KENTUCKY HORSE RACING COMMISSION
RACE DAY MEDICATION COMMITTEE

TRANSCRIPT OF MEETING

NOVEMBER 14, 2011

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The foregoing meeting was held, pursuant to notice, on Monday, November 14, 2011, beginning at the hour of 10:00 a.m., in Room 169, Capitol Annex Building, Frankfort, Franklin County, Kentucky, Chairman Tracy Farmer presiding.
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MR. FARMER: We will call the meeting to order. We have one of the members that is lost in the big city of Frankfort. So I hope my direction gets her here, Ms. Lavin.

Welcome to the first meeting of the Kentucky Horse Racing Commission Race Day Medication Committee. I am Tracy Farmer, the chair of the committee. Other members of the Race Day Committee are Betsy Lavin, who is lost. She will be here, though. Alan Leavitt -- where are you, Alan?

MR. LEAVITT: Here. Right here.

MR. FARMER: John Ward to my left. And Dr. Northrop, and Dr. Yon.

And we have other members of our Commission. Mr. Ned Bonnie. The Chair of our Commission who is watching over all of this to see if I make a mistake, Mr. Bob Beck. Wade Houston from Tennessee. Maryville? Isn't that right, Wade?

MR. HOUSTON: Alcoa.

MR. FARMER: And Tom Conway. These are Commission members.

Dr. Scollay invited over 30 industry groups and interested organizations to speak. An agenda for today's meeting was at the door when you
entered. I hope all of you have that. This is a very divisive issue. Opinions very widely. And several invitees stated that their group has not reached a consensus on the issue and thus declined to speak.

This will be an information session. No decisions will be made today. In addition, we will be monitoring this issue in other racing jurisdictions as part of the decision-making process.

If you would like to submit written comments on the issue, you may send them to my attention at the Racing Commission. And my name is Tracy Farmer. I am sorry if I didn't say that.

We will start with an educational session. Dr. Scollay will introduce each of the speakers for the educational session.

After the educational session, we will call on the speakers listed in the order of the agenda. Each of those speakers may speak for up to 10 minutes. As the chair, I have the discretion to authorize the speaker to continue after the time allotment. Committee members may ask questions of a speaker. If an audience member would like to ask a question, you may submit questions in
writing. Raise your hand and Marc or Jamie Eades will get --

MS. UNDERWOOD: It will be Tim West.

MR. FARMER: Tim West? Okay.

-- will get to you and bring the question to me. And with that, Dr. Scollay, I will turn it over to you I think.

DR. SCOLLAY: Thank you.

Good morning and thank you all for coming today. Our first speaker with Dr. Alice Stack. Dr. Stack is a full-time researcher based at Michigan State University's equine pulmonary laboratory. She received her veterinary degree from University College, Dublin, Ireland.

Following her degree training, she completed an internship in the Dubai Equine Hospital and a 3 year clinical residency at Michigan State University's Veterinary Teaching Hospital.

Dr. Stack is board certified in internal medicine and is a diplomat of the American College of Large Animal Internal Medicine. She is currently working toward's her Ph.D. on the topic of EIPH, exercise induced pulmonary hemorrhage pathogenesis under the guidance of and mentorship of Doctors Ed Robinson and Fred Derksen at
Michigan State University.

Dr. Stack, welcome.

DR. STACK: Thank you, Dr. Scollay.

Chairperson, members of the committee, members of the audience, Dr. Scollay, I would like to thank you all very much for giving me the opportunity to speak to you today. I hope that this session -- I should be on the floor here for about 50 minutes or so. I hope that it is educational. I plan to provide a succinct yet thorough overview of exercise injuries pulmonary hemorrhage based on peer review, scientific information.

Dr. Scollay introduced my -- sort of my background. I spent a lot of time thinking about this condition. And it is one that is very close to my heart.

I am, of course, speaking on behalf of the more than just myself today. I would like to mention and acknowledge my mentors; Dr. Derksen and Dr. Ed Robinson at Michigan State University's equine pulmonary laboratory. We, of course, have some very generous funding sources that enable us to continue our research into this important condition. And we are building on a very
important and valuable work that was carried out
by other investigators in the past 25 years or so.

Can everybody hear me?

MR. FARMER: No.

DR. STACK: Is that better?

So the main take-away points that I would
like to get across to you today are the following.
And I hope that my explanations will lend some
weight to these statements.

First of all, exercise induced pulmonary
hemorrhage is common in race horses all around the
world. It is not a condition that has geographic
preferences. It is a condition, however, that
does result in significant pulmonary pathology in
horses and we will talk in some detail about that.

EIPH is a result of high capillary pressures
that are experienced by horses when they are
running due to high blood flow states in their
lungs. And it is also, we are coming to believe
and understand, exacerbated by a remodeling
process of pulmonary vines.

Furosemide in relation to its effects on EIPH
reduces blood pleasure in the lungs of horses. It
acts to reduce bleeding severity. But it does
not, by any means, completely cure the condition.
Exercise induced pulmonary hemorrhage is an easy condition to diagnose. All right? The main sort of techniques, if you would like, are firstly and most simplistically recognizing the presence or absence of frank blood, also known as Epistaxis, of the nostrils of a horse after a race or an exercise session.

The other 2 techniques that we commonly use are tracheal endoscopy and bronchoalveolar lavage or lung washing.

The numbers published about how many horses are affected by this condition are certainly reflective of what technique is used to diagnose it. When we consider Epistaxis or the presence of blood at a nostril alone, about .15 percent of race starts are associated with Epistaxis balance. Okay. These data were confirmed both in Japan and the study from South Africa. And taking those studies together, over a million race starts were considered. And, again, .15, and in the South Africa, .16 percent of race starts were associated with frank Epistaxis.

Tracheal endoscopy is a relatively straight-forward procedure to perform. It rarely retires intravenous sedation. And as long as that
is a performed in the 30 to 90 minutes post race
or post exercise, the observer can very easily and
quickly ascertain whether or not a horse has got
blood in its trachea or main stem bronchi. And
they can also ascertain how much blood there is
and, therefore, get an idea or an indication of
how severe an episode of hemorrhage a horse may
have experienced.

When horses are scoped after racing, pretty
consistently and in a number of studies, between
60 and about 75 percent of horses have some
evidence of blood in the trachea after racing.

When Dr. Birks and other investigators in
2002 evaluated over 250 horses on 3 separate
occasions, they determined that every single one
of those horses was affected by exercise induced
pulmonary hemorrhage on at least one of those
days. All right.

And these data are very much mirrored in
studies that have been performed on standardbred
race horses as well.

Bronchoalveolar lavage or lung washing is a
slightly more invasive and involved procedure. It
does tend to involve intravenous sedation, et
cetera. It is very useful for somebody like
myself who works in a hospital and frequently misses the 90 minute window after a race.

   It provides very valuable information on whether a horse has had a bleeding episode historically. And we can actually still get very good information on what a horse may have done in races in the previous weeks or even months.

   We make a diagnosis of pulmonary hemorrhage based on the presence of 2 things in the lung washings. These -- if can everyone see that pointer? Is that okay? These are free red blood cells, okay? And these larger blue colored big cells are pulmonary microphages, also known as hemosiderophages. And their job, if you like, they are the garbage disposal units of the lung. They are breaking down these red blood cells into breakdown products like hemosiderin. And these black granules that you can see contained within those cells is just that. They are hemosiderin granules. Okay?

   When horses undergo lung washes after racing and training, about 90 percent of horses again appear to be affected by exercise induced pulmonary hemorrhage.

   A very important question that has to be
answered is whether or not this condition has an effect on racehorse performance. It was widely believed that it did. But studies that were performed in the '80s and '90s were of a relatively small size. And they failed to come up with consistent and conclusive results on that question.

In 2005, however, Dr. Hinchcliff looked at 744 racing thoroughbreds in Melbourne, Australia. First of all, he published a paper on a grading scale that has become widely accepted and used by practitioners. It is a 5 point scale. Zero is a horse that does not have evidence of blood in the trachea. And all the way up to a grade 4 where about 90 percent of the trachea is covered with blood.

When he used this grading scale on the 744 horses -- and as a side note, those horses were not racing on Furosemide at the time -- he determined that 412 of them had some evidence of exercise induced pulmonary hemorrhage in their lungs. And a lot of that was of a mild degree.

But those horses that either had no exercise induced pulmonary hemorrhage were very mild. So grade 1, EIPH, were actually 4 times more likely
to win their race. All right? They were twice as likely to place. And they were about 3 times as likely to win more money that had EIPH of grade 2, 3 or 4. Also those horses with exercise induced pulmonary hemorrhage finished significant distances behind the winner compared to those horses without the disease.

I just want to point out some terminology that I going to use for the rest of the talk before continuing. This is obviously a cartoon image of a horse's lung here. But I have included it because it is oriented in exactly the same way as the lung is oriented in the horse's chest.

So if you could imagine taking an x-ray of this horse that we have down here of his thorax, the lung sits in the chest just like that. This is the right lung. Cranial lung tissue is that nearest the horse's head. Dorsal lung tissue is that nearest his back bone or spine. Caudal lung tissue if that lung tissue nearest the horse's tail. Ventral is nearest the ground.

And of particular interest to the condition that we are discussing today is the caudo-dorsal lung region. So that lung, that is really right up there in the back top corner of the thoracic
This diagram is also shaded like this for a reason. It demonstrates for us the actual distribution of blood flow within the horse's lung, both at rest and during exercise. And it indicates that the most blood is received by lung tissue up here in the caudo-dorsal regions when compared to cranial and ventral lung that actually receives comparatively less blood per unit volume of lung.

So now we want to talk a little bit about whether or not this condition has an impact on the horse itself.

It should be pointed out right now that EIPH does not actually make horses systemically ill, per se. These horses tend to have a good appetite. They are not febrile, in other words, they don't have a fever. They don't demonstrate overt signs of pain.

And besides the presence of blood in their airways, they actually don't tend to have clinical signs that can be localized specifically to the respiratory tract after an episode of bleeding.

That being said, exercise induced pulmonary hemorrhage does result in significant pulmonary
pathology or deviations from normal. Studies that address the pathologic features of this disease have mostly been performed on thoroughbred racehorses that have been retired due to severe or career limiting exercise induced pulmonary hemorrhage.

The main studies to mention was a big one out of Hong Kong in the late '80s. We also looked at some Singapore horses at our own laboratory in 2008. And we are currently compiling data on 10 horses that were donated from midwestern tracks right here in the USA.

This image is just really is certainly taken from a very severely affected horse. But I have included it just to demonstrate some of the features of the pathology of this disease. I have tried to keep the orientation of the lung in a similar manner and to the diagram that we looked at.

The lung of interest here is the right lung. All right. This is dorsal. Cranial here. Ventral down here. And this is the caudo-dorsal lung region. And I think you can probably all appreciate that the most severely affected lung -- and I should first of all point out that normal
lungs should be a pale sort of salmon pink color like this here. So the lung that is not normal looking is mostly in the caudo-dorsal region of this lung.

It is obviously discolored, it is black in color. And that black, just to mention again, is actually because of the hemosiderin or the breakdown products of red cells that we discussed in context of lung washings.

Left lungs are affected as much as right lungs even though the right lung in the horse is slightly bigger. And the lung tissue is not only discolored, but if you were to palpate it with your hands, it actually feels quite abnormal. It feels thickened in places and somewhat rough or tough and even sort of rubberized which is not what normal lung tissue should feel like.

Like any disease, there are, of course, gradations of severity. And these diagrams or these photographs, I should say, have been included to demonstrate that for you.

We have turned it 390 degrees just to confuse you but this is now cranial lung, caudal lung, dorsal lung to the left of all of these images. Okay.
So with a normal lung, I don’t know if you can appreciate it on the screen there, but the pleura surface is almost translucent. Okay. You can see some big subplural vessels there. And that is what we should be able to see on a normal lung.

With mild disease, we start to see some discoloration in the caudo-dorsal region. With moderate disease, that discoloration becomes more pronounced. And you can probably appreciate some muckling here through the lung tissue. With severe disease, the lung is much, much darker and, again, would palpate abnormally.

It is not merely a disease of the surface of the lung when those lungs are sliced through and the tissue here is darker because it has been preserved in formaldehyde. But with mild and particularly with severe disease, you can appreciate that these white areas of fibrosis or scarring are distributed fairly evenly throughout the entire lung.

I just want to show you some images taken with a microscope and look at what those pathologic lesions that I have shown you on the whole lung look like under a microscope.
In the top left panel, okay, we have a slice of normal tissue. And just to orient you, this thicker, purple line along the top is the pleura surface. So that's the outside of the lung. And this vertical line is actually a septor dividing 2 compartments of the lung if you like.

And all of this white space represents airspace and that's normal. That's what lungs should look like.

On the right-hand side is a slice of tissue taken from a horse that has got severe exercise induced pulmonary hemorrhage. And what I would like for you to appreciate is that the pleura surface is fairly, dramatically thickened here. It is maybe 4 to 5 times as thick as the pleura surface in a horse that is not affected.

And, also, this septor or division between 2 areas of lung has become fairly dramatically thickened as you can see with the arrows there.

Okay.

This process is known as fibrosis or common terminology would be scarring. And it usually happens due to an inflammatory process. We believe that the inflammatory or inciting process in exercise induced pulmonary hemorrhage is the
presence of red blood cells that are not contained
within blood vessels like they should be, but they
have actually leaked out into the tissue through
breaks in vessels that we will talk about later.

And in the bottom left of this panel, this is
a different stain on the same piece of tissue. It
is called a pression blue stain. And in this
image, I just want you to know that blue is blood.
Okay. So anything that is stained in blue
actually is representative of blood that is being
broken down in the lung, blood that has leaked out
of blood vessels.

So there is clearly a lot of it.

This is an image of a remodeled vein. And we
are going to talk a little more about that right
now. Okay. So from the normal tissue, we are
going to zoom in on this little guy here, which is
a normal, very small interlobular vein. I just
want you to appreciate that the vein got a thin
wall here.

This is the wall around outside. And the
pinker color on the inside is the vessel lumen
that contains some red blood cells. The lumen is
the part that the blood actually flows through so
the center of a hose pipe if you like.
And this is a picture of an abnormal vein or a remodeled interlobular vein. And I think you can appreciate from the previous image, that this wall has become dramatically thickened here. The lumen in the middle doesn't contain blood cells in this image. But the wall has really changed in its appearance and has become dramatically thicker, probably stiffer.

And it has done that by basically deposition of collagen in the same fibrosis or scarring procedure that we identified in the pleura and in the septa.

And so more images of these vessels. This is a different type of stain so just excuse the switch in color scheme here. In this case, red blood tells are actually stained black. Okay. But what I want you to notice is that this black wavy line around the outside actually denotes the vein wall.

And if you compare the image on the left to the image on the right, the center of the vessel or the vessel lumen has almost completely disappeared. That's the arrow pointing to it just there. And instead of a nice thin vein wall and a wide lumen, we have got all of this collagen...
deposition and probably significantly altered venous function as a result of that.

When we scored the legions that we have been talking about now for a few minutes and added the scores together, the most severely affected slice could receive a top score of 15 and zero was denoted normal tissue.

And when we combined averages on all horses with EIPH that we looked at, just to reiterate the point, we do see that the highest numbers are the 10's and the 8's and the 9's are again in this dorsal-caudo region. So it is very much a disease of a certain part of the lung.

That's really all I am going to talk about pathology here this morning.

And if I have made these points and you can take those points away today, then I have done my job.

In summary, there are no overt signs of disease, per se, in horses that have exercise induced pulmonary hemorrhage. That being said, the disease does sauce significant changes to lung tissue, changes such as fibrosis, blood or hemosiderin deposition, some new blood vessel formation, and venous remodeling.
Significant portions of both lungs are affected.

Moving on from pathology, I want to talk to you a little bit about why we think this disease occurs. Okay. And to do that, we really need to remember and always consider that the horse is just an incredible athlete, absolutely unrivaled in the animal kingdom. When I show figures like these, these exercise physiology statistics if you like, to human physiologists, they are astounded. They think I am making them up.

Really, they cannot imagine that a mammal can achieve these sort of figures.

And a couple of ones that I really want to point out to you here, when the horse runs, their heart rate goes from between 28 and 40 beats when they are standing quietly up to almost 250 beats per minute. That's a pretty impressive jump.

Their cardiac output, essentially the blood that is being pumped out of the heart and into the lungs, goes from a 30 to 45 liters per minute up to a whopping 2 to 300 liters per minute being pumped through the heart out into the lungs into the rest of the body every minute.

And as a result of that increase in blood
flow, there have to be increases in blood pressure correspondingly. And the ones that we are going to talk much more about are those increases in blood pressure within the vessels in the lung.

Okay.

So pulmonary blood pressures go from 30 over or maybe 15 to 20. So that is systolic and diastolic pressures. Up to 100 over 60. And that's an incredible increase for the pulmonary vessels.

And no other mammal experiences an increase like that.

Some more anatomy unfortunately. I am sorry. But we really can't continue unless I sort of run through this.

I just want to point out that the lungs are truly unique organs relative to the rest of the organs in the body. So all of the blood that returns to the right-hand side of the heart and is pumped out again -- and remember that's between 2 and 300 liters a minute -- all of that blood goes to the lung to be oxygenated before coming back to the heart and then being redistributed amongst all of the other organs in the body.

Okay. So the lungs get it all at once. And
the other organs get to divvy it up and cope with
more reasonable volumes at one time.

As a result of that, the lungs are just
absolutely stuffed full of the blood vessels.
They are a giant ball of blood vessels. These are
casts taken from -- actually from human lungs.
But believe me, horse lungs look just the same.

In these photographs, white represents
airway, red represents artery, and blue represents
vein. And just to reiterate that when you are
talking about a sequence of blood vessels, we go
from big arteries to smaller arteries, to tiny
capillaries that drain into slightly smaller veins
and, again, back into much bigger veins.

That is always the sequence; artery,
capillary, vein.

We zoomed in on some of these airways and
blood vessels here. Every airway has got an
artery and a vein associated with it. All the way
out to the periphery of the lung. And believe it
or not, these tiny little guys here aren't even
the capillaries that we are going to spend some
more time talking about. Okay. The capillaries
are just tiny.

These are actually good-sized blood vessels
So I want to zoom in on those capillaries because they are really the site of action when we are talking about exercise induced pulmonary hemorrhage.

This photograph was taken with a very powerful microscope, an electron microscope. And what we are looking at is cross section across the wall between 2 airspaces in the horse lung. So this is air up here. This is air down here.

And what I want you to appreciate is that when you cut across that wall, it is just, again, absolutely chocked full with blood vessels. These are capillaries and there is 1 here, 2, 3, 4, 5, 6, et cetera. You get the idea. The division between airspaces is a wall of blood vessels.

These are actually pictures of little individual red blood corpuscles here or red blood cells. This is a cross sectional image of just one of those capillaries. It is only big enough for 3 of those blood cells to stack up on top of each other. It is really, really tiny.

Okay. This the blood vessel wall which is significantly thinner than even one red blood cell as you can appreciate here. That wall is actually
three-ten thousandths of a millimeter thick which is pretty tiny by anyone's standards.

And that structure, believe it or not, is exposed to really, really high pressures during exercise. And it is, therefore, probably not surprising that a number of those capillary walls fail during exercise as a result of those high blood flow and high blood pressures that horses are experiencing.

I am going put some numbers on those pulmonary pressures because they are really integral to this disease. Please excuse the simplicity of this diagram. Horses obviously have one heart. But the right in the heart and the left are represented in separate boxes here.

So this is our horse, our galloping horse, with obviously lots of muscles and other organs that require oxygenated blood. The de-oxygenated blood returns from those muscles into the right heart, goes to the lung where it goes into pulmonary arteries, the pulmonary capillaries that we have now looked at, drains into pulmonary veins, and returns to the left heart.

I just want you to consider this graph for a second.
This experiment has been really repeated by a number of investigators over the years. And the data always come back looking very, very similar. I included this particular experiment because I just want to point out that horses without and horses with exercise induced pulmonary hemorrhage all experience similar intravascular pulmonary pressures.

It is not a case that those horses bleed -- that those horses that bleed are experiencing higher pressures. This is an exercising horse thing. Okay.

And those pressures, when we consider the pulmonary artery pressures, are actually approaching 100 millimeters of Mercury. When we put that onto our little diagram here, this is where the pressures are. Okay.

So coming from the right heart into the lung, we have 96.5 millimeters of Mercury. When we consider the venous pressures, which are also called pulmonary artery wedge pressures -- that's just based on the way that the experiment is performed but believe me these are venous pressures -- those are in the range of about 70 millimeters of Mercury.
And, again, we are just going to put that on our little diagram. So 70 millimeters of Mercury here returning in the pulmonary veins into the left-hand side of the heart.

When you have these 2 figures, you can calculate the pulmonary capillary pressure. And that ends up being in the region of 80 plus millimeters of Mercury. And I just want to remind you how thin-walled and how fragile those capillaries are that are experiencing pressures of this magnitude.

So we now need to talk about a phenomenon known as capillary stress failure which has become widely accepted as the most likely cause and source of pulmonary hemorrhage in these horses.

Dr. West, in 2003, looked at 3 horses that had exercise induced pulmonary hemorrhage. He performed pulmonary capillary ultrastructure scans on those horses. And he found that their capillary walls, as everyone had suspected, were indeed disrupted.

The capillaries had ruptured in places. And it was from here that the red blood cells were leaking into the lung interstitial or lung tissue and into the airways which is why we were seeing
blood in the main stem airways, in the trachea and
sometimes out the nose of these exercising horses.

Here is some images from that paper.

On the left we have an un-ruptured capillary.
Okay. So this is intact. If you compare that on
the right, the capillary wall -- I am just
outlining it here with the pointer. Okay.

And here on the right is where the capillary
has ruptured. And these red blood cells with
asterisks have escaped into the airways and into
the pulmonary tissue surrounding that capillary.

And Dr. Birks later on in the '90s,
determined that horses actually have -- despite
how thin-walled they are -- relatively strong
pulmonary capillaries compared to, for example,
rabbits and dogs. And it actually took pressures
in excess of 75 millimeters of Mercury to cause
significant numbers of breaks in those
capillaries.

But if you remember from the previous slide
we're right in that zone. Okay. Our capillaries
are seeing pressures and the 18-plus millimeters
of Mercury, which is what it took in an
experimental setting to rupture horse pulmonary
capillaries.
I would like to mention a little bit more the role of venous remodeling.

Veins are supposed to be really quite relaxed, thin-walled, and very easy to distend type structures. That's their job. They collect blood. So the blood pools back into them. They expand. And they distribute it in a nice, organized way back to the heart.

But veins that see increased pressures routinely, tend to remodel themselves as a protective mechanism. Okay. So if they didn't remodel and they were seeing these really elevated pressures all the time, they themselves would be susceptible to rupture. And that would, because veins are much bigger the capillaries, a venous rupture itself could be a much more harmful to the horse and ultimately even catastrophic.

So venous remodeling is a protective mechanism.

It is reported in lots and lots of other species. This is the first time we are talking about it in horse lungs. And, just to remind you again, these are the capillaries and the veins of interest here on the right-hand side. This is a remodeled vein. This is a cartoon of a remodel
vein.

But I would like to just use this analogy if it helps me get my point across of somebody standing on a garden hose. All right? So this is a -- the garden hose is our blood vessel network within the lungs. So artery again leading the capillaries. And this gentleman, not so carefully, placed his foot over the vein or of the venous part of our hose pipe. Okay.

In doing that, he is really emulating venous remodeling. Okay. He is squishing down that part of the hose pipe. He is causing the flow through that to become much slower. And he is also correspondingly as you can imagine, causing an increase in pressure back up the hose pipe. In our case, back up in the capillaries.

Okay. So high pressures due to exercise coupled with venous remodeling or stepping on the hose pipe all combine to give us lots and lots of capillary rupture. And that, in turn, is what we end up with when we diagnose our horses with exercise induced pulmonary hemorrhage.

This is the same concept really just put into some pictures. If you can follow this, then hopefully we are in good shape and I have done my
job for this morning.

The exercising horse experiences increased intravascular pressures, increased blood flows, in particularly in the caudo-dorsal region of the lung which is where we have our disease process. This pressure coupled with some venous remodeling, stepping on the hose pipe if you like, causes capillaries to rupture.

The blood leaks out, both into the airways so we can diagnose the condition and into the surrounding lung tissue, so it gives us lots of the fibrosis type procedures -- processes that I mentioned at the start of the talk.

So that's EIPH. That's what we know about it. That's what happens in a horse's lung. It clearly isn't it good thing. It is causing some pathology. It is causing the horses to perform less successfully, et cetera.

Therefore, we want to treat it. Okay. So a lot of effort, a lot of time and money, has gone into the developing medical interventions and other interventions, indeed, against EIPH to see if we can at least reduce the disease.

Unfortunately for a lot of effort and a lot of great minds on the topic, we have really only
had moderate success. I think that's fair to say.

The only medication that we have now with proven efficacy against exercise induced pulmonary hemorrhage is Furosemide known in some circles as Lasix. And, in particular, as Salix for ourselves. The mechanism of action of that drug -- I mean it was developed because it is a looped diuretic. So its mechanism of action is actually on the kidneys.

