



National Meeting
Des Moines Iowa 2012
National Horsemen's Benevolence
& Protective Association (HBPA)

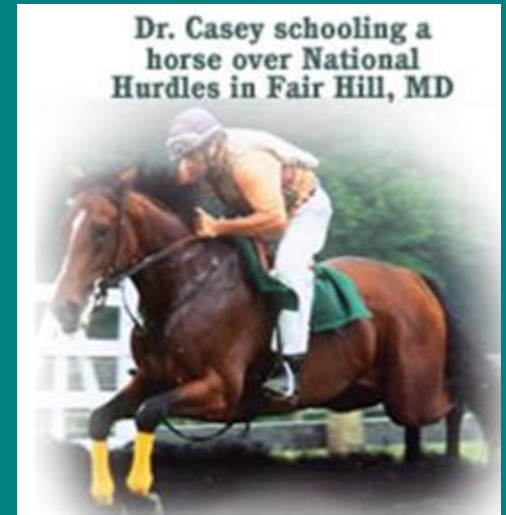
**Use of Furosemide (Lasix/Salix) for Prevention and
Management of Exercise Induced Pulmonary
Hemorrhage (Bleeding) EIPH in Horses**



Horse Owner, Trainer, Breeder



Former Jockey



James M. Casey, D.V.M., M.S.



Practicing Veterinarian



Guest Instructor & Lecturer
Several Veterinary Schools

Parasites Are Major Cause of Disease in Horses.

We prevent and manage this problem with therapeutic medications



Small strongyles



Bots



Tapeworms



Ascarids
(Roundworms) in
the small intestine

Prevention of Parasites



Prevention of Parasites: De-Wormers



American Ingenuity

In the 1960's when U.S. Astronauts were going to the moon, American horsemen figured out how to prevent and manage Exercise Induced Pulmonary Hemorrhage (EIPH) or bleeding in horses with the use of Furosemide (Lasix/Salix).



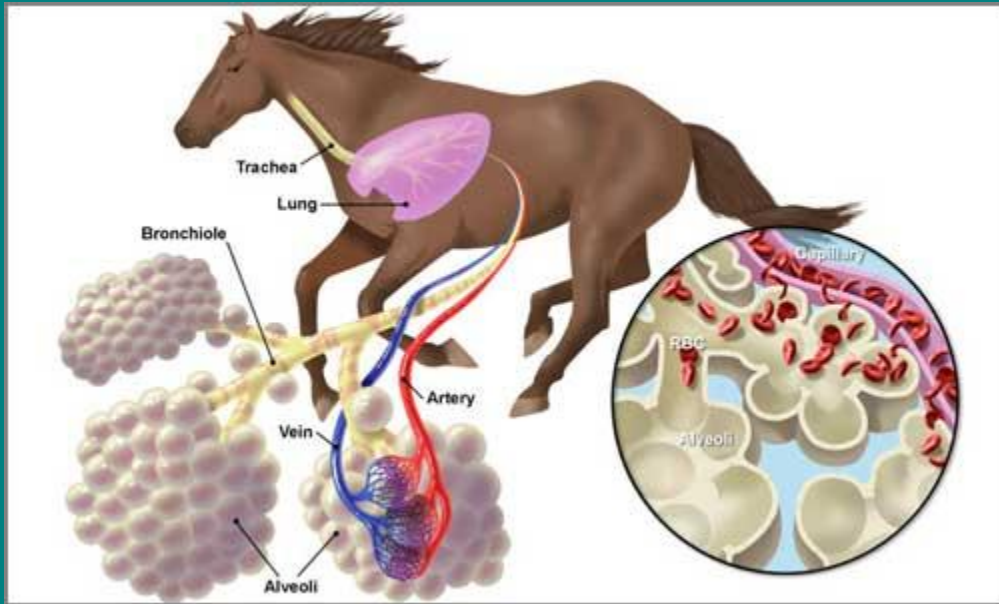


The Association of Racing Commissioners international (ARCI), the Jockey Club, and others are proposing a ban on race day medication.

This will eliminate the use of race day administration of Furosemide (Lasix/Salix).

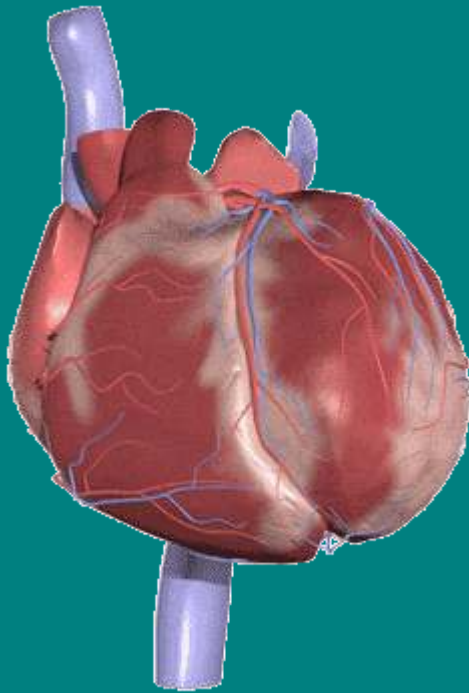
This is a terribly inhumane idea and a danger to both horses and riders!

