

# New York Task Force on Racehorse Health and Safety



## OFFICIAL REPORT

Investigation of Equine Fatalities at  
Aqueduct 2011-2012 Fall/Winter Meet



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## I. INTRODUCTION

Between November 30, 2011 and March 18, 2012, 21 horses died or were euthanized as a result of conditions sustained while racing at Aqueduct Race Track (hereinafter "Aqueduct") in Ozone Park, New York. The incidence of racing fatalities was approximately double that recorded in the previous two years, and well exceeded the North American average for racing fatalities. This unusual cluster of injuries generated widespread public and industry concern. In a letter dated March 14, 2012 from the Office of New York Governor Andrew Cuomo to New York Racing Association (hereinafter "NYRA") President Charles Hayward, NYRA was advised to "hire a qualified independent investigator or team of investigators to review the circumstances involving these breakdowns, analyze the cause or causes and recommend any necessary action to (prevent) equine breakdowns at NYRA facilities." The letter further advised, "The scope of the review should include existing policies on disclosure, necropsies, track conditions and pre-race examination of horses. The rules on claiming, veterinary procedures and drug use must be examined to determine what we can do to promote equine safety."

On March 22, 2012 the New York State Racing and Wagering Board, (the "NYSRWB") upon the recommendation of NYRA, announced the appointment of a team of respected industry experts to conduct the investigation. The team, which was named The New York Task Force on Racehorse Health and Safety, was comprised of the following members:

Alan M. Foreman, Esquire. Mr. Foreman is a well-known equine and racing law attorney from Owings Mills, Maryland. His more than 30 years' experience in the racing and performance horse industry includes service as a former Assistant Attorney General of Maryland and as counsel to many industry organizations. In addition to his private law practice, he is Chairman and CEO of the Thoroughbred Horsemen's Association, representing more than 20,000 owners and trainers across the country. Mr. Foreman is a founding director of the National Thoroughbred Racing Association (the "NTRA") and also serves as Vice Chairman of the Racing Medication & Testing Consortium (the "RMTTC").

Jerry Bailey. Mr. Bailey is widely considered to be one of the greatest jockeys in the history of the sport. He rode in more than 30,000 races, was a seven time Eclipse Award winning jockey, is second in all-time earnings of \$296 million in purses and served as President of the Jockeys' Guild. He is currently a television analyst with NBC and ESPN. Mr. Bailey was instrumental in promoting the requirement of protective safety vests for jockeys.

Mary Scollay-Ward, DVM. Dr. Scollay-Ward is the Equine Medical Director of the Kentucky Horse Racing Commission. From 1988-1995 she was a regulatory veterinarian at Balmoral Park, Sportsman's Park, Hawthorne Race Course, and Arlington Park in Illinois. From 1995-2008, she was the senior association veterinarian at Calder Race Course and Gulfstream Park in Florida. While in Florida,

Dr. Scollay-Ward developed an innovative equine injury reporting system that evolved into The Jockey Club's Equine Injury Database.

Scott Palmer, VMD. Dr. Palmer is an internationally known equine surgeon. He is the hospital director and staff surgeon at the New Jersey Equine Clinic, where he has practiced for more than 36 years. During much of this time he also worked as a private practitioner in the backstretch of Freehold Raceway and The Meadowlands Racetrack. He is a Past President of the American Association of Equine Practitioners (the "AAEP") and currently serves as Chair of the AAEP Racing Committee. The New Jersey Association of Equine Practitioners twice named Dr. Palmer "Veterinarian of the Year". Dr. Palmer chaired this Task Force.

The Task Force's mandate was to:

- **Investigate the cause or causes of the 21 equine fatalities at Aqueduct's inner track meet between December 2011 and March 18, 2012<sup>1</sup>;**
- **Examine the physical condition of Aqueduct's inner track;**
- **Review and advise on policies relating to public disclosures, necropsies, track conditions and pre-race examinations, and;**
- **Examine rules and practices relating to claiming procedures, veterinary procedures and equine drug use.**

In approaching this investigation, the Task Force was aware of the considerable speculation and theories that have been advanced to explain the occurrence of the fatal injuries during the Aqueduct meet. Included in these theories are:

- The enhanced purses resulted in an economic model in which the purse was of greater value than the horse, thus establishing the horse as a disposable commodity to be consumed in pursuit of high value purses.
- The inflated purse structure attracted an increased number of lower level and lesser quality claiming horses to race at Aqueduct, elevating these horses to a level of competition that was beyond their ability.
- The horse population racing during the Aqueduct meet was of inferior quality and diminished soundness than previous meets.
- Lamé or injured horses were treated with illicit performance-enhancing drugs to mask unsoundness.
- Excessive and inappropriate use of medication masked unsoundness and permitted the racing of lamé or injured horses.
- Redundant medical treatments in claimed horses (as medical records are not transferred with claimed horse) obscured the trainer's ability to accurately assess the condition of the horse and make informed decisions on veterinary care.

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<sup>1</sup> The original mandate was to investigate 20 fatalities that occurred at Aqueduct from November 30, 2011 to

- The use of extra-corporeal shockwave therapy masked unsoundness and permitted the racing of lame or injured horses.
- The unusually warm and dry winter weather during the Aqueduct meet affected the racing surface.
- The mild weather resulted in fewer cancellations and eliminated the enforced rest associated with cancelled racing and training, thus allowing horses to be over-trained and over-raced.
- Horses were raced with inappropriately short intervals between races

The Task Force examined these and all other possible factors and conducted a thorough, objective, and comprehensive investigation.

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## II. SCOPE OF THE INVESTIGATION AND METHODOLOGY

In order to fulfill its mandate, the Task Force:

- Conducted more than 75 interviews including, but not limited to, NYRA employees, past and present; the owners and trainers (and in some cases assistant trainers) of the fatally injured horses; trainers of uninjured horses who raced at Aqueduct and Belmont Park; the jockeys of the fatally injured horses; other members of the jockey colony at Aqueduct and Belmont Park; practicing veterinarians at Aqueduct and Belmont Park; NYRA veterinarians, past and present; paddock farriers; the Paddock Judge; the Stewards; NYSRWB personnel; the Director of the New York Equine Drug Testing and Research Program; the Vice President for Racing (the Racing Secretary); the Vice President of Facilities and Racing Surfaces (the track superintendent); and many others who reached out to the Task Force with comments or information.
- Reviewed the daily racing programs for each of the race days on which a fatality occurred for indications of horses potentially at risk of injury.
- Reviewed the past performances and workouts of the each of the fatally injured horses.
- Reviewed and analyzed the race videos of the races in which fatalities occurred
- Created comprehensive individual case histories for each fatality.
- Reviewed NYSRWB investigation records for each fatality.
- Reviewed the medical records of injured and uninjured horses as were provided to the Task Force.
- Performed a risk factor assessment of each fatality.
- Reviewed trainers' claiming history during the 2011-2012 Aqueduct meet.
- Reviewed Aqueduct Condition Books.
- Conducted Aqueduct site inspections.
- Conducted paddock inspections of foot conformation and shoeing practices.
- Analyzed the regulatory procedures employed by the NYRA veterinary division.
- Reviewed current veterinary research on diagnostic techniques to identify pre-existing medical conditions having potential to progress to catastrophic musculoskeletal injury.
- Reviewed veterinary literature on the role and importance of pre-race examinations.
- Retained an expert to conduct an epidemiologic study of equine injury data pertaining to fatal (and non-fatal) injuries at NYRA tracks.
- Retained an expert to conduct an epidemiologic study of pre-race medication administered to injured and uninjured horses.
- Reviewed the veterinary literature on risk factors in racehorses.
- Compiled a summary of potential risk factors to be used to develop intervention strategies for musculoskeletal injury.
- Reviewed the design and composition of the inner track and main track at Aqueduct.

- Collected, reviewed and analyzed weather data for the 2009-2010; 2010-2011; and 2011-2012 Aqueduct meets.
- Collected data and calculated average race speeds for the inner track at Aqueduct.
- Documented and plotted injury locations on the inner track.
- Retained an expert to conduct a review of NYRA's racetrack maintenance procedures.
- Reviewed NYRA's application for NTRA Safety and Integrity Alliance Accreditation (2009 & 2011).
- Reviewed the NTRA Safety and Integrity Safety Alliance Accreditation Inspection Reports (2009 & 2011).
- Reviewed NYRA's compliance with the NTRA Safety and Integrity Alliance Code of Standards and Accreditation Inspection Reports, and compared them with NYRA's operational protocols.
- Reviewed the relevant NYSRWB Thoroughbred rules including claiming, medication, necropsies, veterinary examination, and veterinary practices.
- Reviewed NYSRWB and NYRA claiming procedures.
- Met with the NYRA's integrity counsel.
- Reviewed NYSRWB/NYRA policies and procedures for collecting blood and urine samples from horses at NYRA tracks.
- Reviewed NYSRWB/ NYRA policies and procedures for horses injured during a race.
- Reviewed NYRA policies and procedures for necropsies.
- Reviewed post-race drug testing results data from samples collected from NYRA tracks and, to the extent it was available, reviewed results from samples collected from the fatally injured horses.
- Reviewed NYSRWB emergency rules enacted during the investigation.
- Reviewed NYRA policy and procedural changes during the period of the investigation.

At the outset, the Task Force requested, and received, assurances from the NYSRWB that individuals who cooperated in providing necessary information to allow the Task Force to attempt to determine the cause, or causes, of the spate of fatalities would not be subjected to potential regulatory enforcement action nor should our conclusions result in such action against any individual, absent a finding of possible criminal conduct, gross and wanton negligence or reckless disregard for the welfare of the horse and riders. In order to gain the confidence and cooperation of witnesses and as much reliable information as possible, individuals interviewed were advised that their interview was confidential and would not subject them to regulatory enforcement action (subject to the aforementioned caveats), although the information provided could be reflected in the final report. The Task Force did not have direct subpoena power and did not believe that this was necessary, nor would it have been useful. The witnesses interviewed in this investigation, with few exceptions, were cooperative and forthright. The Task Force operated with total independence and had unfettered access to NYRA personnel, data and documents. All materials were handled and maintained in a secure and confidential manner. This Report sets forth the essential findings of the investigation. The findings contained in this Report represent a fair,

objective, and comprehensive analysis of the facts.

No party interfered with, or attempted to influence, the findings in this Report. No advance copy was provided to any other person outside of the Task Force, and the work product was not shared with anyone who was not part of the Task Force other than consultants and experts of the Task Force.

Each Task Force member has a long career in the racing industry and has been engaged in the issues covered in this investigation and in industry policy-making, albeit from differing perspectives. This will no doubt create the impression among some that each of the Task Force members' has certain biases and lacks the necessary objectivity. For the record, Mr. Foreman represents the New York Thoroughbred Horsemen's Association ("NYTHA"), the organization that represents the horsemen who race at the NYRA tracks, on individual matters where they seek his advice, expertise and counsel. Prior to his retirement, Mr. Bailey rode horses for eight of the trainers whose horses sustained fatal injuries during the Aqueduct meet. Dr. Palmer is not licensed in New York but has treated horses referred to him by practicing veterinarians at the NYRA tracks. Dr. Scollay-Ward has no connection to any New York racing interests but is a paid consultant to The Jockey Club's Equine Injury Database. The foregoing notwithstanding, none of the Task Force members believe that their associations within the industry compromised their ability to perform a fair, impartial, objective, thorough and aggressive investigation consistent with the mandate provided to it by the State and NYRA. The Task Force members believe they have properly fulfilled their mandate.

