

WHAT IS AN "ILLCIT" PERFORMANCE ENHANCER?

By Chris Wittstruck, Esq.



The argument in racing over what is and is not an illicit substance is a debate involving strongly held opinions across a broad spectrum. So... when and where does it end? It doesn't; there is no possibility for closure of the issue. There is, however, a guarantee that each debate about the issue will eventually end in heated fashion.

On one side of the spectrum are the "hay, oats and water" crowd. Easy to understand, and more easy to agree with, so long as you have never dealt in any meaningful way with the professional athlete known as a racehorse. In this regard, pushing cash through a teller's window or writing horseracing articles only two or three times a year isn't at all meaningful. Professional athletes get sick, sour, sore, injured... and sometimes a combination of all of them. If you think we should turn out every horse with so much as the sniffles, you better get your back yard ready; and those of your neighbors. Therapeutic medications are, well, therapeutic. They are meant to assist horses achieve homeostasis, meaning to get back to normal from whatever is ailing them. Within reasonable limits, what's wrong with the administration of these substances?

At the other extreme are those that would have no qualms about pumping amphetamines into a horse as the driver was jumping into the sulky. Luckily, there are stringent laws against stupidity like this. Administration of methamphetamine or codeine to a horse, like using a battery or an electric cattle prod, shouldn't happen within 24 hours of a race because it shouldn't happen within 24 months of a race. These things are the very essence of animal abuse. They have zero therapeutic value, pure and simple, but they might just get a properly zonked horse to the winner's circle.

What's in between these terminal points? For all those other than fanatical or villainous, the discussion can be summed up as an analysis of the therapeutic value of a particular medication counterbalanced by its potential for performance enhancement, followed by the fashioning of an appropriate withdrawal time, threshold amount, or both. Sound easy? You must be kidding!

Rest assured, horses have raced with everything from vodka to Viagra® in their systems.

A couple of ounces of vodka can allegedly "calm" a fractious horse before a race. In 2007, a veterinarian at Fonner Park, Nebraska was arrested for performing at least 75 race-day administrations of vodka before witnesses failed to materialize and the charges were dropped. Two ounces of vodka in a 200 pound human might put a smile on his face. Two ounces of the sauce in a 1,000-pound racehorse probably wouldn't help the critter lift a foot. If giving a racehorse alcohol seems repugnant, consider that the legendary Saratoga Thoroughbred *Fourstardave* got a pint of Guinness in his oats on a consistent basis, his Irish-born trainer feeling that the stuff keeps horses "regular."

Sildenafil citrate (Viagra®) obviously can increase blood flow. It was allegedly the drug of choice among those participating in illegal street racing in Naples, Italy a few years back. Still, all the locker room humor about this particular medication aside, can't blood flow enhancement be considered therapeutic? Getting blood to sore muscles might help improve health, not simply performance.

Should a snoot of Grey Goose or the “little blue pill” be banned outright? Permitted only at the turnout farm? Permitted in the race paddock? Some have problems with the use of something that’s distilled or synthesized. Looking only for “natural” substances to help horses? Well, how about... arsenic!

Professional horsemen have used arsenic in feed for years to improve appetite and ward off anemia. There are tonics available that contain measured amounts of the substance for use in structured, short-term treatment programs. While it would presumably take lots of vodka to kill a horse, it probably wouldn’t take all that much arsenic. One theory regarding the mysterious death of great 20th Century Australian runner *Phar Lap* is that his attendant inadvertently gave the horse a double-dose of Fowler’s Solution, the popular arsenic tonic of the time. While clearly carcinogenic in humans, ironically, arsenic is used to treat a form of human Leukemia. If something makes a horse eat better, is it increasing health, performance or both? If it helps blood cell production, should it be in the same class with the illicit blood doping drug EPO (Erythropoietin) and its powerful cousin dEPO (darbepoetin)?

Would a compound of natural, non-toxic substances fit the definition of an appropriate therapeutic medication? How about a cough serum made up of nothing more than honey, apple cider vinegar, aloe vera, menthol, lemon juice and oil of eucalyptus with just 21 thousandths of an ounce of ethyl alcohol added? This combo is exactly what Thoroughbred trainer Jeff Mullins brought into the Aqueduct Racetrack security barn on this year’s Wood Memorial Day and for which he received punishment. While Mullins’ administration of anything to a horse in NYRA’s pre-race detention facility is a violation in and of itself, the legitimate question posed is why an oral syringe made up of such innocuous substances shouldn’t be freely given on race day. In that same security barn, the overwhelming majority of campaigners are administered race day Lasix® (Furosemide), a high-ceiling diuretic that causes dehydration. If the powerful drug Lasix® is permitted to be administered only hours before a race to counteract a severe condition like exercise induced bleeding, why shouldn’t some honey and menthol be permitted at any time to take care of a simple cough?