It prevents sodium reabsorption by the kidney and in doing so, it increases urine flow. And, therefore, increases urine losses by the body.

It reduce the blood volume temporarily. It also acts to reduce blood pressure in the lungs. And it does cause temporary weight loss in animals or humans that have been administered Furosemide just due to straight up water losses. Okay.

Other actions that may be of interest and are probably worth investigating further is that Furosemide actually has some actions on smooth muscle in the body. It does dilate airways in horses. It performance enhancing effects, such as they are, though, are not believed to be related to this effect on the airways.

It has only been proven to work in horses
that have existing disease, such as heaves. And our average exercising thoroughbred with normal lungs, their airways are maximally dilated. So adding a pharmacologic bronchodilator at that time really gets us no more benefit.

Okay.

The dilating of veins may be of interest because in other species, at least, it has actually proven to be specifically a pulmonary venous dilator. So if we could get that guy to take his foot off the hose pipe and maybe dilate the veins a little bit, that may also be a beneficial effect and prevent some back pressure build up in the capillaries.

Back to pressures. It is a very similar looking graph to the one I showed you earlier. But this time we are evaluating some control horses here and then some horses that receive Furosemide. We are considering 4 speeds; rest if you can call that a speed, 10 meters per second, 13-meters per second, and I believe -- it has gotten cut off here. I am sorry.

So rest is blue. Yeah. 10, 13 and then 14 and a half meters per second in the last graph there which is a fast gallop, okay. And what I
want you to appreciate is that the pulmonary artery pressure in control horses at top speeds when you compare it to those horses that have been administered Furosemide, is significantly higher.

Okay.

So Furosemide causes, on average, about a 10 percent drop in pulmonary arterial pressure in the region of between 8 and maybe 11 millimeters of Mercury in these horses.

To remind you again, we know that bleeding is associated with pressure. So if you just consider this graph, along the X axis on the bottom here, we have some pulmonary arterial pressures. And on the Y axis going up here, these little triangles mark how many red cells can be retrieved from horse's lungs.

So at pressures of 10, 20, 50, 60, 70, we see that these red cell numbers are staying around the same. Okay. They are hovering around this line here. You are always going to get a few back. That's normal. But the numbers don't really increase until we get past the tipping point here at about 90-plus millimeters of Mercury.

Then the red cell numbers really take off and get quite high.
What I would like to you consider is that perhaps with the administration of Furosemide, those unmedicated horses that have higher pulmonary artery pressures sort of stay on this side of the tipping point. And those medicated horses stay on this side and perhaps have less capillary ruptures, experience less pressures, and, therefore, less red cells can be retrieved from their lungs.

So the question has been and asked for many years whether or not furosemide is indeed effective against this condition that we are all very concerned about.

A number of studies were performed to sort of try and answer that question. I just want to talk about one of those studies here because I think the picture sort of tells a thousand words. I apologize that it has come out so dark there.

This is just a blank file here, a horse that was not exercised. And this basically are the cells that they retrieved again from that horse that underwent a lung washing. Okay. These horses here, or these vials I should say, from horses that did not receive Furosemide. So the control horse had no intervention and just
exercise. His lung washing was red. All right.

That horse that wore only a nasal strip, his lung washing was still red, albeit slightly less red. And those horses that received Furosemide, whether or not they wore a nasal strip, had relatively clear looking lung washing when those cells were re-suspended again. Okay.

Dr. Hinchcliff -- you will recognize his name again -- but in 2009, he really definitively answered the question, is Furosemide effective against EIPH.

I was to point out some aspects of that study because it really was an excellent and well-executed study. He performed a randomized, placebo, controlled blinded crossover field trial. If you are going to do a study, this is what we are all aiming for. Okay. We don't all have the resources necessarily to do that.

But that is the most water-tight design that you can possibly come up with. 167 racing thoroughbreds competed for prize money in South Africa. And they raced over turf and raced to the rules of the local jurisdiction.

He comprised race fields of between 9 and 16 horses. They raced twice. The same horses raced
one week apart, okay, and they are over varying distances. All horses went out wearing the same weight under the same jockey. They started from the same position. And they all wore identical tack. So he really tried to keep things as consistent as he could between races. And the reason was that half the horses on the first day went out having received 500 milligrams of Furosemide 4 hours before they raced.

And the other half went out having received just saline. They even went so far as to die the saline a little bit so it looked like Furosemide. Because the people that were administering the drug had to be blinded as to whether or not those horses had received it because they were the same people that were then performing the video endoscopy and judging the severity of exercise-induced pulmonary hemorrhage.

So he went out to answer the question, is Furosemide effective? And determined very conclusively that Furosemide is, indeed, effective.

In short those horses that received the placebo, that received saline, were between 7 and 11 times as likely to have EIPH of grade 2, 3, or
4 than those horses that received Furosemide.

Okay.

And just in summary, those horses that received the placebo, 80 percent of them had some evidence of exercise induced pulmonary hemorrhage in their trachea after racing. And those same horses that received Furosemide on the opposite week, only 55 percent of those horses had some evidence of exercise induced pulmonary hemorrhage.

Again, it is not a cure. But it is hard to argue that it didn't help in this case.

It is known that Furosemide causes racehorses to perform better. Okay. In 2000 or, excuse me, in 1999, over 22,000 race starts were considered right here in North America. And it was determined that those horses that received Furosemide before racing, raced faster, finished -- placed more often, and won more money than those horses that did not race on Furosemide.

What we do not know at this time is whether or not the effect of Furosemide on racehorse performance is actually due to its effect on EIPH. I just want to make that clear. We know Furosemide reduces EIPH severity and incidents. We know that horses race better on Furosemide.
Nobody has made the connection and it is a very difficult thing to prove. And that's why it hasn't been done yet.

The next couple of slides are designed to be thought-provoking. I sort of wanted to put everything I have spoken to you about today in a little bit more of a perhaps a meaningful sense. And, you know, these statements are sort of up for discussion if you like.

What we do know is that exercise induced pulmonary hemorrhage increases with age, probably not that the horses are getting older. It is that we have had them in training for longer. All right. And the pathologic changes that I described at the start of the lecture do appear to become cumulative.

So they start in the mild disease right at the very back of the lung. But they spread and become more severe and move up the lung over time.

Vascular pressures we know increase with any exercise bout. Therefore, we could call exercise if you would like a high pressure event or an HPE. Okay.

 Races themselves actually account for relatively few exercise bouts that a horse might
perform in its lifetime or in a year. So if, for example, a horse starts out 6 times a year but gallops between 2 or 300 times a year, therefore we could say that racing actually only represents 2 percent or a little bit more of all high pressure events.

Therefore, that being said, it cannot be argued that race day medication rounds would actually have limited effect on disease progression if we are only talking about a small number of exercise bouts. And that effect of the round could be even less if the horses are still trained on Furosemide.

That being said, we know that horses work very hard when they race. They are arguably more excited on race day. And do a combination of these factors make race day conditions actually the most ideal for bleeding. That on an average work day, they are not as pumped up. They are maybe not working as hard, et cetera.

And does the Furosemide mediate a vascular pressure drop off of about 10 percent plus or minus the other effects of Furosemide. These effects may be enough to limit the magnitude of that race day bleed. Dr. Hinchcliff already
proved that eliminating race day Furosemide is
going to result in -- I should say that he didn't
prove it, but he proved its effect on EIPH.

Therefore, we can say that eliminating race
day Furosemide is a likely to result in more
severe bleeds on race day. It is hard to argue
that.

But what we don't know at this time is
whether or not the effect of a medication, what
effect that might have on disease progression. We
just don't know that at this time.

And that sort of concludes the scientific
part if you like of my talk. I do have a little
international perspective on the condition. I am
clearly not from around here. So Dr. Scollay
asked me to maybe address condition in other
international jurisdictions.

But just let me iterate, my take-away points
are that exercise induced pulmonary hemorrhage is
common in racehorses around the world. It results
in significant pulmonary pathology. It is a
result of high capillary pressures that the horses
experience when they are exercising due to high
blood flow states.

We are coming to understand that it is
exacerbated by remodeling of pulmonary veins.

Furosemide acts to reduce blood pressure in the lungs of exercising horses. It does reduce bleeding severity. It does not eliminate or cure EIPH.

Does the committee have any questions for me at this time?

MR. FARMER: Any commissioner that have any questions? Dr. Scollay, have your next witness ready.

Dr. Yon?

DR. YON: I wanted to know if your studies have looked at the oxygen saturation of the horse in terms of being normal versus those with moderate fibrosis of the lung versus severe fibrosis?

DR. STACK: That's a very good question and it is not one that we have answered yet.

It is difficult to imagine that horses with disease progression that you mentioned right up to severe fibrosis would not have limited pulmonary function as a result of that. I don't have those data available.

What makes horses a little tricky to evaluate in that respect is that, again, they are very
unique amongst other animals. But they all become significantly hypoxemic when they run. And so you are already dealing with a technically hypoxemic animal. And when they become hypoxemic, they sort of do that in a fairly broad range. So I think we actually would need a lot of horses to ascertain whether or not degrees of fibrosis are associated with pulmonary function.

DR. YON: You could do that at rest without having to do any exercise. I mean --

DR. STACK: Oh, I understand. That's a very good point.

I don't know this for a fact. I would suspect. The lungs have got such enormous reserve capacity. Because, for example, people do well with only one lung or with perhaps lobectomies.

I would suspect that the standing horse, even with significant fibrosis, would actually have similar oxygen saturation figures to a horse with normal lungs.

DR. YON: The other question I have and then I will be quiet.

In humans, at least there are other chemicals that are now being looked at to reduce pulmonary artery pressure. Viagra is one of them.
DR. STACK: Uh, huh.

DR. YON: Has anybody looked at any of those chemicals in horses?

DR. STACK: Sildenafil has been evaluated. That is the Viagra type drugs. And other drugs that have similar effects.

The difficult thing about -- and I don't want to sort of lose people -- but if you dilate pulmonary arteries only, you actually end up dumping a lot more blood into the capillaries. And that in itself could be less beneficial.

So what we think personally at Michigan State is that we actually need to work on dilating the veins a little so that there is a bigger drain than actually dilating the arteries and putting more pressure -- putting more blood into the capillaries that we believe will be detrimental.

And one study I would like to mention is that when nitric oxide was administered to horses, the main effect of that drug, it does reduce pulmonary arterial pressure. It does dilate pulmonary arteries. And those horses actually ended up having more severe hemorrhage than horses that weren't treated with the drug.

So that's sort of a -- we really want to be
super specific with our pharmacotherapeutics and
really target them to a certain part of the
vasculature and that is difficult.

MR. LEAVITT: I have a question.

DR. STACK: Sure.

MR. FARMER: Go ahead, Mr. Leavitt.

MR. LEAVITT: In a practical sense, I think
you explained to us but I wasn't sure of the
answer.

DR. STACK: I speak very fast.

MR. LEAVITT: If you train a horse, every
time you work him on Salix and then you withhold
the Salix on the day that he races, will that
horse bleed more, less, or the same as a horse
that has not been trained on it?

DR. STACK: That a very, very good question.
And unfortunately it is one that I cannot answer
because those data don't exist.

And what we would like to know is whether
chronic use of Salix in training actually slows
down some of the pathologic changes that we
discussed at the start of the lecture. If we knew
that, then it could be argued that training on
Salix is beneficial. And that the few times that
the horse races -- it may be less applicable to
standardbreds that race more -- but when the horse races, not racing on Salix would be less of an issue for the horse.

But unfortunately that's also conjecture. And I cannot answer that question directly. I am sorry.

MR. LEAVITT: And this, along the practical lines, if you were racing the horse and you withheld water from him for 8 or 10 hours -- I have heard in the orient they will withhold water for 24 hours. They don't use Salix but they do that -- will that have pretty much the same effect as the Salix will?

DR. STACK: In some aspects. Okay. So if you administer Salix, they urinate more. They lose water. But what I think has to be considered is the time frame. Okay. So if we are talking about water deprivation over 8 to 24 hours gives the body a lot more time to redistribute water between differently compartments; so from within cells, outside cells, et cetera.

And a chronic water deprivation of that duration at least in human athletes and other species is not beneficial. And the other side effects besides just the weight loss and the frank
water loss I believe are contrary to a horse's best interest.

MR. LEAVITT: Thanks.

MR. FARMER: Any other questions?

MR. WARD: Just for clarity right here, just for clarity purposes, I think you said there was 300 liters of blood that pass through the lungs, is that right?

DR. STACK: Yes.

MR. WARD: Converted to American style gallons?

DR. STACK: Oh, I am sorry. I went a little bit European on that. So I usually use a factor of 4. So about 70 to 80 even up as high as 90 gallons of blood going through the lungs every minute.

MR. WARD: So that's about a 1 and a half, 55 gallon drums every minute.

DR. STACK: Yeah. Yeah. It is pretty amazing. Sorry about the European. Stayed metric on it.

DR. YON: What is the total volume that a horses has of blood?

DR. STACK: So a horse's blood volume is about 8 percent of its body weight. So if you
take an average 500 kilogram -- sorry -- 1100-pound thoroughbred, about 40 liters. So they are cycling it really, really, really fast. With a heart rate of 250, they can do that, you know. It just flies around.

MR. FARMER: Any other questions?

DR. NORTHRUP: You made the comment, if I understood you right, as far as the performance enhancing of Salix. If the horse was not a bleeder, there was no performance enhancing.

DR. STACK: I didn't make that comment, actually.

I said that those horses that received Salix, the bleeding data wasn't really included in that study. It was just whether or not a horse received Salix. Okay. And those horses raced faster, won more money, et cetera, than horses that did not race on Lasix or Salix, excuse me.

Whether or not the horse was a bleeder was not addressed in that study. And, therefore, we can't say unfortunately that the effects of Salix on performance are due to its effect on --

MR. LEAVITT: I was under the impression -- which may be doesn't go with what you just said which means I was wrong -- that every horse, when
he is stressed as hard as he is stressed in a race, does bleed, EIPH, to some degree.

There are none that have none of it.

DR. STACK: That's correct.

And I think that my next couple of slides will maybe address that. Because instead of a terminology thing a little bit, when we talk about bleeders, depending on where you are from, some people are talking about Epistaxis. Some are talking about grade 3 and 4.

And if you really get down to it correct, nearly all -- almost all horses bleed to some degree. It is whether or not we see manifestations of that and we interpret upper airway, including the trachea manifestations of bleeding, as an indication of a more severe episode.

That is what is assumed. Okay. But it likely depends on other things like rate of transport from the back of the lung and other factors. So that is -- it is sort of a terminology thing, I think, when we talk about bleeders.

DR. YON: I thought that you said that depending on the grade of bleeding, that is if...
they had a zero or a one, those horses were more likely to win, place, be in the money. And they all benefited with from Lasix.

Did I misunderstand what you said?

DR. STACK: They all did, yeah. They all did.

DR. YON: But the more they bled, the more damage to the back of the lungs and the lower the performance?

DR. STACK: I think we are talking about 2 different studies.

DR. YON: Okay.

DR. STACK: Yeah.

The Hinchcliff study in South Africa did not address whether those horses that received Lasix had less EIPH. He did not publishing whether or not those horses finished, won more money, et cetera. He likely has those data. But I believe when he has been asked about that, the study was not designed to answer that question. And, therefore, he will not use performance data from the South Africa study to make the link between EIPH, performance, and Furosemide. It is sort of the triangle if you like.

MS. LAVIN: In the South African study, do
you know how long in front of the racing the Salix
or Lasix was given?

   DR. STACK: 4 hours.

   MS. LAVIN: Consistently?

   DR. STACK: Yeah.

   And those horses that received Salix,
everybody had their water pulled at 4 hours. So
what Dr. Hinchcliff actually reported in that
study was that although the horses that received
Salix lost about 12 kilograms on average, those
horses that received saline also lost 6 kilograms
of body weight.

   He did weigh the horses.

   MR. FARMER: Anyone else? Dr. Scollay, you
ready with your next --

   DR. SCOLLAY: Actually, I believe Dr. Stack
has got a few more slides on management of EIPH in
international situations where race day Furosemide
is not an option.

   MR. FARMER: Okay. Go ahead.

   DR. STACK: It won't take too long.

   I really just want to reiterate the fact that
EIPH is a ubiquitous disease. All right. It
affects horses worldwide. And a number of the
studies that I mentioned in the first part of my
talk, they are from all over the world.

So we have got the Hong Kong Jockey Club in the late '80s. Singapore, Japan, Australia, and right here in North America. And that's just a few of the studies.

So this is not a problem that is unique to certain regions. And I would like to point out that the data I am about to present were actually compiled for a questionnaire that was sent out before the international summit in Belmont this year. I don't actually know who to credit for the compilation of the data. But all respondents were basically race day officiators in their respective jurisdictions.

And what came back from that study is that it is widely known that Furosemide use is really limited to North American racing jurisdictions with the exception of may Uruguay as far as I know.

And just to go back to your point, Mr. Leavitt, what constitutes a bleeder really depends a little bit on where you hail from. And really in general most people consider a bleeder as a horse that presents with Epistaxis or blood at the nostrils. So Australia, Bahrain, Cyprus,
Japan, Malaysia, Singapore, United Arab Emirates and Uruguay all record bleeding episodes as horses that have Epistaxis.

If Hong Kong, just as a point of interest, if horses don't perform to expectation or appear to fade during a race, those horses are also scoped. And horses with grade 3 or grade 4 exercise induced pulmonary hemorrhage undergo some restrictions in terms of their training and racing in the following weeks.

MR. LEAVITT: Can I ask something here?

DR. STACK: By all means.

MR. LEAVITT: At least in harness racing, very, very few horses bleed from the nostrils.

DR. STACK: Right.

MR. LEAVITT: And the bleeding that is bad for them that keeps them from racing well is, for want of a better term, a laymen's term, lung bleeding. So that if you are only -- if you are only considering horses that bleed from the nose, you are just scratching the surface.

DR. STACK: A very, very valid point.

And I would also like to point out at this time that you don't have grade 4 exercise induced pulmonary hemorrhage in your trachea to
present with Epistaxis or horses with very severe tracheal bleeds are not presenting with Epistaxis. And also not all horses with grade 4s do bleed from the nose. So there -- a grade 2 can bleed from the nose. A grade 1 can bleed from the nose. So we are dealing with 2 different techniques that don't necessarily directly marry up. And you are right. Much, much less, about .15 percent, of horses that race present with blood in the nose.

MR. LEAVITT: Right.

And the bleeding, the lung bleeding, is picked up by a scoping after within 15 or 20 minutes after the horse has been stressed. That is what determines horses that must get Lasix.

Well, they all will benefit from what you said.

But the degree of problem that they have got from the EIPH has nothing to do really with whether they bleed from their nostrils or not. It is what you see in the lungs.

DR. STACK: Agreed. Absolutely agree.

This was really to get at how people regulate it. Okay. So this is their sort of the post race definition if you like of bleeding.

And based on these jurisdictions that impose
sanctions and bounds on whether or not a horse can train and race, but it is only on -- I think a trainer, it would be in his or her best interest to take scoping data into account. But in terms of the regulators, they deal only with Epistaxis for the largest part.

MR. LEAVITT: So if a country -- I think you had Australia there.

DR. STACK: Uh, huh.

MR. LEAVITT: 1 and a half percent of the horses bleed from their nose.

DR. STACK: Even less.

.15.

MR. LEAVITT: So based on that, someone speaking for Australian racing would take -- we don't need Salix. Our horses are not bleeders. But that is inaccurate.

DR. STACK: You are absolutely right. So the definition of bleeder, I think, always needs to be laid right out there. And I think anyone that deals with race horsing in Australia knows well that more horses bleed than those presented with Epistaxis.

But in terms of their regulations, that's what the regulators want to know about whether or
not an Epistaxis happens. And then that horse
gets, for example, a 3 month bout in racing. And
has to race for a thousand meters in the presence
of the stewards and is scoped, et cetera, after
that. So --

MR. LEAVITT: Thank you.

DR. STACK: No problem. You make a very
valid point.

And the bounds that various jurisdictions
impose on horses in terms of, in some cases
training and racing vary from 21 days up to 3
months. Some will impose the bounds on the events
of a second bleed happening. Those bounds are
often longer.

And in 3 jurisdictions in particular,
compulsory retirement from racing for life is
enforced on horses that bleed for a third episode
in Hong Kong, Malaysia and Singapore.

In terms of epidemiology -- and this is just
to reiterate your point, Mr. Leavitt -- all
respondents were asked how many horses they
believe are directly affected by regulations in
their respective jurisdictions.

And they all reported bleeder or Epistaxis
rates of much less than 1 percent. And they also
estimated for those that responded, that forced
retirements due to EIPH and EIPH only were, again,
much less than 1 percent.

Most of those jurisdictions questioned to
report bleeding episodes to the public. And it is
their perception that both their regulations and
public reporting of bleeding episodes do not
impact upon field size and wagering if it is legal
in those countries.

MR. FARMER: I just --

DR. STACK: I just have a little -- sorry.

MR. FARMER: Go ahead.

DR. STACK: I have a little disclaimer for
this slide.

I am not endorsing or promoting the use of
any of these practices. To be honest with you,
some of them I can't even explain from a
scientific perspective. Okay. But this is -- and
again, they are not necessarily representative of
how many people do these things.

But a number of practices are employed to try
and manage EIPH in jurisdictions that cannot use
Furosemide on race day.

Furosemide is commonly used in training. And
this is really a little bit region -- definitely
trainer, somewhat veterinary dependent. But that is a common practice. I spoke to a number of race track practitioners in the United Arab Emirates. Also in Ireland. And a number of respondents on the survey also said that trainers will routinely train horses on Lasix.

Other drugs that are used in training and perhaps in some cases on race day are bronchodilators. We talked a little bit about their limitations. Kentucky Red is certainly used in Dubai. Corticosteroids. Vitamin C and other Bioflavonoids. Dembrexine which is butalicin. DMSO. Antibiotics are fairly popular. Estrogen based drugs in some cases.

Intravenous dextrose. And then some non-specific herbal supplements, the details of which were never really related to me despite my asking. But I do believe that some have them have some diuretic properties.

Routine endoscopic monitoring, again to go back to our point, is often employed by trainers. And they sort of cite that as making decisions about whether or not to train a horse on Furosemide for example.

Training intensity modifications are made
particularly when heat or humidity or air pollution states change.

Also in Hong Kong, in particular, they cited a special concern when the temperature drops very suddenly there. Water deprivation is practiced. Figures of between 6 and 8 hours were reported to me. 24 hours is talked about. Nobody directly said that to me. But certainly 6 to 8 hours was relatively common practice.

People obviously act to treat both upper and lower airway abnormalities as quickly and as efficiently as possible because they can impact on the severity of the horse's bleeding episodes. And then rest for varying periods -- rest period of varying length are also adopted.

These are other factors that various horsemen and veterinarians have sort of related to me as things that they perceive to have an effect on the exercise induced pulmonary episodes. In particular, air pollution in Dubai -- I am talking mostly about sand storms, those urban environments such as Hong Kong, Singapore, Dubai -- there is a lot of construction there. People do believe that that has an effect on horse's airway health, et cetera.
Temperature changes, both up and down. In particular, high humidity conditions. Airway health and infection. Certainly I found in Ireland that was cited very often as being something that they wanted to control.

Barn stabling and air quality, keeping horses in air conditioned stalls and then racing them in high humidity conditions, for example, people perceive as a problem.

There is always sort of the argument that it is a condition that is being bred into horses. And that horses that race on Lasix shouldn't be allowed to go to the breeding shed. There is no scientific data to support that contention whatsoever.

It is a disease of horses that are getting older. And more horses that travel over jumps, particularly in Ireland and the UK for example, bleed than the younger flat racing horses.

And they are really a sort of a very short summary of some of the information that I received from other parts of the world.

Are there any questions?

MR. FARMER: Let Tom. Then you, Ned.

MR. BONNIE: Okay.
MR. CONWAY: A continuation of the points that Alan was making, the other jurisdictions that ban horses; the second time, lifetime ban, and so forth, is that based upon the discovery of bleeding through the nose? Or are they scoping?

MS. SPECKERT: All Epistaxis. Third Epistaxis episode results in a lifetime ban from racing.

MR. CONWAY: So really they are just banning the horses that bleed through the nose? They don't know about the other 98 percent whether they bled internally or not?

MR. FARMER: Ned?

MR. BONNIE: I am interested in or the use of Lasix as relates to performance. And you have spoken with respect to some of those issues.

And there is information out there incidental which says that Lasix improves the performance of horses by reducing the edema in the larynx, et cetera.

And that's unrelated to EIPH.

DR. STACK: Absolutely.

If that is the case that it effects the larynx, certainly upper airway abnormalities such as a, you know, a paralyzed larynx or a displaced
soft palate will increase exercise induced pulmonary hemorrhage severity.

And so if indeed Furosemide can reduce the laryngeal edema, it is feasible to sort of extrapolate that by improving airflow by just a little bit like the nasal strips so at points of constrictions such as the nostrils and the larynx, if you can make those a little bit wider, that performance enhancement could be achieved through that.