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### III. HISTORICAL PERSPECTIVE

To establish an historical perspective, NYRA provided information on race-related equine fatalities at Aqueduct from 2002 through 2011. The fatality data were inclusive of cases of catastrophic musculoskeletal injury, sudden death, and racing accidents and were provided as raw numbers for each year.

Track	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Inner	8	8	3	9	8	11	10	12	12	10
Main	16	8	4	4	4	3	4	2	3	6

Table 1. Number of Fatalities on Aqueduct’s Inner and Main Tracks, 2002-2011.

When the number of fatalities alone is used to compare the two tracks, it would appear that the prevalence of racing fatality on the inner track was higher than that of on the main track. However, this overly simplistic comparison is misleading.

For a fair comparison of the injury rate for both of these tracks, it is necessary to consider the number of starts on each track. When the number of fatalities was divided by the number of starts made on both tracks, a more representative comparison is provided, indicating that for the period from 2002–2011 there was no statistically significant difference between the occurrence of fatality per 1,000 starts on Aqueduct’s inner and main tracks. (P=0.47)

Track	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Inner	1.7	1.6	0.6	1.8	1.4	2.1	1.9	2.3	2.4	2.1
Main	3.7	2.2	1	1.4	3.9	1.3	1.7	0.9	1.6	3.2

Table 2. Fatalities per 1,000 starts on Aqueduct’s Inner and Main tracks, 2002-2011.

Consistent with previous years’ winter race meets, the barn areas at Aqueduct and Belmont Park were populated by local horses as well as horses seasonally based at Finger Lakes and Suffolk Downs. Taken as a whole, these horses are generally of lesser quality than those horses that are shipped to the southern states to race in winter months. These horses make up the population from which the racing secretary will draw to fill race cards that will attract racing fans and provide a practical business opportunity for trainers.

In 2007, NYRA was one of the original participants in the injury-reporting project that evolved into The Jockey Club’s Equine Injury Database (hereinafter the “EID”). Data is reported into the EID by regulatory veterinarians and encompasses all events that require the intervention of a regulatory veterinarian, such as:

- Pre-race exam scratches

- Paddock, post-parade or gate scratches for injury or unsoundness
- Non-fatal racing injuries, accidents, or other veterinary medical conditions sustained during a race
- Fatal racing injuries, accidents, or other veterinary medical conditions sustained during a race

The Jockey Club publishes, on an annual basis, North American summary statistics of racing fatalities. Dr. Tim Parkin, an internationally recognized veterinary epidemiologist at the University of Glasgow Veterinary College, performs the statistical analysis. Additionally, each participating racetrack is able to review and utilize its data to monitor local trends and develop strategies in response to emerging issues. The Task Force retained the services of Dr. Parkin for the analysis of NYRA's EID data. (See Exhibit A for Dr. Parkin's full report.) The Task Force requested the following analyses:

- 1) A comparison of Aqueduct injury occurrence (fatal and non-fatal) per meet (2008-2009; 2009-2010; 2010-2011; and 2011-12) by surface (inner track, main track, turf)
- 2) A comparison of all NYRA tracks' injury occurrence, fatal and non-fatal, by year and surface
- 3) A comparison of NYRA inner track fatal injury occurrence against all other one-mile dirt tracks in North America.
- 4) A risk assessment for fatal injury based on class of race (claiming, allowance, stakes)

The following represents a summary of Dr. Parkin's statistical analyses:

- Although starts made on Aqueduct's inner track were not statistically significantly more likely to end in fatality in the 2011-2012 meet compared to the previous three meets (due to the low statistical power of the limited number of horses examined), a trend towards increased occurrence of fatality was present.
- Starts made on Aqueduct's main track were more likely to end in fatality in the 2011-2012 season compared to the previous three meets.
- Starts made at Aqueduct on any track were more likely to end in fatality in the 2011-2012 meet compared to the previous three meets.
- Factors associated with an increased risk of fatal injury across all NYRA tracks were:
  - Gender--starts made by intact males<sup>2</sup> being more likely to end in fatality.
  - Type of Race--starts in claiming races being more likely to end in fatality.
  - Track--starts at Aqueduct being more likely to end in fatality than starts at Belmont or Saratoga.
  - Course Type--starts on the inner track at Aqueduct being more likely to end in fatality than starts on other tracks.
- There were statistically significantly more starts at Aqueduct made by intact males in the 2011-2012 meet compared with the 2010-2011 season.

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<sup>2</sup> An intact male is a male horse that has not been castrated.

- In all of the last three meets combined, there were statistically significantly more starts made in claiming races at Aqueduct, compared to Belmont and Saratoga.
- In all of the last three meets combined, there were statistically significantly more starts in claiming races at Belmont compared to Saratoga.
- In all of the last three meets combined, starts on Aqueduct's main or inner tracks were no more or less likely to end in fatality than the North American average on dirt tracks.
- In all of the last three meets combined, starts on Aqueduct's inner track were more likely to end in fatality than the North American average on synthetic tracks.<sup>3</sup>
- Starts on Aqueduct's inner track in the 2011-2012 meet were more likely to end in fatality than the North American average on either dirt or synthetic tracks, 2008-2011.
- Starts on Aqueduct's main track in the 2011-2012 meet were more likely to end in fatality than the North American average on synthetic tracks, 2008-2011.

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<sup>3</sup> A synthetic track is an engineered racing surface composed of a mixture of sand, textile fibers and rubber particles. The entire mixture is coated with a wax or polymer binding agent.

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## IV. REVIEW OF THE 2011-2012 AQUEDUCT FATALITIES

### A. Overview

- All 21 equine racing fatalities occurred on Aqueduct's inner track between November 30, 2011 and March 18, 2012.<sup>4</sup> Two occurred in December; five in January; six in February; and eight in the first 18 days of March. On both January 15 and March 4, 2012, two fatalities occurred in the same race.
- 18 fatalities were horses euthanized as a result of fractures sustained during racing. 11 were associated with fracture of the right front leg; seven with fracture of the left front leg. One horse was euthanized a week after her race from a severe soft tissue injury of the right hind leg.
- Two fatalities were unrelated to musculoskeletal failure. Raw Moon collapsed and died after finishing her race. Unruly Storm was euthanized approximately one week following the race due to the development of an infection from a laceration that occurred during a race. These two fatalities were considered to be anomalies and were excluded from the relevant population of fatally injured horses when the Task Force considered potential interventions.
- 18 of the horses were stabled at Belmont and trained on the Belmont training track; three were stabled and trained at Aqueduct.
- There were eight females, three intact males and 10 geldings<sup>5</sup>.
- 17 of the fatalities occurred in claiming races and four occurred in Maiden Special Weight races.
- 11 fatalities occurred in races at distances of six furlongs or less; 10 occurred in races at distances of more than one mile.
- 17 fatalities occurred when the track was rated "Fast"; two when the track was rated "Good"; and two when the track was rated "Muddy".
- Between November 30, 2011 and March 18, 2012, there were no fatalities on the inner track during training hours.

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<sup>4</sup> On March 22, 2012 racing returned to the main track, two weeks earlier than scheduled.

<sup>5</sup> A gelding is a castrated male horse.

## B. The Individual Fatalities

The following information was obtained from medical records, interviews with owners, trainers, jockeys, practicing veterinarians, NYRA veterinarians, race charts, race videos and a review of data provided by epidemiologists. As previously noted, Raw Moon and Unruly Storm were anomalies to the rest in that they did not experience musculoskeletal failures. In addition, the Task Force did a cumulative risk assessment for each horse based upon Dr. Parkin's presentation at the 2011 Jockey Club Roundtable. Dr. Parkin, has identified eight different events or circumstances that are associated with increased risk of fatal musculoskeletal injury in the Thoroughbred racehorse. They are:

- A horse that has not started in a race in the last 15 to 30 days
- A horse that has made its first start in the last nine months, (i.e., a horse still in its first racing season)
- Intact male horses
- A horse that is older (three years of age and up)
- A horse that made its first start as a three year old or older
- A horse with numerous starts in the period between one and six months prior to the current race
- A horse racing at a distance of < seven furlongs
- A horse with a claiming price < \$25,000

The Task Force considered these as potentially useful factors in analyzing each of the fatally injured horses and included them as a part of each case review. **The Task Force wishes to emphasize that although it performed a risk profile for each individual horse as a part of its investigation, performing a risk profile using the above-described factors is not, and should not be, a “stand-alone” procedure in the determination of whether or not a horse should race.** A more detailed discussion of the EID is discussed in *Section VIII (C), Equine Injury Database and Other Risk Factors*. The *Conclusion* reached by the Task Force on each individual horse does not take into consideration other factors that may have contributed to these fatalities. These other possible contributing factors are discussed in *Section VI, Other Potential Contributing Factors*.

### **Speight of Hand 12/14/11 3<sup>rd</sup> Race**

- i. This intact male horse sustained a fatal injury in his 19<sup>th</sup> career start.
- ii. He made six race starts in the preceding 12 months, and made no starts in the 30 days prior to the race in which the fatal injury was sustained.
- iii. He had a pre-existing medical condition at the site that was subsequently injured.
- iv. The fetlock was radiographed and injected with an intra-articular (hereinafter “IA”) corticosteroid seven days prior to the race. (The Task Force believes it is reasonable to accept this would not have occurred in a horse competing at this level had the horse and/or the joint been clinically normal.)

- v. Pre-race examination indicated a change (increase) in the size of the joint that was subsequently injured, but the IA injection one week prior to the race may have compromised the ability of the NYRA veterinarian to properly assess this horse's condition on race day.
- vi. The IA injection was not noted in the horse's medical record.
- vii. The trainer did not report the IA injection to the Stewards as required by NYSRWB Rule 4043.2 (i).
- viii. The following risk factors were present:
  - 1) Racing for a claiming price  $\leq$  \$25,000
  - 2) Racing at a distance  $\leq$  seven furlongs
  - 3) Intact male
  - 4) Older horse ( $\geq$  three yrs)
- ix. Speight of Hand was claimed three times during his career, twice in the preceding six months, with the last claim being made one month prior to injury. The claiming process transfers the horse, but not its medical records. It is unlikely that the trainer had knowledge of any medical treatments performed prior to his claiming the horse. This may have compromised the trainer's ability to make informed decisions regarding medication administrations.
- x. The purse of the race in which this horse was injured was twice his claiming price (purse-to-claim ratio: 2.0).
- xi. The intervals between the horse's last five races were 21, 51, 35, and 35 days respectively.
- xii. Blood was collected and analyzed. A urine sample was not collected. There were no reported overages of therapeutic medications and no prohibited substances were detected, based upon the limited screening the testing laboratory was able to perform on the blood sample.<sup>6</sup>
- xiii. The absence of a complete necropsy precludes an understanding of Speight of Hand's musculoskeletal health

*Conclusion:* Given the diagnostic workup and an IA corticosteroid injection of the left front fetlock seven days prior to the race, the Task Force questions whether Speight of Hand should have started. Based upon the information provided, the Task Force believes that it is likely that an opportunity may have been missed to prevent this injury. Specifically, the interval from treatment to race was insufficient to assess the horse's response to treatment. Also, the pre-race examination findings were likely confounded by this treatment.