Exercise Induced Pulmonary Hemorrhage (EIPH) Bleeding In Horses

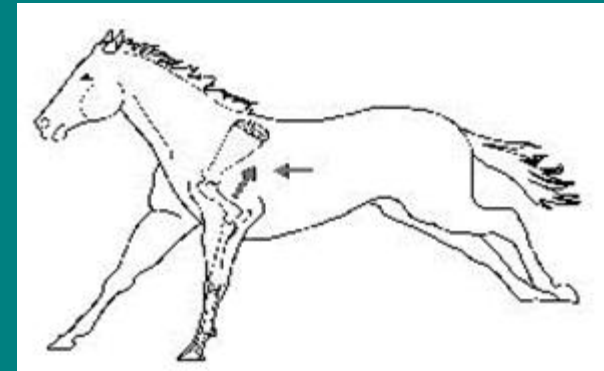
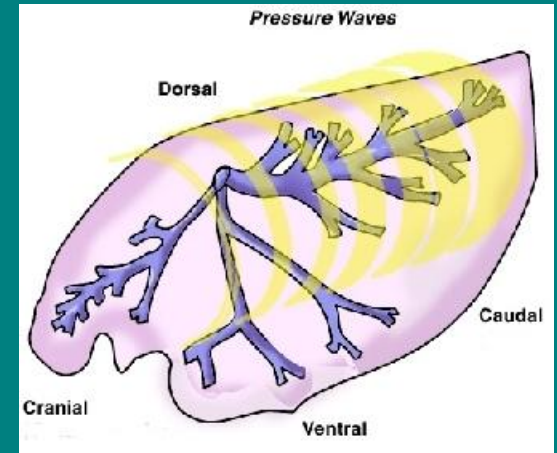


Rupture of the capillaries in the area of the air sacs of the lungs is where the blood breaks out of the vascular system.

➤ EIPH is a syndrome that is produced by conditions of racing



The horse's powerful heart pumping blood at high pressure combined with the shock wave produced when the horse hits the ground when running, are contributing causes of EIPH or bleeding in horses.



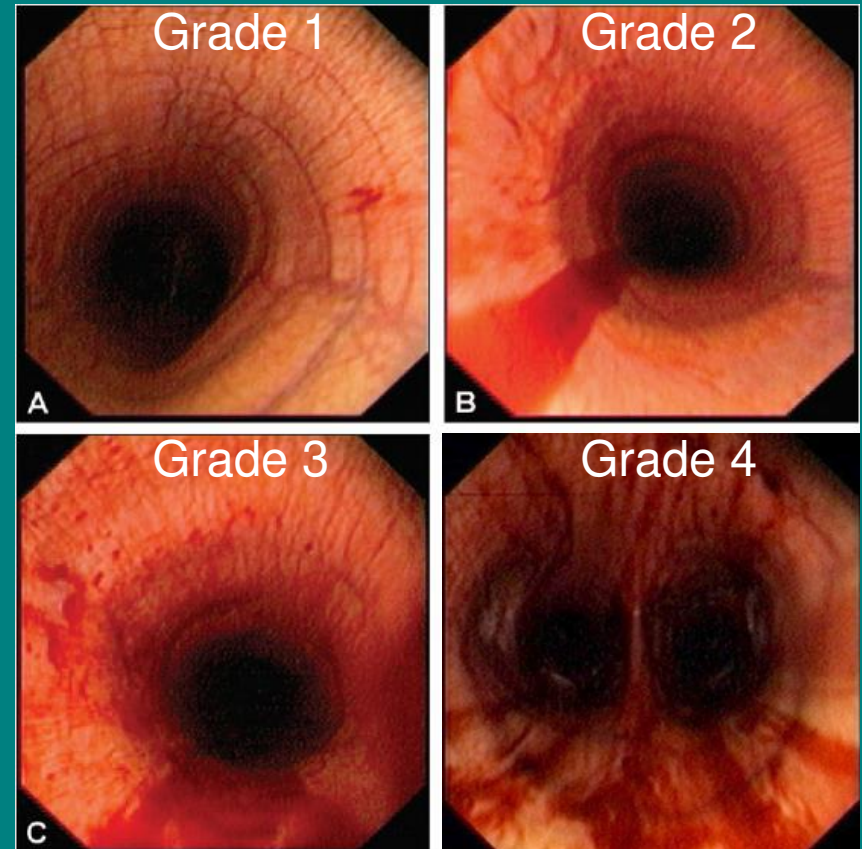
Exercise Induced Pulmonary Hemorrhage EIPH (bleeding) is most often diagnosed with the use of a fiber optic endoscope.



Blood in trachea

Endoscopic grades of EIPH

- Grade 0 = No blood detected
- Grade 1 = One or more flecks of blood or ≤ 2 short, narrow streams ($<10\%$ of tracheal surface)
- Grade 2 = One long stream or > 2 short streams occupying less than 33% of tracheal circumference
- Grade 3 = Multiple distinct streams of blood covering greater than 33% of tracheal circumference
- Grade 4 = Multiple, coalescing streams of blood, covering more than 90% of the tracheal surface with blood pooling at the thoracic inlet



Epistaxis (blood in the nostrils)

- Profuse blood from nostrils
- Most severe form of EIPH
 - DEATH
 - Small percentage of horses with EIPH



EIPH

Epistaxis causes harm to horses.