I just can't speak to it because I am not familiar with those data.

MR. BONNIE: Has anybody -- has any scientist worked on that?

DR. STACK: Looking at Furosemide and larynxes specifically?

MR. BONNIE: Just the -- yeah -- the edema in the airways as a factor and the use. Because 90 percent of the horses that are running in Kentucky and elsewhere in the United States are getting -- are getting Lasix, Salix.

And one might conclude from that, since all horse are not bleeders, that some trainers are giving and veterinarians are giving that drug to affect performance unrelated to the EIPH issue.
DR. STACK: I think that is something -- it is potentially why there is a general --

MR. FARMER: Excuse me just a minute. Ned, turn your --

MR. BONNIE: Now it is on.

DR. STACK: Should I just reiterate the question and you can tell me if I am on the right track.

So Mr. Bonnie was asking me the question whether or not the effects of Furosemide on performance could be related to things other than exercise induced pulmonary hemorrhage. Because, as he points out, not all horses are severe bleeders.

I think that is something that is very possible. It is also probably the main reason that nobody has stepped forward and made the link between all 3; EIPH, Furosemide, and performance.

Okay.

In terms of the larynx, I am not aware of anybody that is working on that specifically. But I know work out there does exist about the relation between -- relationship between weight loss and performance, et cetera.

So it is likely that it is drug that has
multi-factorial effects. I just can't speak to any scientific data about the larynx specifically.

In principal what you suggest is true. If you can make points of narrowing in the airway wider, it will improve airflow. And directly it could actually even improve EIPH by reducing sort of some of the pressure swings on the capillary walls that I showed you.

But that's a whole other sort of departure in terms of an explanation.

MR. BONNIE: Thank you.

DR. NORTHROP: And I was just going to kind of make a statement.

Anecdotally, I have never used Lasix to improve the function of the throat. I don't see how it would improve the function of the throat.

If it did remove laryngeal edema, I wish I had discovered that 20 years ago with the pharyngitis cases that we fight with. So I have the real problem with the sudden performance enhancing over the last couple of years effect of this drug. I feel it is very inappropriate mainly because we, as veterinarians on the racetrack and most trainers, use the smallest dose we can use for just the opposite reasons.
So now all of a sudden that it is this great performance enhancing drug that it is labeled, we would be giving horses 10 cc's every time. But we're not. I mean we try to get our minimum dose in the state of Kentucky is 3 cc's.

Our goal is to get every horse at 3 cc's because of the not performance enhancing properties of it.

And in Ned's case with throat function, I think what you said. And a backward correlation would be, we know bad throated horse bleed more prominently. So we do everything we can to prevent the bleeding.

And as far as fixing the function of the throat, I don't know of a legal medication out that there that we can do that with.

DR. STACK: Point well taken. And I agree with what you say.

MR. LEAVITT: I know I am beating this to death. But my understanding of what we have heard today is that you cannot say some horses do not bleed. Some horses do not suffer from EIPH, period.

It is my understanding that every racehorse does have some degree of it, right?
DR. STACK: That's fair.

MR. LEAVITT: Thank you.

MR. FARMER: Doctor, you want to continue with, Dr. Scollay, with your other presenter?

MS. LAVIN: I just have a quick question. I was interested to know if there were any statistics that any horses that bleed through Lasix. Was that part of any of the studies?

DR. STACK: Not to my knowledge.

MS. LAVIN: But you do acknowledge that that is a problem?

DR. STACK: Oh, absolutely. That's why I would really sort of like to reiterate the point that Furosemide does not cure exercise induced pulmonary hemorrhage. We think it has effect on the lung that reduce the likelihood or perhaps the number of capillary breaks, et cetera. But that's all we know. And horses do, indeed, not all respond equally it would appear.

Thank you.

MR. FARMER: Any other questions?

Dr. Scollay?

DR. SCOLLAY: Thank you, Dr. Stack.

Our next presenter is Dr. Rick Sams. Dr.
Sams is the director of HFL Sports Science, the official laboratory of the Kentucky Horse Racing Commission.

Dr. Sams served as director of the analytical toxicology laboratory at the Ohio State University from 1978 through 2006. And the Florida Racing Laboratory at the University of Florida from 2006 through 2010. He was a member of veterinary medicine faculty at Ohio State University from lieu 976 through 2006. And at University of Florida from 2006 to 2010.

He has mentored numerous graduate students and has pursued an active research program with emphasis on the pharmacokinetics of drugs in animals, particularly horses.

He has served as a member of the drug testing standards and practices committee of the Association of Racing Commissioners International. And has been a technical adviser to the racing medication and testing consortium since its inception.

Dr. Sams is a member of the American Chemical Society, the American Society of Mass Spectrometry, International Association of Forensic Toxicologists, the American Association
of Pharmaceutical Scientists, and the American Academy of Veterinary Pharmacology and Therapeutics.

Dr. Sams, welcome.

DR. SAMS: Thank you.

Mr. Chairman, members the committee, Dr. Scollay, and guests, thank you very much for inviting me to make this presentation this morning.

Dr. Stack has already discussed many of the aspects of Furosemide and its effects on the lungs. My emphasis is going to be a bit different. I am going to focus on the effects of Furosemide on the kidneys, how it produces its diuretic effect. And, therefore, I will address the effects of Furosemide on the detection of other substances that may be administered in conjunction with Furosemide.

The goals of the presentation are to discuss what it is, what does it do, how does it do it, what effects it might produce on the horse, and what effects it has on the detection of other substances.

I am going to include other so-called loop diuretics in the discussion. They are known as
Bumetanide, Ethacrynic Acid, and Torsemide. The reason I include those is that they have all been encountered in test samples collected from horses, particularly in those racing jurisdictions in which Furosemide is not permitted. And, in fact, Bumetanide is allowed in one racing jurisdiction in the United States.

Other substances that are sometimes referred to as adjunct medication, such as Aminocaproic Acid and Tranexamic Acid are fibrinolysis inhibitors. They will not be a subject of my presentation.

There are anti-hemorrhagic agents, specifically Carbazochrome which is known locally as Kentucky Red, and Etamsylate. Again, those substances will not be the subject of the presentation.

So let's start our discussion with regard to the so-called loop diuretics. And as in the case of Dr. Stack's presentation, we need to talk about a little bit of anatomy. The functional unit of the kidney is the glomerulus. And the glomerulus is located right here. It receives blood from the systemic circulation. And the blood flow to the glomerulus in the horse at rest is about
12 milliliters per minute per kilogram of body weight.

So in a normal sized horse, it is receiving about 6 liters of blood per minute. A whole lot of blood is flowing to the glomeruli -- there are millions of these units in the kidney. I have shown one here for purposes of illustration.

About 15 percent of that total blood flow a filtered here at the glomerulus. And the water and the electrolytes and the dissolved substances begin their flow through these tubules that constitute the nephron. And as the fluid flows through this Loop of Henle, water and electrolytes are reabsorbed.

And at the outlet end of the nephron, more than 98 percent of the fluid that entered at the glomerulus has been reabsorbed. And it is through this mechanism that mammals, including the horse, eliminate waste products.

And given that the flow into the glomerulus is as high as it is, it remarkable that the urine flow rate out at the end of the nephron is merely .05 milliliters per minute per kilogram of body weight. In other words, virtually all of the water has been reabsorbed.
And so when we look at this functional diagram of the nephron, it illustrates where various diuretics exert their effects. Collectively the loop diuretics interfere with transport of various ions in this region of the kidney. And by inhibiting the reabsorption of the ions, the reabsorption of the water that is within that nephron is diminished.

And as a consequence, urine flow rate increases dramatically.

Urine flow rate at the peak of diuresis is about 50 times normal the urine flow rate. And the horse produces 10 to 20 liters of additional urine during the period of Furosemide induced diuresis.

So what is Furosemide?

Well, we have already referred to it as a high ceiling loop diuretic. It was originally marketed as Lasix. And more recently has been marketed as Salix. It is available in both oral and perineural products. And the first used in horses was reported from the late 1960s. And using the methods that we use in the laboratory, it is readily detected in both blood and urine samples.
Chemical structure is shown over here. And an important feature of Furosemide is this group right here. It is a carboxylic acid group. And that group is ionized at physiological PH. And that is important in terms of the elimination of Furosemide.

Furosemide was synthesized in the early 1960's. And it was -- it entered human trials in 1963. And was very rapidly approved for use in human medicines. And it was one of the most effective agents for the treatment of hypertension in people. It was approved officially for use in people in July of 1966.

The veterinary product, which is restricted to injectable forms, was introduced by Hoechst in 1967. And when Intervet purchased Furosemide from Hoechst, they had to rename it. And they chose Salix because of its similarity to the word Lasix.

The injectable preparation of Lasix was approved first in 1967. It was the first injectable diuretic that was approved for use in horses. And it was approved specifically for the treatment of pulmonary congestion, treatment of edema, pulmonary edema. Veterinarians who I have spoken to from who practiced veterinary medicine
back in this era say that Lasix was a miracle drug in terms of its ability to treat pulmonary edema. And the horses that were adversely affected showed much marked improvement within 15 to 30 minutes after administration of Lasix.

The pioneering work on the diuretic efficacy of Lasix in horses was performed by Dr. Marvin Beeman of Littleton, Colorado and others.

By the late 1960, Furosemide or Lasix was being administered, pre-race, to horses as a preventative for EIPH. The earliest use of Furosemide in horses is attributed to Dr. Harthill. And Lasix was allowed under the permissive medications programs that were widely adopted in the mid 1970's.

Use of Lasix was often indicated in the racing program. And at that time, the dose, the route of administration, and the time of administration of Lasix were not regulated or standardized.

The pharmacology of Furosemide is such that there is a dose dependent diuretic effect. It is characterized by a very rapid onset and short duration. As I mentioned earlier, Furosemide decreases the reabsorption of water in the
tubules. And thereby causes the increased excretion of electrolytes and water. One of the effects -- one of the consequences of the alteration in electrolytes in the blood is that Furosemide produces a mild metabolic alkalosis that is characterized by increase in bicarbonate and total carbon dioxide in the plasma.

It has been observed by a number of investigators that the total diuretic effect is increased after IM administration compared to IV administration.

The Furosemide is rapidly cleared by renal mechanisms. It is extensively bound to plasma proteins. It is characterized by a small volume of distribution, coupled with the rapid clearance result and a very short half life of about an hour or so.

Furosemide isn't extensively metabolized and it is excreted rapidly in the urine. That carboxylic acid group that I referred to earlier, that group that is totally ionized, the physiologic PH, means that Furosemide is excreted into the urine. It is not reabsorbed. And, therefore, it passes rapidly into the urine sample and is therefore rapidly excreted.
This shows the effect of repeated administration of Furosemide. First dose was administered here at zero time. And this plot shows the urine flow rate in milliliters per minute. And at peak diuresis which occurs, in this particular case, within 30 minutes after administration of the drug. The peak urine flow rate is about 240 milliliters per minute. That is about 50 times the normal rate of urine production in the horse.

And over that period of time, 8 liters -- a little over 8 liters of urine was eliminated.

That administration was followed later, 2 hours later, by another dose of Furosemide. And in that case, about 6 liters of urine were excreted. No access to water was permitted during the course of this experiment. These studies were reported by Professor Tobin. The administration was at a dose of 1 milligram per kilogram or 500 milligram dose to a 500 kilogram horse.

This plot shows the effect of Furosemide administration at various doses on the urine specific gravity. As you are all aware, the urine specific gravity has been used to monitor the dilution urine samples collected from horses. And
you can see that initial values of urine specific 
graphy in this particular study which was 
reported by Dr. Tobin are in the range of 1.030. 
And you can see that in all cases, there was a 
very rapid decrease in urine specific gravity. 
The key figure that is used for regulatory 
purposes is this specific gravity of 1.010. We 
often refer to this as 1010. And you can see that 
within a very short period of time after 
administrative of these doses ranging from a very 
small dose to a large dose of 4 milligrams per 
kilogram, that urine specific gravity falls very 
quickly and then returns fairly rapidly toward 
pre-administration values.

The effect of this Furosemide induced 
diuresis on the detection of other substances has 
been examined by a number of investigators, some 
of the pioneering studies in that regard were 
performed by Professor Tobin.

One of the earliest plots that I saw dealing 
with the effect of Furosemide on the detectability 
of another substance is this one.

This shows the concentration of Pentazocine 
in the urine sample. It is a logarithmic scale so 
it is somewhat distorted from what we would
normally see. And this axis is time. And these are 1 hour, 2 hours, 3 hours, and 4 hours after the administration of Furosemide.

And the concentrations shown here on this line without Furosemide are the normal urine concentrations that one would see when no Furosemide has been administered in conjunction with the Pentazocine. And these are the concentrations that were observed in the study when Furosemide was administered.

And you can see that the concentrations of Pentazocine in these sample are substantially lower than the corresponding concentrations in the untreated horse. In fact, at peak diuresis, which is reflected in these low concentrations here, the difference between the concentrations without Furosemide and those with Furosemide is again about 50 fold. Illustrating the effect of about 50 fold increase in urine flow rate on the detectability of substances.

Out here at 4 hours at the end of the experiment, there was still a slight difference between the untreated and the treated urine concentrations of Pentazocine. So when we look at the characteristics of substances that cause them
to be affected by Furosemide administration, it is clear that the effect is primarily on those drugs that are polar and those drug metabolites that are polar.

Because what is going on here is that these substances are not typically reabsorbed. And if they are not reabsorbed in the normal case, they are merely diluted by the increased urine volume that is produced during the Furosemide induced diuresis. So those substances are diluted by the maximum effect on them is about 50 fold due to the 50 fold increase in urine volume.

It is just dissolving them in a bigger volume of water than is the normal case.

Another example of that is shown in this particular slide. It is a little bit busier. But what is plotted here is the concentration of an acepromazine metabolite in urine. And this is the time in hours. And what one sees here is that there is a very dramatic decrease in acepromazine metabolite concentrations due to the diuretic effect of Furosemide.

That effect returns quite rapidly and by less than 5 hours after administration there is no difference, no statistically significant
difference, between urine concentrations in the
Furosemide treated horse compared to the
non-treated horse.

Again, this effect is just what we would
expect because the acepromazine metabolite is not
normally reabsorbed in the kidneys. And,
therefore, it is merely diluted in that larger
volume of urine that is produced during Furosemide
induced diuresis.

This one is a bit different in that this
reflects the urine concentrations of procaine.
And this plot is the procaine excretion rate as a
function of time after procaine administration.

And what one sees here is the urine excretion
rate of procaine in the absence of Furosemide in
this particular plot. And then in the case of
Furosemide administration, there is a dramatic
increase in the excretion rate of procaine as a
result of Furosemide administration.

Again, this is explained by the fact that
under normal circumstances, procaine is reabsorbed
in contrast to those -- to the acepromazine
metabolite and the Pentazocine metabolite,
procaine is normally reabsorbed.

And the diuretic effect of Furosemide causes
a decreased concentration radiant. And as a consequence, procaine that is normally reabsorbed and conserved and not eliminated in the urine, the driving force for reabsorption is eliminated during the period of intense diuresis. And, therefore, the procaine is not reabsorbed. It is eliminated in the urine.

And so in contrast to those polar substances, lipophilic substances like procaine that are normally reabsorbed, undergo a short period during which their excretion from the body is increased. So one of the questions that we ask is, is there an effect, then, of Furosemide administration on the body burden of these substances? Are they eliminated more rapidly when Furosemide is administered in conjunction with them?

The studies that we have done and the studies that we have reviewed have said, yes, in fact, there is a bit of an increase in the excretion rate of these substances. But for most of these substances, and all of the ones that we have looked at, renal excretion which is what we are talking about here represents a very small part of the total mechanism by which the drugs is eliminated. Metabolic clearance is a much more
significant factor in the elimination of these and other substances.

And a small increase in renal clearance has a very small effect, if any, on the total clearance which is dominated by metabolic clearance.

So, yes, we can see the effect by an increased rate of excretion in the urine. But overall we can't measure -- we can't detect a change in plasma concentration of procaine, for example, by administering Furosemide to the horse.

I have repeated this slide showing the specific gravity. And what I wanted to share with you is what a group of us, beginning in the late 1970's, began to observe in the samples that were being submitted to the laboratory. And that was that we saw urine samples that were clearly dilute.

The normal urine sample is a yellow to amber-colored solution. And we were receiving samples in the laboratory that had absolutely no color. The samples looked like the water in this picture.

And when we looked at the relationship between the color and the administration of Furosemide, we found that all of those were
associated with Furosemide administration. I remembered during that time period, there were no regulations with regard to when Furosemide could be administered, by -- the route by which it was administered, or the dose at which it could be given.

And as a consequent under those unregulated conditions, we saw urine samples that were collected during that period of intense diuresis submitted to the laboratory for testing.

And so several of us, including Dr. Soma, Dr. Malin, individuals at the Pennsylvania laboratory and others, brought these issues to the attention of the regulators primarily at the National Association of State Racing Commissioners in the early 1980's.

And at the 1983 convention, the RASRC voted to prohibit the use of Furosemide in racing. A several racing commissions adopted that recommendation.

As a result of a number of studies and negotiations that took place, it was decided to allow Furosemide in those racing jurisdictions but now only under very strictly controlled conditions that involved administration by the intravenous
route only, by controlling the dose to within 100
to 500 milligrams in most racing jurisdiction, and
by allowing the administration of Furosemide only
4 hours or more before race time.

We have demonstrated in a number experiments
that when the dose, the route, and the time of
administration were regulated and controlled, that
the urine samples submitted to the laboratory no
longer showed evidence of diuresis. And,
therefore, under those conditions, there were no
effects, no significant effects, on our ability to
detect drugs and their metabolites in the samples
that were collected from a Furosemide treated
horses under these regulated conditions.

The other aspects of the regulation were that
the specific -- if the specific gravity was less
than 1.010 and the plasma or serum concentration
was greater than 100 nanograms per milliliter,
that there would be a violation of the Furosemide
or Lasix administration.

What I have plotted here is a histogram that
shows urine specific gravities in samples that we
receive in the laboratory here. These are
submissions within the last year. And you can see
that there were no samples with a specific gravity
less than 1.012. There weren't any below the regulatory limit of 1.010.

The general shape of this curve is essentially that we see from horses that have not been administered Furosemide.

The mean value in this plot is somewhere here around 1.025. And that is what one typically observes in post-race samples collected from horses that have not been treated with Furosemide.

So this plot represents data from 635 consecutive urine samples that were submitted to the laboratory. These are all from thoroughbred racing. Furosemide was confirmed in all of these. The lowest value measured were a few that were less than 1.012. No values were less -- equal to or less than 1.010.

And as far as I am aware, there have been no violations in Kentucky thoroughbred racing from a combined violation of the urine specific gravity rule and the elevated Furosemide in serum concentration rule.

There are a number of other diuretics -- loop diuretics. Bumetanide is one most often used in those jurisdictions in which Furosemide is not permitted. Bumetanide was fairly widely used in
the U. S. in the 1980's after the rule changes
with regard to Furosemide. And I think that that
was a result of fact that it is on a milligram per
milligram basis more potent that Furosemide.

It doesn't produce a greater diuresis. It
just takes a lower dose to produce the diuretic
effect. And, therefore, for a while, it was not
detectable. So it was used as a means of
circumventing the restrictions on Furosemide use.

It is rapidly eliminated. And under today's
conditions, readily detected.

Another one that was used during that period
was Ethacrynic Acid. Again, it was used in those
racing jurisdictions where Furosemide was not
allowed. It is readily detected today. And all
samples are tested for the presence of Ethacrynic
Acid.

Torsemide is another one of the more potent
on a milligram per milligram basis loop diuretics.
And it was first reported from horse urine in the
early 2000's.

So, in conclusion, Furosemide is widely used
in race horses under controlled conditions in the
United States. Uncontrolled use of Furosemide
results in profound effects on drug concentrations
but negligible effects on drug concentrations in blood.

The effects on drug detection are largely eliminated when Furosemide dosing is tightly controlled. Samples received in the laboratory are checked for adherence to Furosemide dosing restrictions. And evidence for compliance, as I showed you, is excellent.

The adjunct medications that are permitted in Kentucky under the current conditions are readily defected and do not interfere with post-race test procedures. And other race day medications are readily detected.

Thank you very much.

MR. FARMER: Thank you, doctor. Any questions from the commissioners?

DR. YON: I have one.

MR. FARMER: Go ahead, Dr. Yon.

DR. YON: I wanted to ask you about the slide analyzing the effect on the serum.

In terms of the handling of lactic acid that is produced from severe exercise, is that alkalization at all effective in increasing performance because of neutralizing lactic acid faster.
DR. SAMS: The short answer is, I don't know.

The studies out of California have clearly shown that there is a relationship between pre-race TCO2 concentration and performance. And so very small differences in TCO2 have -- are associated with improved performance at least based upon order of finish from those data in California.

So there may be an effect. I don't know that it has ever been examined directly.

DR. YON: Okay. Second aspect of alkalization.

Does that in any way interfere with machine's ability to analyze for chemicals? In other words, if the PH shifts a little bit, will it make it harder to detect certain substances?

DR. SAMS: No, it doesn't. Because we add buffers to the blood sample in order to extract substances from them. And we overcome whatever underlying PH value the sample has.

So there isn't an effect in that respect.

DR. YON: Thank you.

MR. WARD: Dr. Sams, just to put it down on a lower level here. In your lab in the state of Kentucky, does Lasix create a masking effect?
DR. SAMS: None whatsoever.

MR. WARD: Thank you.

MR. FARMER: Any other questions? Dr. Scollay?

DR. SCOLLAY: This is a little awkward because I am introducing myself as a speaker.

Is it okay if I do it from up here?

MR. FARMER: Certainly.

DR. SCOLLAY: Thank you.

In deliberating on the issue of the administration of race day Furosemide, this committee will consider both science and opinion. There may be instances where science and opinion do not agree. Fact and opinion can and do differ, and both still warrant your consideration.

However, when facts are misstated, or opinions are misrepresented as fact, a correction or clarification is required.

Such is the case with these assertion that the use of Furosemide increases the risks of fracture. This assertion has come to my attention repeatedly over the last few months and so I felt the need to do some homework on it.

Over the last few months, public statements have been made and also directly communicated to...
myself and other individuals that the use of Furosemide is associated with catastrophic injury, as Furosemide causes calcium depletion and increased bone fragility.

This has been offered as an explanation for the difference in the reported incidence of fatality between North America and international racing jurisdictions.

Investigation suggestions that this assertion is based on an extrapolation from studies on the chronic use of Furosemide in humans and that no data exists to support the assertion of fracture causation in the racehorse.

Furosemide is used in human medicine for the treatment of, among other things, primary hypertension and chronic pulmonary hypertension often secondary to congestive heart failure. In these patients, Furosemide is administered anywhere from 1 to 4 times daily over a period of months to years.

This daily use of Furosemide over time has been shown to result calcium depletion and increase bone fragility, particularly in geriatric patients.

When Furosemide is used in patients with
osteoporosis, the risk of hip, wrist, and vertebral fracture, the fracture sites most commonly associated with pathologic fracture due to osteoporosis, is increased by as much as 3.9 fold as reported in one study.

As I was unable to locate any published work on Furosemide, osteoporosis, and fracture incidence in the equine, I contacted Dr. Sue Stover of the University of California Davis. I am sure you all know her name. She is internationally recognized for her work on the pathogenesis of fracture in the racehorse. And she provided me with the following.

This is a quote.

In my experience, fractures are associated with focal, small, localized regions of osteoporosis, secondary to remodeling of damaged bone tissue in a local region. For example, stress fracture or stress remodeling in long bone and subchondral locations. These foci of osteoporosis are commonly located within a region of sclerosis.

And I could argue that a drug that caused osteoporosis would likely cause generalized osteoporosis, as Furosemide does in human
patients. And thus focal osteoporosis and sclerosis would be rare in that circumstances.

I don't have evidence that racehorses that die from catastrophic fracture have generalized osteoporosis. When we use racehorse bones as normal controls for other studies, I have not seen evidence of generalized osteoporosis. In fact, racehorse bones, even derived from racehorse that sustain a catastrophic fracture, are generally denser and stronger than those of non-racehorses.

That's all I have got.

MR. FARMER: Any questions?

DR. NORTHRUP: I just wanted to add one comment.

In Europe I know a lot of horses are trained on Lasix every time they breeze. And that tends to not support the theory out there that it -- it is because we don't use it race day when they also use it commonly, just not for the actual race.

DR. SCOLLAY: Well, in looking at the human literature, it really referenced geriatric patients and people with existing osteoporosis already. And that this -- the use of Furosemide and another loop diuretic that I cannot recall -- high ceiling loop diuretic that I can't recall the
name of -- they were advised not to use it in
patients with osteoporosis.

But, again, most of those are geriatric
patients with multi-organ disease unlike the
racehorse.

MR. FARMER: Any other questions from
members?

Here is the game plan. We will go through
down to Bill Casner and then we will take about a
30 minute break. And they have lunch down in the
cafeteria. And then we will come back and finish
the witnesses.

And then anyone that wants to speak that is
not registered, please see Tim West and register
to speak at the end and we will continue.