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<sup>6</sup> As discussed more fully in Section VI(G)(4), the reduced volume of plasma obtained immediately post exercise from the fatally-injured horses limited the ability of the testing laboratory to screen for drugs other than non-steroidal anti-inflammatory drugs, corticosteroids, anabolic steroids and local anesthetics.

## Dreamin of Silver 12/30/11 9<sup>th</sup> Race

- i. This gelding sustained a fatal injury in his 3<sup>rd</sup> career start.
- ii. He made three race starts in the preceding 12 months, with one start in the 30 days leading up to his final race.
- iii. He had a pre-existing medical condition in the joint that was subsequently injured. This horse had a chip fracture arthroscopically removed from the right carpus on 6/22/11. This is an ethical and appropriate procedure that generally results in a good prognosis for a return to racing. Post-surgery, the horse was out of training 107 days. The horse then breezed eight times in the 49 days prior to his first start back.
- iv. IA corticosteroid treatment was administered six days prior to the race.
- v. This treatment was not reported to the Stewards as required by NYSRWB Rule 4043.2 (i)
- vi. Pre-race exam findings record a minor change in the horse's clinical presentation for the race in which it was injured. While this finding alone would not necessarily warrant a scratch, it would justify additional scrutiny. The IA injection six days prior to the race may have compromised the ability of the NYRA veterinarian to properly assess this horse's condition on race day.
- vii. He was injured in his 2<sup>nd</sup> race after a reduction in class.
- viii. The intervals between his races were 15 and 20 days respectively.
- ix. He was trained his entire career by the same trainer.
- x. The following risk factors were present:
  - 1) No race starts in the preceding 15-30 days
  - 2) First start in the preceding nine months
  - 3) Racing at a distance of  $\leq 7$  furlongs
  - 4) Racing for a claiming price  $\leq$  \$25,000
  - 5) Older horse ( $\geq$  three yrs)
  - 6) The purse of the race in which he was injured was 1.8 times his claiming price (purse to claim price ratio: 1.8).
- xi. The trainer was based at another location. Management decisions were reliant upon information provided by the assistant trainer and the attending veterinarian. It is not possible to know if management decisions regarding this horse would have been different had the trainer been on site.
- xii. Blood was collected and analyzed. No urine sample was collected. There were no reported overages of therapeutic medications and no prohibited substances were detected, based upon the limited screening the testing laboratory was able to perform on the blood sample.
- xiii. The absence of a complete necropsy precludes an understanding of this horse's musculoskeletal health.

Conclusion: Based upon the information available, it is the opinion of the Task Force that the physical condition of Dreamin of Silver's carpal joint prior to entry, requiring diagnostic and therapeutic intervention, raises the question whether this horse should have raced six days post treatment. The Task Force believes that it is likely that an opportunity may have been missed to prevent this injury.

Specifically, the interval from treatment to race was insufficient to assess the horse's response to treatment. Also, the pre-race examination findings were likely confounded by this treatment.

### **Inishmore 1/8/12 2<sup>nd</sup> Race**

- i. This filly<sup>7</sup> sustained a fatal injury in her 5<sup>th</sup> career start.
- ii. She made five starts in the preceding 12 months but no starts in the 30 days prior to the race in which she was injured.
- iii. Veterinary records indicate that she was treated with non-steroidal anti-inflammatory drugs (hereinafter "NSAIDs") prior to breezing, a practice that may have reduced the trainer's ability to accurately assess her condition and response to high speed exercise.
- iv. There was a noteworthy change in her clinical presentation in the pre-race examination for the race in which she was subsequently injured. While this finding alone would not warrant a recommendation to scratch from the race, it would justify additional pre-race scrutiny. From the examination records provided, it is not known if that occurred.
- v. She appeared to be traveling poorly from the time the gates opened.
- vi. She made all her starts in maiden special weight races.
- vii. The purse for the race was 41% higher than that for the corresponding race in the 2010-2011 meet.
- viii. The following risk factors were present:
  - 1) First start in the preceding nine months
  - 2) Older horse ( $\geq$  three yrs)
- ix. The intervals between her last five races were 23, 16, 14, and 35 days respectively.
- x. No blood or urine samples were collected from this horse.
- xi. The absence of a complete necropsy precludes an understanding of Inishmore's musculoskeletal health.

*Conclusion:* A review of the race video indicated that Inishmore appeared to be traveling poorly from the start of the race and pre-race examination findings indicated a noteworthy change in this horse's clinical presentation for the race in which she was subsequently injured. A follow-up interview with the jockey indicated that he recognized that the filly was unsound in the post parade, but did not report it to a racing official to initiate a scratch for fear of economic reprisal (manifested as lost riding opportunities from trainers). Despite his reservations about Inishmore's soundness, the jockey rode her competitively during the race. The Task Force is troubled that a jockey persevered on a horse he believed to be unsound, risking himself and others on the racetrack. Based upon the

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<sup>7</sup> A filly is a female horse less than five years of age.

information provided, the Task Force believes that this represented a missed opportunity to prevent this injury.

**Mannington 1/12/12 6<sup>th</sup> Race**

- i. This gelding sustained a fatal injury in his 48<sup>th</sup> career start.
- ii. He made nine starts in the preceding 12 months and one start in the 30 days prior to the race in which he was injured.
- iii. He was claimed twice in his career, once in the six months leading up to the final race.
- iv. The intervals between his last five races were 25, 65, 30, and 34 days respectively.
- v. The purse of the race in which he was injured was 1.3 times the claiming price (purse-to-claim ratio of 1.3)
- vi. There was a pre-existing medical condition of the front fetlocks.
- vii. The following risk factors were present:
  - 1) Numerous starts in the 1-6 month interval prior to the race
  - 2) No race starts in the preceding 15-30 days
  - 3) Racing at a distance of  $\leq 7$  furlongs
  - 4) Older horse ( $\geq$  three yrs)
- viii. Physical exam findings were within a range consistent with racing soundness. There were no substantive changes in his clinical presentation from previous starts.
- ix. No blood or urine samples were collected from this horse.
- x. The absence of a complete necropsy precludes an understanding of Mannington's musculoskeletal health.

*Conclusion:* Although there was a pre-existing medical condition in this horse, the Task Force does not have enough information to comment on its significance or potential relevance to the horse's injury. It is not clear from the information available that there was an opportunity to prevent this injury.

**Scorper 1/14/12 4<sup>th</sup> Race**

- i. This gelding sustained a fatal injury in his 28<sup>th</sup> career start.
- ii. He made nine starts in the preceding 12 months and one start in the 30 days prior to the race in which he was injured.
- iii. He was claimed three times in his career, but raced for the same connections for more than six months prior to the race in which he was injured.
- iv. The intervals between his last five races were 35, 30, 28, and 28 days respectively.
- v. The purse of the race in which he was injured was 3.6 times the claiming price (purse-to-claim ratio of 3.6)
- vi. The following risk factors were present:

- 1) Numerous starts in the 1-6 month interval prior to the race
  - 2) Racing at a distance  $\leq 7$  furlongs
  - 3) Racing for a claiming price  $\leq \$25,000$
  - 4) Older horse ( $\geq$  three yrs)
- vii. There was a pre-existing medical condition in the front fetlocks.
  - viii. There was a noteworthy change in the horse's pre-race examination for the race in which he was subsequently injured. While this change alone would not necessarily warrant a scratch, it would justify additional pre-race scrutiny. From the information provided, it is not known if this occurred.
  - ix. No blood or urine samples were collected from this horse.
  - x. The absence of a complete necropsy precludes an understanding of Scorper's musculoskeletal health.

*Conclusion:* Although there was a pre-existing medical condition, the Task Force does not have enough information to comment on its significance or potential relevance to the injury. It is not clear from the information available that there was an opportunity to prevent this injury. In the opinion of the Task Force, the disproportionate purse for this race may have influenced the management of this horse.

#### **Afleet Sue 1/15/12 9<sup>th</sup> Race**

- i. This filly sustained a fatal injury in her first career start.
- ii. She did not race as a 2-year-old<sup>8</sup>.
- iii. The purse for the race was 31% higher than for the corresponding race in the 2010-2011 meet.
- iv. The following risk factors were present:
  - 1) First start in preceding nine months
  - 2) Racing for a claiming price  $\leq \$25,000$
  - 3) Racing at a distance  $\leq$  seven furlongs
  - 4) First start made at 3yrs of age or older
  - 5) Older horse ( $\geq$  three yrs)

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<sup>8</sup> It is frequently asserted that not racing a horse as a 2-year-old is protective against injury by allowing the horse to "mature" before it races. Numerous scientific studies unequivocally demonstrate the opposite to be true. Horses that raced as 2-year-olds were more likely to perform better than those that did not (More, 1999). Moderate exercise used in race preparation resulted in increased cannon bone density in trained horses when compared to untrained horses (Boyde, 2005). Finally, horses that raced as 2-year-olds: 1) had significantly more race starts than those first raced as 3-year-olds or older; 2) had significantly more years of racing; 3) were more likely to have won or been placed in a race; and, 4) had greater total earnings than those that first raced at a later age (Tanner, 2012).

The horse's 2-year-old year represents a critical "window" for bone remodeling to occur. During this interval, the horse must be trained with exercise of sufficient intensity and duration to stimulate healthy bone conditioning without causing a fracture. However, it is important to remember that each horse is an individual and training programs must be customized to the athletic potential and relative maturity of each horse.

- v. She had a pre-existing medical condition in her front fetlocks.
- vi. Joints were injected IA with corticosteroids two weeks before the race.
- vii. The IA injections were not reported to the Stewards as required by NYSRWB Rule 4043.2 (i).
- viii. While pre-race physical exam findings are within the range consistent with racing soundness, one would anticipate a first time starter to have 'cleaner' legs than described in this record.
- ix. Blood was collected and analyzed. No urine sample was collected. There were no reported overages of therapeutic medications and no prohibited substances detected, based upon the limited screening the testing laboratory was able to perform on the blood sample.
- x. The absence of a complete necropsy precludes an understanding of Afleet Sue's musculoskeletal health.

Conclusion: Although there was a pre-existing medical condition in this horse that required medical intervention two weeks prior to her only start, the Task Force does not have enough information to comment on its significance or potential relevance to the horse's injury. Based upon the information provided, The Task Force cannot conclude that an opportunity was missed to prevent this injury.