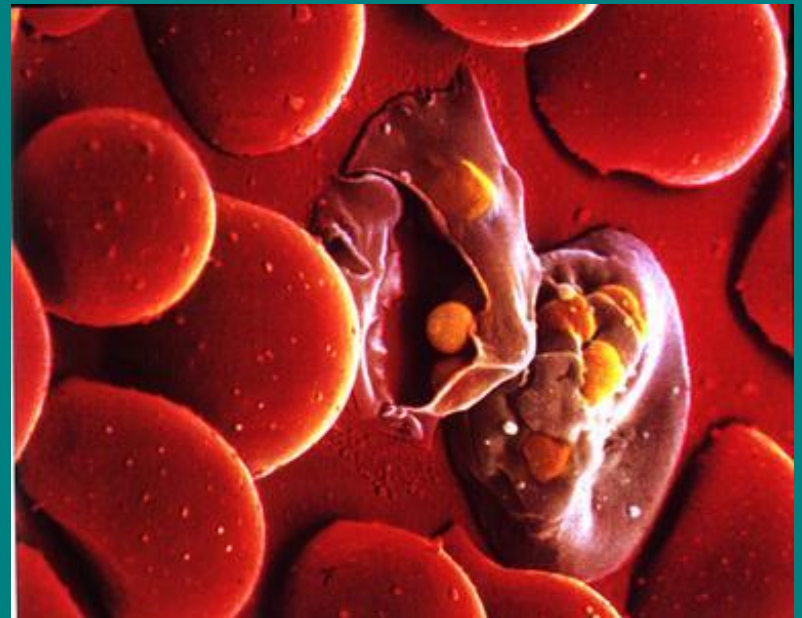
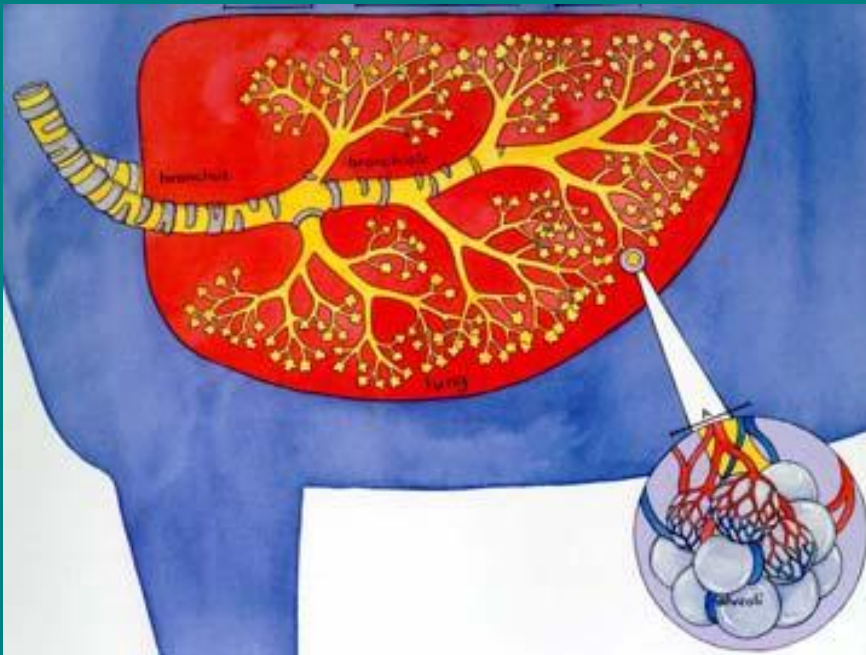
- Blood in lungs
- Reduced oxygen intake
- Fatigued muscles
- Sudden death



This is a danger to both
horses and jockeys

Additional Damage to the Horse

EIPH, bleeding in the horse's lungs sets up a nidus (place) for infection and both damages and destroys lung tissue. Repeated EIPH further destroys lung tissue often making it unable to heal. If enough lung tissue is destroyed, it is the end of the horse as far as racing.



Pleuropneumonia

EIPH or bleeding in horses can lead to serious lung infections that require extensive treatment in an attempt to save the horse's life.



A bucket of purulent material drained from the horse's lungs

The Rest Of The World Should Look To The United States

EIPH or bleeding in horses occurs across the world.

The rest of the world is not addressing the problem like we do in the United States



EIPH and Lasix

- Furosemide (Lasix/Salix) is the only tool we have to prevent EIPH
- Furosemide (Lasix/Salix) is effective



Bleeding predates current breeding and racing practices

“Bleeding Childers”

“Hermit”

“Eclipse”



New York Racing Association

Dr. Anthony Verderosa
analysis of incidence
of epistaxis in year
before and after Lasix
is allowed **GREATER
THAN 400%
DECREASE IN
EPISTAXIS WITH
LASIX USE**