Then there’s sodium bicarbonate; household baking soda. The theory is that this naturally produced substance can cut down on what may or may not be the culprit in muscle fatigue from exertion, lactic acid. Whether or not the stuff actually enhances performance, the fact is that, unlike medication, sodium bicarbonate is a naturally produced constituent of a horse. So, instead of testing for bicarb, most states test for another naturally produced substance, carbon dioxide. If a horse’s total carbon dioxide (TCO₂) blood gas reading is above a questionably established threshold, the horse is violated, the actual reason for the reading being of no relevance to the regulators.

What could be as bad as too much carbon dioxide? How about too much oxygen! In July, 2009 the New York State Racing and Wagering Board banned the use of hyperbaric oxygen therapy treatment within one week of post time. Some trainers use hyperbaric oxygen therapy chambers to hasten healing in a horse. Could a pressured oxygen boost seven days before a race really enhance performance? Would an oxygen chamber trip before a race skew a carbon dioxide blood gas reading? In any event, does anyone really know if either bicarb or oxygen administration actually enhances performance at all?

It's within the context of the foregoing that a series of curious announcements from the auction stand at the recently concluded Fasig-Tipton Kentucky fall yearling Thoroughbred sale must be discussed. For what is believed to be the first time at an auction, as several hip numbers entered the ring, it was announced that umbilical cord stem cells had been collected, processed and stored for the respective horses.

The cells can be used to treat various medical issues during a horse's lifetime, and apparently would be available for a fee to future owners. These collected materials can create new tissues in a horse, and can purportedly assist in the repair or regeneration of everything from ligaments and tendons right up full organs during a horse's lifetime. This relatively new science is still largely theoretical and not yet a mainstream treatment for equines or humans. The process of collection, expansion and application of stem cells is known as regenerative medicine. In 2007, the therapy was used on *Hellava Hush*, a stakes class trotter who returned to the races after a tendon injury.

The Regenerative Medicine Laboratory at The University of California Davis School of Veterinary Medicine was only the fourth facility of its kind when it opened in May 2009. At that time it was reported in the Sacramento Business Journal that while stem cell processing and treatment costs vary, processing and expansion of stem cell samples cost about \$1,800.00 and stem cell injections would be around \$1,500.00. While peer-reviewed studies regarding equine regenerative theory and procedure are new, there appears to be evidence that in at least some cases, stem cell therapy can cause healing in weeks as opposed to months for traditional therapies. Whether regenerative medicine possesses a high degree of therapeutic value can only be proven through continued research and application. A related science, involving the processing and reinsertion of a patient's own platelet-rich plasma (PRP), has also helped both humans and horses.

The obvious query posed is whether regenerative medicine is a performance enhancer and, if so, to what extent and how it should be regulated. If racing commissions are concerned with carbon dioxide blood gas levels as a proxy to purportedly determine sodium bicarbonate administration and limitation on hyperbaric chamber access to prevent oxygen administration, it isn't hard to figure that sooner or later the issue of rapid tissue regeneration through introduction of a horse's processed stem cells will end up on the regulators' agendas.

Can this cutting-edge science be used not just to "repair" tissue and organs, but to increase strength or size as well? Can stem cell technology create a super horse from a cheap claimer? The retired eight-year-old multiple Grade 1-winning Thoroughbred gelding *Lava Man* recently returned to training after "adult" stem cell treatment of his fetlocks. If this therapy can bring old geldings out of retirement, isn't it more of a performance enhancement device than a therapeutic cure?

Moreover, once any technology becomes advanced and commercially pervasive, prices tend to drop substantially. Nobody fixes a VCR anymore; you throw it out and buy a new one. It is not that farfetched to believe that traditional surgical procedures, medications and lengthy turn out may become obsolete as regenerative medicine becomes more affordable. If so, isn't a recent stem cell shot last week better than a pre-race day shot of Bute? Maybe it's better, much better, for the horse; but what about for the regulators and the betting public? Clearly, right now there are more questions than answers.

Can a horse be "juiced" on the farm with its own stem cells or platelet-rich plasma? Can a recent injection of stem cells or PRP be detected and, if so, how should it be

regulated? Should stem cells be treated as a drug like Clenbuterol or Bute? Should there be a strict "withdrawal" time in the form of a mandatory out-of-competition period akin to a horse on a vet's list?

Finally, should "Fsc" or "First time stem cell" be placed in the program opposite the treated horse's name? Should the public be told exactly what part of the horse was problematic, and therefore what part of the body the cells were meant to regenerate? Unlike administration of virtually everything other than Lasix®, should there be full disclosure of the exact time and number of treatments an entrant received?

The fanatics and the villains will assuredly have unique perspectives on all of this. The rest of us need to understand as much about the science as it develops, so that when racing commissions get done with tweaking steroids regulations and start to look carefully at regenerative medicine, restrictions will be influenced by the mainstream and not just a few a few knee-jerk scientists and journalists.

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