#### **Raw Moon** 1/15/12 9<sup>th</sup> Race

- i. This filly was an anomaly. She did not sustain an orthopedic injury.
- ii. She had one start in the preceding 12 months and this was within 30 days of the race following which she died.
- iii. The interval between her races was 28 days.
- iv. This filly was reported to be healthy with no history of medical or musculoskeletal problems
- v. Both starts were made in Maiden Special Weight races.
- vi. The purse for the race was 31% higher than that for the corresponding race in the 2010-2011 meet.
- vii. The following risk factors were present:
  - 1) First start in the preceding nine months
  - 2) Racing at a distance of  $\leq$  seven furlongs
  - 3) Older horse ( $\geq$  three yrs.)
- viii. Physical exam findings were within a range consistent with racing soundness. There was no substantive change in the horse's clinical presentation from her previous start.
- ix. No blood or urine samples were collected from this horse.
- x. The absence of a complete necropsy precludes an understanding of the filly's musculoskeletal health or her cause of death.

Conclusion: This case was an anomaly in that Raw Moon did not sustain a musculoskeletal injury. In the absence of a complete necropsy, it is not possible



to determine the cause of death. It is not clear from the information available that there was an opportunity to prevent this fatality.

#### **Fortydeuce 2/2/12 5<sup>th</sup> Race**

- i. This intact male horse sustained a fatal injury in his 5<sup>th</sup> career start.
- ii. He made four starts in the preceding 12 months and one start within 30 days of the race in which he was injured.
- iii. He was never claimed and was trained by the same trainer his whole career.
- iv. The intervals between his last five races were 40, 83, 48, and 21 days respectively.
- v. The purse of the race in which he was injured was 2.1 times the claiming price (purse-to-claim ratio of 2.1) and reflected a 63% increase compared to the corresponding race during the 2010-2011 meet.
- vi. The following risk factors were present:
  - 1) First start in the preceding nine months
  - 2) Racing for a claiming price  $\leq$  \$25,000
  - 3) Intact male horse
  - 4) Older horse ( $\geq$  three yrs)
- vii. According to the trainer, this horse had a pre-existing hind limb gait abnormality and back pain.
- viii. This horse had evidence of inflammation in both carpi (one of which was associated with the fatal injury)
- ix. Pre-race physical exam findings were within a range consistent with racing soundness. No substantive change was noted in the horse's clinical presentation from previous starts.
- x. He appeared to be traveling poorly from the time the gates opened.
- xi. Blood was collected and analyzed. No urine sample was collected. There were no reported overages of therapeutic medications and no prohibited substances were detected, based upon the limited screening the testing laboratory was able to perform on the blood sample.
- xii. The absence of a complete necropsy precludes an understanding of Fortydeuce's musculoskeletal health.

*Conclusion:* In a review of the race video, it appeared that the horse was traveling poorly from the start. Although the rider did not acknowledge reservations about this horse's soundness, he appeared to be riding very cautiously. After finishing a credible second in his last race for \$20,000, he was dropped in class to \$12,500. The trainer's decision to enter the horse at this lower level suggested a lack of confidence in his horse's durability and a disinclination to commit to this horse long-term. The Task Force that the connections' intentions were to lose Forty Deuce in the claiming box sooner believes rather than later. Based upon the information provided, The Task Force believes that an opportunity may have been missed to prevent this injury. Specifically, this horse should not have raced.

### **Sheeds Paisley 2/3/12 9<sup>th</sup> Race**

- i. This filly sustained a fatal injury in her 4<sup>th</sup> career start.
- ii. She made three starts in the preceding 12 months and two starts in the 30 days prior to the race in which she was injured.
- iii. She made her first start late in her three year old year.
- iv. She was never claimed and was trained by the same trainer for her entire career.
- v. She routinely trained on medications in the month prior to her injury that may have reduced the ability of the trainer to accurately assess her condition and her response to high-speed exercise.
- vi. The intervals between her last four races were 31, 9, and 12 days respectively.
- vii. The purse value was twice the claiming price for which this horse was entered (purse-to-claim ratio: 2.0).
- viii. The following risk factors were present:
  - 1) First start in the preceding nine months
  - 2) Racing for a claiming price  $\leq$  \$25,000
  - 3) First start made at three years of age or older
  - 4) Older horse ( $\geq$  three yrs)
- ix. Physical exam findings were within a range consistent with racing soundness. There was no substantive change in the horse's clinical presentation from previous starts.
- x. No blood or urine samples were collected from this horse.
- xi. The absence of a complete necropsy precludes an understanding of the horse's musculoskeletal health.

Conclusion: This filly was trained by a well-intentioned trainer who was unaware of management practices identified as having a protective effect against orthopedic injury. Believing it in her best interest, he elected not to race this filly until she was almost four years old, which, in fact, likely increased her risk of catastrophic musculoskeletal injury. She trained on medication in the month prior to injury. This practice may have reduced the ability of the trainer to accurately assess the condition of his horse and her response to high-speed exercise. Based upon the information provided, The Task Force believes that these circumstances represented missed opportunities that could have possibly prevented this injury.

### **Skorton 2/5/12 4<sup>th</sup> Race**

- i. This gelding sustained a fatal injury in his 10<sup>th</sup> career start.
- ii. He made nine starts in the preceding 12 months; and none of these starts occurred within 30 days of the race in which he was injured.
- iii. He was never claimed and was trained by same trainer for his entire career.
- iv. The intervals between his last five races were 14, 19, 15, and 35 days respectively.
- v. The following risk factors were present:

- 1) Numerous starts in the 1-6 month interval prior to the race
  - 2) First start in the preceding nine months
  - 3) Racing at a distance  $\leq$  seven furlongs
  - 4) Racing for a claiming price  $\leq$  \$25,000
  - 5) Older horse ( $\geq$  three yrs)
- vi. The purse value was 1.8 times the claiming price for this horse (purse to claim price ratio of 1.8).
  - vii. He trained on medications that may have reduced the ability of the trainer to accurately assess the condition of the horse and his response to high-speed exercise.
  - viii. Pre-race exam findings record a change in the horse's clinical presentation for the race in which he was injured. While this finding alone would not necessarily warrant a scratch, it would justify additional pre-race scrutiny.
  - ix. He appeared to travel poorly from the start of the race and sustained his injury after running less than  $\frac{1}{4}$  mile.
  - x. No blood or urine samples were collected from this horse.
  - xi. The absence of a complete necropsy precludes an understanding of Skorton's musculoskeletal health.

*Conclusion:* A review of the race video indicated that Skorton broke well from the gate, but appeared unsound early in the race, well before he was under racing pressure or urging. He trained on medication in the month prior to injury. This practice may have reduced the ability of the trainer to accurately assess the condition of his horse or the horse's response to high-speed exercise. The Task Force believes, from the information available and its review of the race replay that the horse's soundness was suspect because he appeared unsound early in the race and before he was placed under stress. Skorton should not have participated in the race.

### **Unruly Storm 2/17/12 5<sup>th</sup> Race**

- i. This mare<sup>9</sup> was an anomaly. She experienced a racing accident, not a musculoskeletal failure.
- ii. She sustained a laceration to her left front leg that subsequently became infected. She was euthanized at a referral hospital as a result of this infection.
- iii. This horse's injury was sustained in her 31<sup>st</sup> career start and in her first race since being claimed by the current trainer. She was claimed three times during her racing career.
- iv. This horse made 17 starts in the preceding 12 months, none of which were within 30 days of the race in which she was injured.
- v. The intervals between her last five races were 11, 13, 11, and 32 days respectively.

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<sup>9</sup> A mare is a female horse five years of age or older.

- vi. The purse value was three times her claiming price (purse to claim price ratio of 3.0).
- vii. The following risk factors were present:
  - 1) Racing at a distance  $\leq$  seven furlongs
  - 2) Racing for a claiming price  $\leq$  \$25, 000
  - 3) Older horse ( $\geq$  three yrs)
- viii. Physical exam findings were within a range consistent with racing soundness. There was no substantive change in her clinical presentation from previous starts.
- ix. No blood or urine samples were collected from this horse.
- x. The absence of a complete necropsy precludes an understanding of Unruly Storm's musculoskeletal health.

Conclusion: Unruly Storm experienced a racing accident and not a musculoskeletal failure. Based on the information available, the Task Force does not believe that there was an opportunity to prevent this injury.

#### **Coronado Heights 2/25/12 10<sup>th</sup> Race**

- i. This gelding sustained a fatal injury in his 3<sup>rd</sup> career start.
- ii. He made two starts in the preceding 12 months, one of which was made within 30 days of the race in which he was injured.
- iii. The intervals between his three lifetime races were 21 and 23 days respectively.
- iv. He was never claimed and raced for the same trainer throughout his brief racing career.
- v. He made his first start in January of his four-year-old year.
- vi. There were substantial gaps in his published preparatory works in the fall of 2011.
- vii. The trainer reported that the pre-race medication program for this horse was standard practice for all of the horses in his stable.
- viii. The purse value was 3.3 times his claiming price (purse to claim price ratio of 3.3).
- ix. The following risk factors were present:
  - 1) No starts in preceding 15-30 days
  - 2) First start in the previous nine months
  - 3) Racing at a distance  $\leq$  seven furlongs
  - 4) Racing for a claiming price  $\leq$  \$25,000
  - 5) First start made at three years of age or older
  - 6) Older horse ( $\geq$  three years)
- x. His stifles received an IA injection of hyaluronic acid and Depo-Medrol<sup>®</sup>, five days before the race.
- xi. This treatment was not reported to the Stewards as required by NYSRWB Rule 4043.2(i).

- xii. This horse was routinely treated pre- race with two NSAIDs, as well as Legend® and Adequan®<sup>10</sup>. These latter two therapeutic medications are commonly used to protect the joints of horses. The concurrent administration of NSAIDs is controversial because of potentially harmful side effects.
- xiii. Pre-race examination findings indicated a subtle gait abnormality noted consistently over time.
- xiv. He sustained his injury early in the race, after running approximately one furlong.
- xv. No blood or urine samples were collected from this horse.
- xvi. The absence of a complete necropsy precludes an understanding of Coronado Heights' musculoskeletal health.

*Conclusion:* The trainer reported that there were a number of minor problems that kept this horse from racing until his 4-year-old year. However, because he sustained his injury early in the race, the Task Force believes this horse's musculoskeletal system was suspect prior to the race. The aggressive pre-race medication protocol in the days leading up to his final race may have masked clinical signs of lameness and confounded the pre-race examination. Based upon the information provided, The Task Force believes this medication practice may have represented a missed opportunity to prevent this injury.

#### **Tiz a Lil Meatball 2/26/12 3<sup>rd</sup> Race**

- i. This gelding sustained a fatal injury in his 8<sup>th</sup> career start.
- ii. He made seven starts in his racing career, but none within 30 days of the race in which he was injured.
- iii. He was claimed twice in his racing career, once at 30 days prior to the race in which he was injured.
- iv. He sustained his fatal injury in his first start after being claimed. It is unlikely that the trainer was aware of any medical treatments that may have occurred prior to his claiming the horse. This may have compromised the trainer's ability to make informed decisions with regard to medication administrations.
- v. His stifles and hocks were treated with IA corticosteroid injections after the claim.
- vi. This treatment was not reported to the Stewards as required by NYSRWB Rule 4043.2 (i)
- vii. The intervals between his last five races were 27, 27, 28, and 30 days respectively.
- viii. The purse value was 1.9 times his claiming price (purse-to-claim ratio of 1.9).
- ix. The following risk factors were present:

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<sup>10</sup>Legend® is a form of hyaluronic acid, a normal constituent of joint fluid. Adequan® is a form of glycosaminoglycan, a normal constituent of articular cartilage. Both of these medications promote joint health and were administered in accordance with NYSRWB Rule 4038.5, which prohibits administration of these medications within 48 hours of racing.