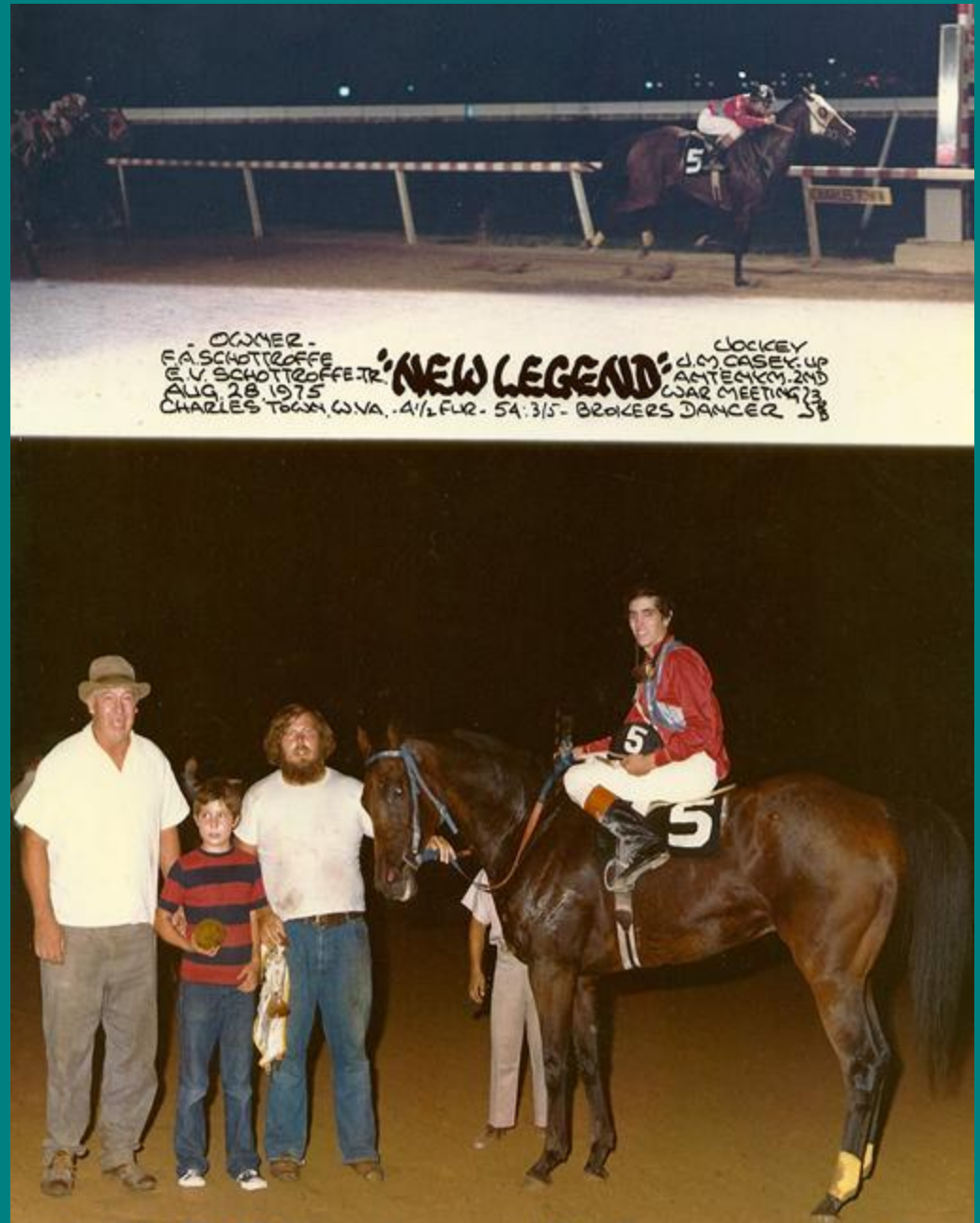


Efficacy of Furosemide (Lasix/Salix) for Prevention of Exercise-Induced Pulmonary Hemorrhage in Thoroughbred Racehorses



The study that was funded by the Jockey Club in South Africa, determined nearly all horses bleed and that Furosemide (Lasix/Salix) was effective in preventing or managing EIPH

As a
teenager,
I was a
jockey



EIPH Is A Danger To Jockeys

Horses suffering from EIPH are subject to slowing down abruptly (stopping) in a race or crashing down in a race which not only puts their lives at risk, but also puts the lives of other horses and jockeys in a dangerous situation.





A horse suffering from EIPH (bleeding) and oxygen deprivation collapsing in a race could be fatal not only the horse, but also the jockey



A situation where the horse died from EIPH (bleeding) most likely would be prevented with the use of Furosemide (Lasix/Salix)

No Substitute for Furosemide (Lasix/Salix)

It is the only humane
thing to do for horses
that race



The Association of Racing Commissioners International (ARCI) ban on Lasix/Salix will have the following effects:



- Place both horses and riders in danger
- Some horses will not be able to race at all. Other horses will have their careers shortened
- This will cause a huge negative economic impact
- Will promote a negative perception of the entire horse racing industry



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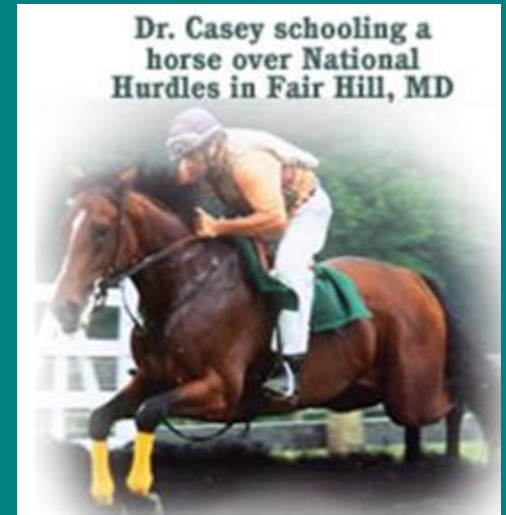
Excessive & Unworkable Regulations



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Excessive Regulations “Zero Tolerance”

There is no such thing as zero tolerance.

Once any medication is given to a horse, there is always some of the molecules of that medication in the horse.

Testing is a million times more powerful or sensitive today than just a few years ago.

Tiny residual amounts of therapeutic medication are nearly always detectable.



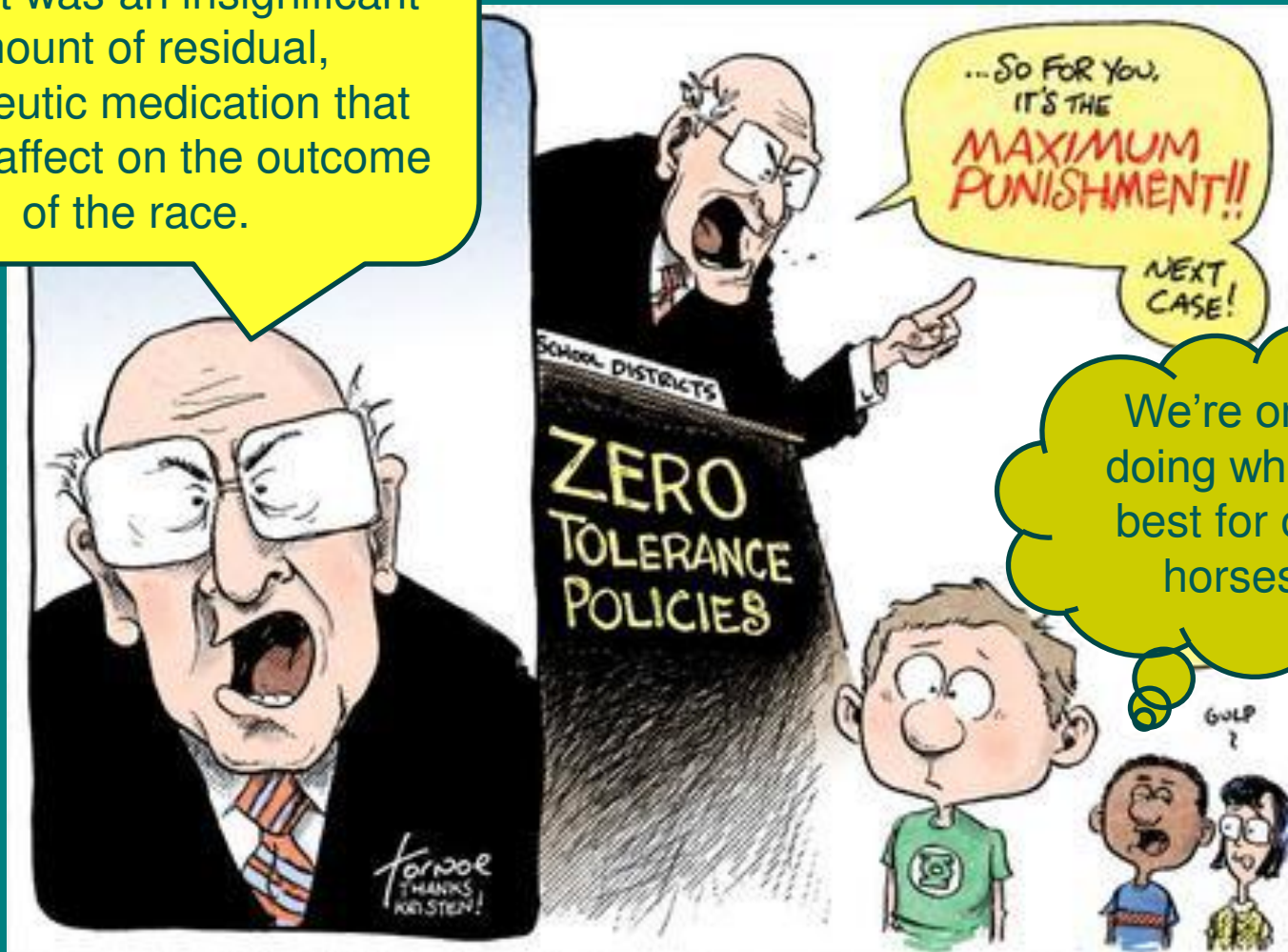
Excessive Regulations “Zero Tolerance”

