

# TDNQA

## DR. LARRY BRAMLAGE

Dr. Larry Bramlage, one of the industry's premier equine surgeons, stirred the Lasix debate a few weeks ago when he posited that the industry must do away with raceday administration of the diuretic, despite personally believing that Lasix is a good drug that is beneficial to the horse. Bramlage made his remarks at the 83rd Thoroughbred Club of America Honor Guest Testimonial dinner, where, along with two other veterinarians, he was being recognized for his contributions to equine medicine.

While advocating for no Lasix on raceday, he did urge the industry to examine how it might continue to use Lasix to combat Exercise Induced Pulmonary Hemorrhaging (EIPH)--or bleeding in the lungs.

Bramlage went on to say that industry participants needed to put their differences aside and adopt the Uniform Medication Program, which recognizes and sets limits for 24 medications deemed appropriate for therapeutic use in racehorses. The program also establishes guidelines for drug-testing programs.

Some viewed Bramlage's stance on Lasix and uniform medication reform at odds, since Lasix is included among the 24 allowable medications.

The *TDN*'s Lucas Marquardt sat down with Bramlage last week at Rood and Riddle Equine Hospital, where he practices, and talked about an assortment of issues, including Lasix, medication reform, journalistic integrity, and procedures to correct conformational defects.

**Your talk at the TCA dinner prompted some questions from our readers, including some who thought your 'No Lasix on raceday' stance was at odds with your 'Adopt uniform medication rules immediately' stance.**

"[Laughs] The anti-Lasix side is mad at me because I didn't go far enough and say 'Get rid of it all at once,' which I don't think is the right move. And the pro-Lasix people are mad because they think I'm giving up on Lasix. Which I'm not.

"I think, to the degree we can, we need to keep these issues separate right now. From a practical aspect, if you combine them, you've negated all the work that's already been done. The states that have adopted [the uniform medication] regulations will be different than the states who would adopt the regulations going forward if you lock them together."



**Larry Bramlage**  
*Rood & Riddle Photo*

**You take a positive view of Lasix. Why, and why do away with it on raceday, then?**

"Every time it's looked at scientifically, Lasix wins. It shows it does have an effect on bleeding. But the side that says we have to have Lasix, and have it on raceday, are wrong, because they're sticking their heads in the sand on the PR damage that it causes. It's the debate that's causing damage and hurting the game. Jerry Brown wrote an op-ed talking about big bettors understanding Lasix. And I don't doubt that. They are responsible for most of the handle. But Lasix also has to cater to television, and to sponsors of television programming, and as soon as you have drug controversies, the sponsors will drop out. The drug debate in the media is killing us."

**A number of people took offense to your statement that the general public, and certainly the media, doesn't understand Lasix. Would you phrase that differently in hindsight?**

"Some journalists really understand the problem. Some journalists really take advantage of the problem. It's an easy story. They're by and large not in the industry press, and they just parrot something anybody says. We had to drop our subscriptions to some local publications because that was happening. I don't think those people put in the time and effort to understand the issue, and there are some journalists who appear to like to reflect badly on racing. I pretty much believe what I said."

**You talked about there being a 'winning hand' for the industry on Lasix. What is it?**

"The logical scenario--that winning hand for us--is, *Can we use Lasix in some other fashion than how we use it now?* And the science suggests we can."

**How so?**

"The first step is to investigate Lasix and see if it can be given a day before a race and still have an effect. Lasix's half-life is a little more than an hour. Yet we give it four hours out, and we get good results. When it first came on the market, it was given 6-8 hours out, and we'd get good effects. And yet the drug would be gone. The body gets rid of Lasix very quickly. So you have to ask, what does Lasix do to prevent the horse from bleeding?"

**Is it not the case that Lasix removes water from the bloodstream, thus reducing blood pressure?**

"What Lasix affects is the pulmonary arterial pressure. That's the 'business' aspect of Lasix. Pulmonary arterial pressure is the pressure that comes from the heart into the lungs, before the blood is oxygenated. It's that driving pressure that causes bleeding. So it's not the systemic blood pressure of a horse that does it; it's when the heart pushes fluid into the lungs.