- 1) Numerous starts in the one-six month interval prior to the race
  - 2) No starts in the last 15-30 days
  - 3) First start in the preceding nine months
  - 4) Racing at a distance of  $\leq$  seven furlongs
  - 5) Racing for a claiming price  $\leq$  \$25,000
  - 6) Presence of a suspensory ligament abnormality
  - 7) Older horse ( $\geq$  three yrs)
- x. Physical exam findings, including a gait abnormality, were consistent over time.
  - xi. Blood was collected and analyzed. No urine sample was collected. There were no reported overages of therapeutic medications and no prohibited substances detected, based upon the limited screening the testing laboratory was able to perform on the blood sample.
  - xii. The absence of a complete necropsy precludes an understanding of Tiz a Lil Meatball's musculoskeletal health.

Conclusion: Even in the presence of multiple risk factors, the pre-race examination was unremarkable and a reasonable determination of racing soundness was made. Tiz a Lil Meatball was claimed one month prior to his last race. The claiming trainer had no knowledge of the horse's medical treatment history, if any, prior to the claim. Based on the information available, the Task Force is not able to speculate on the cause of Tiz a Lil Meatball's injury nor is it clear that there was an opportunity to prevent this fatality.

### **Bernie's Love 3/2/12 2<sup>nd</sup> Race**

- i. This colt sustained a fatal injury in his 4<sup>th</sup> career start.
- ii. He made three starts in the preceding 12 months, one of which occurred within 30 days of the race in which he was injured.
- iii. He made his first start in December of his three-year-old year.
- iv. He made all of his starts in maiden special weight races, and never started for a claiming price.
- v. The purse for the race was 43% higher than that for the corresponding race in the 2010-2011 meet.
- vi. The intervals between his races were 22, 29 and 27 days respectively.
- vii. The following risk factors were present:
  - 1) No starts in the previous 15-30 days
  - 2) First start in the preceding nine months
  - 3) Racing at a distance  $\leq$  seven furlongs
  - 4) Racing for a claiming price  $\leq$  \$25,000
  - 5) Intact male horse
  - 6) First start made at three years of age or older
  - 7) Older horse ( $\geq$  three yrs)

- viii. Pre-race exam findings record a minor change in the horse's clinical presentation for the race in which he was injured. While this finding alone would not necessarily warrant a scratch, it would justify additional pre-race scrutiny.
- ix. No blood or urine samples were collected from this horse.
- x. The absence of a complete necropsy precludes an understanding of Bernie's Love's musculoskeletal health.

Conclusion: The Task Force does not have enough information to speculate on the cause of Bernie's Love's fatal injury, nor could it conclude that an opportunity may have been missed to prevent this injury. Although there was a minor change in this horse's condition noted during the pre race examination, the Task Force does not have enough information to comment on its significance or potential relevance to the injury. It is not clear from the information available that there was an opportunity to prevent this injury,

### **Wes Vegas 3/3/12 2<sup>nd</sup> Race**

- i. This gelding sustained an injury in his 1st career start.
- ii. Treatment records indicate he received NSAIDs prior to and after high-speed exercise. This practice may have reduced the trainer's ability to accurately assess this horse's condition and response to high-speed exercise.
- iii. The purse value was 2.6 times his claiming price (purse-to-claim ratio of 2.6).
- iv. The following risk factors were present:
  - 1) First start in the preceding nine months
  - 2) No starts in the previous 15 to 30 days
  - 3) Racing at a distance  $\leq$  seven furlongs
  - 4) Racing for a claiming price  $\leq$  \$25,000
  - 5) First start made at three years of age or older
  - 6) Older horse ( $\geq$  three yrs)
- v. While physical exam findings were within the range consistent with racing soundness, one would anticipate a first-time starter to have 'cleaner' legs than described in this record.
- vi. Blood was collected and analyzed. No urine sample was collected. There were no reported overages of therapeutic medications and no prohibited substances were detected, based upon the limited screening the testing laboratory was able to perform on the blood sample.
- vii. The absence of a complete necropsy precludes an understanding of Wes Vegas' musculoskeletal health.

Conclusion: A review of the race video indicated that the jockey was riding confidently and Wes Vegas appeared to be travelling normally until the moment he sustained his injury. This horse was treated with NSAIDs both before and after breezing. This medication protocol caused the Task Force to question the horse's soundness leading up to the race. Further, this aggressive medication protocol in

the month prior to injury may have reduced the ability of the trainer to accurately assess the condition of this horse. Based upon the information provided, The Task Force believes this medication practice may have represented a missed opportunity to prevent this injury.

### **Almighty Silver 3/4/12 3<sup>rd</sup> Race**

- i. This gelding sustained a fatal injury in his 44<sup>th</sup> career start.
- ii. He made 12 starts in the preceding 12 months, but did not start within 30 days of the race in which he was injured.
- iii. He was claimed five times during his racing career. He was claimed three times in the three months leading up to his final race.
- iv. The intervals between his last five races were 13, 35, 8, and 45 days respectively. The trainer reported the horse was in poor condition when claimed and it took seven weeks to return him to good health.
- v. The purse value was 5.3 times his claiming price (purse-to-claim ratio of 5.3).
- vi. Four IA injections were performed five days prior to the race. This treatment was not reported to the Stewards as required by NYSRWB Rule 4043.2 (i).
- vii. The following risk factors were present:
  - 1) Numerous starts in the one & six month interval
  - 2) No starts in the previous 15-30 days
  - 3) Racing for a claiming price  $\leq$  \$25,000
  - 4) Older horse ( $\geq$  three yrs)
- viii. Pre-race physical exam findings were within a range consistent with racing soundness. There was no substantive change in the horse's clinical presentation from previous starts.
- ix. Blood was collected and analyzed. No urine sample was collected. There were no reported overages of therapeutic medications and no prohibited substances were detected, based upon the limited screening the testing laboratory was able to perform on the blood sample.
- x. The absence of a complete necropsy precludes an understanding of Almighty Silver's musculoskeletal health.

*Conclusion:* Almighty Silver was claimed three times in the three months leading up to his final race. The lack of transfer of medical history became increasingly problematic with each claim. While in some cases the Task Force noted that the augmented purse might have incentivized poor decisions, in this case the availability of augmented purses may have created a situation in which the trainer could afford to invest seven weeks of care and training in a lower level claiming horse before running him back. The use of NSAID's in training may have confounded an accurate assessment of his soundness. Based upon the information provided, it is the opinion of the Task Force that the physical condition of Almighty Silver, requiring therapeutic intervention five days prior to racing, raises the question whether this horse should have raced. It is likely that an opportunity may have been missed to prevent this injury. Specifically, the



interval from treatment to race was insufficient to assess the horse's response to treatment. Also, this treatment may have confounded the pre-race examination.

### **Big Polka Dot 3/2/12 3<sup>rd</sup> Race**

- i. This gelding sustained a fatal injury in his 23<sup>rd</sup> career start.
- ii. He made 13 starts in the preceding 12 months, one of which was in the 30 days prior to the race in which he was injured.
- iii. He was claimed three times during his racing career, but not within six months of his last race.
- iv. The intervals between his last five races were 22, 63, 7, and 30 days respectively.
- v. The purse value was 5.3 times his claiming price (purse-to-claim ratio of 5.3).
- vi. The following risk factors were present:
  - 1) Numerous starts in the 1-6 month interval prior to the race
  - 2) Racing for a claiming price  $\leq$  \$25,000
  - 3) Older horse ( $\geq$  three yrs)
- vii. He received two DepoMedrol<sup>®</sup> (methylprednisolone acetate) IA injections in the 30 days prior to the race in which he was injured. These treatments were not reported to the Stewards as required by NYSRWB Rule 4043.2(i). Additionally, he received orally administered corticosteroids for four days preceding the race.
- viii. Physical exam findings were within a range consistent with racing soundness. There was no substantive change in his clinical presentation from previous starts. However, the administration of corticosteroids may have compromised the NYRA veterinarian's ability to accurately assess his soundness.
- ix. No blood or urine samples were collected from this horse.
- x. The absence of a complete necropsy precludes an understanding of Big Polka Dot's musculoskeletal health.

*Conclusion:* The Task Force questions the musculoskeletal soundness of Big Polka Dot prior to entry in his last race. The repeated administrations of long-acting corticosteroids likely confounded the pre-race examination. The protocol of multiple intra-articular injections in a brief time frame is understood to be a technique used to keep an unsound horse functional rather than a judicious therapeutic administration to facilitate recovery from injury. Based upon the information provided, The Task Force believes that this medication protocol represented an opportunity that was missed to prevent this injury.

### **Hubbard 3/8/12 8<sup>th</sup> Race**

- i. This gelding sustained a fatal injury in his 41<sup>st</sup> career start.
- ii. He made 10 starts in the preceding 12 months; one start occurred within 30 days of the race in which he was injured.
- iii. At the instruction of the owner, he received no pre-race medication.

- iv. The trainer reported that this horse had a ‘funny way of going’, but gave no indication the horse had undergone a soundness evaluation by a veterinarian.
- v. He was not claimed during his racing career.
- vi. The intervals between his last five races were 14, 11, 26, and 19 days respectively.
- vii. The purse value was 2.3 times his claiming price (purse-to-claim ratio of 2.3).
- viii. The following risk factors were present:
  - 1) Numerous starts in the 1-6 month interval prior to the race
  - 2) No starts in the preceding 15-30 days
  - 3) Racing for a claiming price  $\leq$  \$25,000
  - 4) Older horse ( $\geq$  three yrs.)
- ix. Pre-race exam findings recorded a minor change in his clinical presentation for the race in which he was injured. While this finding alone would not necessarily warrant a scratch, it would justify additional scrutiny.
- x. No blood or urine samples were collected from this horse.
- xi. The absence of a complete necropsy precludes an understanding of Hubbard’s musculoskeletal health.

*Conclusion:* While Hubbard was participating in claiming races, it did not appear to the Task Force that there was any desire on the part of the horse’s connections for this horse to be claimed. With the limited information available, including a lack of a complete necropsy, the Task Force has no opinion as to the cause of Hubbard’s injury nor could the Task Force conclude that an opportunity may have been missed to prevent this injury.

### **Hillsboro Bay 3/14/12 9<sup>th</sup> Race**

- i. This filly sustained a fatal injury in her 9<sup>th</sup> career start.
- ii. She made seven starts in the preceding 12 months, but did not start within 30 days of the race in which she was injured.
- iii. She was claimed twice in her racing career, once in the six months leading up to her final race.
- iv. The intervals between her last five races were 17, 23, 30, and 42 days respectively.
- v. The purse value was 2.2 times her claiming price (purse-to-claim ratio of 2.2).
- vi. The following risk factors were present:
  - 1) Numerous starts in the 1-6 month interval prior to the race
  - 2) Racing at a distance  $\leq$  seven furlongs
  - 3) Racing for a claiming price  $\leq$  \$25,000
  - 4) Older horse ( $\geq$  three yrs)
- vii. The medications Banamine® (flunixin) and compounded naquasone (trichlormethiazide and dexamethasone) were dispensed to the trainer two weeks prior to the last race. Medical records did not provide justification or identify the condition requiring such treatment.