If the foal pictured here had a fever and was given some Banamine (Flunixin), for the rest of this horse's life there will be some of those molecules of Banamine (Flunixin) in its body.

Many regulators do not have a good understanding of today's sensitivity of the testing to the picogram level.



Zero Means Zero, We don't care if it was an insignificant amount of residual, therapeutic medication that had no affect on the outcome of the race.



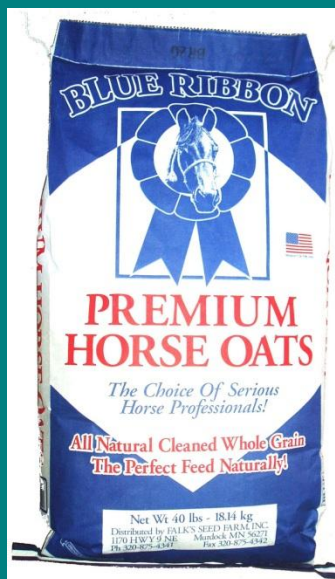
Many Things are Potentially “Performance Enhancing”

According to many regulators, we as horsemen can not do anything that is “Performance Enhancing”.

The problem with this is, anything that is done to improve a horse’s health has the potential to improve the horse’s performance.



Quality Hay and Feed



Therapeutic Medications
Meds that heal & maintain health

Horse Racing is Highly Regulated

Horse racing is highly regulated and if the same rules that horses race under were applied to other sports, these sports would not exist

NO World Series



NO Super Bowl



NO Olympics



For example, if a professional baseball player or a pro football quarterback were to drink a coca cola within a couple days of a game or take an aspirin game day, neither could play under horse racing rules. The Major League Baseball (MLB) and the National Football league (NFL) would be gone.



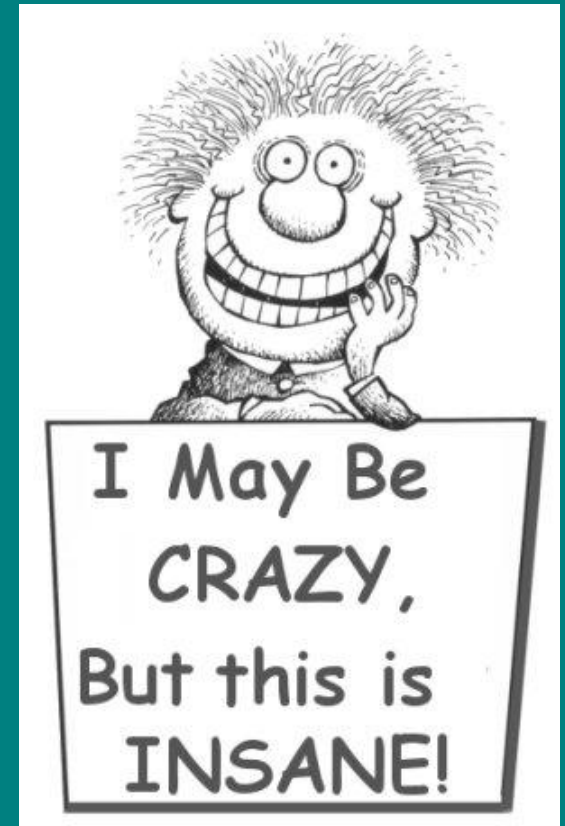
If kids had to live under our rules of horse racing, there would be no sports for kids. For example, a kid drinks Chocolate Fat Free Milk or takes a puff of an Albuterol inhaler...sorry kids, all sports are now canceled.



A goal of the Association of Racing Commissioner International (ARCI) is uniformed rules.

Most horsemen want uniformed rules.

However, many of the ARCI Model Rules make NO sense.



ARCI Model Rule

ARCI-011-015 Prohibited Practices

(2) The possession or use of a drug, substance, or medication on the premises of a facility under the jurisdiction of the Commission that has not been approved by the United States Food and Drug Administration (FDA) for any use in (human or animal) is forbidden without prior permission of the Commission or its designee.

