired horses that end up in shelters after their racing careers are over, and if anyone has any doubt about the long term consequences of this non-therapeutic, reckless and illegal use of drugs in race horses, I can provide records to prove that the evidence is overwhelming that these horses are systematically and permanently harmed. And these are the lucky ones that were not shuttled off to slaughter

Let me end by paraphrasing a wonderful way of considering animal welfare issues that a tireless advocate once shared with me- "if an activity that involves the use of animals can be conducted in a humane way- then aggressively regulate it. If the activity is in it of itself cruel then ban it." Horse racing can be a humane and wonderful sport for the horses and for the horsemen. The good news is that the solution to improved health and safety is already available to every race horse in this country. It will come when the standards in veterinary practice are adhered to at all times by the veterinarians who serve their needs so that race horse describes the type of athletic patients we treat as opposed to a diagnosed condition to be treated with drugs. I hope that this Committee will help us through its power to create an effective national system of regulation and enforcement so that the horses and the general and betting public can be assured of its integrity.

Lasix Drug Use in Race Horses

Lasix (Salix or furosemide) is a powerful diuretic that is administered to race horses approximately four hours before race time. It is used as an aid to prevent hemorrhage in a horse's lung when it races. Lasix is banned in all other major international racing jurisdictions. This drug has been found to have performance enhancing effects on race horses.

Lasix has not ended exercise induced pulmonary hemorrhage ("EIPH") in race horses. The permissive use of lasix has however, led to under-reporting of the true incidence of this condition. In my opinion, one based in both clinical experience and in the careful review of the scientific literature, the use of lasix has contributed to many health problems ranging from generalized dehydration and electrolyte imbalance, cardiac failure, heat stroke and exhaustion, to racing fatigue and poor performance in some animals and yet performance enhancement in others. My own pilot study revealed an effect on a horse's blood that closely resembled the known effect of erythropoietin ("EPO"), the well known and universally banned performance enhancing drug.

The evidence that we have clearly shows that in the period after the allowance of lasix administration in all USA race horses, we have seen an undeniable decline in general health, racing fitness, soundness and career starts for our horses. We have also realized a decline in the international perception or reputation of the USA bred and managed thoroughbred as breeding stock and as athletes. Our equine "product" is universally perceived internationally as being inferior, that they rely on drugs to train and race, that their race records have little meaning due to the use of drugs, and that our thoroughbreds are fundamentally and intrinsically unsound.

EIPH is not a primary disease. It is an event that occurs for any number of related causes. One underlying cause is upper airway obstruction which can be due to an inherited condition called laryngeal hemiplegia (roaring); it can be caused by positioning of the tongue and subsequent displacement of the soft palate due to harsh riding and the natural avoidance of a bit; it can be the result of lung or bronchial pathology including infections or allergies; it can be caused by lack of cardiovascular fitness and generalized fatigue, and many other issues including musculoskeletal unsoundness. The best way to treat any physical problem is to determine the underlying pathology and target therapy at resolving that cause. But unless and until we insist upon upholding the standards in practice for veterinarians which require this individualized approach to each race horse patient we will not likely reduce the incidence of EIPH. Just as we too often see for lameness problems - we are utilizing treatments to remove the outward signs of pathologies without properly understanding and resolving the pathology itself. I see little chance for this condition to be reduced until we observe the legal standards in practice for all veterinarians who work with race horses on behalf of the individual horses and in professional compliance as the public expects. There is neither a short cut nor an ethical way around the appropriate standards of veterinary care applied to each individual horse.

There is more scientific evidence to suggest that lasix does not prevent EIPH in a statistically significant way than there is in support of its use as an EIPH preventative. The proposed theory that lasix advocates use to support its use has been clearly disproved and this has been published in the scientific literature.

There is however, abundant support going back at least 30 years to document many serious health problems linked to lasix administration. My own review of peer-reviewed publications revealed over two hundred scientific papers that suggest a link between lasix use and increased risk of fracture; loss of electrolytes leading to cardiac abnormalities and other medical crisis and deaths; pathological fatigue and weakness; poor recovery from exercise; and other performance affecting or life threatening consequences from this drug's use. Dehydration and the loss of vital electrolytes is the mechanism of action of this potent drug. But until we collect all veterinary record data on every race horse, we will never be able to offer the true statistics related to the causal affects of lasix on the horses' deteriorating health and racing performance. Horses die of sudden cardiac failure every year, typically following speed work exercise or racing but it is categorized as "idiopathic" which means undetermined cause and yet neither investigations are made, nor statistics kept on the possible relationship between lasix administration and cardiac failure. The human and general scientific literature and even the package insert that accompanies this drug warn of this potential life threatening complication.