- viii. Physical exam findings were within a range consistent with racing soundness. No substantive change in this filly's clinical presentation from previous starts was noted.
- ix. Blood was collected and analyzed. No urine sample was collected. There were no reported overages of therapeutic medications and no prohibited substances were detected, based upon the limited screening the testing laboratory was able to perform on the blood sample.
- x. The absence of a complete necropsy precludes an understanding of Hillsboro Bay's musculoskeletal health.

Conclusion: Based on the information available, the Task Force has no opinion as to the cause of Hillsboro's Bay's injury, nor could the Task Force conclude that there was a missed opportunity to prevent this injury.

#### **Deferred Risk 3/17/12 7<sup>th</sup> Race**

- i. This filly sustained a fatal injury in her 1st career start.
- ii. The purse value was 1.4 times her claiming price (purse-to-claim ratio of 1.4).
- iii. The following risk factors were present:
  - 1) No starts in the preceding 15-30 days
  - 2) First start in nine months
  - 3) Racing at a distance  $\leq$  seven furlongs
  - 4) Racing for a claiming price  $\leq$  \$25,000
  - 5) Older horse ( $\geq$  three yrs.)
- iv. Pre-race physical exam findings were within a range consistent with racing soundness.
- v. The jockey felt that this filly was unsound during the warm-up.
- vi. No blood and urine samples were collected from this filly.
- vii. The absence of a complete necropsy precludes an understanding of this Deferred Risk's musculoskeletal health.

Conclusion: Despite the fact that the jockey indicated Deferred Risk was unsound during warm-up, he did not approach a racing official to initiate a scratch for fear of economic reprisal (manifested as lost riding opportunities from trainers). Nonetheless, the jockey rode her competitively during the race. The Task Force is troubled that a jockey persevered on a horse he believed to be unsound, risking himself and others on the racetrack. Based upon the information provided, the Task Force believes that an opportunity to prevent this injury may have been missed.

#### **Smartie Bobbi 3/18/12 7<sup>th</sup> Race**

- i. This filly was fatally injured in her 19<sup>th</sup> career start.

- ii. She raced 10 times in the past 12 months, one of which was within 30 days of her final race.
- iii. She was claimed twice during her racing career, but not in the six months leading up to her final race.
- iv. The intervals between her last five races were 16, 168, 14, and 21 days respectively.
- v. The purse value was 3.6 times her claiming price (purse-to-claim price ratio of 3.6).
- vi. The following risk factors were present:
  - 1) Racing at a distance  $\leq$  seven furlongs
  - 2) Racing in claiming races  $\leq$ \$25,000
  - 3) Older horse ( $\geq$  three yrs)
- vii. Pre-race exam findings record a change in this filly's clinical presentation for the race in which she was injured. While this finding alone would not necessarily warrant a scratch, it would justify additional scrutiny.
- viii. Blood was collected and analyzed. No urine sample was collected. There were no reported overages of therapeutic medications and no prohibited substances were detected, based upon the limited screening the testing laboratory was able to perform on the blood sample.
- ix. The absence of a complete necropsy precludes an understanding of Smartie Bobbi's musculoskeletal health.

*Conclusion:* With the limited information available, including the lack of a complete necropsy, the Task Force has no opinion as to the cause of Smartie Bobbi's injury. However, the change in clinical presentation noted during the pre-race examination is suggestive of a pre-existing condition.

## V. FACTORS COMMON TO THE FATALLY- INJURED HORSES

The following represent events or circumstances common to the population of the fatally injured horses in the investigation:

- All of the horses raced at Aqueduct.
- All of the horses raced on the inner track.
- All of the horses were three years of age or older.
- All of the horses raced during a period of extraordinary claiming activity with elevated purses disproportionate to the value of the horses.
- All of the horses were examined by a NYRA veterinarian and cleared to race.
- 18 the injured horses trained at Belmont Park.
- 19 of the 21 fatalities were the result of musculoskeletal failure injuries.
- 18 of the 19 musculoskeletal fatalities occurred in claiming races, many of which had inflated purses (purse to claim price ratios up to 5.3).
- 16 of the 21 of fatalities occurred on a “Fast” track.
- 16 of the 21 of fatalities occurred during a period of relative drought.
- Seven of the 21 injured horses (33%) had a “change in clinical presentation” noted during the pre-race examination.
- Pre-race medication administered to the fatally injured horses was similar to that administered to the uninjured horses that raced.
- None of the fatally injured horses were subjected to a complete necropsy examination.
- No urine samples were obtained for drug testing from any of the fatally injured horses.
- No blood samples were obtained for drug testing from 11 of the fatally injured horses.
- None of the fatally-injured horses raced within seven days of the previous start.
- Based upon the information provided, there may have been opportunities to prevent 11 of the 21 fatalities.

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## VI. OTHER POTENTIAL CONTRIBUTING FACTORS

Separate and apart from the analysis of the individual fatalities, the Task Force examined numerous other possible factors that might have contributed to the occurrence of the fatalities during the Aqueduct meet. These included: 1) the racing surfaces; 2) the weather; 3) the condition book; 4) the pre-race examination of horses; 5) claiming races; 6) shoeing practices; 7) drugs and medication; and 8) extracorporeal shockwave therapy.

### A. The Aqueduct Racing Surfaces

The main track at Aqueduct is a 1 1/8 mile oval. It is composed of a sand drainage course covered by a sandy clay/silt base with a 4-inch cushion of sandy loam on the surface. The turn radius is 470 feet and the turns are banked at a 4% slope. The straightaways are banked with a 2% slope.

The inner track at Aqueduct is one mile oval, and is constructed inside the main track. It is composed of a sandy drainage course covered by a limestone screening base with thin layer of clay/silt and sand as a base and is topped with a four inch cushion of sandy loam. The turn radius of the inner track is 350 feet. The limestone composition of the inner track facilitates rapid drainage, making it ideally suited for use during periods of rain and snow in conjunction with freeze/thaw cycles that are common in the winter.

Inner racetrack maintenance records indicated that on 13 of the 18 days (72%) on which equine fatalities occurred, the racetrack was rated as “Fast” and was raked with a harrow. On two days, the racetrack was rated as “Muddy” and was sealed.<sup>11</sup> On three of the days, the racetrack was rated as “Good.” On one of those days the track was back-raked<sup>12</sup>, and on the other two it was raked with a harrow<sup>13</sup>.

Data entered into the EID notes the location on the inner track where each horse’s injury or condition was first observed. When the locations of each injury, as noted in the EID, were superimposed on a diagram of the inner track, the distribution is consistent with that seen at other North American racetracks and does not indicate any anomaly of the inner track. See Figure one below.

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<sup>11</sup> Sealing compresses the racing surface and is performed on rainy days to minimize moisture penetration and to prevent material from washing out of the surface.

<sup>12</sup> A float is a large plate-like structure pulled behind a tractor to condition the racetrack. There are rakes positioned both in front (front rake) and behind (back rake) the plate. Both of the rakes may be raised to let the plate ride over the track to “float” the surface after training, or lowered to cut into the track. The front rake is used to remove hoof prints and the back rake is used to open or cut into the surface of a wet track. A back raked track is an intermediate step between a sealed and an open track that is used to help dry out a wet surface.

<sup>13</sup> A harrow is a large metal frame with rods that extend down into the track at an adjustable depth in order to groom the cushion of the racing surface. The harrow is pulled behind a tractor to create a uniform surface by eliminating foot and hoof prints as well as tire tracks from the starting gate.

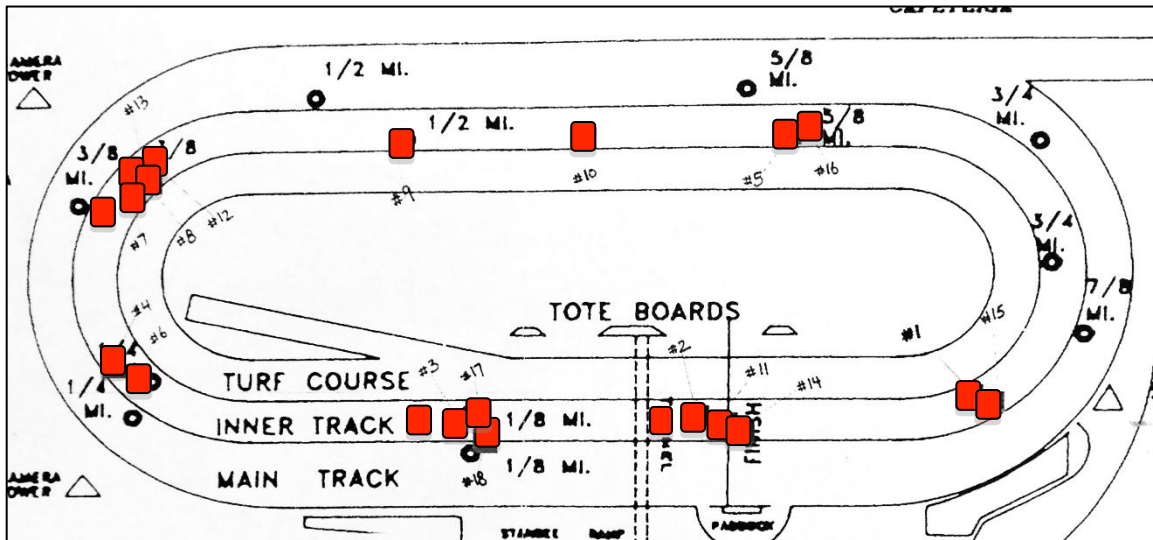


Figure 1. Sites on-track where fatal conditions were observed to occur.

Both the main and inner tracks at Aqueduct are classified as shallow sand tracks. These tracks use a hard base, typically have a low clay and organic content and are used in areas with high annual rainfall and high humidity. This design allows for fast and easy drainage after a heavy rain (Mahaffey, 2012). In moist environments (high humidity and/or precipitation), large quantities of clay in the track surface are unnecessary because there is usually sufficient ambient moisture to maintain appropriate shear strength<sup>14</sup>.

Appropriate shear strength is critical to the safety and uniformity of a racing surface. Moisture is the critical key influence on shear strength for a dirt track, while temperature is the critical key influence on shear strength of a synthetic track. However, the ideal moisture content for a dirt track is not known. In the absence of well-documented measurement of the moisture content, track maintenance decisions may not properly address the changing climatic demands of a given environment.

Track watering and evaporation rates are two key criteria used in combination with local weather data to determine appropriate material composition of the racetrack. Additionally, maintenance records regarding surface disruption (i.e. harrowing which influences evaporation and moisture content of the soil) can ultimately be analyzed with EID data to identify optimal surface conditions and management practices.