Problems with this rule:

- **Congress** has long specified that the **FDA** can **Not** **“Practice Medicine”**
- Doesn't address extra label use or biological products in veterinary medicine & many other common things, a product not FDA approved, does **Not** mean it is illegal



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Off label or extra label drug use is prescribing a medication for other than its approved use. Much of all human medicine and **most veterinary medicine falls under off label or extra label use.**



Example: Aspirin is approved for minor aches and pains and is used off label for people with heart conditions.

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The FDA does Not have the legal authority to regulate the practice of the medicine, and the physician, veterinarian, or other medical practitioner may prescribe a drug off label. Contrary to popular notion, it is legal in the United States and in many other countries to use drugs off label, including controlled substances.



ARCI Model Rule

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An actual Chief Steward's interpretation of this rule



The model rule says nothing about extra label drug use.

Therefore, extra label drug use or anything not approved by the FDA is forbidden and illegal.

Biological products are illegal .

ARCI Model Rule

ARCI-011-020 Medications and Prohibited Substances

Penalties are increased by the ARCI

(a) Whether the drug is approved by the U.S. Food and Drug Administration for use in the horse;

(b) Whether the drug is approved by the U.S. Food and Drug Administration for use in any species

I know, I'm sorry, but
the state legislature
adopted the ARCI
Model Rules

Judge, the
ARCI & the
FDA can not
legally practice
veterinary
medicine



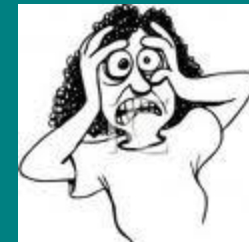
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This model rule is seriously flawed in that the FDA does not regulate biological products in veterinary medicine. The FDA can not approve what they do not regulate.

Biological products include vaccines, plasma, hormones, and other biological substances.



This ARCI Model Rule makes it illegal for a veterinarian to vaccinate a horse without prior permission from the Racing Commission

The FDA Does Not Regulate Biological Products

Veterinary Biologics (Biological Products)

The Animal Plant Health Inspection Service (APHIS), a branch of the United States Department of Agriculture (**USDA**), **regulates veterinary biologics** (vaccines, bacterins, antisera, diagnostic kits, and other products of biological origin) to ensure that the veterinary biologics available for the diagnosis, prevention, and treatment of animal diseases are pure, safe, potent, and effective. This work is done by APHIS' Center for Veterinary Biologics (CVB) and is centered around enforcement of the Virus Serum Toxin Act (PDF 17KB).



ARCI Model Rule

ARCI-011-015 Prohibited Practices

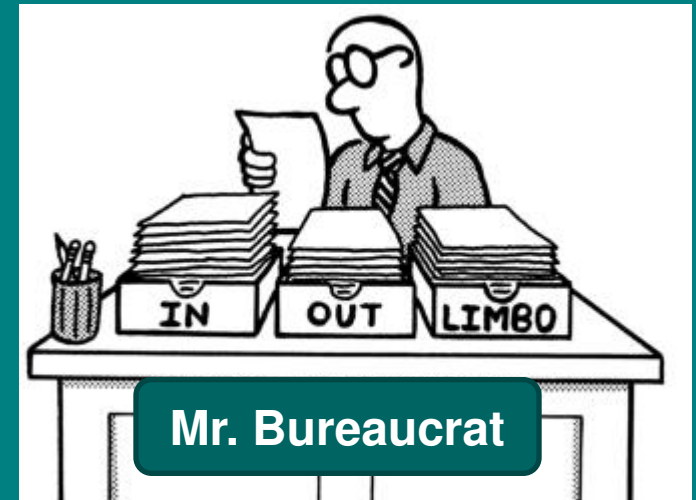
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Collecting bone marrow
for stem cells



Vaccination



The ARCI requires a veterinary practitioner to seek their permission prior to performing routine veterinary work

ARCI Model Rule

ARCI-011-015 Prohibited Practices

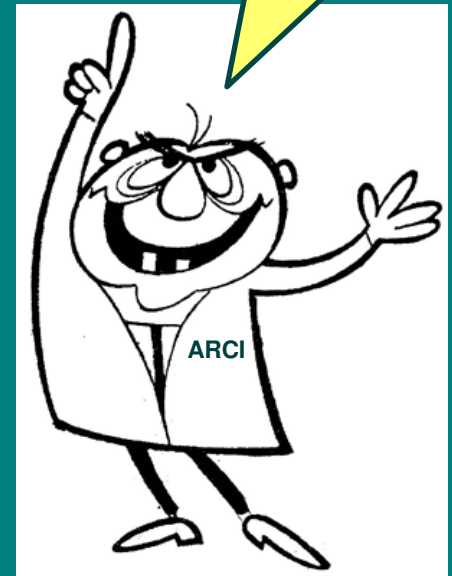
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The medications, tetanus vaccine, and sterile supplies needed to repair this laceration are not specifically approved by the FDA and would require permission from a regulator to perform this work.

What happens if the regulator is not available?

Only with my permission



ARCI Model Rule

Banning Anabolic Steroids



Anabolic Steroids are natural substances and are needed for tissue repair.

Judicious use for anabolic steroids is well established.

When the ARCI and others moved to get them banned, little consideration was given to the benefits these medications have for horses.

ARCI Model Rule ***Banning Anabolic Steroids***

Banning of anabolic steroids was promoted by the ARCI to help give a level playing field.

However, the ban sets up a competitive disadvantage between a colt and a gelding.

A stallion/colt has the anabolic substances his testicles produce and races with it. A gelding doesn't have the same.



Gelding



Colt

ARCI Model Rule ***Banning Anabolic Steroids***

When talking with a Racing Commissioner and trying to explain that a stallion or colt under these ARCI Model Rules can have and race with the anabolic substances produced by his testicles.

This potentially gives the stallion or colt a competitive advantage over a gelding.