Now our next -- Matt Iuliano with The Jockey
Club. Good to have you here, Matt.

MR. IULIANO: Thank you, Tracy.

Hopefully this will not be quite as deep
sledding as the previous 2. Those were very good
presentations on the science of Lasix.

Thank you Chairman Farmer and fellow
committee members. We applaud the Kentucky Horse
Racing Commission for taking a leadership position
to address this very important topic today in
assembling this group.

For the health and safety of our human and equine athletes and for the integrity of the sport, The Jockey Club's long-held position is that all horses should only compete when free from the influences of medication.

We have heard a number of arguments this year supporting the continued use of Salix on race day. All tracing their roots to the efficacy of Salix for treating the symptoms of EIPH or exercised induced pulmonary hemorrhage as Dr. Stack explained. And we would agree the science is well-settled. Salix is efficacious for treating the symptoms of EIPH.

Research conducted in South Africa demonstrated Salix improved the average score used to diagnose EIPH by a little over one-half of 1 point on a scale from zero to 4.

This is a good science. The Grayson Jockey Club Research Foundation provided a portion of the funding for this project. And we think it essentially forecloses further research into the efficacy of Salix.

And if medication regulations were based solely on efficacy, we think the argument would
end here. But when it comes to the task before racing's regulators to create rules promoting fair competition, the analysis does not with efficacy. If it did, how do we avoid opening the floodgates, permitting all medications into racing on the basis of efficacy alone.

That's where the effect of a medication on fair competition enters into the analysis.

Typically regulatory thresholds and administration guidelines for medications are established to minimize the chances of exerting effects upon fair competition. All medications except for Salix, that is.

And what does the science tell us about the effects of Salix on fair competition as Dr. Stack reviewed? I will touch upon a few.

Science has demonstrated that horses treated with Salix have significantly greater chances of finishing in the money, earning more purses, and improving their finish times by as much as 3 to 5 lengths. Science has also demonstrated that Salix has a mild alkalizing effect, as Dr. Sams pointed out, on the blood just like the colloquial reference to a milkshake.

Such changes to blood delay the onset of
fatigue as Rick explained and extend performance beyond natural limits.

When compared to international race testing, the effect of Salix in blood is enough to require our labs to account for the presence of Salix by modifying the test for an illegal milkshake.

Science has also demonstrated that Salix causes a horse to shed up to 30 pounds of weight. And at least empirically, when considered in the context of weight loss associated with a race, probably more like 80 to 100 pounds.

Improving finish possessions, faster running times, and earning more purse money, Salix certainly appears to have all of the attributes of performance enhancement when administered to horses 4 hours prior to a race. Arguments that these effects are not performance enhancing but rather performance enabling are self defeating by what the rules implicitly admit.

Horses receiving no therapeutic benefit are still permitted Salix to afford them access to its other affects, its performance enhancing effects.

From the science, we can deduce the population of starters likely contains at least 3 distinct segments; horses that bleed and benefit
from Salix, and horses that don't bleed and
benefit from Salix, and horses that elect to avoid
Salix all together.

And when you consider how horses respond
differently to Salix treatment if at all, this
would seem to create a lot of topography on a
playing field that is supposed to be level.

So with that science as a backdrop, I would
like to turn to a little more familiar territory
for us. And that is data.

I apologize for the size of this. This goes
back to 1991. But these data from Equibase show
the remarkable increase in the use of race day
medications to treat EIPH since 1991. And here
are those same numbers with Kentucky isolated over
on right.

The costs embedded in these figures from
Salix treatment are extraordinary.

If an average of $25 for each administration
is used, the administration of Salix in 2010 would
account for approximately $9.9 million of added
financial burden to owners. If we consider all of
the science collectively, arguably 65 percent of
horses are not effected by EIPH in the first
place. This would mean at least $6.5 million was
spent last year for Salix treatment of horses having no therapeutic need.

Despite this enormous financial burden, given the effects of Salix on performance, it is completely understandable that few owners would ever ignore the open invitation implicit in the regulations and forego its use. Doing so would extend a competitive advantage to their competitors.

This would appear to be the case when 20 of 27 horses imported from countries where Salix is prohibited were treated with Salix on the day of their Breeder's Cup race.

But what is the actual incidence of EIPH in the population and what are its consequences? As Dr. Stack mentioned, at the international medication summit in June at Belmont Park, Dr. Brian Stewart representing the Hong Kong Jockey Club, presented statistics on Epistaxis, which is bleeding observed from the nostrils.

And here are those statistics from the U. S., Great Britain, Australia and Japan. Notably, the US statistics with Salix are comparable to our international colleagues without it. Granted it is Epistaxis. Both before and after the 1994-95
time period, which is generally accepted as when
the last U. S. jurisdiction approved the use of
Salix, other data that was presented at the summit
indicated that withholding Salix would not force a
large proportion of runners into retirement due to
their inability to compete without it.

    In 10 years of data from Hong Kong,
nine-tenths percent of racehorses were
compulsorily retired due to bleeding observed from
the nostrils. When horses retired because of EIPH
were added in, and as Dr. Stack mentioned, the
horses that faded are subjected to follow-up
examinations which often include endoscopy, 2.4
had percent of the population of racehorses were
retired.

    And similar statistics have been reported
from Australia, Japan and Great Britain.

    And with the incidence of sudden death from
EIPH-related issues reported in Hong Kong as 2
horses in 5 years, the evidence also contradicts
the assumption that withholding Salix will imperil
our horses to sudden death on the racetrack. None
of the international jurisdictions reported
medical issues related to cumulative injury of the
respiratory systems due to the absence of Salix on
I leave you with just one last set of data and that is what do our customers think.

Is medication one of the issues limiting our opportunities to attract new customers and grow the sport? This past spring, The Jockey Club commissioned McKinsey & Company to study our industry and develop recommendations for creating sustainable growth.

One of the trouble figures is that our sport is losing fans at an alarming rate; 4 percent per year. Unchanged, we could be faced with a fan base approximately two-thirds the size of today's by the year 2020.

More troubling is that our fans are much more likely to recommend sports ahead of thoroughbred racing to their friends. And the sentiments that are expressed by fans of other major league sports provide us with a pretty good weathervane for thoroughbred racing. Fans are basically becoming more and more intolerant of performance enhancing drugs in the sport they love to follow.

Our customers -- excuse me -- our policy makers and even those who do not follow racing, all share several common perceptions about our
medication policies.

   First -- well, I will just highlight it up here. But first as among one of the top 3 concerns facing our sport and as out of synch with other sports, as something we don't take very seriously, and people do not distinguish whether a treatment is, quote, good for the horse. And finally that if we continue on this path, we will eventually invite other forms of regulation.

   So with medication consistently appearing in the top 3 concerns expressed about horse racing, clearly we need to reverse these perceptions if we are going to reposition this sport to attract fans that are necessary to sustain long-term growth.

   Many countries the world over maintain successful racing programs without Salix. And more country are well on the way to returning their racing programs and their breeding programs to a foundation where heart and ability the horse, combined with the skill of the rider, all coordinated by the partnership of the trainer, vet, and owner, determines the outcome of the race without medication's influences.

   As the Hambletonian Society demonstrated two decades ago and as the Breeder's Cup and TOBA's
graded stakes program will soon prove, successful, thriving racing programs are possible without the use of Lasix on race day.

We have all of the science we need. And we have all of the data we need. What we remains is a well-controlled, progressive elimination of Salix beginning with 2 year olds to study the affects upon racing's key business metrics.

And, again, we thank the Kentucky Horse Racing Commission for your leadership in studying race day medication. We encourage all industry stakeholders to participate in the development of rules and penalties to transition towards eliminating the use of medications on race day.

The swift ban of anabolic steroids a few years ago demonstrated what is possible when this industry works together. For the stewardship of the horse, the sport, the public confidence, and the business of thoroughbred racing, that same spirit of cooperation and a sense of urgency is essential today.

Thank you.

MR. FARMER: Thank you. Any questions?

DR. NORTHROP: Yes.

MR. FARMER: Dr. Northrop, you start.
DR. NORTHOROP: I have got 2 questions.

You made reference to horse racing is the only sport that allows medication on race day so to speak, performance day. I believe in the NFL they can have a cup of coffee. They have can have NSAIDS. They can even have Lasix if they want.

DR. YON: Even a growth hormone.

DR. NORTHOROP: Yeah. So I don't think that is a very good analogy.

And my second part is is The Jockey Club prepared to take the lead in making this a nationwide ban? Because that's the -- not that I am for this at all. But if it is not nationwide, I think you are going to destroy many states, including Kentucky. We couldn't survive if we are the only state to ban Lasix.

And The Jockey Club, I would think, is the only group nationalized enough to take the lead in this.

MR. IULIANO: 2 things we have done, Dr. Northrop.

First of all on the issue of performance or the issue medications on the day of the performance itself, the statistics on the NFL, major league baseball, and things of that sort are
customer perception statistics.

And that is there is a growing intolerance among customers with the use of medications. And unfortunately the customers do not distinguishing between whether it is a drug, whether it is a therapeutic medication, or whether it is a cup of coffee in the morning.

Whatever it is, they do not make that distinction. And the fan base has become very intolerant of it. And it is something that we heard loud and clear.

The second issue on Jockey Club leadership, we amended our rules in August in which we have now implemented a -- certain sanctioning provisions for individuals who are found to have repeatedly violated medication rules in racing jurisdictions. We have actually got 2 provisions that are built into it. One that captures the so-called Class 1 and Class 2 medications according to the RCI classification system.

And then another one that captures everything thing else provided those were repeat offenses within a 365 day period.

So from the stand point of what we can do, we are taking as many steps as we can. Now are we
prepared to stand out in front? We are prepared
to take a leadership position on this. But we
absolutely understand how imperative this is that
it is a collaborative effort. If we don't have
everyone on board with this initiative from the
start, it is a very difficult -- it is a difficult
transition to the rest of the nation.

DR. NORTHRUP: But isn't this our biggest
problem? In my opinion, one of our biggest
problems in racing is the lack of central uniform
drug rules, penalties, across the line. And I
would hope that The Jockey Club could help --
Jockey Club -- could help get us more uniform.

MR. IULIANO: Yeah.

Well, we had done one other thing I neglected
to mention is -- and we announced it at the round
table conference. We sat down with a number of
racing regulators; regulatory veterinarians, sat
down with down with chemists as well, testing
chemists. And we took the best racing rules. I
shouldn't say we took the best. We took all of
racing's rules. We threw them into a pile. And
we went through and sorted that into what was
considered to be by the group that worked on this
as the best set of medication rules that we have.
We published that out there on the Internet. It is available actually at Jockey Club dot com. And we have even put in a toggle so to speak for Lasix. We realize that Lasix is an issue that is being addressed now by progressive groups such as the Kentucky Horse Racing Commission.

The racing medication rules do not call for the ban. But it allows the flexibility in the language that those types of medications and the structure of it as well allow those types of medications to be easily considered and either classified as something that is prohibited and or something that is permitted on race day.

MR. FARMER: Alan?

MR. LEAVITT: I have a couple of comments about your comments.

When you said a horse that's been treated with Salix will lose 80 to 100-pounds, I think that is totally erroneous. The figure I have heard is 25 to 30, 20 to 25. There is a huge difference between that and 80 and 100.

As far as the level playing field with Salix, salix is available to everyone that runs a horse. In fact, in your business, virtually every horse is running on it. So you do have a level playing
field. It is not something that is available to
the few and the mighty and not everyone else.

    You, I think, said, that not every horse
needs to be treated because they don't have EIPH.
I think Dr. Stack answered that. That every horse
does to some extent. Now the countries that you
referred to -- I am sorry to be going this long --
but where they didn't have a problem. Dr. Stack
showed us on her slide. They are talking about
nostril bleeding. They are not talking about EIPH
which is a curse of horse racing.

    So I totally don't take their figures as
being very representative.

    You used the word fans. I am not sure what a
fan is. Maybe somebody who watches Yankees on TV.
But the basis of horse racing is betting. The
betters -- my nephew, Seth Rosenfeld is director
of HANA, the bettor's organization. And he polled
every director. And they said they had no problem
whatever with Lasix.

    All they wanted to know was when a horse came
off it, when a horse came on it. But to say that
we are losing business because of that.

    And, finally, I am a director the
Hambletonian Society. You made it sound as if we
have openly banded Salix. We inherited this ban on Salix from God knows when, 70's or so. We continue to keep it in. But we also own the Breeder's Crown, which is the equivalent of the Breeder's Cup. We have never considered putting that into the Breeder's Crown or any of the other races that we are involved with.

And to say that Salix is this huge problem that is keeping people out of the sport, getting rid of owners and all, Salix is not a problem. It is EPO. We should be sitting here talking about that. I don't know about you. But I race a stable of horses. And I have for more than 50 years.

Right now EPO is the problem. It has nothing to do with Salix. And that's what I have to say.

MR. FARMER: That's a long question. I hope you --

MR. IULIANO: If you would like me to take them in turn, I would be happy to. Or we could do it off-line. It is however you would like.

The Hambletonian Society banded it in 1991. And the comments that I have made are reflective of Tom Charters, obviously that you are aware of. Very successful. Has not looked back.
The second issue I think you raised -- and I am kind of taking them in reverse order. I am sorry. I am going to go from memory here. The 2.4 percent retirement, that's not related to EIPH from Hong Kong. Hong Kong actually has a rule that allows their -- a segment of their regulatory authorities who are occupied by vets, Dr. Stewart was one of them, to flag horses that, quote, under-perform. And in those horses that under-perform, they pull them off the track. They subject them to further examination which includes endoscopy. And they will make an assessment. They actually take the rules and bifurcate them. They have Epistaxis related retirements. And they have EIPH related retirements.

When you look at the Epistaxis, it is nine-tenths of a percent. When you look at those horses that under-perform that they then pull off the track, subject to a medical examination, they look for bleeding according to -- I think it would fall into the scale of somewhere in the 2 to 3 range. And they follow up with those horses now doing mandated workouts, mandated training. And they continue to monitor their progress.

If they don't show improvement, that's when
they are retired. So when you take the
nine-tenths percent of runners and you add the
EIPH runners to it, you get to 2.4 percent.

So I think what is implicit in the stats --
and, again, we are reporting the stats, not trying
to opine on them -- but what's implicit in the
stats is the risk of EIPH to a horse not being
able to compete does not appear to be as severe in
these other jurisdictions as what we have heard it
would be if this were to occur in the United
States.

And that's really the only issue. And we do
agree with Dr. Stack that there is lot of areas
within here that still needs to be researched.
And we think that's a very fertile ground for
research.

We funded a lot of research into Lasix and
into lung pathology. Frankly, we think the
research is done. We have looked at it. We were
actually very intrigued by the South African
research.

We have talked with Dr. Morley about the
possibility of looking at the data in terms of its
performance effects because it is beautiful 2 by 2
factorial. They have got -- or multiple
factorial. They have got all of the grades of EIPH and they have all of the racing performance as well.

And as Dr. Stack indicated, the project really wasn't sufficiently big enough in order to study that.

Your other issue. Fans.

On the slides, the fans are defined as those people who are actively involved and follow the sport. So when you look at a football fan and what a football fan does, it those that are actually engaged and follow.

The horse racing fan was limited to not only those folks who follow it on a casual basis, but those folks who attended races at least I think the metric was 5 or 7 times in a year at least. And that they do actively bet. They know the jargon. They know the lingo. And they bet.

MR. LEAVITT: But that's inaccurate, too. Because the people who are doing the betting don't come to the track once in 10 years. They are all betting electronically.

So to say that we are losing people that come or don't come to the track, those are not the people that make the business go. It is at
bettors. And they are not coming -- well.

MR. FARMER: Any other questions? Tom. And then you, John.

MR. CONWAY: I understood you to say that early on in your discussion that 65 percent of the horses are not affected by EIPH.

MR. IULIANO: Uh, huh.

MR. CONWAY: I have heard here today from other witnesses, and I have heard continuously that all horses bleed.

Are we talking about the degree of which they are affected? Are you saying that 65 percent of the horses don't bleed through the nostrils? Or are you saying that 65 percent of the horses don't bleed at all?

There is big difference.

MR. IULIANO: Right. Right. And we accept that.

What that is statement is in the context of that statement and the printed remarks will show is 65 percent of the horses are not affected by EIPH. And what that means is it is really -- and you if you look at that sentence ahead of it -- it says if you look at the science kind of collectively, and there are 2 really outstanding
papers that are done. They both share similar authors. One as Dr. Stack mentioned was a 2009 paper by Hinchcliff in South Africa.

The other one was where they looked at how does bleeding affect performance? And I think it was the 700 -- I am off the top of my head -- 700 horse or so. Then they did a very thorough analysis where they said, let's look at this zeros, the 1's, the 2's, the 3's, and the 4's. And let's compare their performance to each other within the groups.

And what they found is that when you take the ones and the zeros, you can call them a group. And you could call that group of horses, even though a 1 may have evidence of EIPH, its performance is not affected.

Now, I am not a physiologist in terms of this respiratory physiologist. But to me that says if you have got an issue where you are looking for rules of competition and you are looking at issues that affect competition. And if that line has been drawn scientifically between the one and the 2 as becoming affecting or affecting competition, to me that's the area of focus.

When you add those up, there were 65 percent
of the horses in the South African study who would
not have been affected because of their EIPH
symptoms.

MR. CONWAY: Again, other jurisdictions don't
scope near as much as we do. Other jurisdictions
are banning horses based on nostril bleeding and
not on scoping them.

So we assume that all horses or a vast
majority of horses bleed. I would like to know
what your basis is for saying that 65 percent of
them are not affected by EIPH? If they all suffer
from it, how do we get to the degree that you say
are not affected.

Are there studies out there that I can go to?

MR. IULIANO: Yes, there are.

MR. CONWAY: Well, let me just finish by
saying one thing.

I got a phone call. And I participated in
your survey from The Jockey Club. And it
really -- I don't mean to take this personally --
but it wasn't much of a survey. It asked me did I
approve of a ban on all race day medications.

That, in essence -- and I tried to question
the surveyor. But I kept getting those 2 or 3
questions. It was lacking.
MR. IULIANO: Right.

Now there were 3 surveys that were conducted as part of the McKinsey report. And the survey that I quoted was one that has, I think, a little over 1500 respondents in it.

The 2 follow-up surveys which were conducted by a P. R. -- it was actually a public policy and strategy firm out of Washington D. C. restricted their calls to, quote, policy makers. And it is likely that you were the target of that.

Those results did not feature into the report that's formally memorialized as the McKinsey report. They were more interested in looking at the fans and what the customers --

MR. FARMER: Mr. Ward?

MR. WARD: Yeah. I just want to -- I am big on clarity so I am trying to figure out where your organization comes down.

As I take it, where does your organization stand on horses bleeding? I mean I take it you are saying that the majority of horses do have the effects of pulmonary hemorrhage during high levels of exercise?

MR. IULIANO: I think what we can say is that science would show that there are -- the majority
of horses' racing performances are not materially compromised by symptoms of EIPH.

MR. WARD: That's not what I asked you.

I asked does The Jockey Club believe that the large majority of horses that are under exercise, extreme exercise conditions, show the effects of some type of pulmonary hemorrhage?

MR. IULIANO: Oh, that they show some types of effects?

MR. WARD: In other words, are they affected a some level of pulmonary hemorrhage?

MR. IULIANO: Absolutely. The science is definitive. I think the number is when you get down into the 1's, it is probably 80 percent.

MR. WARD: Okay.

My next question would be, after hearing all of the testimony or some of the testimony today, is there another medication you know of besides Salix that helps control pulmonary hemorrhage in the horses?

MR. IULIANO: Not that I am aware of.

MR. WARD: Okay. And I guess the third question is, that your organization is against any race day medication.

MR. IULIANO: Yes.
MR. WARD: Thank you.

MR. IULIANO: Yes.

DR. NORTHROP: I have a follow-up to his questions.

MR. FARMER: I want to get one in here somewhere.

DR. NORTHROP: You are the boss. Go ahead.

MR. FARMER: No. Go ahead.

DR. NORTHROP: You are basing your 65 percent number of not effecting performance mainly on the Hinchcliff study?

MR. IULIANO: Right.

DR. NORTHROP: And so that is not considering that was only 2 races? And that is not considering the progression of the disease that Dr. Stack mentioned?

MR. IULIANO: Well, let me take those 2 questions and separate them.

It is the Hinchcliff study, but not the one that was in South Africa. It is the Australian study published in 2005 where they looked at the effects of EIPH on performance. Had 700 horses involved.

And the way that study arose, it was very definitive in its conclusions. If it was a zero
or a one, you could not draw separation -- you
couldn't separate those as a group. But you could
separate those from the 2's, 3's, and the 4's.
And it was in terms of in the money and in the
purse monies and things of that sort.

So --

DR. NORTHROP: And how many races did they
look at each horse?

MR. IULIANO: I would be happy to supply the
final paper to you. But I would have to look at
again, Dr. Northrop. I don't recall.

DR. NORTHROP: Okay.

MR. IULIANO: But it is considered one of the
seminal -- it is actually -- at least it is
considered in the scientific community as one of
the seminal papers. Because it was the first
one -- they had the foresight to look at trying to
assess the nuances the between the grades.

And what does that actually do to running
performance.

MR. FARMER: I have one question.

Being a breeder, I want to know. And maybe I
should have asked Dr. Stack this. The long-term
effect of Salix or the these drugs on the horse,
will they deteriorate say 10 years? If we
continue using this, will our breed get weaker and
the European breed get stronger by not using this?
Or do you all have any definitive research on
that.

DR. STACK: (Nodding no.)

MR. IULIANO: We don't have any definitive research.

There was a paper that emerged at the EIPH summit. I think you might remember this, Dr. Northrop. It same out of South Africa, too. It was an animal scientist-geneticist who actually published the paper. And I believe he promptly passed away. And the paper, unfortunately, didn't get a lot of traction. It was published I think in a South African animal genetics journal. And he looked at a number of races in South Africa where they -- where he found a definitive pedigree connection between the level of EIPH and it may have been Epistaxis. I would have to go back and read it.

The short answer is, I don't know if there is a lot of science out there other than that paper. And it was in a peer review journal. And it did indicate that there was paritability associated with EIPH.
It did indicate that there were particular sire lines, I think, was another conclusion that came out of that that was tied.

But as an organization, we have not opined on it officially, Tracy. We have not come out and said anything one way or the other on it. You know most of our rules or at least most of those issues we leave to the market. We let the market make its decisions in terms of, you know, breeding decisions and things of that sort.

DR. NORTHROP: And that South African study, I don't think it was ever peer-reviewed, was it? It was very questionable whether it was peer-reviewed.

But it was mainly hereditary. It was not long-term health of the horse.

MS. LAVIN: I would like to just point out that everybody keeps bringing up the European rules and so forth.

They use Salix and Lasix regularly other than race day. So I think, you know, we need to keep that in mind at all times. We are not the only ones using Furosemide. It is being used all over the world. What we're addressing here is not using it the one day that the horse runs. Period
and end.

MR. FARMER: We thank you very much, Matt. And now we will have Dr. Richardson and I see him. He is the guy.

DR. RICHARDSON: Okay to go? All right.

My name is Dr. J. David Richardson. And I appreciate the opportunity to represent the Thoroughbred Owners and Breeders of America and its graded stakes committee as this committee, your committee or your commission, considers this most important issue.

I am practicing thoracic, vascular and general surgeon and live and practice in Louisville. I have done research on Furosemide or Lasix or Salix, whatever you want to call it, and its effect on the human lung and on the human vascular. So I do think I do understand some of the physiology involved.

And so I appreciated Dr. Stacks comments in that regard.

I have also owned and bred horses in Kentucky continuously since 1975. I serve as secretary of TOBA and chair the American Graded Stakes Committee.

As you may know, in August of 2011 at our
meeting of the American Graded Stakes Committee, we proposed a pilot project -- and I will emphasize that, it was a pilot project -- in which horses performing in graded stakes for 2 year olds would run free of medication, including Furosemide and adjunct bleeder medications.

The committee has been talking to racing commissions in the jurisdictions that hold 2 year old graded stakes since that time in an effort to implement a race day medication ban in those select races in 2012.

The committee's plan -- our committee's plan, the graded stakes committee's plan -- is to gather data from the 2 year old graded stakes races which hopefully would be run without race day medication, without Salix. And that is really what we are talking about. And to assess the impact of this policy in late 2012 and policy in 2013.

I would stress that is the only recommendation of the graded stakes committee at this time, that is 2 year olds in graded stakes. And it is the only one that has been endorsed by our actual TOBA board. We did not believe, as a committee that older horses that had raced on
Furosemide should be forced to withdraw from that in order to -- that drug in order to race in graded stakes. But believe that the 2 year old graded stakes races where horses participating would not have had a prior form established or, I guess, potential they could have had one race or whatever. But at least didn't have established form in long-standing group of races would be a good place to start with our pilot project.

Before recommending that that plan be implemented for 2 year old graded stakes, the committee considered several issues, each of which I will briefly note, although they are not necessarily in terms of importance.