Glen Kozak, Vice President of Facilities and Racing Surfaces, has been the Track

<sup>14</sup> The shear strength of the racing surface is the measure of the soil's ability to sustain the force applied to it during the propulsive force of the gait. This occurs when the track is fully loaded by the horse's weight and the horse's foot begins to push against the track surface to propel the horse forward. A "cuppy" track has poor shear strength and breaks apart during this process such that the horse slips or slides as the horse attempts to push off the track. This tires the horse and may cause injury.



Superintendent of NYRA's racetracks for the past 3 ½ years. During this period, track maintenance procedures at Aqueduct have remained constant. The water trucks, harrows, floats, and track packers have not changed, and the way in which this equipment is used has not changed. Over the past two years, the tractors used have not changed and have been consistently equipped with the same tire size and tread patterns. Without exception, trainers and jockeys interviewed by the Task Force unconditionally endorsed Mr. Kozak's management of the NYRA racing surfaces.

NYRA conducts in-house soil testing, but also sends samples to three outside vendors for competitive analysis. The vendors used by NYRA are Soil Mechanics, Meusser Rutledge, and Racing Services Testing Laboratory. The soil testing is performed to ensure that the material is within the required particle size and proportional content of silt and clay. The racing cushion is inspected daily and measured with an in-house depth measurer. The daily findings are made available to the public. These measurements are also performed while the pull-grader is in use, to ensure cushion-depth consistency around the oval.

Analysis of the racing surface is performed routinely throughout the year. Routine screenings are performed to ensure that no contaminants are on the track surface. On March 5, 2012, and in response to the spate of fatalities, the cushion was pulled back and the base inspected. The base was found to be in proper condition and consistent with the design specifications of the racetrack.

Maintenance procedures vary slightly throughout the year in response to weather conditions. NYRA uses a Davis Instrument Rain Gauge that measures high and low temperatures, wind speed and direction, and rainfall amounts. Additionally, NYRA employs two weather services, Universal Weather and Televent DTN, to provide data used to determine correct maintenance procedures. These services provide 5-day forecasts that include expected precipitation amounts, high and low temperatures, and wind speed and direction. In addition to the five-day forecasts, Televent DTN provides hourly forecasts. Both of these weather services send reports between 5:30 a.m. and 6:00 a.m. every morning and again between noon and 1:00 PM. In the case of a major weather event, an advisory will be sent to NYRA with the details of this event, including a prediction of the times when it is expected to begin and terminate. On-site maintenance logs record the amount of rainfall, high and low temperatures, whether the track was graded, and track maintenance performed. A daily track report, which includes track conditions, wind speed, and wind direction, is distributed to the racing office, the Stewards, NYRA TV, the Mutuels Department and the Jockeys' Room.

In preparation for a moderate to large amount of rainfall, the track crew will roll and seal the track in an effort to reduce the moisture that penetrates the cushion. Soil moisture content analysis is performed daily. Additionally, salt content is monitored, with salt added as necessary to prevent clotting or balling-up in the transition between a wet (unfrozen) and freezing track. Accumulated snow is graded off the cushion and moved to the outside of the track past the crown, where snow blowers blow it off the track. When the track is "Fast," harrows are used and water is applied as needed, based on evaporation calculations. When the track is "Good", the crew will generally harrow or back-rake, although there is a chance

that the track might be sealed. On a “Muddy” track, the surface is sealed or back-raked. If the track is “Sloppy”, it is sealed.

The Task Force retained Michael “Mick” Peterson, Ph.D. to review NYRA’s surface management procedures and records, and to perform an on-site assessment of the inner track. This assessment was performed from April 13–15, 2012. Dr. Peterson is internationally recognized as the Libra Foundation Professor in the Department of Mechanical Engineering at the University of Maine and Director of the Biologically Applied Engineering Racing Surfaces Testing Laboratory. Dr. Peterson’s complete report is included in the Appendix of this document as Exhibit B. In his report, Dr. Peterson emphasized that the underlying assumption of his research laboratory is that consistency of a surface temporally, but even more important spatially, is the single highest priority for the surface. This assumption is based upon extensive literature from human biomechanics and a modest amount of work in equine biomechanics. Changes in gait and even musculoskeletal adaption may be possible given time and care, but it is highly unlikely that a horse can adapt either over a short period of time or even between strides to a changing surface.

Dr. Peterson analyzed the components of NYRA’s racing surfaces at Aqueduct, documenting mineral content, particle size, and x-ray diffraction. Dr. Peterson reported that the racing surfaces have been used as reference standards for other surface analyses because NYRA has been very pro-active in monitoring the surface composition and has appropriately replenished their surfaces with materials relevant to environmental conditions. Dr. Peterson advised the Task Force that *“the surface composition is spot-on for the environment.”* Dr. Peterson also reviewed the equipment used by NYRA for surface management. He has previously assisted NYRA surface management personnel in making improvements in track maintenance monitoring.

Dr. Peterson reported that NYRA surface maintenance personnel are currently performing at or above industry standards. He advised the Task Force that current NYRA maintenance practices meet the most demanding standards of the industry. Dr. Peterson recommended improvement in record keeping, and in the creation of an electronic database to enable linkage of epidemiological data with track data in order to make it possible to link risk of injury to weather and track maintenance data. Dr. Peterson believes that no racing organization in the United States is better positioned to implement this process control for track maintenance than NYRA. He advised that the culture of data collection and receptivity already exists at NYRA, but that improved tracking and evaluation of the data will be required in order to enhance the decision-making process. Dr. Peterson concluded that the number of variables are too large, the data set too incomplete, and the incidence of injury too low in the limited time frame of this investigation, to provide the needed correlates and statistical power for meaningful conclusions about a single race meet. For this reason, Dr. Peterson proposed improved record keeping and monitoring so that future inquiries may be conducted from a factual basis.

*Summary:* The design and composition of the Aqueduct tracks are appropriate for the climatic conditions ordinarily encountered in the borough of Queens and Nassau County, New York. Dr. Peterson advised the Task Force that moisture is the single most critical

factor to influence the consistency of a dirt track, while temperature is the single most critical factor to influence the consistency of a synthetic surface. In the absence of well-documented measurement of the moisture content of the track and well-documented standards for optimal moisture content, track maintenance decisions may not have properly addressed the unique climatic conditions present during the Aqueduct 2011-2012 meet.

The distribution of injuries did not indicate an anomaly of the racing surface. The maintenance of the NYRA racing surfaces is state-of-the-art. While the NYRA track maintenance procedures set the standard for the industry, improvements in the collection and tracking of data could, when compiled and compared with EID injury rates, improve the decision-making process and possibly improve track safety.

**B. The Weather During The Aqueduct Meet**

The weather during the 2011-2012 Aqueduct meet was unseasonably warm and dry. Average monthly temperatures from December through March of the 2011-2012 Aqueduct meet were compared with the same period during the 2010-2011 and 2009-2010 seasons. Temperatures from December through March followed a similar pattern for all three racing seasons.

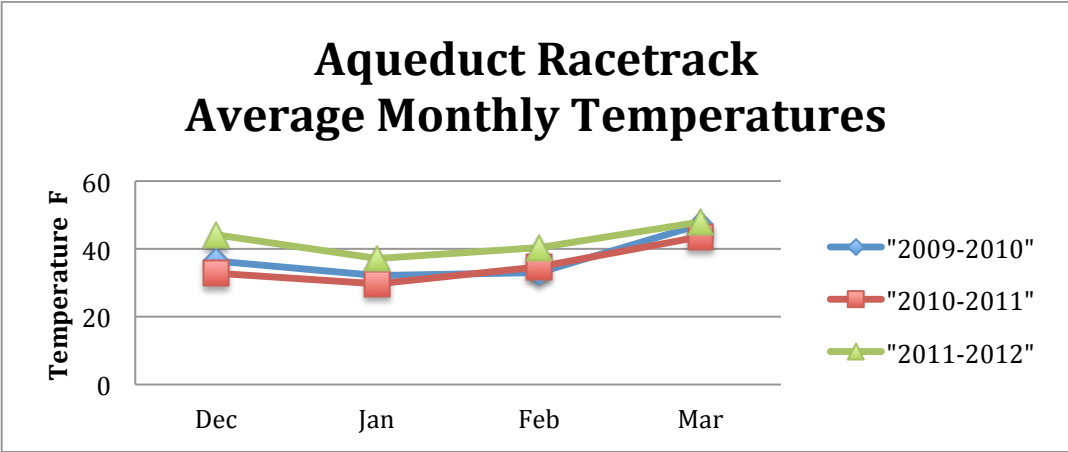


Figure 2. Average monthly temperatures December through March 2009-2012.

In 2009-2010, 62 days recorded temperatures at, or below, freezing. For 2010-2011, there were 77 days at, or below, freezing. In 2011-2012, there were only 33 days at, or below, freezing. In February and March, 2012 there were only two days when the ambient temperature was at, or below, freezing during racing hours. (Figure 3, red arrow)

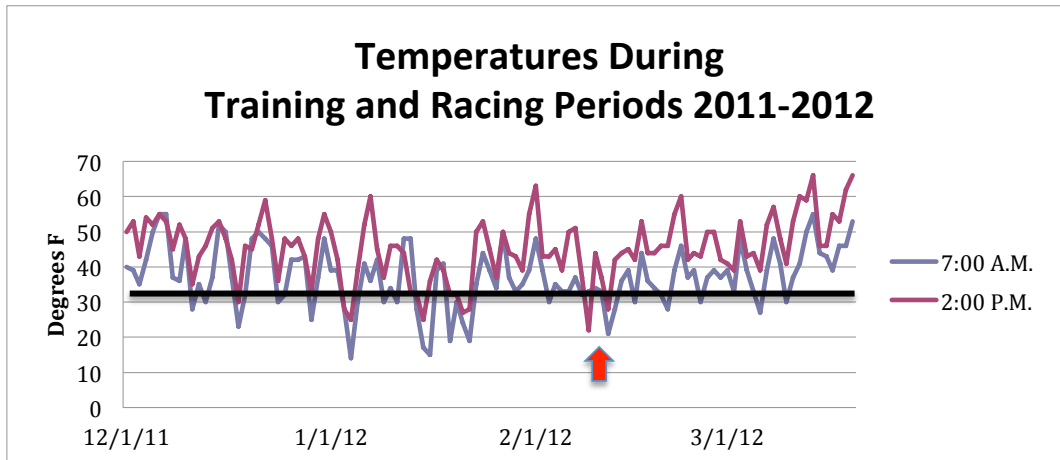


Figure 3. Temperature during training (AM) and racing (PM) hours at Aqueduct 2011-2012.

Total precipitation for the 2011-2012 Aqueduct meet was much less than during the previous two years. January through March 2010, total rainfall was 7.45 inches. For the same interval in 2011, rainfall measured 8.74 inches. In 2012, 4.34 inches was measured.