The statistically significant studies that have been conducted and published conclude that lasix is performance enhancing in horses. I conducted a pilot study this past winter to test the validity of asking the question of -what changes occur in a horse's blood parameters that may suggest a cause for this performance enhancement.

I include the abstract here:

Hemoconcentration and Oxygen Carrying Capacity Alteration in Race Horses Following Administration of Furosemide Prior to Speed Work

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ABSTRACT: The measurement of packed red blood cell volume (PCV, Hct or hematocrit) and plasma osmolality immediately preceding and then four hours after intravenous administration of 250mg furosemide in 12 race horses was performed in order to assess the level of dehydration caused by this diuretic. The World Anti-Doping Agency (WADA) has established blood testing parameters for the indication of performance enhancement due to the artificially enhanced oxygen carrying capacity secondary to hemoconcentration in human athletes. Diuretics such as furosemide are banned by the WADA but artificial hemoconcentration has been achieved through the illegal use of EPO, the practice of blood doping, and other banned methods and practices. Since horse racing permits the use of furosemide, this pilot study was conducted to test the theory that the horse racing performance enhancement effect, which has been evidenced in the scientific literature for this drug, may be due to dehydration and

improved oxygen carrying capacity achieved through hemoconcentration. The results were an increase in PCV of 6-18% with a nonlinear increase in plasma osmolality in each of the 12 horses tested in this pilot study. The WADA has established the hemoconcentration effect of EPO to be in the range of 6-11% which is considered performance enhancement in human athletics. Therefore, it appears through this pilot study that the administration of furosemide at the dosages used for horse racing supports a theory of performance enhancement through artificially enhanced oxygen carrying capacity due to hemoconcentration. A further study involving the testing of several thousand race horses entered in races in multiple racing jurisdictions is planned by this investigator and warranted in the interest of fairness in horse racing.

Anti-Inflammatory Drugs: Corticosteroids and NSAIDS

Anti-inflammatory drugs are often used by horsemen and veterinarians in order to enable training and racing of unfit and unsound horses. These drugs can mask the early signs of injury and predispose horses to catastrophic breakdown. They should be restricted for use for treating diagnosed conditions and used in accordance with the standards in practice for veterinarians.

Public Perception and Drugs in Horse Racing

Horse racing is losing former fans rapidly while gaining few new ones. The perception of horses being "drugged" in order to be able to race can only be addressed by banning all drugs on race day and in the days leading up to races. In my personal life when I meet people who have nothing to do with horse racing, the one question I know I will be asked is- why do we allow trainers to drug horses so they can race, and why would I be involved in any so-called sport that cares so little about the health and safety of the horse?

National Regulatory Considerations Regarding Drugs and Veterinary Services

1) Require the submission of all veterinary records (encrypted to protect confidentiality) for all horses from the day they arrive at the track until retirement from the sport.

2) Require all veterinarians to adhere to the standards in practice as defined by their State veterinary licensing board.

3) Revoke the racing commission licenses of veterinarians who fail to comply with the standards of practice. Automatically report these incidents to the State veterinary board for its review.

4) Require veterinarians to provide copies of all veterinary records including opinion and advice to each race horse owner so they can make informed decisions.

5) Ban all drugs except those given in a valid therapeutic context. Do not allow any horse to race if it has therapeutic levels of any drug on race day.

6) Require track veterinarians to examine every horse that leaves the track, except for those entered and shipping out for races at other venues. Collect data on attrition to racing due to lameness by keeping records of horses that are removed with career ending injuries. Currently these horses are not counted in the breakdown statistics.

7) Use a point system for drug penalties for drugs with known therapeutic value but do not erase points. Three strikes and a trainer should be out of the industry for life.

8) Permanently revoke the license of any trainer or veterinarian for using drugs that have no therapeutic use in the horse.

9) Ban trainers from the sport for personally administering or keeping any controlled drug.

10) Do not allow assistant trainers to simply take over for suspended trainers.

11) Publish all statistics in the racing programs for the public's interest. Including breakdown statistics and drug violations along with purse money earned and races won.

12) Race Horse Retirement Fund: Collect a percentage of handle; percentage of purse money earned; fees at tattoo/ ID; fee at gate card; and fee per start should be entered into an individual retirement account for each horse and made available to accredited equine shelter facilities that provide for the care of these horses when their careers are over. If a jockey earns, on average, $75 per mount fee I think it is fair the horse should earn the same for each start to be put toward its future care and retraining or retirement needs. Each racing jurisdiction should have regional equine shelter farms that are part of the industry and monitored by the owners, trainers, the humane societies, and visible to the public.

13) Invest in the development of laboratory tests for new (and old) illegal drugs. Conduct more out of competition testing. Centralize drug testing facilities.