"But here's the thing. Other diuretics don't work. When we look at other diuretics, it doesn't have the effect on pulmonary arterial pressure that Lasix does. Otherwise, we could switch to a longer-acting diuretic and give it the day before. There's a side effect, or added effect, of Lasix that prevents a horse from bleeding. We don't know what it is, but it's a valuable avenue to pursue."

**Lasix is, however, best known for its diuretic effect, which prompts some to contend that asking a horse to compete on Lasix is asking him to compete in a dehydrated state. What's the science behind the issue?**

"They don't understand the horse when they say that. The horse, evolutionary, is a sub-desert grazing animal. There was some interesting research done on how often a horse naturally goes to water. Confined horses will drink out of boredom. Grazing horses in the wild drink once a day, maybe twice. The reason is that they store the water they drink in the colon. It's like a storage tank. That's why Lasix doesn't dehydrate a horse. If you look at the blood parameters, [water concentration] in the blood doesn't go down [when Lasix is administered]. As soon as Lasix removes water from the blood, the horse can replenish that water from the colon. Lasix does, however, reduce the amount of water in the colon. And that's why it's a performance-enhancer--a horse doesn't have to carry around that extra weight in the colon.

"If you or I take Lasix, our athletic performance would be terrible. Because we don't have a place to go and replenish the water. Our cardiovascular output goes down. A horse's does not."

**So, again, the dehydration effect of Lasix isn't what we're concerned with?**

"Right. Lasix appears to be an additional affect other than dehydration, but dehydration might play some role. In other racing jurisdictions, horses are often withheld from water for 24 hours, or even 48 hours. You can make an argument that Lasix is more humane than withholding water for 48 hours."

**People also withdraw hay. Why?**

"It reduces the volume of storage in the colon. The water in the colon doesn't just slosh around. It's absorbed by the roughage in there. Reduce the roughage, reduce water storage capacity."

**You talked about the need to study the duration of Lasix's anti-bleeding effects. That is, can we give it 24 hours out and it still be useful. What would a study like this look like?**

"We're actually working on something right now. What I would do is a pilot to look at some simple things. For example, if you give Lasix at 24 hours out and at 4 hours out, what effect does it have on the pulmonary arterial pressure. Once we got some facts down, you could possibly project scenarios of how we could use it."

**Is there an easy way to gauge pulmonary arterial pressure?**

"Absolutely. You can put them on a treadmill with a catheter in what's called their pulmonary arterial wedge. It's a direct measurement. And once we gain a better understanding of this, we might even learn enough about bleeding that we might come up with a whole other way to approach the issue. There's been nothing new in bleeding since the '60s. Other than the arguments."

**Speaking of arguments, if a horse is being given Lasix 24 hours out, and it still has an effect on raceday but doesn't test, isn't that just a difference without a distinction, as regards racing 'medication free'?**

"We give lots of things that have an effect on raceday. The whole goal of a trainer is to affect raceday, with training and vitamin regimens and so forth. If you say we don't want to have an effect on raceday, we would just turn them out until they were three, round them up and run them at Churchill Downs and see who won. All of what we do is designed to peak a horse's performance on raceday."

**Do you know of any other jurisdictions in the world that allow Lasix 24 hours out?**

"I don't think anybody regulates it once its gone [from a horse's system]. I don't know the regulations, but I would assume that it's perfectly legal to do that. I know there are stables in Europe who use it to some variation."

**Continuing on that theme, in some jurisdictions around the world--Hong Kong, for instance--you can't train on Lasix. Elsewhere, you can. Why train on it?**

"When you look at bleeding on a scale of 1-4, bleeding a 1 or a 2 has very little affect on performance. But lesions form when a horse bleeds. Studies show that the lesions are 'confocal,' so once they start at a certain site, they tend to progress and get worse. The worry is that if it starts bleeding at a 1-2, then it will progress to a 3-4. The science says you should pay attention. It's the reason that, in Europe, many--and in fact maybe the majority--of the horses train on Lasix. It slows the progressive damage."

**How does Lasix tie into testing for illegal drugs?**

"Interestingly, the reason there grew to be such a big gap between the U.S. and other jurisdictions is that other jurisdictions were afraid of Lasix's affect on testing as a masking agent. But we've made so much progress on that front, the drug-testing people will tell you it has no affect on what they do. But it got so entrenched, and now neither side will listen to the other."