The first I would stress would be that we tried to look a good bit at data. I would hasten that add -- and this is off-line. It wasn't in my remarks. But in listening to all of the back and forth about data, I am reminded the Twain quote about lies, damn lies, and statistics that you can use data anyway you want to use it.

And we looked at it perhaps somewhat differently than maybe others would have.

But we did review data from countries that raced free of Furosemide as well as the South
African study that was released in June of '09 that we have heard referred to several times.

We would note that the incidence of clinical bleeding, and that is primarily Epistaxis or bleeding from the nostrils, in Hong Kong is really very low. And it is very hot and very humid there for those of you who have been there. And they do race Lasix free.

I would also note that in Hong Kong, nearly every sub-standard performance also does get a regulatory endoscopic examination. So the notion that they don't know what's going on in terms of the exercised induced pulmonary hemorrhage I think is erroneous. I think they would have very good data and probably frankly much better than ours.

I won't go through all of those numbers again. I had planned to. But you have already seen them twice today.

But if you look at those and compare those to Equibase charts for Epistaxis, there is really no difference around world that you can see.

I think we would suggest that that provides a good indicator that racing medication free does not cause terrible harm in terms of terrible bleeding to the horse. And could add integrity.
The Hinchcliff study from South Africa, again, has been frequently referenced by Lasix supporters as a reason to use that drug on medication day. And supporters would quickly note those who are pro-Lasix that 80 percent who were not treated bled.

However, the statistics that is less publicized is that 55 percent or so of the treated horses also bled. And that most of the bleeding really was very low at a fairly low level, one or 2. And if you look at the study -- I wish I had Dr. Stack's slides back up -- but if you looked at the 3's and 4's, there really wasn't much of that in either group.

And I think that needs to be noted.

So our point of our committee was, that as Dr. Stack has certainly indicated, that this drug is not a cure all panacea. And, in our opinion, should be considered modestly effective at best with, again, approximately 25 percent of the racehorses used in the study receiving the therapeutic benefit from treatment.

Now, the committee concurs that perhaps more data need to be done before one could draw concrete conclusions. But we feel that our graded
stakes committee recommendation on race day
medication in 2 year old graded stakes would be a
good place to start.

So that's to the data point.

Second point in terms of grade stakes
caliber. Our graded stakes discussions are
different, I think, and we have to bear that in
mind, from races held in other types of races
perhaps claiming races and what not. And we are
not opining at all on whether horses running in
$5,000 claiming races should or should not be on
Lasix. We have no opinion on that.

Individuals might have opinions. But we have
no committee opinion and certainly no further
recommended opinion.

Graded stakes, though, we would submit are
meant to represent the best of breed. And graded
black type races should be awarded to horses that
are completing under the same circumstances. Does
the horse that earns black type while racing with
medication have the same natural ability or
deserve the same level of recognition as the horse
that earns graded black type while racing without
it?

The American Stakes Committee does not,
again, plan to take a position at least at this
time with respect to the use of race day
medication in non-graded races. But, again, it
would only affect those racing at the highest
level and all and those that potentially will be
impacting our breed for years to come hopefully.

With a recent announcement by Argentina,
Brazil, Chile and Peru that they were prohibiting
the use of race day Furosemide in grade 1 and 2
races, North American venues are now the only
jurisdictions permitting race day Salix.

Thoroughbred breeding and racing is an
international business. And, boy, you only had to
be at Keeneland here this past few weeks to see
that. I mean it is an international business.

One only need to look at the Breeder's Cup as
an example of that.

Horses are shipped around the world to
compete. And that leads me I guess to our third
point which is the importance of international
standards in grading races.

Now there have been some suggestions by
international racing authorities that American
horses that run on Lasix should not, underline,
should not be granted international black type for
sales catalogs simply because they are running on 
medication which are not permitted in other 
jurisdictions.

The potential damage to our breeding industry 
in Kentucky would be catastrophic and no one in 
this business should dismiss that threat. There 
is a need for uniformity in international grading 
standards. If one wishes to breed to a stallion or buy a top mare, it is important at some level, 
I believe and our committee believes, that we have uniform quality standards.

It is interesting. I have talked to a lot of 
trainers, and I include Rick Hiles who is a friend of mine and who has really beat me up a lot on 
this, but a lot of other trainers include some that allegedly I employ who don't seem to understand the importance of this or they dismiss the threat or just seem to fail to understand the implications of the importance of having international standards in what is now an international product.

But we believe, as a committee, that the potential damage to our breeding industry in Kentucky would be catastrophic if it were to occur that we were not allowed to have international
black type because of race day policies that are now outside the norm of the rest of the world.

And then fourthly, an incident that Mr. Iuliano mentioned in his remarks. And that is the public perception.

Our committee felt that we could not ignore the public perception problem that exists because American races are not medication free. This is particularly important for graded stakes which are really our most visible races in our sport. So we do believe that it is imperative to the future of our sport that racing, at least at the highest level and in the graded stakes, should be one that are ultimately conducted free of medication.

I will note that our committee are not supposed of ivory tower types. These are not uninvolved people. These horse owners and breeders who have major -- and I would emphasize major -- financial, emotional, and historic interest in our sport and in our industry.

We all have skin in the game to use the phrase that has become so popular now.

Additionally, we have major racing secretaries on the committee that represent the jurisdictions from around our country. They need
horses to fill their race cards every day. And they certainly understand I think both sides of these issues.

Our firmly committee believes that any changes regarding the use of race day medication must be made in concert with racetracks and regulatory agencies. And would include these in a variety of states for the reasons I think that Dr. Northrop probably alluded to in that I think is would be very hazardous for one jurisdiction to go alone.

So, hopefully, we will all work in concert to try to at least get this moved.

On the other hand, we felt, as a committee, that there had been a lot of -- to use another phrase of the day -- kicking the can down the road on this issue, waiting for somebody else to do it. And we felt that at least with 2 year old graded stakes, that was a place to start to see if we could get some reasonable information about whether or not these things were really going to make a difference, both pro and con, in the terms of the way these things were use.

So again in closing, let me re-emphasize, what we believe to be is the reasonableness of our
committee's approach. Our goal is to move the
process beyond the discussion phase to action on
the issue. We do not believe it would be fair or
right to withdraw Furosemide from older horses
that raced on medication so they could compete in
graded stakes.

But we do believe that banning this drug in 2
year old graded stakes races where the horses
participating would not have prior form
established under the use of race day medication
would be a good start.

Finally, it important to note again that our
recommendations apply to the only 49 two year old
graded stakes -- I think they are in 4 states --
that will be conducted in 2012. That's the only
recommendation at this point in time from the
American Graded Stakes Committee, the only one
fully endorsed by our TOBA board.

We certainly realize this is a complex and
divisive issues as Chairman Farmer alluded to in
his opening remarks.

But we recommended this, we thought, as a
reasonable first step to study the problem. Mr.
Chairman and committee, we thank you very much for
the opportunity to make these remarks.
MR. FARMER: Thank you, Dr. Richardson. Any questions? Mr. Ward?

MR. WARD: Here we go to clarity again. Your position seems to be very clear.

DR. RICHARDSON: Yeah.

MR. WARD: Does your position mirror that position of The Jockey Club?

DR. RICHARDSON: I am not a member of The Jockey Club --

MR. WARD: I am trying to figure out which umbrella, whether it is a piece of the pie or whether everybody is talking the same way.

DR. RICHARDSON: John, I think The Jockey Club's position it strikes me has been abundantly clear. And you have been at those round tables longer than I have probably and I have been going for along time.

The Jockey Club has been against race day medication for years. And I think they still are.

Our position is a much more narrow position. I mean we are the American Graded Stakes Committee. We don't have anything to do with what this body does with $5,000 claiming races, allowance races, maiden special races. That is outside our purview.
We may have individual opinions about those. But as a committee, all we can do is talk about grade stakes. And what we were suggesting I think is very clear. It a baby step to see what happens.

My view is, if you want my personal view, John, is that the earth isn't going open up and swallow us all up if we got rid of Lasix across the board, frankly. But certainly I don't think we are going to see much catastrophic things happen if we get rid of it in 2 year old races and then see what happens.

If, on the other hand, bad problems happen, I mean, you know, who knows how things will go. We just have to see.

But that's our point.

MR. WARD: The other part. If your vision comes true, then I would like to see that the horses that perform in these graded races, post-race, go under a thorough examination by somebody like Dr. Stack. And from top to bottom, from winner to last place, and get some useful data about equines running without the use of race day medication.

It is something we don't know. We only know
a fraction of it. If we are going to -- I didn't
want to say this word -- but if we are going to
potentially sacrifice some of our best 2 year
olds, let's figure out what they -- if pulmonary
hemorrhage was the problem in the placings and in
the performance, if the winner was a non-bleeder
or a grade one and the horse that ran last was a
grade 3, and it stacks up in between, I think
that's very valuable information.

So I wish we would act. Your proposal
strikes a good note with me. It is just let's get
some science from it.

DR. RICHARDSON: John, I don't know that we
as a committee could force everybody to scope
their horse again. You know I have probably done,
oh, I don't know, thousands of endoscopies in
people.

I have been present, I bet you, in 500 with
horses. I like to do it. As you know, I have
probably spent more time on the backside of the
racetracks than a lot of trainers do. At least
some I know. So I do understand the way this
goes.

I am amazed at how, when people put scopes
down horses, what they will say they see,
especially if they don't know who I am. And when you are talking about, well, that's about .5 on a scale of 1 to 5 you know. Have you ever seen a .5 or had a vet talk about a .5? I have.

And so you have got to remember, in biologic systems, and there is a bell shaped curve that -- and so animals respond to everything differently.

And the notion that by giving everybody Furosemide, 3 cc's let's say or 10 or 5 or pick a dose, that they are going to all respond differently and create a, quote, level playing field, is just frankly not true.

The committee, you know, do what you want to do.

But I mean, I do think you should, in my opinion as a person that knows a little about those things, I don't think that's true either.

MR. FARMER: Dr. Northrop?

DR. NORTHROP: I am on the AAEP racing committee, vice-chair of that.

And one of the discussions that I have had with several members is -- and I am asking you if you all discussed this -- is putting horses in 2 different classes. Treating one group of horses differently than the other.
Because I, as a veterinarian, try to treat
the $5,000 claimer as well as I treat the Grade I.
I try to do that every single time.

Did that come into your thinking at all how
we are classifying now into non-stake horses and
stake horses and let's treat the 2 groups
differently?

DR. RICHARDSON: No. I mean, yes and no.

I have heard Dr. Scollay give a talk at the
KTA meeting and all in which I think she opined
that creating 2 classes -- and I don't want to
misstate what you said, Mary. But I thought it
was very -- I thought it was an effective way of
saying something that, from a regulatory
standpoint, having 2 different ways of dealing
with animals could present problems.

Does that characterize maybe what you
thought?

DR. SCOLLAY: Both regulatory and as a
veterinarian and an ethical issues if we have got
separate standards of care, I find that
problematic.

DR. RICHARDSON: Sure. That's that huge
problem. Just because you have money and, you
know, you are not supposed to be treated
differently than poor people in this country.

And so I understand that issue, Foster. But
that really again is outside of the purview of
what we can deal with.

DR. NORTHROP: Right.

MR. FARMER: Any other questions? Thank you,
doctor.

DR. RICHARDSON: Thank you.

MR. FARMER: And Bill -- Mr. Casner. And
after Mr. Casner, we will take a 30 minute break.
We will be back here and go at it again. Or I
should say Bill.

MR. CASNER: My name is Bill Casner. I am an
owner. I am an ex-trainer. I am a member -- I am
a board member of TOBA. Board member of the
Breeder's Cup. And I am an HBPA member. And I
am not representing any of these groups.

I am here strictly representing myself as an
owner.

I think it is safe to say that my stance on
this issue is probably contrary to many people's
in this room. But my allegiance is to the horse
and to the industry. So I am willing to take the
hits.

All of us are a product of our experience.
And I would like to experience -- I would like to speak to what I have experienced with and without Lasix.

After graduating from college, I was a career racetracker until I was 31 years old. And for 6 of those years, I trained a stable of claimers in the '70's. I only say this because I want to speak to the fact that I am someone who has depended on the performance of my horses for my living.

During my 6 years as a trainer, Lasix only started to become a medication that was permitted in a few jurisdictions. Chicago allowed it the last year I was there in 1979. Very few horses ran on it at that time.

A horse had to have been witnessed to by the state vet to have bled from his nose before he could run on it. At that time, I only had one horse that ran on it. All of the rest ran without it. Everyone in that era, including myself, had their horses on a 2 week run schedule. And you ran back the following week if the race came up in the book.

The goal was 18 to 24 races a year. Horses did just fine on that schedule. We trained
lighter and ran more often.

In the 6 years I trained, I only had one horse that visually bled from the nose. Of course, this was a mare before the advent of the flexible endoscope. So we didn't know if horses were bleeding or not. And obviously they were.

But the bottom line, horses ran more often, and they ran just as true to form as horses do in this era. The data shows that horses today average 6 races a year. In that era, they arranged 11 to 12.

During that earlier era in the '70s, we had 3 Triple Crown winners in a span of 7 years. Since the inception of Lasix, we have not had one. It has been 33 years. Why is that? Could there be a correlation?

You hear a lot of people saying that 3 to 5 races -- 3 races -- or 3 race in 5 weeks is too demanding on the horses and that the races should be spread out. But it didn't seem to bother Affirmed, Secretariat, or Seattle Slew.

I wanted to understand what impact of Lasix was on my horses. So I bought 2 sets of scales; one for the horses running in California and one for the horses on the east coast. I have always
felt that a set of scales was one of the most useful tools available in evaluating a horse's condition.

We have installed sales in every barn at WinStar. And it was used on a regular basis to weigh foals, yearlings, brood mares, and horses in training. And I feel weighing horses is a window to their health.

Eoin Harty trains my horses. And we have had numerous conversations about Lasix and its therapeutic benefits and its potential side effects. And it is a cold hard fact that every medication has side effects along with its therapeutic benefits. If you don't believe me, just listen to the commercials on television and you will hear a string of side effects listed with every medication. And you wonder why people would even want to take these medication.

Eoin comes from a European background. He trained horses in Dubai for Sheikh Mohammed. He trained Well Armed to win the Dubai World Cup and was an assistant to Bob Baffert when Silver Charm won it.

So running horses without Lasix was not new to him.
I asked him what he thought of trying our 2 year olds this year without it. He said he was certainly game to try it. After putting the scales in his barn, weighing horses has become routine with the assistant trainers. It is just not my horses. It is all their horses.

Here is what we have experienced with the weights of horses running with Lasix and the 2 year olds running without Lasix.

Horses running on Lasix, generally 3 to 5 cc's that are weighed the morning after a race, will have lost anywhere from 16 to 100 pounds. And, yes, I want to repeat that. 100 pounds.

We shipped a filly last July from Keeneland to Arlington Park to run and we weighed her before putting her on the van. She is a big Tiznow filly and she was given 3 cc's pre-race. She won the race. Cooled out. Drank several buckets of water between the race and the time she was put on the van at 4 o'clock in the morning.

She got to Keeneland at 10 a.m.

Brian Ange, Eoin's assistant, stepped her off the van and walked her across the scales. And she was 100 pounds lighter. She gained it back, but it took her 2 weeks. This was the most a horse
lost that we weight. Most will lose anywhere from 16 to 50 pounds when weighed the morning after.

We have always heard that horses will urinate up to 25 pounds pre-race, which may be accurate. But Lasix continues to have a diuretic effect post-race. And combining it with stress of the race and a hot day, you can lose a heck of a lot more than 25 pounds.

The literature says that IV Lasix lasts 2 to 4 hours with IM lasting 6 hours. And I want you to think about this. If a horse drinks 2 and a half buckets of water say after a race, a bucket after he cools out and maybe another bucket and a half when he goes into the stall, if you translate that at 8 pounds a gallon, that is right at 100 pounds of water that that horse has consumed.

But yet 100 pounds of water is still not enough to hydrate these horses to their previous weights.

The time it took for these horses to recover the weight lost was anywhere from 5 days to 2 weeks. Remember this was on Lasix dosages of 3 to 5 cc's. It is not uncommon for horses to be administered 10 cc's of Lasix. And it would be very interesting to track the weights of those
horses.

And what about the 2 year olds that have run without Lasix?

We have started 3. Granted, a very small sampling. They have run 6 times with a win, 2 seconds, and 2 thirds. One of them was third in the Grade One Champaign, beaten a neck to Alpha for second. We have weighed the 2 year olds the morning after their races. And their weights have been virtually the same. No weight loss. And they all scoped clean.

And I want to repeat that. No weight loss. And they all scope clean.

Perhaps we start to understand why trainers this era have put their horses on a 4 to 5 week race schedule. The term bounce was one that was coined by the sheets guys in the mid-90's to describe a non-effort after a horse ran a big race. This term was not around in an earlier time when horses ran often because they could.

Trainers then are no different than trainers now. They figure out how much time each individual horse needs between races. In the days before Lasix, trainers had no problem running their horses every 2 weeks and sometimes back the
next week.

I looked up the race records of Goldikova, So You Think, of Frankel, of Lonroe -- Lonroe is fixing to come over here. But all top European horses, every one of these horse is on a 2 week race schedule. And several of them ran back the following week.

We are all certainly familiar is Conquistadore Seattle who won the Met Mile by 7 lengths and came back in 6 days and won the Belmont Stakes by 14 lengths. Citation ran 9 times as 2 year old. As a 3 year old, he ran 20 times in the space of 39 weeks winning 19 races and one second. That is an average, of course, of 1 start every 2 weeks.

Of 29 races before the end of his 3 year old career, he won 27 of them and had 2 seconds. These are just 2 of the great ones. We can go on and on listing the campaigns of so many great horses that ran often and ran big.

But I really want to ask this question. Do any of us in this room truly believe that those horses in an earlier era could have done that, done what they did, if they had been given Lasix pre-race and worked on it?
And I can bet you one thing. If Citation were around today and he was in any trainer's barn, 99 percent of them would be running him on Lasix.

While I was doing my due diligence on Lasix, I went to the manufacturer's website. And here are the side effects that were listed. Feeling weak, drowsy, restless, or dizzy. Fast or uneven heart beat. Muscle pain or weakness. And this is the most interesting potential side effect. Easy bruising or bleeding.

Could -- and I am just asking the question and science needs to explore this -- could chronic use of Lasix contribute to breeding? Just asking the question. I understand that side effects are not always demonstrated, but sometimes they obviously are or they wouldn't be listed. And I am not going to stand up here and tell you that I am more holy than the next guy.

In my partnership at WinStar, we have won the Kentucky Derby, the Belmont, the Travers, the Dom, the Haskell and many other major stakes races. And all of those horses ran on Lasix.

I did win the Dubai World Cup without Lasix with a horse that won by 14 lengths and ran the
biggest race he had ever run in his life. The fact is that I have been no different in my opinions that most every other owner and trainer. It wasn't until I started weighing horses that I really began to understand how much it had to be stressing these horses metabolically. When we understand how much fluid these horses are actually losing, we begin to figure out why it takes them so long to recover from these races and why we see horses heat stroking on a hot day.

In my effort to educate myself, I have read everything I could about the drug and its effects. I have read the clinical trials that show an increase in bone fracture. And, yes, this was in older human patients.

But the fact is, it did affect bone metabolism. And that is something that needs to be explored. Could it have been peeded, the laying down of calcium by the osteoblasts. We don't know that. But it is certainly something that needs to be explored.

The other conversation I had was with a medical pathologist. And he was telling me how much potassium is drained intracellularly when Lasix is employed. And he also stated how
difficult it was to restore those intracellular
levels of potassium. It is something that -- it
is easily fleshed out. But it is very slow to be
replenished. So when you have horses that are on
chronic Lasix usage, this becomes a downward
cascade of potassium loss.

And we could go on and on. But when it is
all said and done, there is one reason above all
the rest why we have to wean our horses of this
medication. The world has changed since Y2K. The
world no longer has any tolerance for medication
in the world of competitive sports. The World
Anti-Doping Agency, WADA, of which the
International Olympic Committee, IOC, is a member
lists Lasix as a banned medication due to its
alleged use as a masking agent for other drugs.

It don't matter if it does or it doesn't. It
is perceived as a masking agent and that's the
reality.

Most trainers and vets believe that Lasix is
performance-enhancing. And it doesn't matter if
it is or it isn't. It is perceived as such as.
And that's the reality. There is zero tolerance
by the public for medication in sports. Some
people in America view it as abuse to animals.
And that is absolutely a crying shame because every one of us in this room knows how well our horses are cared for. They are the best cared for animals on the planet.

But perception is reality.

I have learned one very important thing in business. If you do not have a vision of the changing landscape in your business, you are destined for decline and eventual failure. I don't think there is anyone in this audience in this room that would argue with the fact that our industry is in decline. The medication issue is but one of our many problems but it is an important one. And it is something we can control.

I believe that the path that has been charted by the American Graded Stakes Committee and the Breeder's Cup of banning race day meds, aka Lasix, on 2 year olds of 2012 is the right way to go. We need to do it incrementally. We need to ratchet it up. And we need to see what happens.

No doubt most trainers are going to be terrified to have Lasix taken away from them. It has become so much of the pre-race ritual that they cannot imagine a horse being able to run
without it.

I can tell you right now it is not going to wipe out their livelihood. We owners are going to keep providing horses for trainers to train. Trainers will become better at managing the environments that these horses have to live in. Vets will become better in managing the underlying pathology that leads to bleeding. The horses will run just as good as they did in an earlier time. And they will recover more quickly and run more often. And the sky will not fall.

Thank you.

MR. FARMER: Any questions?

MR. LEAVITT: Yes.

Two observations. You were talking about how horses in days of old ran so many times. There is a French website that I was turned on to that analyzes European racing. And the latest year that they have figures for was 2009.

According to that, American thoroughbreds averaged 6 races a year. European -- and that includes Ireland and England -- average 5. And they are doing that -- that is without their Lasix. And one other thing which maybe is beside the point here.
But in harness racing, a number of our fast class horses race on Lasix. And they come back and race week after week. And they race consistently. So we don't find that it takes them anywhere near this tremendous long time to recover. Now, maybe our horses are different.

But that's the reality for me.

MR. CASNER: Well, I am well aware of the European statistics. They don't have as long a campaign as our horses do. But, you know, I think you can look at the horse. You can look at him. I will tell you what. Look at the horses the day after when they don't run on Lasix.

Boy they are -- every one of them is in the tub. Man, they are bucking and playing. Again, I want to caution. This was a statistically small sample on these 2 year olds.

But when you put a horse on a set of scales and you see that they have lost 100 pounds. And you take a look at them. And then you watch them behave after that race when they are lethargic, when they are picking at their feet and everything, you know that this has to be a metabolic challenge to these horses. You know, it is what it is.
So -- but, again, you know, I mean we can argue both sides of it. But the bottom line, as I said, I feel it comes down to what our changing landscape in America is. And I think there will be a time in pro football one of these days that they are going to start probably limiting the medication on these professional athletes.

But the difference is is they are humans. And people -- the public really doesn't care what humans do to themselves. They can get into a boxing ring and they can beat their heads in and they don't worry about that.

But you do it to an animal, and they become -- they get up in arms. So I think that is one thing that we have to truly understand. If we are going to resurge as an industry and we are going regain the confidence of the public, then we are going to have to do everything in our power to make sure that we have an image as an industry that is not abusive to our horses and we are going doing the right thing for him.

MR. FARMER: Well, one more question, and we have to go or they are going to cut our cafeteria off. You want to ask your question?

DR. NORTROP: Just a personal question.
If one of your 2 year olds that you are not going to run on Lasix does bleed, are you going to consider running him back on Lasix or putting him on Lasix?

And the second part of the question is, are you working any of your 2 year olds on Lasix?

MR. CASNER: We are not working them on Lasix. And the older horses, we are not working on Lasix either.

Yeah, the older horse, they are continuing to run on it and everything. It has been established. But those horses don't work on it. They can work five-eighths without it. And that, for me, probably is one of the problems. When they work on it week in and week out, I think that's where you get the metabolic challenge. I think that's where you start to see these horses decline physically.

Maybe other trainers haven't seen that. But that's our experience.

MR. FARMER: We will take a 30 minute. Thank you, Mr. Casner. And we will take a 30 minute break and be back here.
* * *

LUNCH BREAK

* * *

MR. FARMER: Everyone get ready. We are ready to start again.

Our next presenter or witness will be Dr. Peterson. Are you here?

DR. PETERSON: Thank you, sir. Mr. Chairman, members of the committee, and Dr. Scollay.

My name is Eric Peterson. I am a veterinarian from Lexington. I am also on the board of directors for the American Association of Equine Practitioners. I am here to provide our position statement regarding race day medication on behalf of the AAEP.

The American Association of Equine Practitioners was found more than 50 years ago by 11 racetrack veterinarians. This long history of commitment to the racing industry makes the AAEP uniquely qualified to speak to the issues affecting the health and welfare of the racehorse, including the administration of therapeutic medications.

Our position on race day medication is long-standing. The AAEP supports the use of
Furosemide, or Salix, as the only medication administered to a horse on the day of the race with the specific purpose of treating exercise induced pulmonary hemorrhage.