I was told by the Racing Commissioner this would never be a problem because “**a stallion or colt never races against a gelding.**”



ARCI Model Rule

ARCI-011-020 Medications and Prohibited Substances

J. Androgenic-Anabolic Steroids (AAS)

(1) No AAS shall be permitted in test samples collected from racing horses except for residues of the major metabolite of stanozolol, nandrolone, and the naturally occurring substances boldenone and testosterone at concentrations less than the indicated thresholds.

(3) Any other AAS are prohibited in racing horses.

Why is this a problem?

There are other natural occurring androgenic-anabolic substances in the horse.



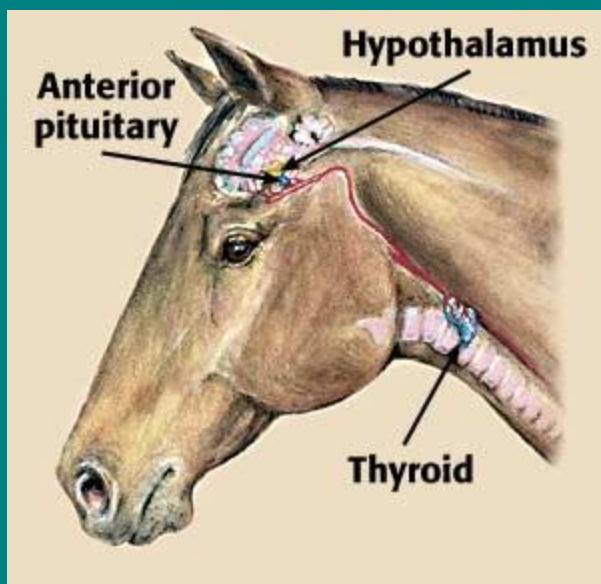
ARCI Model Rule

ARCI-011-020 Medications and Prohibited Substances

J. Androgenic-Anabolic Steroids (AAS)

(3) **Any** other AAS are prohibited in racing horses

This rule, if enforced, would **Eliminate All Horses** from racing because:



Growth hormone (GH) stimulates growth, cell reproduction, and regeneration of tissue in horses and has androgenic-anabolic properties.

Growth hormone is synthesized, stored, and secreted by the somatotroph cells within the lateral wings of the anterior pituitary gland.

ARCI Model Rule

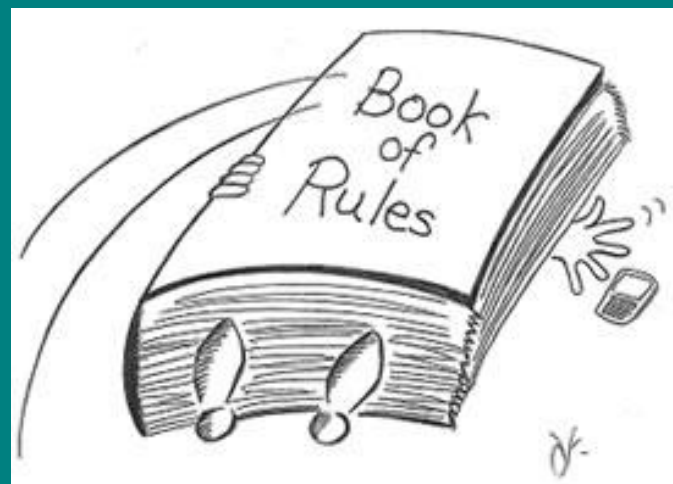
ARCI-011-020 Medications and Prohibited Substances

B. Penalties

(4) Any drug or metabolite thereof found to be presenting a pre- or post-race sample which is not classified in the most current RCI Uniform Classification Guidelines for Foreign Substances shall be assumed to be a RCI Class 1 Drug and the trainer and owner shall be subject to those penalties as set forth in schedule “A” unless satisfactorily demonstrated otherwise by the Racing Medication and Testing Consortium, with a penalty category assigned.

Class A Penalties may include:

- Loss of Purse
- Years of suspension to revocation of license
- Fines from \$10,000 to \$100,000



ARCI Model Rule

ARCI-011-020 Medications and Prohibited Substances

Anything drug, medication, or substance not listed in the RCI Uniform Classification Guidelines, is assigned as a Class 1 and possibly subject to the highest penalties.

The following are **Not** listed in the RCI's book of rules:



If a pre or post race test found one of these common products, or others, it could be a lot of trouble.

ARCI Model Rule

ARCI-011-020 Medications and Prohibited Substances

(4) Class 4

(K) Miscellaneous drugs including:

(B) Stomachics

Problem with this rule?

I do not believe the ARCI did enough research regarding Stomachics.

A Stomachic medicine is one that serves to tone the stomach, improving its function and increasing appetite. While many herbal remedies claim stomachic effects, modern pharmacology does not have an equivalent term for this type of action.



ARCI Model Rule

ARCI-011-020 Medications and Prohibited Substances

(4) Class 4 (K) Miscellaneous drugs including: (B) Stomachics

Some Herbs with stomachic effects include:

- Anise
- Barberry
- Dandelion
- Ginseng
- Goldenseal
- Hops
- Holy thistle
- Juniper berry
- Oregano
- Peach Bark
- White mustard seeds