**One compelling argument goes along the lines of, if horses need Lasix to compete, why are we racing them in the first place?**

"If you look at The Jockey Club Round Table from 2013, Dr. [Hiram] Polk looked at Australian-raced horses that were the progeny of American stallions who, presumably, raced on Lasix. And he compared them to horses by Australian sires."

"The idea was to see if we were weakening the breed by allowing them to race on Lasix. The U.S. horses were more effective, and they raced more than the Australian horses. So there was no demonstrable effect."

**Going back a bit, everyone seems to agree we need uniform regulation. But we've been talking about it for years. What's the hold up?**

"Sometimes it's purely political, in that the state can't move that fast. But too many times it's been, 'Well, we like all the regulations, expect that we don't like this one drug, and we want to change the regulations.' So one state won't like this drug, and another state won't like another drug, and we're right back where we started. We need to adopt the regulations now, and then have the discussion together about what needs to be tweaked."

**One issue that's unrelated to Lasix, but that's interesting in that it deals with problems that are potentially hereditary, is corrective surgery. Are you worried about the long-term effect of these procedures on the breed?**

"A while ago, for a study we did with The Jockey Club, we looked at the likelihood of a sales horse starting, compared to the likelihood of a horse who didn't sell at auction. Since the early 1990s, the percentage of sale horses who started went up 10%. If corrective surgery was having an ill effect on horses, you'd expect it to fall.

"Similarly, if the durability of horses has gone down, you'd expect the percentage of 5-year-old and older horses to decline over the years. But the percentage of horses 5-years-old and older who are in the racing population is the same. It's about 30%."

**It makes sense, on a per-horse basis, that those horses who underwent corrective surgery would stay sound longer than if they didn't have the surgery. But is there a cumulative effect? Thirty, forty years down the line, are there going to be so many crooked horses that the majority will need corrective surgery?**

"I don't think it's necessarily progressive, but the number of horses who need surgery has definitely gone up. You used to be able to look at the mares and tell what the foals would look like. Now, a lot of the mares have had corrective surgery, and you can't tell. But I think more horses need corrective surgery now because we've selected for offset knees. We know what stallions will, or tend to, produce crooked offspring. The collective knowledge is there. But it doesn't matter. If their foals run fast enough, we still buy them."

"All that said, we've learned in the past five years that you don't really have to do surgery on every horse that's a little crooked."

**If you had to guess, what's the percentage of the horses in a given sale who have had corrective surgery?**

"We calculated the numbers one time of the horses in our care, and I think it was around 15%."

**Concentrated at the top end?**

"No, I wouldn't say that. If you have a moderately or weakly bred horse, and you take him over to a sale and he's crooked, you're really in trouble. If you have a really well-bred horse and he's crooked, someone's going to take a chance on him. The people who try to take crooked horses with marginal pedigrees over will go out of business. They have nothing to offer."

**Should there be mandatory reporting of these procedures, perhaps to a database that could be accessed through an implanted microchip?**

"These days, with digital radiographs, you can almost always tell. Especially in the knees. If a horse has had corrective surgery, you can see the track where the screws were. That's de facto disclosure, and it's an easier way to disclose than to have regulations."

"When you ask purchasers, they always say they'd like to know if the horse had corrective surgery. But they can just go look, and often they don't. Plus, again, you know what stallions produce crooked horses. Anybody who's been in the breeding game for very long can tell you which ones tend to produce knock-kneed horses, which ones produce horses with off-set knees."

"The thing is, the influx of the bloodstock agent buying horses--rather than the trainer--has put pressure on the consignors to have those horses as perfect as they can get. It's another person in between the owner and the trainer who stands to be blamed if he or she doesn't buy a perfectly conformed horse."

**How much does the average procedure cost?**

"It's a little more than \$1,000. Some people price it per leg, but we don't really do that. Once they're under anesthesia, it doesn't take us a lot longer to do two legs than one, so the price is about the same."

**The number of starts-per-horse has dropped dramatically in recent decades. Do you think either Lasix or corrective surgery plays a role?**

"The number of starts going down is economic. What drives the number of starts-per-horse down is that our foal crop got so big, the biggest in the early '80s and the second biggest in 2008, and the opportunities to race declined in the 1970s, that the chance to start declined. These days, if a race comes up too tough, you can scratch out and just race the next week. That didn't use to be the case."

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