The administration of Salix should be administered in accordance with the guidelines set by the racing medication and testing consortium. And we also do not support the use of any adjunct bleeder medications on race day.

Secondly, the AAEP also supports the administration of Salix by regulatory veterinarians in a controlled environment to insure the integrity of racing and the safety of each individual horse.

Our third component of race day medication is race day security. Appropriate security measures must be in place at all racetracks to enforce medication administration rules and ensure that all involved in the sport of horse racing are participating on a level playing field.

Now, the AAEP understand the concerns of those who feel the use of Salix on race day compromises the integrity of the sport. And we know the integrity of the game is vital for horse racing success.
At the same time, as doctors of veterinary medicine, the safety and health of the racehorse remains our primary focus. The racing industry must find a way to manage exercise induced pulmonary hemorrhage and regulate the process in a manner that is both good for the horse and good for racing.

As this race day medication debate continues, the hope of AAEP is that the industry's ultimate conclusions on race day medication are based on objective and factual information.

I am short and sweet. Thank you very much for this presentation. That's all we have to say.

MR. FARMER: Thank you, doctor. Any questions? Thank you.

DR. PETERSON: Thank you very much.

MR. FARMER: Mr. Koester?

MR. KOESTER: Good afternoon.

Members of -- Mr. Chairman, members of the subcommittee, let me express my gratitude for the opportunity to appear before you today to review the issue of race day medication here in Kentucky and elsewhere.

My name is Willie Koester. I am Chairman of the Board of Racing Commissioners International,
RCI. Our members are governmentally sanctioned independent regulators and arbiters of horse and Greyhound racing and all associated forms of wagering.

I am also a member of the Ohio State Racing Commission. And have in the past served as its chair. I currently own and race horses and have loved this wonderful sport as a both a spectator and participant all of my life.

Although I believe that no medication should be allowed to be administered to a horse on the day it races and have expressed my personal desire that race day Furosemide be phased out, I am here today to represent RCI and where our association is on this issue at this time.

The underlying principle behind the regulation of medication and racing is to ensure that any substance that can affect performance of a horse is not present in the horse's system when it races. We do this to ensure a level playing field for both the participants in a race as well as our fans. This is also to safeguard for the welfare of our horses to ensure that horses being treated with legal medications to address a particular ailment are not permitted to race.
Approximately 20 years ago, an exception to that guiding principle was made to allow prophylactic race day administration of medication to address exercise induced pulmonary hemorrhage. Most regulatory commissions in the United States permitted the race day use of only one such medication; Furosemide.

Others permitted Furosemide as well as -- known as adjunct bleeder medication to be administered on the day of the race. EIPH is the only medical condition affecting a horse where an exception to the long-held prohibition of race day medication has been made.

The current policy of RCI, as embodied in our model rules, permits the controlled administration of Furosemide on race day. We do not recommend allowing anything else.

As most horses display at least a minor level of EIPH when undergoing an endoscopic examination, it is relatively easy for a trainer to qualify his horse for Furosemide administration, effectively leaving it up to the judgment of a horse's connections ideally in consultation with a veterinarian whether to race or not to race on the medication.
The use of Furosemide is clearly disclosed in the racing program.

This policy, which has evolved over the years, is consistent with the position taken by the past -- by the Racing Medication Testing Consortium. There is a debate going on within the RMTC as well as other organizations on whether this policy should be changed. No consensus currently exists to either continue or change the current policy.

There is a proposal to provide regulatory track veterinarians to independently administer Furosemide. And this matter will be addressed by the RCI Model Rules Committee in just a few short weeks.

RCI, as an association of regulatory entities that actually make and enforce the rules, have voted to revisit the existing public policy permitting the race day use of Furosemide. While we have yet to reach a consensus conclusion, we clearly believe that only healthy horses should be running. The question is whether the existence of EIPH means a horse is not fit to run.

I have yet to find a veterinarian willing to make such a claim. There are many who believe
that most horses would be fine running on race day without it. There are many who argue that Furosemide also helps the horse.

The exception that has been made permits prophylactic treatment of EIPH to minimum instances of bleeding, no matter how minor, that may occur when the horse runs. Public policy has been to exclude horses that visually bleed from competition for a period of time. RCI model rules recommend an initial exclusion that increases if the horse visibly bleeds and can result in exclusion for life.

Certainty Furosemide's use to mitigate EIPH has become widespread in racing. In many international jurisdictions that do not permit it on race day, it is permitted to be given to horses in training.

There are some who believe that race day Furosemide has weakened the breed. I am no expert in this field but I question how an argument can be made for horses that train on it but do not race on it.

Representatives from both national organizations representing the thoroughbred horsemen appeared before the RCI drug testing
standards and practices committee to herald its
use as a prophylactic treatment to minimize EIPH.

Their primary point is that the
administration is necessary to protect the welfare
of our horses. The central question for
regulatory commissions is whether the underlying
condition is actually serious enough to warrant
the continued exception that has been made.
Obviously, no one would call for the elimination
of any treatment if it can be proven that it would
endanger the horse and, in flat racing, the rider.

Frankly I am surprised that those defending
the status quo have not successfully engaged
groups like the Humane Society as an ally if we
are to accept their argument that the elimination
of race day Furosemide will put our horses and
riders at risk.

RCI recognizes the effect of Furosemide in
minimizing instances of bleeding. We also
recognize that instances of Epistaxis are rare and
occur in jurisdictions that both permit and
disallow racing on Furosemide.

Dr. Scot Palmer, the well-respected chair of
the American Association of Equine Practitioners
Racing Committee told the RCI Drug Testing
Standards and Practices committee the following:

If Furosemide is eliminated, the risk of sudden death caused by EIPH if horses race without Furosemide will is extremely low. This differs considerably from those warning of sudden death, sudden equine death, if it were removed on race day.

Horsemen know their horses best. And it is understandable that some fear the loss of some good horses. Well, Dr. Palmer also told us that based upon his analysis only 120 to 540 of about 60,000 U. S. racehorses would be adversely affected and need to be excluded from further competition if race day Furosemide were prohibited.

Putting it another way, over 99 percent of all of the horses now racing would still be racing.

It is important to note that Dr. Palmer also indicated that Furosemide does not enhance performance beyond what would be the horse's natural ability. Certainly this is contrary to the impression being made by some that Furosemide is equivalent to horse doping.

It is not.
Certainly we do know that Furosemide may affect -- have an affect on performance by mitigating the effects of EIPH or the removal of water weight or both. In some horses, Furosemide results in sluggish performance which may explain why this treatment is so necessary. Some trainers opt to run certain horses without it.

Those who argue for race day Furosemide as essential for a horse's wellbeing will obviously have a tough time explaining why they do not run their horses they care for on it. This raises questions that need to be addressed.

As racing regulators, we are naturally troubled by the fact that Furosemide, because of its diuretic effect, has been listed by the world anti-doping agency as a prohibited substance in competitive sports. We are also concerned that the reasons for its use by some may have less to do with the health of the horse and more to do with the perception of being put at a disadvantage if not used.

This may certainly explain why so many owners who are vocally opposed race day Lasix permit their horses to run on it.

RCI's current review of this issue is
primarily limited to thoroughbred racing. Whether
we open the issue to other breeds remains to be
seen. We recognize that emotions run high on this
issue. And we do not agree with those who would
 politicize this matter and attempt to impose their
personal opinions, be they for or against, as a
justification of legislative action.

This is an equine health and welfare issue
linked to the necessity to have a public policy
that ensures a level playing field for all those
involved. Blanket solutions may have unintended
consequences for the health and welfare of our
horses, particularly when you consider the
anecdotal concerns of quarter horsemen racing at
high altitudes. This may not be an issue relative
to the Commonwealth, but it surely needs to be
addressed by RCI.

As I said earlier, the determination to be
made is whether the almost ubiquitous condition of
EIPH is serious enough to warrant continued
exception in public prohibiting the administration
of medications on race day.

The Kentucky Horse Racing Commission, as a
leading member of RCI, we will be crafting
whatever recommendation the association ultimately
makes on this issue.

On behalf of RCI, I must note that our model rules currently permit only Furosemide to be administered on race day. As such, we encourage you to eliminate any other medications you now permit on race day. Both the national HBPA and the Thoroughbred Horsemen's Association reported to the RCI that they would be in favor of the elimination of adjunct bleeding medications. We think this would be a positive step forward and encourage you to do so.

As far as Furosemide goes, these discussions will continue. RCI members have expressed a concern that if there is to be a change in this policy, it be universally adopted and universally implemented.

I appreciate the opportunity to appear today. And I thank you for your time.

MR. FARMER: Thank you, doctor. Any questions?

MR. CONWAY: One question, doc.

You mentioned that RCI supports the use of Furosemide only on race day. I take it that you would take the position that it shouldn't be used for training purposes?
MR. KOESTER: No. Either I misspoke or you misunderstood me. Okay.

Currently the RCI recommends that only Furosemide is used on race day. We do not agree that adjunct bleeder medications be used on race day. As far as in training goes, that’s really -- we regulate racing as it happens during that day.

MR. CONWAY: I see. Thank you.

MR. FARMER: Any other questions? Thank you, doctor.

MR. KOESTER: Thank you. I would just like to correct the record. I am not a doctor. Thank you.

MR. FARMER: Thank you.

Mr. Fravel with the Breeder's Cup. Craig, you have the floor.

MR. FRAVEL: Craig Fravel. I am the president and chief executive officer of the Breeder's Cup.

This is my first regulatory hearing in Kentucky. I have spent 21 years in California and thought that I had seen the longest possible regulatory hearing. But we learn something every day. So I am going to try to make this as quick as I possibly can.
As you know, I was the president and general manager of the Delmar Racetrack for a number of years. And had the privilege of sitting on the racing and medication and testing consortium at the time the rule changes were implemented that allowed all horse usage of Furosemide.

So I was one of those who voted in favor of that at the time. Although I look back on that and wish I had had some more of the information that has been presented today before that vote took place.

I want to be clear about one thing.

The Breeder's Cup has taken a relatively limited position on this subject. And that position pertains to the championships, only. We have not take positions with respect to everyday racing. We are concerned with racing at the highest levels of the game. And the Breeder's Cup represents what we believe is a true international championship.

As a result, the position taken by the board in July was directing management to implement protocols that would eliminate the use of a race day medication for the Breeder's Cup championships with respect to 2 year olds beginning in 2012,
with the championships at Santa Anita. And thereafter with respect to other horses beginning in 2013. And we are working carefully with state regulators to try and accomplish that with respect to future sites.

I do want to point out one thing I think is relevant to this discussion. One of the reasons that the Breeder's Cup took that position among many was that we are interested in a level playing field with respect to international racing. As has been fairly pointed out, North America is the only jurisdiction that currently uses -- allows the usage of race day medication including Lasix, for its horses.

We think that if we are going to develop the Breeder's Cup as an international championship, it is vitally important that horses, wherever they might come from to participate in our races, do so on the same conditions.

So that was one of the primary motivating factors behind this decision.

The second is -- and I won't think it has gotten a lot of discussion so far today -- is the impact of race day medication usage on the perception of the American breeding stock.
internationally. I will let others address that later on who are more familiar with the breeding industry than I am.

But I can safely say that it is a -- having had a large number of conversations with folks overseas -- that it is unquestionable that the American breeding industry has been denigrated in international eyes by the fact that we allow race day medication.

I did want to point out some things. Because a lot of the conversation that we hear out in the world day to day is that the sky might fall if we implement these kind of changes.

I had my staff go back to races from 1988 to 1991 which is relatively shortly after the implementation of Lasix regulation or the permissive use of Lasix in horse races. For 2 year old races only, of 74 starters in those races between 1988 and 1991, 74 starters, only 18 of those horses raised with Lasix.

By comparison in the past 3 years of 161 starters, 150 of those 2 year olds raced with Lasix.

The fact of the matter is that in the first 3 years that I mentioned of those 74 starters, all
of the winners, the first 3 placed horses, did not race with Lasix.

So I think these statistics demonstrate quite capably that horses can race without Lasix, particularly at the highest levels of the game. And what we are interested in is developing the best racing we possibly can for those horses.

With that, I have no more comments.

MR. FARMER: Thank you.

Commissioners, any questions? Thank you.

MR. FRAVEL: Thank you.

MR. FARMER: Dr. Gustafson with the Humane Society of the United States.

DR. GUSTAFSON: Thank you commissioners for having this hearing to address this important issue.

My name is Sid Gustafson. A brief biography for those of you who would like to know. In the '60s, I started catching urine in Montana. I was catching urine in 1964 when Dancer's Image number was taken down. And so I put a lot of thought into it through the years.

I represent the Humane Society of the United States today as well as the Humane Society Veterinary Medical Association. I teach
veterinary behavior at the University of Guelph and, in addition, I am a regulatory veterinarian in 4 states; California, New York, Montana, and Washington.

So I have been around as both an attending and regulatory veterinarian.

We do not oppose horse racing. But we do oppose race day medication. Hearing the information that exercise induced pulmonary hemorrhage is present in nearly 100 percent of the horses, some people would conclude that that is somewhat of a normal occurrence rather than an abnormal pathology.

However, certain degrees of it can be quite problematic. And I feel that part of this is due to exceeding the adaptability of the racehorse. So in my talk, I am going to present some solutions other than medication to exercise induced pulmonary hemorrhage.

Apparently all of these other jurisdictions in Hong Kong and Europe and places they don't use race day medication went through this process. And I assume the process they went to -- the collusions they came to will somewhat reflect what happens here. But I guess that remains to be
To appreciate the nature of the thoroughbred, I would like to briefly review the evolution of the horse and the domestication process. Of all of the human equine pursuits, horse racing is perhaps the most natural equine pursuit of all. More natural, for example, than polo or stadium jumping or cutting. Horses have evolved for 60 million years to run at speed in close company. Running at speed in close company is the horse's long evolved group survival mechanism. This is the nature which is nurtured in thoroughbred lines and thoroughbred development and training.

Racing comes natural to a horse.

To appreciate how horses develop the athletic endurance to run at speed together and connected in close company, veterinary behaviorists observe horses in natural settings to assess how horses naturally prepare themselves to race. We study horses prepare younger horses to develop strong limbs and strong lungs and musculoskeletal systems to achieve success evading prey.

Knowledge of the horse's nature is abundantly applied here in Kentucky. Farm after farm I drove
through coming here had large pastures where bands
of mares and foals and later bands of cohorts run
and play and learn to travel closely together at
speed. They learn to communicate together, change
leads together and move in a safe and synchronous
organized fashion while running in large circles
around the pasture.

It is this essential experience with other
horses in a heard that a growing thoroughbred
gains the confident to run by and through horses
later in life in a race. The herd conditions
growing horses. Running with the herd facilitates
the physical development of the lungs and
musculoskeletal system.

The reproduction and recreation of these
natural behaviors are essential for the healthy,
mental, and physical development of the
thoroughbred as is evident everywhere here in the
Bluegrass. In order to later prevail in a horse
race, growing thoroughbreds need to be conditioned
to develop the ability, coordination, stamina,
pulmonary capacity, and strength, confidence and
experience needed to endure training and racing.

It is this knowledge that elucidates how race
day Lasix impoverishes the welfare of horses. To
appreciate the principles of equine behavior is to understand what is required to maintain pulmonary health in horses confined to stalls being conditioned to race.

The solution to managing exercise induced pulmonary hemorrhage is appropriate breeding development, horsemanship, training, and husbandry. The care that establishes and enhances pulmonary health and endurance in horses is the same care that enriches stabled horse's lives. It is the same care that keeps racehorses' musculoskeletal systems sound. It is the care that keeps horses on their feet during races.

One point is clear about all of this data. The data from non-Lasix, non-race day medication jurisdictions indicates to me, at least, that clean running horses suffer significantly fewer breakdowns than horses running on Lasix in America.

Over the last 2 years, if I am reading the data from Encompass correctly, we watched 2 horses break down for every 1,000 starts. Meanwhile, the Hong Kong Jockey Club, which has been discussed here quite a bit, has set an example of clean and racing without race day medication. And their
data indicates that they have less than 1 breakdown for every 2000 starts.

So on that basis, we find the use of Lasix and race day medication to be a welfare issue.

Horses with healthy lungs are content and fulfilled horses whose lives their caretakers adequately, if not extensively, enrich. Lung health is supported by limb health. Appropriate husbandry and training maintains and establishes the soundness of both wind and limb.

Breeding and running are biologically intertwined on the racetrack, a breath per stride. To stride correctly is to breathe correctly. To breathe correctly is to breathe soundly and to race sound.

Horses who are bred, socialized, and developed properly from birth and who train while living enriched stable lives are seldom likely to experience performance-impairing equine induced pulmonary hemorrhage -- exercise induced pulmonary hemorrhage while racing. They are more apt to stay sound.

Humane care of the horse prevents bleeding, my friends. Pulmonary health is reflective of appropriate husbandry, breeding, training,
nutrition, and the abundant provisions of forage, friends, and perhaps most importantly locomotion.

Lasix perpetuates substandard horsemanship, artificially suppressing the untoward result, which is bleeding, to impair performance of inadequate preparation of the thoroughbred.

Performance medication on race day leads to fragility. Rather than alleviate medical conditions, the data from several jurisdictions and studies indicates that racing medications administered on race day exceed racehorse adaptability and perpetuate fragility in race horses. Fragility is dangerous for both horses and riders.

Genetics play a role in pulmonary health and physical durability. Lasix perpetuates genetic weakness by allowing ailing horses to prevail and sow their seeds of pharmaceutical dependence.

Lasix manages a wide variety of unsoundnesses, as do the cortisone and the non-steroidal anti-inflammatory drugs. Running sore can cause horses to bleed. Anti-inflammatory drugs aggravate coagulation processes.

Please appropriate that horses running on pharmaceutical scrims are 4 times more likely to
break down than horses running free of race day medication.

Pulmonary health is dependent on appropriate breeding and proper development for the vigor, durability, and endurance thoroughbred racing demands.

Drugs are not the solution. Competent horsemanship is the solution.

Genetic dosage, behavioral and physical development, socialization, training, and husbandry are the keys to racehorse soundness, stamina, and durability.

Horses evolved as social grazers of the plains, group survivalists moving and grazing together much of the time. Horses require near constant forage, friends, and locomotion to maintain health of wind and limb. Racehorses are no exception. The last place a horse evolved to live is in a stall alone. The solution to manage bleeding in racehorses is to develop, teach, train, and care for horses in a horse-sensitive fashion.

Training and husbandry need to be a good deal for horses in order for horses to maintain healthy partnerships with people. Pulmonary health is

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reflective of overall health and soundness in horses.

In order to maintain pulmonary health, natural conditions need to be recreated in the stable. Horses prefer to graze together and move nearly constantly. This constant grazing and moving are essential for joint and bone health, hoof health, metabolic health, and pulmonary health. In order for lungs to stay healthy, horses need movement, often more movement than trainers provide.

Walking enhances and maintains horse health. Stabled horses need a lot more walking than most are currently afforded. Abundant on track and on track locomotion is necessary to condition a horse's lungs. Lungs deteriorate when movement is restricted. Horse breath all day long and walking is part of the way that assists their health.

Walking and movement enhance breathing and lung health. Development and conditioning of pulmonary health throughout growth and while training are the answers to prevent and manage bleeding as they have always been.

To enhance pulmonary health is to enhance the horse's entire life and outlook. Not only do
properly stabled and trained horses' lungs hold bleeding in abeyance, they hold sway and win.

Pulmonary health and bleeding prevention are dependent on smooth running and biomechanically sound locomotions.

Horse evolved in the open spaces of the northern hemisphere and require the cleanest, purest air to thrive and develop health lungs and hearts. Stable air needs to be constantly refreshed to maintain pulmonary health.

Ventilation is essential and enclosed structures are often inappropriate. Barn design must be addressed to maintain pulmonary health. Bedding is critical. Clear straw provides the moves movement by simulating grazing.

Horses stalled on straw are noted to move about with their heads down nibbling and exploring for hours, recreating natural, keeping their lungs healthy with movement.

Their respiratory tracts drained by all the head-down nibbling and grazing. Horses need near constant movement to maintain optimum lung health. Long standing horses' lungs deteriorate quickly. Not only does near constant movement maintain and enhance pulmonary health, abundant locomotion
maintains metabolic health, joint and bone health, hoof health and digestive health.

To enhance lung health, is to enhance the overall health and soundness of the horse.

Racing has proven to be safer in Lasix-free and race day medication free jurisdictions where the drug crutch is not allowed.

Drugs are not allowed to replace appropriate care and training in Hong Kong and Europe. And race day drugs should not be allowed in America.

The stabled race horses has to be carefully and humanely cared for and nourished, both physically and behaviorally to win and stay healthy. Lasix has weekend the breed, and weakened the American horse racing game considerably as the numbers across the board reveal.

The horse has brought us all here today. If racing is to flourish as a sport in Kentucky and subsequently in the rest of the world, horse racing must come clean of drugs and replace its race day medication attitudes with appropriate horse sensitive breeding, development, horsemanship, behavior, training, and husbandry programs.
To honorably share this great Commonwealth with our friend the horse, we must learn to use the resources of the land and people to nurture Kentucky horses and rid the heart of the sport of its dependence on race day drugs.

Respectfully submitted.

MR. FARMER: Thank you very much, doctor.

Any questions from the panel? Commissioners?

Thank you very much.

DR. GUSTAFSON: Thank you.

MR. FARMER: Terry Meyocks? The Jockeys Guild.

MR. MEYOCKS: Thank you.

As you said, my name is Terry Meyocks. I am the national manager for The Jockeys Guild. Good afternoon. Thank you for allowing The Jockeys Guild to provide testimony on such an important topic to our industry. It is our hope that by discussing these matters in an open forum, solutions can be developed that benefit the entire industry.

Already numerous discussions, both public and private, have taken place since the issue of race day medication was raised yet again in the spring of this year. Many of these discussions have
taken place within the racing medication and testing consortium. And, at the behest of that organization, for those that might be unfamiliar with the work of the RMTC, it is a national industry organization whose board of directors is comprised of all of the various stakeholders who represent this industry. Given the fact that 25 industry organizations sit on the board, you can imagine the different perspectives that are brought to the table on any medication issue not to mention one as controversial as the permitted race day medication debate.

Of the 25 organizations that are on the board of the RMTC, at least 9 are here today. Despite the diversity of opinion within the RMTC, a consensus was reached on the issue of race day medication at a special meeting of the board of directors this summer.

The consensus opinion, which emerged after countless hours of study and debate including a 2 day meeting in New York after the Belmont Stakes, was 2-fold.

First, the elimination of bleeder adjunct medication in those states in which they are permitted. And, second, the continuation of a
race day Furosemide administration, but via the regulatory rather than a private practitioner.

The Jockeys Guild, as a board member of the RMTC, is in full support of these recommendations. It is our opinion that it is the best and most reasonable approach available to the industry for several reasons.

First, we believe the permitted administration of Furosemide on race day is in the best interest and the welfare of the racehorse. Almost all horses bleed into their lungs to some degree during maximal intensity exercise. Since there have been horses, there likely has been exercise induced pulmonary hemorrhage. In fact, a racehorse in the 18th Century the name of Bartlett's Childers, whose sire was a Darby Arabian, was tagged with the unfortunate nickname of Bleeding Childers. This was due to the fact that every time the horse ran, blood would gush from his nostrils. He never raced because of his bleeding problems.

He did go on to be a sire, however. And just so happens to be a great grandsire of Eclipse, who is responsible for some of the most dominant sire lines in the United States.
I use the story not to blame breeders in the 1700's, but to demonstrate that exercise induced pulmonary hemorrhage has always been a part of racing and will, almost certainly, always be a part of racing in the future.

If we accept this premise, the question then becomes what do we do about it. Furosemide is the only medication that has been proven by scientific study to be effective in managing exercise induced pulmonary hemorrhage. The study performed by Hinchcliff, et al, using race horses under actual racing conditions published in the Journal of the American Veterinary Medical Association last summer is as conclusive a study as we would likely ever get on the subject.

Furosemide doesn't cure the condition. But given the philosophy of the horse, no medication will likely be developed that will cure EIPH. The best we will be able to do is control the bleeding as best we can. At this point, Furosemide is the best medication we have available to do this.

And the study I just mentioned demonstrates that Furosemide is, in fact, capable of reducing the severity of individual bleeding episodes. Unfortunately, the effects of Furosemide wears off
very quickly after administration, so it must be
administered a few hours prior to exercise to have
any effect.

If the administration of Furosemide is pushed
back to 24 hours before the race or even further,
as in the case in Europe, you may as well give a
shot of saline solution instead.

So we have a condition in the horse that we
know is likely to happen during the course of a
horse's racing career. We know this condition is
probably not ever going to go away, We know that
this condition in many horses is progressive
meaning it gets worse each time it happens.

We know that a small percentage of horses
eventually bleed from the nostrils. We know that
this condition is a cause of decreased athletic
performance. And we know that we have a
medication that can mitigate some of these changes
and improve the pulmonary health of the race horse
over the course of their career.