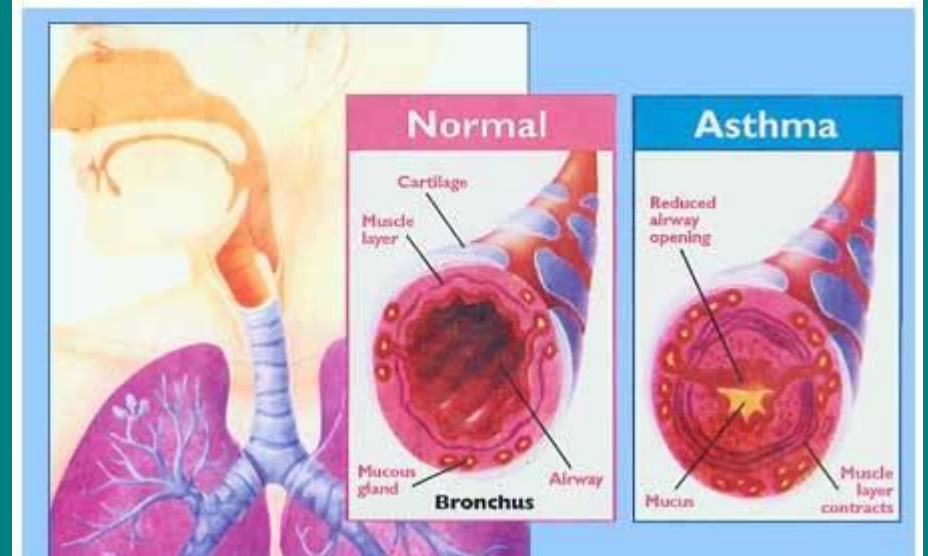


Ginseng, Dandelions, and other herbs under are considered Class 4 for drug violations. This is ridiculous beyond belief. Ginseng is found in a lot of common herbal supplements. Dandelions are in pastures and often baled up in hay. We Should Not have penalties for something like this.

This would be a C penalty and could result in loss of purse, fine, and suspension

The ARCI is Not The Only Ones With Strange Rules

California regulators have severely restricted, or nearly eliminated the therapeutic medication Ventipulmin



Ventipulmin (Clenbuterol) helps horses with allergies, asthma like conditions, respiratory infections etc. In human medicine we use Albuterol to do the same.



Albuterol Inhaler

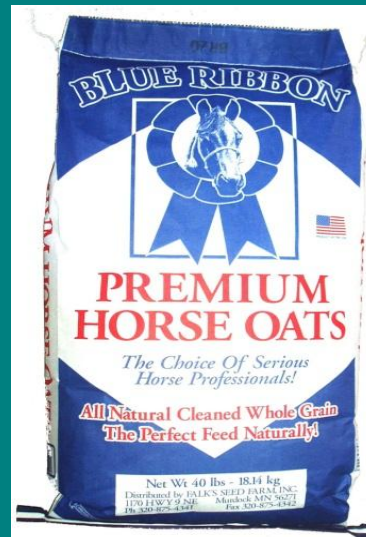
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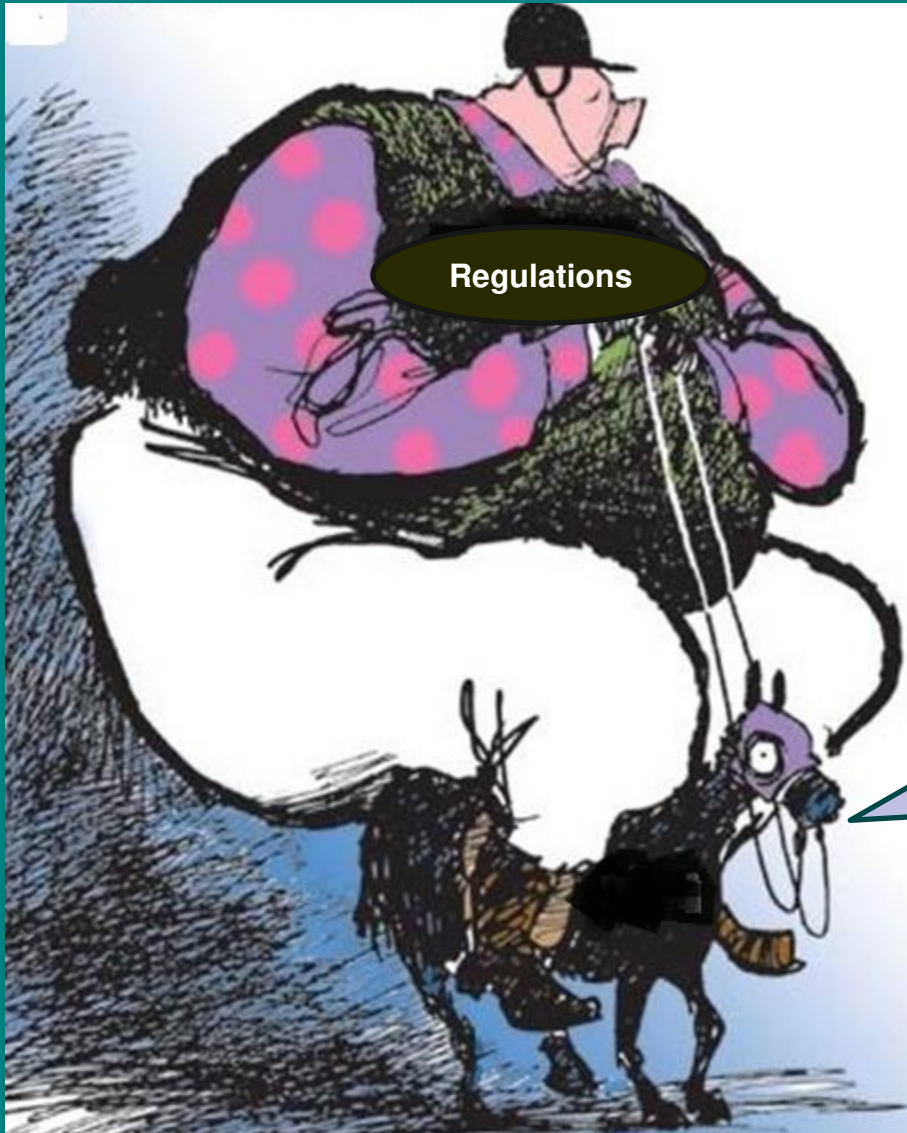


Oat Gate was
narrowly
adverted at
Belmont Park



After intense
discussion, trainers
were allowed to cook
oats for their horses





The regulations that make little sense are getting awful tough for me to carry.

Sensible Regulations

We all support sensible uniformed rules and regulations that are in the best interest of horses and horse racing.

I believe we should do everything we can to keep horses in the best of health and allow them to perform at their optimal level. This includes the use of therapeutic medications when needed.