That is where our belief as an organization
that Furosemide should continue to be a permitted
race day medication. Our riders do not want to be
riding a horse that suffers a rupture of the
pulmonary artery in the middle of a race.
While I am not saying that Furosemide eliminates these as possibilities, certainly anything we can do as an industry to reduce the incidence of these events is of benefit for the horse and for the rider and to the image of the industry.

Unlike Furosemide, however, there is no scientific support for the continuation of the so-called adjunct bleeder medications. In fact, most of the published science indicates there is no effect on EIPH from those specific medications that have been studied. Our organization fully supports the elimination of permitted adjunct bleeder medications.

Second, we believe the change to the current policy provides no upside benefit, but instead, offers only significant downside risk at what is a very precarious time for our industry economically. There is no evidence that a change in policy will lead to any increase in pari-mutuel handle or any increase in U. S. bloodstock prices.

And actually from the standpoint of the handicapper, the permitted administration of Furosemide is one of few things this industry does well. We notify the public that the medication is
or is not being administered to the horse. And we ensure, through post-race testing, that the regulations surrounding the administration of this medication are being followed.

This has produced consistency in the management of EIPH that many handicappers appreciate. Some of them use this information as part of their handicapping process. Others don't. But the fact that the public is notified and can account for this information I would argue has been a net positive for our sport for over the last 20 years.

And in terms of medication control, it is one of the very few areas of the industry that offers complete transparency.

Let's compare this to a situation facing handicappers. If Furosemide is prohibited, now a handicapper has to guess which horse is going to bleed, guess which horse will be compromised by this bleeding, and guess which barn may be administering something else on race day to manage EIPH that escapes detection.

Again, I would not have you believe that Furosemide administration eliminates any of these possibilities. But the permitted and regulated
administration of Furosemide has provided a much more level playing field for not only bettors, but participants as well.

Additionally, if the average field side was reduced by just one horse per race as a result of prohibiting Furosemide, the end result on handle would likely be disastrous for this industry. There would also -- potential negative economic consequences for owners and for the regulatory bodies themselves.

For some owners, the $25 shot of Furosemide will be replaced with a litany of other treatments of questionable effects such as Vitamin C or other herbal remedies that will certainly cost more to owners than a single injection of Furosemide.

Again, EIPH isn't going away no matter what the rules of racing say. One only has to look at Europe to see evidence of this. Two years ago, Nicky Henderson, who trained some of the Queen's horses, had a positive test for Tranexamic Acid, which is a permitted adjunct bleeder medication in some U. S. jurisdictions.

Henderson had a horse that was a bleeder and sought a treatment on race day that would help control the condition that would not result in a
positive test.

Anyone who thinks eliminating Furosemide in and of itself results in a medication free race day is naive.

There will continue to be medicating for this condition. And owners will continue to write the checks. Tie that to cost of post racing testing in order to catch these Furosemide replacements will either increase, or in the case of many regulatory bodies in the United States that are strapped for dollars, other drugs will be eliminated from the testing scheme in order to test for any bleeding substances.

It would be decidedly detrimental to the sport to eliminate the one permitted medication that we actually notify the public about, but then ignore the multitude of other substances that could be used as replacements for Furosemide.

The proverbial level playing field is something we all strive for. To ignore the other substances would be patently unfair to those participants who choose to play by the rules and for handicappers seeking consistency. If Furosemide is prohibited, is this Commission prepared to spend the dollars for the security at
post-race testing necessary to ensure
unequivocally that no medication on race day truly
means no medication on race day.

There is little question than being one of
the few racing nations to permit the
administration of medication on race day has been
a negative in terms of perception of our industry.
There are varying reasons given for this negative
perception, depending on whom you ask and how the
question is phrased.

Certainly a large part of this negative
perception is in the fact that in the United
States, the private practitioner is responsible
for race day administration of Furosemide. The
perception is that this allowed contact with the
horse 4 hours prior to the race gives
opportunities for other doping substances to be
administered.

This is why The Jockeys Guild supports the
RMTC recommendation to place administration of
Furosemide in the hands of the regulator.

There are 2 real world examples which we
believe support this route as a positive,
reasonable solution for the industry. First is
the experience of the New York Racing Association.
During the time frame that the detention barn was utilized, once the detention barn was put in place, additional NYRA veterinarians were employed to administer Furosemide. The effect on some of the post-racing tests was immediate. The chemists for the state of New York reported much more consistent results for Furosemide concentrations in post-race samples, and also more consistent total carbon dioxide values which are typically elevated by Furosemide administration depending on when and how the Furosemide is administered.

These results indicated that Furosemide was being administered in a much more consistent manner in terms of the time and route of the administration. Today the detention barn has been eliminated. But the administration of Furosemide by NYRA veterinarians has continued. And practicing veterinarians are not allowed in the stall on race day.

The second example is a self-funding program put in place by the Canadian Pari-mutuel Agency that utilizes certified veterinarian technicians to administer Furosemide. For whatever reason, the race day administration of Furosemide in Canada is not nearly the lightening rod for
controversy that it is in the United States.

I think we can certainly assume, however, that the successful administration of this program by a federal agency plays at least some part in this differing perception of the drug.

While there are obvious logistical issues to be overcome, we believe that this program which has been in place for close to 20 years can be an excellent model for regulators in the United States.

In conclusion, The Jockeys Guild supports the RMTC recommendations to, number one, eliminate the permitted use of adjunct bleeder medications. And, number two, to continue the permitted administration of Furosemide on race day with the regulator in control of the administration, rather than a private practitioner.

It is vitally important that the industry and its 38 state racing commissions approach this issue with consistency and uniformity. The Jockeys Guild believes that the RMTC recommendation is most likely to achieve the desired results. And, most importantly, we believe this approach is in the best interest of the horse, our member riders, and all other
segments of the industry.

Thank you for your attention.

MR. FARMER: Thank you, Terry. Any questions from the Commission? Thank you very much.

Dr. Byars? I am sorry, Doug.

Kentucky Association of Equine Practitioners.

You have 10 minutes I will remind everyone so we will get out of here today.

DR. BYARS: I am going to shorten this up and go as fast as I can. I intended to. We all got to get out of here.

I am going read our position statement for the Kentucky Association of Equine Practitioners.

I may interject a few comments as we go, especially based upon some of the discussions that have been here today.

As stewards of the health -- and we should have and welfare -- of the horse, the 300 veterinary members of the Kentucky Association of Equine Practitioners unequivocally support the use of race day Furosemide as a preventative for exercise induced pulmonary hemorrhage or bleeding in the thoroughbred race horse.

I will interject that it is not a monopoly that the thoroughbred has. Other breeds, other
uses; pulling horses, barrel racing horses, anything that has exertional efforts that are supreme can bleed. So -- and we also have it in Greyhound racing dogs. We have it in humans. So it is not very common in others. But compared to what we know. But the endoscope has been our biggest educational tool.

Going on.

It has been proven through long clinical experience and rigorous prospective scientific studies that the majority of racehorses worldwide bleed into their lungs during strenuous exercise or racing. Each episode of EIPH results in cumulative damage to the lungs. And that is important. Blood is an irritant. It is an inflammatory component that changes the nucleosary clearance in the lungs and many other component. It is an ignitus for secondary infections.

Severe episodes of EIPH put the life of the horse and jockey in danger. Furosemide has been proven safe, effective at significantly reducing rate, occurrence, and severity of EIPH.

It has a humane consideration.

Veterinary scientist continue to study EIPH and the many factors that contribute to EIPH in
the thoroughbred racehorse. Until a safe and effective alternative is identified, the 300 veterinary members of the KAEP unequivocally support the use of race day Furosemide as a preventative for EIPH in thoroughbred racehorses.

A decision to ban the use of race day Furosemide unnecessarily jeopardizes the health and safety of the thoroughbred racehorse and its jockey.

For those that know me, the only thing that is really important is the horse. And Dr. Scot Palmer was quoted earlier today and I want to read one quick quote from Scot. I talked to him the other day.

We know from scientific and medical perspective that Furosemide is good for horses. But is it good for the business of racing?

That paradox is one we have made an enormous effort to try to resolve. Fundamentally we believe that what is good for the horse has to be good for racing. And I think Scot kind of summarizes it all right there.

I appreciate this meeting because you can appreciate the gap between facts and rhetoric. And both sides have plenty to learn. But we have
to continue on with research. And this is such an important issue, it is not going to be ended here today. And I don't really think anybody in this room or on the planet has enough knowledge to be able to end what we are currently doing.

So I stand behind this statement.

Absolutely.

MR. FARMER: Thank you very much. Any questions from Commissioners? Thank you.

Mr. Rick Hiles, Kentucky Horsemen Benevolent and Protective Association.

MR. HILES: Thank you, Mr. Chairman. Committee members.

My name is Rick Hiles. I am the president of the Kentucky Horsemen’s Benevolent and Protective Association. Also the vice-president and past president of the National Horsemen's Benevolent and Protective Association. And we represent about over 30,000 horsemen across the country. And we have about 30 affiliates across the country. So this is an issue that is dear to our hearts as we deal with these animals on a daily basis.

And I want to thank this committee for having this open hearing. We have heard a lot of good
dialogue today, some pro and some con. And some of the things I have heard said I would like to speak to. But I unfortunately didn't write them all down. But a few that I did here, I want to agree with Dr. Byars.

The horse is first and foremost in our heart. And what we believe is good for the horse is good for racing. I don't believe that the public is crying out for us to do away with Lasix. I haven't heard that and I have talked to several people in the racetrack communities.

I think this is an excuse that is being used. So I will go on with what I have got.

I have been an owner and trainer for 39 years. Fortunately, I was around before Lasix. And I have been able to see both sides of using Lasix and not using Lasix. And speaking to what Mr. Leavitt said earlier about what went on if you do not use Lasix, Alan, we had to withdraw horses, their water, maybe anywhere from 8 to 24 hours out. We withdrew their feed. Some of them standing on bare ground stalls, taking their bedding out. It bordered on being almost inhumane.

And I think that you would see, if we went
back to these old methods, you would probably hear
some people crying out that we were being
inhumane. And the humane society may even come
and make an issue of that.

I do agree with the doctor from the humane
society that said cardiovascular and pulmonary
airways are best done by natural environment. If
we could all take these horses and keep them on a
farm out in a pasture in a field, we probably
wouldn't be here today having this problem. But
unfortunately we can't.

It is a business. It requires us to be in
dust-filled barns. The horses live 30 yards from
a bacteria infested manure pit. And they are
going to get infections. And they are going to
bleed. It is just a matter of fact.

When they bleed, they set up lung infections.
And the lung infections have to be treated by
veterinarians and that is costly to the owners.
As in human medicine, equine therapeutic
medications have come a long way in scientific
research and studies to make the quality much
better, the life of the horse much better. And I
don't see why we would want to go back and regress
to archaic ways of 30 or 40 years ago of what we
had to do.

If we tried to do this with human medicine, I think there would be quite an uprising.

So through research and technology it has given us Lasix. And until something better comes along, I see no reason for us to do away with it.

The South African study that was paid for by The Jockey Club, proved beneficial -- that the Lasix -- how beneficial Lasix is to the horses.

One thing we know for sure is that horses will bleed and that Lasix helps prevent this.

This year's Breeder's Cup had 172 out of the 180 horses that competed, they were running on Lasix. Several of them were on adjunct bleeder medicines, also. So that many trainers and veterinarians, they just can't be wrong. They are looking for the best interests of the horses and the competition factor.

I would also like to add that this year's Kentucky Oaks and Kentucky Derby, there were 100 percent of the horses competing in those two races on Lasix. And many of those were also on adjunct bleeder.

So if you have never seen a horse hemorrhaging on a racetrack, it is not a very...
pretty site to see. Unfortunately I have been privy to seeing this. I am watching a horse go down in front of your fans and collapsing on a race track, and blood gushing out his head where he is laying in a pool of blood, you want to see a fan uprising, you let something like that happen and you will get a lot of kickback from that.

It endangers the lives of the jockeys and the other horses in the race. And it could cause a potential pileup.

So doing away with a simple thing like Lasix to me would have to have something better than what we are hearing here today to help the horses. I know that in our Olympics, I have heard about how clean they are. Well, the Olympics allow -- I have got a list of things here -- just some of the things they allow their athletes to use on the days they compete. And some of the things are Novocain, Xylocaine, Adrenaline, anti-depressants, antihistamines, asthma drugs, caffeine, muscle relaxers, anti-inflammatories, ulcer medications, even cortisone injections on the day they run.

And they can also use a diuretic, which is Lasix, if they have an exemption from the World Doping Agency. We have heard about the World
Doping Agency. And what they do, they have $1.6 million on their budget every year to check for drugs. The thoroughbred community has $35 million. We are probably the most policed industry of all professional sports.

If you don't think that the NFL or the NBA or those guys are using painkillers and drugs, just check the records. They are not being policed up.

Anyway, it is believed by me and a lot of other people that a horse's hemorrhaging are causing a lot of fatal breakdown. You know, they say, well, we broke a leg. Well, hemorrhaging first and as they go down maybe breaking the animal's limbs. So, yeah, they are use -- they are allowing these Lasix into their training sales. And if a potential buyer is going there, are we going to stop Lasix in the 2 year old training sales, also.

So the customers, when they go there, they would have an idea. There is a possibility that maybe cardiovascular or pulmonary things are being passed on in the breeding of a horse. Maybe he has got weak walls in his blood system. So if that's the case, are we going to publish this in our catalogs, our sales catalogs which stallions
and which mares.

I heard Dr. Richardson today talk about they wanted a different mark for horses that compete in graded stake races without Lasix and ones that have Lasix. Are they going to put that in the catalog so when the buyers go to the sales, they can say, well, this stallion produced a lot of bleeders. He was a bleeder. The mares threw a lot of bleeders.

I mean this is a big thing that we need to really look at hard before we get into all of this.

And then also, when you have got over 80 percent of your horses bleeding, you know it costs a lot to treat the horses. We have these lung infections. And the veterinarians are there trying to help us all they can. But it is just a way of life on the racetrack.

And one other thing that I just -- really bothers me is that we would sit here and consider taking Lasix away from a horse that would help keep him from hemorrhaging. But we would allow our jockeys to ride on Lasix to lose weight.

It is a known fact they all have to reduce on weight and they use Lasix pills. But yet we
I wouldn't consider using Lasix for the horses to keep them from hemorrhaging and possibly dying. So it is a bad, devastating effect. And from the 30,000 horsemen across the country that we represent, our 30 affiliates, and our horses, we ask that you really consider what you are looking at here and look at all of the ramifications that may be caused from less horses, less fans, less entries in races. And just make sure you make the right decision.

And we would like to go on record as opposing stopping the use of Lasix.

MR. FARMER: Thank you.

Any questions from any of the commissioners?

MR. WARD: I have one. Here we go to clarity.

As I understand the HBPA's national position, Lasix is the only drug that you all know of that helps bleeding on race day.

MR. HILES: Other than adjunct. And adjuncts have been done away with. And we did hear Dr. Stack this morning say this they are starting to use adjuncts in Dubai and other countries now.

So they have come to the knowledge that it is beneficial.
MR. WARD: So you are pro Lasix on race day?

MR. HILES: Yes.

MR. WARD: You are for or against adjuncts on race day?

MR. HILES: The national position was that they would be pro to do away with adjuncts on race day.

MR. WARD: Okay.

And as far as regulatory veterinarians administering Lasix on race day --

MR. HILES: Yes.

MR. WARD: -- you are pro that.

Do you think there is a horseman in your organization that would be willing to give up Lasix on race day if we had another medication that didn't have to be on race day that protected our horses from.

MR. HILES: I think so, John. I, as a trainer, usually don't start any of my 2 year olds on Lasix. I usually try to run them as long as I can without Lasix. But I know in my heart that there is just a matter of time is going to come that they are going to bleed. And it always has happened.

And I have tried to go without it before.
MR. WARD: And I think there is a national indication that probably every horseman in the country, if they gave these horsemen a better product to use, they would be willing to give up any type of medication on race day?

MR. HILES: I think so.

MR. WARD: Thank you.

MR. FARMER: Thank you. We appreciate it. Our next guest is Dr. Tobin, the National Horsemen Benevolent and Protective Association.

DR. TOBIN: Racing Commissioners, honored guests, ladies and gentlemen. I am going to present the National Horsemen's Benevolent and Protective Association position on race day medication Furosemide. If I can get slides. Just is a second.

Racing commissioners, honored guests, colleagues, ladies and gentlemen. I am honored to make this presentation on behalf of Mr. Kent Stirling, chairman of the medication committee of National Horsemen's Benevolent and Protective Association.

Kent is also executive director of the Florida Horsemen's Benevolent and Protective Association. He has some compelling commitments
in Florida this morning, so he cannot join us here in Kentucky. He extends his apologies and he has asked me to make this presentation on his behalf and on behalf of the National HBPA.

Let me first put the National Horsemen's Benevolent and Protective Association in perspective for you.

In the early years, there were no organizations like the National Horsemen's Benevolent and Protection Association to represent horsemen's interests. Horsemen simply took care of their own. So if someone was sick or down on their luck, they passed the hat taking up collections to help horsemen having trouble.

In 1940, a group of committed horsemen brought into existence what is now the National Horsemen's Benevolent and Protective Association. Today, the National Horsemen's Benevolent and Protective Association represents a total of over 35,000 owners and trainers of horses who are members of 33 or so -- we are not quite sure of the precise number -- affiliated state and local organizations throughout the United States and Canada and including, of course, the Kentucky HBPA, one of the largest HBPA affiliates.
represented here today by President Rick Hiles of Kentucky HBPA and their executive director, Mr. Marty Maline.

While the National HBPA is involved in many issues that affect horsemen, its primary motto of horsemen helping horsemen continues to this day as relevant as when the National Horsemen's Benevolent and Protective Association was first formed.

As a large and active horsemen's organization, the National Horsemen's Benevolent and Protective Association is focused on a myriad of issues, including medication for the betterment of racing at all levels. Within the structure of the National HBPA is the medication committee that draws upon the leading experts in the industry including Dr. Sams, who we heard from here today. Dr. Soma. Dr. Scollay has attended our meetings and contributed. Dr. Selway. My long-time colleague, Dr. George Malin in New York. Dr. Rick Arthur. Dr. Steve Barker. And one we will particularly mention here, Dr. Paul Morley, who is one of the key scientists who worked on the classic South African study on Lasix that has been presented here today that unequivocally
establishes its efficacy in the prevention of EIPH.

These are the scientists to whom the National HBPA looks to for scientific studies and opinions on medication issues to protect our equine athletes.

It is this commitment to knowledge and scientific rationales and approaches to medication issues that guides the National Horsemen's Benevolent and Protective Association medication committee headed by Mr. Kent Stirling.

The National Horsemen's Benevolent and Protective Association, through its national programs, affiliate networking, and communications strives to promote the welfare and safety of all of those involved in live racing, including the equine athletes themselves, throughout the United States and Canada.

The presentation that I am going to make is simple and straightforward. I will read into the record the National HBPA board resolution that dated July 24, 2011 that I understand was communicated to the racing medication and testing consortium on race day Furosemide and which I understand is similar to their position on this
The National HBPA Board Resolution, National HBPA's Lasix Policy.

Whereas, the National HBPA board of directors met on Friday, April 15, 2011 and unanimously agreed that in the absence of scientific evidence, it could not support the 5 year plan announced by the Association of Racing Commissioners International, RCI, on March 28, 2011 to eliminate the use of race day medication, namely Furosemide (Lasix), as it is currently written.

Whereas, based partly on the National HBPA's objection, an international summit on race day medication (Summit) was sponsored by the RMTC, AAEP, and the NTRA in early May, 2011 to study the issue of race day usage of Lasix.

Whereas, the national HBPA participated in the Summit which presented many viewpoints, both for and against the race day use of Lasix and is a member of 2 sub-committees formed to prepare a proposed policy on the race days use of Lasix to be presented at the August 4, 2011 follow-up meeting of the RMTC.

Now, therefore, be it resolved that the National HBPA board of directors supports a
national race day Lasix policy which has been
discussed by one of the Summit sub-committees and
which would allow the race day use of Lasix in
accordance with current practices, provided that:
1. Lasix (Furosemide) be the designated race day
medication approved for usage to prevent the
occurrence of exercise induced pulmonary
hemorrhage (EIPH).
2. Any use of adjunct bleeder medications be
banned. And --
3. Race days administration of Lasix be
restricted to regulatory veterinarians.

Be it further resolved, based on the 2011
National HBPA Summer Convention Medication Forum
and, specifically, data related to the safety
hazards to both horse and rider in cases of sudden
extreme EIPH/Epistaxis in horses that have not
received race day administration of Lasix, the
National HBPA Board of Directors also encourages
the National HBPA staff, its medication committee
chair, and its veterinary adviser to share these
findings with the RCI so that the issue of horse
and rider safety is properly considered in the
context of race day use of Lasix.

The above resolution was passed by unanimous
vote of the members of the National HBPA board of
directors during its regular meeting held in

I have made this presentation on behalf of
Mr. Kent Stirling, chairman of the medication
committee of the National Horsemen's Benevolent
and Protective Association for the National HBPA.

I thank you for your attention and I remain,
Thomas Tobin. Thank you.

MR. FARMER: Thank you, Mr. Tobin. Any
questions from any of the members?

Thank you.

DR. TOBIN: Thank you.

MR. FARMER: Ms. Kathy Guillermo with -- I
think I messed your name up there.

MS. GUILLERMO: No. That's okay.

It's Kathy Guillermo. I am with People for
the Ethical Treatment of Animals. Thank you very
much for inviting me. I don't often get a chance
to sit in front of people who are making these
kinds of decisions. So let me tell you a couple
of things you might is not have known.

One of them is that PETA never wanted to be
involved in this industry at all. It was never
part of our agenda. We would like to get out of
it as soon as possible but that's not going to
come until some changes are made.

The reason we felt pulled into this was that
the week following the breakdown of Eight Belles,
I spent 5 solid days on the telephone with people
from your industry who called us to say something
needs to be done to help these horses. We can't
do it within the industry. We need you to help.

That's why I am here today.

Although the focus today is the potential ban
on race day medications, especially the use of
Lasix, this forum really is a form of triage for
an industry that is in critical decline on all
fronts and in jeopardy of federal intervention.

The thoroughbred racing industry, like the
horses themselves, is bleeding -- losing fans at a
rate of about 4 percent a year according to The
Jockey Club's McKinsey report. Only 22 percent of
the general public has a positive impression of
thoroughbred racing. Even among thoroughbred
racing fans, only 35 percent consider themselves
proud to be fans.

The McKinsey study revealed the extent to
which fans have been disillusioned by a number of
serious problems, including animal welfare issues.
And at the top of the list was the rampant use of drugs.

The horse racing industry has taken significant measures. But its primary response has been an attempt to remarket the sport to try to change the public perception and attract a new audience that way.

But perception isn't the problem. Reality is the problem.

The only surprising thing about the negative brand perception is that it is not even worse given the number of scandals and the alarming casualty rate. Yesterday alone, 5 horses broke down, suffered catastrophic breakdowns at Monmouth, Churchill Downs, Aqueduct, Golden Gate and Albuquerque in one day alone.

The inability to attract new fans can be attributed largely to a new moral climate in the 21st century in which a more informed and sensitive public no longer tolerates such abuses to animals.

In this information technology age, blinders are no longer possible. The industry can't selectively promote the majesty of horse racing while censoring the dark underbelly. And PETA
will continue to relentlessly and unapologetically expose these issues until real reforms are made. That's our responsibility.

So you may ask, why doesn't PETA celebrate racing's troubles and sound the death knell? We think racing can be done better and we think it can be done humanely. But we know than when an industry is in crises, the most vulnerable are even more vulnerable. When the margins are tight and people are desperate and cynical, the horses are always the first victims.

At this time now more than ever, we need to work in partnership. And that's why we are here. To help you formulate policies to limit the casualties which brings us to today's subject of race day medications which have been so damaging to the horses and to the integrity of the industry.

There has been a sincere commitment to improve testing and enforcement procedures to advance detection technology and to administer tougher penalties across multiple racing jurisdictions for the most egregious animal welfare offenses and for repeat offenders.

The industry that has made significant
strides in eliminating the obviously detrimental
performance enhancing medications such as anabolic
steroids and milkshakes. More challenging
questions, though, persist about the most
prevalent so-called therapeutic drugs in the
sport, in which both sides of the debate claim to
have animal welfare interests on their side.

For example, Mr. Rick Violette, the president
of the National Thoroughbred Horsemen's
Association, who is a proponent of Lasix, has
argued, quote, that over 80 percent of horses
bleed without the administration of Lasix and to
introduce legislation banning the therapeutic use
of Lasix would simply be premeditated animal
abuse.

Similarly, proponents of maintaining higher
race day Bute threshold levels argue that horsemen
concerned about residual race day positives would
deprive horses of needed anti-inflammatory for
pain relief throughout training.

Dr. Scollay, at an October 10 meeting at
Keeneland, said that for supporters of stiffer
medication policies, a horse needing that much
medication, quote, raises the fundamental question
of whether that horses should still be racing.
PETA's answer to that fundamental question is simply no. That horse should not still be racing. A horse should not be training or racing who needs medications to numb chronic pain from injuries. Or in the case of Lasix, regardless of whether or not the drug has masking properties or gives a weight advantage, a horse should not be running if he or she requires this medication to stop profuse bleeding caused from being driven to excessive exertion.

Perhaps this is the wrong question. Are we even asking the right question? The more fundamental question is why any horse would ever be pushed to such dangerous extremes that risk exercise induced pulmonary hemorrhage.

Behind the adulation for every Zenyatta, is the indifference for tens of thousands of horses in trucks on their way to Mexico and Canada and thousands more breaking down on tracks every year.

The career of the racehorse from training to racing is inherently damaging. Every time a horse circles a track, it is a fatality risk. And these horses are being driven far beyond what they would do naturally or voluntarily. From the veterinary's standpoint, they clearly should not
be subject to this. So we should drop the pretense that this race day medication debate is primarily about what is therapeutic for the animals.

The Greek word for drug is Pharmakon. And it can mean either remedy or poison. The same drug can serve either purpose depending on how and why it is used. A false dichotomy similarly has been generated in the horse racing industry between therapeutic and performance enhancing drugs.

The so-called therapeutic drugs used to stop bleeding or reduce pain are being used primarily for non-therapeutic purposes, specially when proper rest and healing are necessary.

For horses to withstand rigorous training programs, drugs and other invasive procedures and devices are often introduced. And these become the standard treatments in response to the demands of unreasonable training programs and racing schedules. In this context in which winning and speed are the focus to the detriment of the long term health of the horse, the drugs can hardly be called therapeutic.

Just as there is a false dichotomy between therapeutic and non-therapeutic or performance
enhancing drugs, there is also a false dichotomy between illegal and legal drugs.

The so-called legal drugs are often being administered indiscriminately and sometimes for nefarious purposes, often by completely unqualified personnel in ways not sanctioned by the appropriate legal and regulatory bodies.

Veterinary decisions must be made in the interest and the health of the horse alone, and certainly not dictated by the financial interests of the connections. The race day medication debate is not intelligible unless we first understand this friction and this potential conflict.

In the U. S. horse racing industry, a racehorse is treated, by definition, as pathological. In the U. S. model, as so many people have pointed out today, 95 percent of horses are treated with Lasix. Racehorse is considered a diagnosis and the prescription is almost automatically drugs.

The purpose here is not to condemn the equine veterinary industry, although it is fully complicit in these practices, but to rid North American horse racing of the morally and
intellectually bankrupt paradigm, which is also bankrupting the industry.

What is needed is a comprehensive policy that addresses the rampant administration of drugs that tarnish the entire North American industry from the breeding shed through training and racing. A race day medication ban is the appropriate place to start. And we support this unequivocally.

But it is just the tip of the iceberg. It is just the first question that needs to be asked.

We see the solution in the first stages as very straightforward. When Dr. Rick Arthur, the California Horse Racing Board's equine medical director, was asked to account for the low rate of fatalities at Santa Anita on the synthetic surface during the 2009/2010 racing season as compared to the dramatic increase in fatalities when the surface was converted back to dirt as year later, he described the 2009/2010 year at Santa Anita as, quote, an unusually safe year. It was almost European levels, unquote.

The obvious question is, if a safe year for us is an anomaly but the standard in Europe, why aren't we adopting their rules and methods. We don't have to be the shame of the international
horse racing world. We now have the international models, the demonstrated techniques with which horses can run well and safely without race day medications.

In U. S. racing, all of the eyes are on Kentucky and that is why it is so important what your decision is here today. Kentucky should be our national model.

Thank you.

MR. FARMER: Thank you very much.

Any questions, commissioners? Thank you.

MR. CONWAY: I have a question.

Maybe I am misinterpreting what you said. But we have heard that all horses bleed. We have heard from Dr. Stack that when horses are exercised or put in stress situations, that their heart rate goes up 10 or 15 times, that their blood pressure goes up hundreds of times.

Wouldn't it be inhumane to race a horse that we know is going to bleed without giving them some medication to alleviate the hemorrhaging problem? Or are you simply saying that racing a horse is an inhumane exercise?

MS. GUILLERMO: I am saying that the way racing is conducted right now is an inhumane
exercise.

MR. CONWAY: That's what I thought you said.

MS. GUILLERMO: Let's flip it around a little bit. And instead of saying is it inhumane not to give a horse Lasix, let's ask if it is inhumane to give a horse a variety of drugs over a course of weeks leading up to a race, top if off with Lasix and then run that horse excessively.

I don't believe that Dr. Stack -- and correct me if I am wrong -- said that it was running alone that causes bleeding. It is the excessive exertion of the race that causes the pulmonary bleeding.

Not quite?

DR. STACK: I didn't say that.

MS. GUILLERMO: All right. I apologize I don't mean to misrepresent.

MR. CONWAY: I didn't think she said that.

Thank you.

MR. FARMER: Any other questions?

MS. GUILLERMO: Thank you very much.

MR. FARMER: Thank you.

Mr. Arthur Hancock, Stone Farm.

MR. HANCOCK: Good evening ladies and gentlemen. I am a fourth generation horseman.
And I am here today because I love the horse and I love this industry and I feel that we are in danger of losing it.

Sadly statistics bear this out. The recent McKinsey report on thoroughbred racing points out that a vast majority of the population, over 75 percent, regards racing as a sport in which drug use runs rampant. The report also says that this majority of the population has a very negative perception of the sport.

I think that is worth repeating.

The vast majority of the population has a very negative perception of our sport. How in the world can we expect to thrive and be popular when the vast majority of the population views us in such a negative light?

Another fact the McKinsey report points out is that racing is losing 4 percent of its fan base a year. At this rate, the time will come when the business of horse racing will not be sustainable and we will be out of business. Remember at one time we were the leading spectator sport in America. This is indeed a very sad state of affairs.

But let me go back in time for a minute.
In 1966, I went to work for a trainer named Eddie Neloy in New York. No race day medication was allowed. There was no Lasix. No Butisol. Nothing. Fans loved racing and Belmont Park was full every Saturday. The only time the veterinarians came to our barn was when a horse had colic, a temperature, or an injury.

Things have certainly changed in the last 50 years. Nowadays, if you go to the backside at 4 in the afternoon, you are likely to see a veterinarian's van parked at almost every barn. And most racetracks in this country on most race days, 100 percent of the horses are racing on Butisol and 85 to 90 percent are racing on Lasix.

If that's an indication of the true level of soundness of our horses, we are in deep, deep trouble.

Drugs are not free of charge. And the only person who pays these bills is the owner. And these bills can run a thousand dollars or more a month which can be up to $12,000 a year. If the training bill is $80 a day which comes to about $30,000 a year, then these vet charges of $12,000 add 40 percent a year to the expenses paid by the owner for owning a racehorse.
Race day Lasix alone costs owners $100 million a year.

A lot of owners are leaving the game because of these expense. And a whole lot more are very unhappy about it.

But that's thought the only concern about the drug issue. The public doesn't want it, period. That's all that really matters because they are the fans. And our fans keep us in business.

Again, the McKinsey report bears this out. We have experienced, according to them, a 37 percent drop in handle and a 30 percent drop in attendance in the last decade alone. Only 22 percent of the general public has a positive impression of our sport. And only 40 percent -- only 46 percent of racing fans would recommend our sport to others.

What the McKinsey report is saying in a nutshell is that you cannot market a flawed product. You sell the sizzle and not the steak. The fans have spoken. We must listen to our customers or continue to lose them.

Many say the drugs these horses get are therapeutic. But therapeutic drugs are given to horses who are in therapy and who are recovering.
from an illness or an injury. Is every horse in
every race ill or injured?

Therapeutic drugs, by definition, are used
for healing and curing. Drugs that mask pain and
enhance performance are not therapeutic. They are
what they are; performance-enhancing drugs.

In speaking to English trainer, John Gosden,
the other day on the phone. He said the Europeans
have a new name for the Breeder's Cup. Do you
know what it is? It is what they are calling it.
The Bleeder's Cup.

What a sad commentary on our championship
races. And don't tell me that if you give a horse
Lasix and he looses as much as 25 pounds that this
is not performance enhancing. Why even weigh the
jockey?

As Bill Casner testified this morning that
the next day he weighed one of his horses, and it
has lost a hundred pounds because of the ongoing
loss overnight.

Ladies and gentlemen, 50 years ago horses
averaged 45 lifetime starts. And now they average
13 lifetime starts. Proponents will say that
these so-called therapeutic drugs are needed to
fill races when the obvious is that the opposite
is the case. Statistics prove it.

Since 1960, the number of annual starts has dropped from 11.3 per year to 6.23 in 2009, a drop of nearly 50 percent. What in the world are we doing to ourselves? Imagine the economic impact on the owners and the trainers alike as well as the fans whose heros have short-lived careers.

On another note, our horse sales were once driven by an international market. This September, all of the million dollar yearlings were bought by Americans. And this November, only 5 of $18 million mares went abroad, notwithstanding the fact that dollars are very, very cheap. The November sale has been good so far because of the life work of some our top breeders has been put on the block. But watch and see what happens toward the end of the sale. We will be giving the horses away from nothing just as we did at the end of the September yearling sale.

It is difficult to attract investors when the vast majority of the population has such a negative perception of our business. In the words of a top Australia bloodstock agent, quote, you are isolating yourselves. And while the
international market will still buy broodmares and occasional well-bred yearling, they won't purchase many horses in training. Why would they?

American race horses have been overloaded with drugs. And we have bred 5 generations of drug dependent horses.

A top bloodstock agent, Hugo Lascelles, said we no longer have the confidence in your stallions we used to have because we don't know if the horse's performance was enhanced chemically or was natural. So we are becoming more and more reluctant to purchase their offspring.

Or perhaps Louie Romine, chairman of the International Federation of Horse Racing Authority said it best. How can we still recognize as world champions horses who run with medication? And what about the horse himself? We all love our racehorses, the noblest of God's creations.

There is a perception out there that some people drug them, break down them, slaughter them. And to those who do this to these noble creatures, I say this, so dies the victim, so dies the vampire. And by the vampire, I mean the industry that allows this to happen.

Now then let's take a look at just one of our
competitors, NASCAR. I personally remember when Kentucky horsemen laughed, talked about these folks in North Carolina who were racing cars and trying to make it into a business.

Now look where they are and where we are.

Traffic is backed up for miles as thousands arrive at NASCAR events. Major companies and CEO’s sponsoring attend these events. Even more telling is the ongoing planning for a private airport to support Kentucky Speedway, the NASCAR track just a few miles down the road from Turfway Park, the weak sister thoroughbred track that is struggling to survive. NASCAR needs this airport because there is so many planes coming in the Greater Cincinnati Airport that they get backed up both landing and departing.

NASCAR allows no cheating. And if you are caught for even a minor infraction, penalties are severe. NASCAR fans have confidence in their sport. When the integrity of the industry is called into question time and time again, the support for that industry will decline. And NASCAR knows this. People who cheat repeatedly deserve no quarter.

We need the squeaky clean, milk-mustached
image that NASCAR has. If you want our Kentucky
horse industry to survive and thrive, we must do
away with performance enhancing drugs on race day.
Follow the model set by Europe, Asia, Australia,
and the rest of the racing world. Their horses
all run without medication. And they are not in
distress. They are not bleeding to death as some
people here have said with all of these horrible
images.

They have a healthy industry. The fans love
it. Racing is thriving and the horses are happy
and healthy.

So, ladies and gentlemen, as the horse
capital of the world, let's lead the way by
becoming the first state and the first racing
jurisdiction to do the right thing. Let's ban
race day medication. Let's rejoin the
international thoroughbred market with clean
medication-free rules of racing and horses racing
on their performance and not on some drug that may
have been given to them. Let's create a level
playing field for everyone; horses, jockeys,
trainers, veterinarians, owners, and fans alike
and restore our reputation around world and with
our fans here at home.
Thank you.

MR. FARMER: Thank you, Mr. Hancock. Any questions to Mr. Hancock? Thank you, Arthur.

MR. HANCOCK: Okay.

MR. FARMER: Lincoln Collins, Kern Thoroughbreds.

MR. COLLINS: Mr. Chairman, members of the committee, thank you for allowing me to speak.

I am Lincoln Collins. And I am president of Kern Thoroughbreds, a bloodstock agency based in Midway, Kentucky. I have spent almost my entire working life in the thoroughbred industry and have a thorough experience with thoroughbred racing in several different countries.

The debate over race day medication is coming to a head in an environment where the whole future of horse racing in North America is in question. We have declining attendance, falling betting handle, falling purses in states that do not enjoy outside support from gaming revenue, and we have been through a severe recession in the breeding industry which is particularly relevant to those of us who live and work in the state of Kentucky.

It is no exaggeration to describe Kentucky as the home place of the thoroughbred racehorse in
the United States having as it does a history of thoroughbred breeding dating back more than 200 years. For almost all of that history, the main intention of Kentucky thoroughbred breeders has been to produce a better horse.

But what is a better horse?

Certainly it is a faster horse. But it also needs to be a horse that is physically capable of having a racing career long enough for it to be able to fulfill its potential, not just in Kentucky or the U. S. but anywhere in the world.

And owners who breed that kind of horse, there are a myriad of physical defects to take into account. One of which is bleeding or EIPH. Bleeding is a physical problem which dates back almost to the beginning of the thoroughbred breed. The horse, Harrod, foaled in 1758 was one of the first recorded bleeders in a race when he reportedly bled in the Subscription Stakes at York Races in 1766. And he has been cited by some as the very source of severe bleeding in the thoroughbred.

For generations breeders have been aware of this problem and had avoided bleeders when making breeding decisions. The widespread use of Lasix
has made it virtually impossible to know which thoroughbred stallions or mares are bleeders and which are sound. And, therefore, we are inadvertently perpetuating the defect of severe bleeding in the horses we breed.

This weakness remains hidden as long as the only market for Kentucky's thoroughbreds is the United States. Because currently all U. S. racing jurisdictions allow anti-bleeding drugs. But it becomes an increasing problem, both in practice and in perception, when our Kentucky-bred horses are being considered for purchase by overseas buyers in racing countries which do not allow medication of any kind.

Many international buyers regard the performances of top American horses as unreliable indicators of their ability to reproduce those performances in their offspring because of widespread drug use in American racing.

And as a footnote, just today I was told that a top Australia breeder named Paul Fudge, who has removed all of his mares from Kentucky, taken them to France, because he does not want the offspring of his mares running in an environment where the result is prejudiced by the excessive use of
medication.

Many European trainers believe that American horses are unsound and buy much less than they used to in Kentucky. This puts our position as the supplier of the world's best thoroughbreds in serious jeopardy.

There is a thriving export market for proven racehorses to go to racing destinations as far flung as Hong Kong, Dubai, and Australia. This market is effectively off limits to American racehorses because these destinations are medication free and purchasers cannot run the risk, since nearly all American horses run on Lasix, that the horse they buy may turn out to be a bleeder.

Many of these destinations have compulsory periods of rest for horses that bleed. And in some cases, repeated bleeders are banned from racing all together.

Having said all of that, the actual incidents of severe bleeding, that is over bleeding from the nostrils, is uncommon in most of the countries where anti-bleeder medication is banned. While it is postulated that all thoroughbreds bleed to some extent, this has presumably always been the case.
And bleeding only becomes a serious problem for horses that bleed significantly, either through their nostrils or in a way that noticeably impairs their performance.

There have been plenty of instances where American horses, which have always to date raced on Lasix, have run in overseas races without Lasix and performed just as well they did in the United States.

The real benefit of anti-bleeding medication is to those horses that bleed severely. Unfortunately, it has become obvious over the years to many in the game that the use of Lasix/Salix -- that the use of Lasix and Salix not only does Lasix prevent this severe infirmity, but in doing so, also proves to be a performance enhancer.

The great paradox of Lasix, Salix, Furosemide, or whatever you want to call it, is therefore as follows. A horse with an inherited infirmity, when provided with a therapy for that infirmity, is able to outrun a horse which doesn't have the infirmity to the first place. Therefore, the horse that doesn't have the infirmity has to have the therapy for the infirmity in order to
compete with the horse that does have the infirmity.

The rank absurdity of this makes me feel as if I am involved in the Mad Hatter's Tea Party rather than a legitimate, competitive endeavor.

Salix and its adjuncts always get star billing in this controversy because it is the medication which Kentucky currently allows to be administered on race day. And it gets its name in the program with that ubiquitous big black L.

But there are various other medications permitted to be present in the system of horses on race day which would not be allowed in any major overseas racing jurisdiction.

Here in Kentucky, Bute can be administered up to 24 hours before the horse runs as can two other non-steroidal, anti-inflammatory drugs. Furthermore, various anti-ulcer medications, Gastrogard, Tagamet, and Zantac, can also be administered up to 24 hours before the horse runs.

Most international racing jurisdictions do not allow these drugs or any others to be present in other than trace amounts in a horse's system on race day. I don't think that any reasonable person argues that therapeutic medications have
their place in training race horses. But it is imperative that horses be free of medication when they compete in officially sanctioned races, which are the only environment we have in which we can objectively compare one horse to another both for the purposes of betting and for the purposes of breeding.

Any of us who have been involved in horse racing with any degree of depth know that rumors are constantly swirling that some trainers are using exotic new medications that are yet indetectible. And there is always the suspicion that clever vets are able to use, quote-unquote, legal medication to mask illegal drugs.

I have no way of knowing just how wide-spread the use of illegal drugs is. But trainers who are successful deserve to be free of the taint of suspicion that they have somehow cheated. And the betting public needs to be assured that they are betting on horses that are competing on the same terms with one another.

There are many people in the industry who believe that some legal drugs are, quote-unquote, legitimate and others are not. This argument is untenable. Either a horse is running on drugs or
it isn't, period.

The integrity of horse racing has always been difficult to maintain, given that so much money is at stake in so many different aspects of its structure. There are several interest groups within the sport which fear negative financial consequences from a medication ban. But our governing bodies must rise above any such short-term considerations and do the right thing for the future of the sport and the horses that make it possible.

The sporting and betting public simply will not tolerate anything less. And neither should our industry leaders.

Kentucky is the home of the thoroughbred horse in the United States and the home of its most famous race, the Kentucky Derby. I urge the Racing Commission to take the lead in banning race day medications. I understand that any ban will have to be phased in. And I understand the reasons that many people oppose this position.

But we face a choice.

We can claim, as some sadly do, that we are a special case making us right and the rest of the world wrong. We can ignore the needs and desires.
of our current and future fan base. Or we can recognize that we need to clean up our act, address our many problems which include the shameful overuse of medications and move forward into a brighter era where we can retake our position as the genuine source of the world's best thoroughbreds.

Thank you.

MR. FARMER: Thank you, Mr. Collins. Any question from any of the commissioners?

DR. YON: I have a couple of questions.

MR. FARMER: Go ahead, Dr. Yon.

DR. YON: I had a hard time understanding some the sequence of statements that you make. And borrowing from my illustrious companion up here, for the sake of clarity you say that there is tremendous overuse of medication.

As a regulator, we are here to talk about race day medication. But I have a feeling when you are saying that, that you are referring to other medications given on days other than race day.

Am I wrong?

MR. COLLINS: No. As I say, obviously the purpose of this is race day medication which is
Lasix.

I was making the point that some drugs which are not allowed to be present in the horse's systems on race day in other countries are permitted to be present in the horse's system here in Kentucky.

DR. YON: Right. And I would like to make sure that you understand that we are well aware that their thresholds for determination of those drugs are so much higher than it is here that we will pick them up and they won't in Europe.

I mean you are comparing apples and oranges. And you have got to be careful about that. That's confusing the issue.

If you want to talk about Lasix on race day, that's fine. But I think some of your other statements are out of line.

MR. COLLINS: Which were those?

DR. YON: Well, those are that in Europe, that they don't use all of these medicines. And that they are not --

MR. COLLINS: I am not saying --

DR. YON: Now, wait a minute. I am saying something.

MR. FARMER: Hold it. Hold it.
DR. YON: You have got to measure things with the same system of drug testing. And they don't use the same system that we do here. We pick up everything practically. I mean we can go down to many, many picograms. And they can't or don't. They don't.

So that is not comparing apples with apples. That's all I am saying.

MR. COLLINS: I will have to defer to you.

DR. YON: Done.

MR. FARMER: Okay. Thank you, Mr. Collins. You gave us some very good information. And we appreciate you coming.

MR. COLLINS: Thank you.

MR. FARMER: Our next speaker is Neil Howard who needs no introduction. He is the famous trainer at Gainesway Farm.

MR. HOWARD: I only wish I was the famous trainer.

Chairman, members of the commission, thank for allowing me to speak here today. It is not that I like to being last but I will keep it sort. I am the general manager at Gainesway Farm and I am here speaking on behalf of Gainesway.

We have heard a lot of copious amounts of
general and scientific material presented both for
and against the use of Salix here today. But our
message is simple. We have the responsibility to
the public and ourselves to clean up our game. We
believe that Salix is used indiscriminately. As
we have heard here today, the percentages are high
and it is routine to see 2 year olds racing for
the first time on Salix without any real proven
reason.

Ours is a sport of individual performance.
And we have also heard here today by the action of
Salix, it improves the ability of the equine
athlete to perform. And, therefore, it must be
considered performance enhancing.

We have heard also heard here today and
believe that Salix is hard on these animals. It
is a diuretic causing dehydration and weight loss
which has compounded the effect on the average
number of starts per horse over the years. They
just don't have the stamina or the soundness and
longevity they used to have.

We also believe that the use of Salix has
systematically altered the gene pool both by
enabling otherwise inferior horses to race beyond
their natural abilities. And then upon retirement
to the breeding ranks, they pass along these inferior traits to future generations.

And I know this doesn't happen overnight. But Lasix has been in use for 20 years now.

Scientific advancements in pharmacology have influenced many sports besides horse racing. Drug use has become more commonplace in almost all sports.

It is imperative that we endeavor to restore integrity to our industry, just as other sports have tried to clean up their own houses. The banning of all race day medication will be a bitter pill to swallow, especially for most of us in this room and my generation. But the future of our industry and generations to come is dependent on us running an industry that is held to the highest standard of integrity.

I also would hope that this would become a whatever is -- nothing is done without being a nationwide initiative. And as Mr. Ward alluded to earlier with the graded stakes committee, I think it would be crime if we don't use that to our benefit and get some statistics so we know what is going on.

So I hope that somebody takes that ball and
at least tries to figure out what -- how bad it really is.

And I thank you for your time.

MR. FARMER: Thank you, Mr. Howard. Any questions from anyone?

We have 2 other speakers who signed up and wish to speak; Mr. Marty Maline, Kentucky HBPA.

MR. MALINE: Thank you. Chairman, members of the committee.

This obviously has been well dissected today and I don't have many comments to make other than to read from an article from the late Stuart Janney, owner and breeder of Private Terms and the great Ruffian. He was quoted in an article as saying, I know I was very much opposed to using Lasix or anything else at one time. But I have had bleeding happen so many times to so many of my horses, that's don't feel that way any more. I have gotten to be an old man and I even have to take Lasix once in a while.

Thank you.

MR. FARMER: Thank you, Mr. Maline.

We have David England, Kentucky HBPA.

MR. ENGLAND: Thank you. Comments are very, very short.
After sitting here listening all day, it seems like Lasix is today's evil. As a trainer, I certainly don't see it that way. We talked about other sports and comparing horse racing with NASCAR, and you getting rid of race day medication. It seems like we have pretty much done that. You know, I would think we have got one of the cleanest sports there are. I think it is more of marketing problem and how to address this to the public more than cleaning up our sport.

You know with Lasix being the last of the race day medications that we can give, I don't think you really get to a NASCAR race and wonder if one of the NASCAR drivers took 2 aspirin that morning to get rid of his headache to make his performance a little bit better. I think we need to take a real hard look at our industry as a whole and compare it with other things.

You know, what is the NBA doing? What is NASCAR doing? What are the things that they are doing to attract new fans? And that's what we need to do as a whole. What do we need to do attract new fans? The fans has never heard of Lasix. It makes no difference to them either way.
Thank you.

MR. FARMER: Thank you. Any questions?

That concludes today's hearing. And I thank you for the thoughtful comments today. This is a divisive issue.

We will continue to gather information and monitor discussions around the country on this issue. And we will keep it in our research and under advisement and we will continue down this road.

Thank you very much.
CERTIFICATE

STATE OF KENTUCKY
COUNTY OF FRANKLIN

I, Georgene R. Scrivner, a notary public in
and for the state and county aforesaid, do hereby
certify that the above and foregoing is a true,
correct and complete transcript of the KENTUCKY
HORSE RACING COMMISSION'S RACE DAY MEDICATION
COMMITTEE MEETING, taken at the time and place and
for the purposes set out in the caption hereof;, that said testimony was taken down by me in
stenotype and afterwards transcribed by me; that
the appearances were as set out in the caption
hereof; and that no request was made by counsel
that the transcript be submitted for reading and
signature.

Given under my hand as notary public
aforesaid, this the 16th day of December, 2011.

__________________________
Georgene R. Scrivner
Notary Public
State of Kentucky at Large
CCR#20042109

My Commission Expires: 7/15/2015