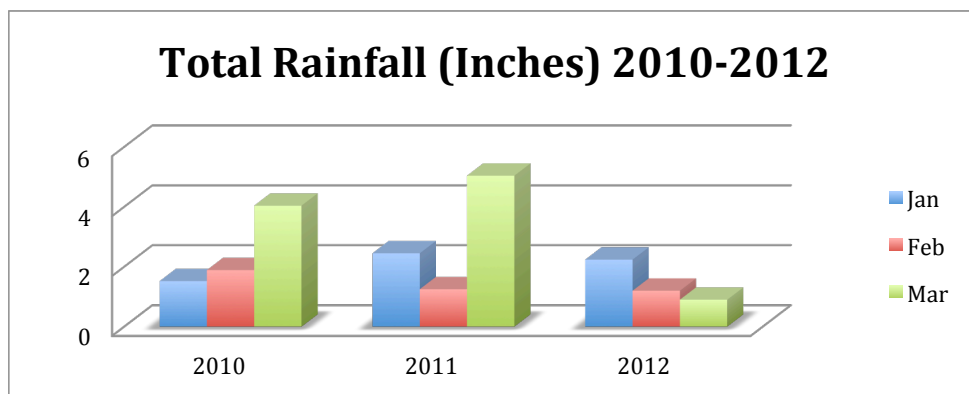


Figure 4. January through March rainfall, in inches, 2010 - 2012.

The total snowfall during the Aqueduct Winter meet was 28.8 inches in 2010, 24.41 inches in 2011 and just two inches in 2012. The absence of any meaningful snow accumulation during the 2011-2012 Aqueduct meet represented a unique weather variation when compared to the previous two years.

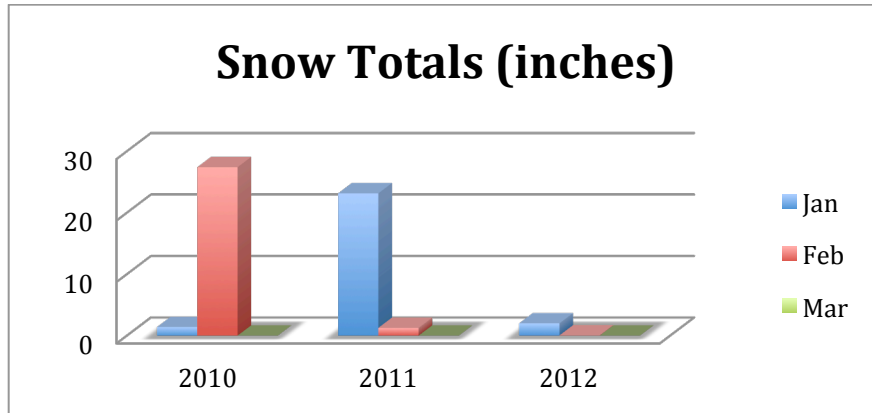


Figure 5. January through March Snowfall in inches, 2010 to 2012.

While the track was occasionally subjected to freezing temperatures overnight, the daytime temperatures were typically above freezing. There were fewer weather-related cancellations during the 2011-2012 meet when compared with the previous two years. During each of the 2009-2010 and 2010-2011 meets, there were 12 days of racing cancelled due to inclement weather. During the 2011-2012 meet, two days were cancelled. Such weather cancellations provide a period of “enforced rest” for horses training at Belmont or Aqueduct. A majority (67%) of the fatal injuries in this investigation occurred during a period of relative drought. There was a cluster of three injuries between February 3<sup>rd</sup> and 5<sup>th</sup>, and a cluster of four injuries between March 2<sup>nd</sup> and 4<sup>th</sup>. (Figure 6, red underscore)

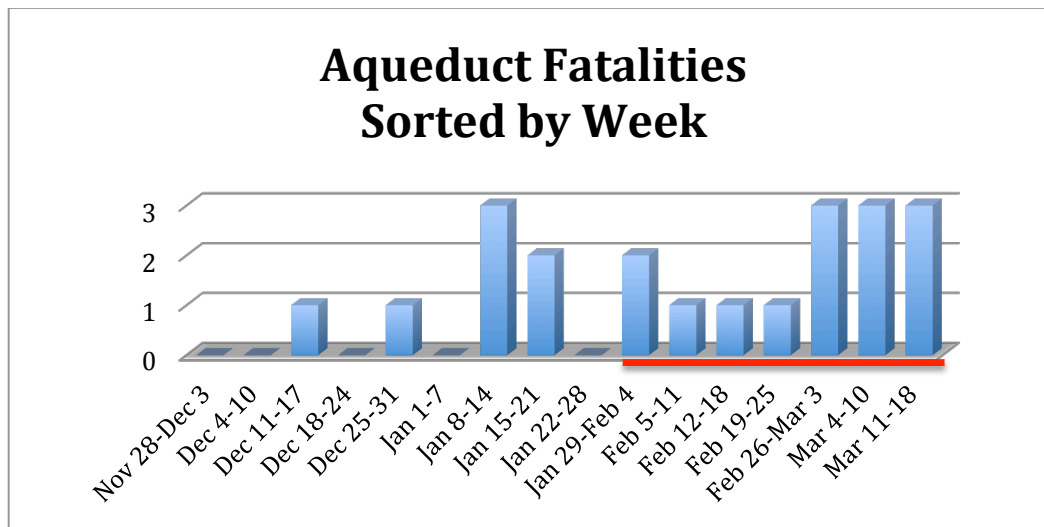


Figure 6. Fatality occurrence by week, 2011-2012 winter meet.

The Task Force examined the theory advanced by some, including trainers and veterinarians, that the unusual lack of precipitation, when combined with the relatively warm temperatures during 2011-2012, may have led to a degree of “dehydration” of the inner track, resulting in a somewhat tiring surface. However, this hypothesis was not

supported by a review of the average times of 6 furlong races over the 2011-2012 meet and of six furlong times for the same interval in previous years, nor was it supported by the majority of the trainers and jockeys interviewed during this investigation.

Month	2009-2010	2010-2011	2011-2012
December	1:12:15	1:12:08	1:12:15
January	1:12:02	1:12:09	1:12:25
February	1:12:94	1:12:44	1:12:70
March	1:12:10	1:12:40	1:12:74

Table 3. Comparison of average six furlong race times, 2009-2012.

These race times represent an average for all of the six furlong races run at Aqueduct from 2009-2010 through 2011-2012. All classes of horses were included. The monthly average race times were consistent within each year and over time. This data refutes the hypothesis that race times were significantly slower during the 2011-2012 meet.

*Summary:* While there was no difference in the average monthly temperature over the past few years, there were fewer individual days with temperatures below freezing during the 2011-2012 meet. The most significant weather event during the 2011-2012 Aqueduct meet was a lack of precipitation, particularly in February and March. The thawed base, unable to retain moisture (as it would in a frozen condition), may have confounded surface management efforts to maintain consistent moisture levels in the cushion. The majority (67%) of fatal injuries occurred in February and March. Although there was a confluence between the period of unusually dry weather and the occurrence of a majority of the fatalities, the Task Force did not have adequate information to identify or validate any causal relationship between the two. Nonetheless, weather conditions during the 2011-2012 Aqueduct meet created an environment in which it was difficult to maintain the inner track with consistent moisture content.

Given the conclusions regarding the track surface, coupled with the questions regarding surface moisture content, the Task Force considered the merits of conversion of the inner track to a synthetic surface. Turfway Park, in Florence, Kentucky, conducts racing over a synthetic surface and experiences weather conditions during its Winter/Spring meets similar to those typically experienced by Aqueduct. There were no racing fatalities during Turfway Park's 2011-2012 meet. The level of racing safety achieved at Turfway Park, which has consistently exceeded the national average for synthetic surfaces, when compared to the prevalence of fatalities on the Aqueduct inner track, suggests that NYRA should once again consider whether the installation of a synthetic surface on the inner track is in the best interests of racing at Aqueduct. The Task Force understands that NYRA previously contemplated converting the inner track to a synthetic surface and rejected the idea. There is now sufficient additional experience with synthetic surfaces at other tracks since that time to warrant such an investigation, particularly in light of the problems experienced during the 2011-2012 Aqueduct meet.

### C. The Aqueduct Condition Book

Each Racing Secretary publishes a condition book that offers prospective races to be run each day of a race meeting. Condition books, on average, are published every two weeks. “Book” races are those published in the condition book. “Extra” races are those that are published by the Racing Secretary the day before (and in some cases, the day of) entry. “Extra” races represent alternatives to the “Book” races and are used by all Racing Secretaries to fill cards in the event that published races do not attract a sufficient number of entries. An earlier analysis of EID data by Dr. Parkin determined that horses in ‘Extra’ races have a marginally higher (~15%) risk for fatal musculoskeletal injury than those racing in “Book” races. The explanation of this phenomenon is speculative, but is believed to be due to the fact that a horse competing in a “Book” race likely had a pre-planned schedule for training that included appropriate rest periods and strategic medical management. A horse competing in an “Extra” race could not have been trained with the expectation of participating in that race. Therefore, horses participating in “Extra” races are potentially at risk of being under-conditioned or over-trained. Medication practices for these horses are often initiated after the horse is entered to race. For this reason, the Task Force requested information on the number of “Book” and “Extra” races carded during the Aqueduct 2011-2012 meet. This was compared with the races carded during the same period the previous two years.

There were fewer “Extra” races run in 2011-2012 than in each of the previous two years, both in number and as a percentage of total races. However, during the 2009-2010 and 2010-2011 Aqueduct meets, there were proportionately more “Extra” races (46.7%) than the North American average (23.8%). Nonetheless, analysis of Aqueduct’s EID data identified no significant difference in the occurrence of fatality in horses running in “Extra” races when compare to horses running in “Book” races.

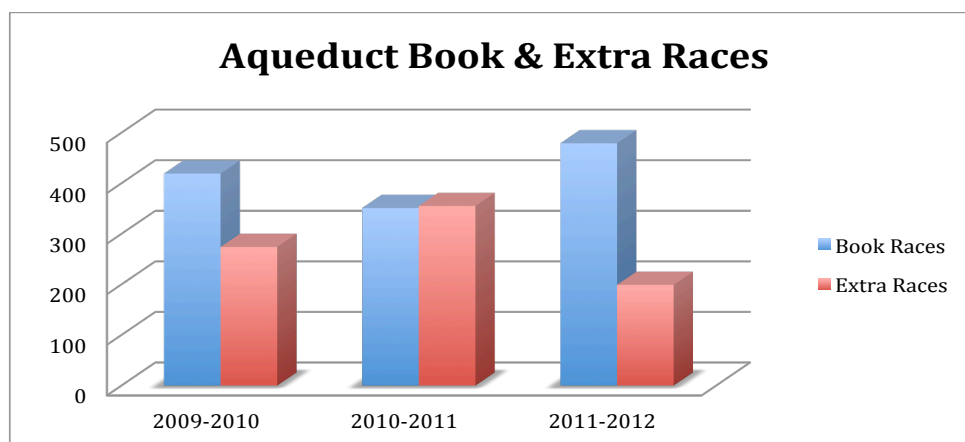


Figure 7. Aqueduct Book and Extra races run, 2009-2012.

*Summary:* In the opinion of the Task Force, the use of “Extra” races in 2011-2012 was not a factor in the occurrence of racing fatalities.

## D. NYRA Veterinary Procedures

On each race day, the NYRA veterinarians are responsible for:

- 1) Performing pre-race examinations on all entered horses.
- 2) Attending the paddock while horses are being saddled.
- 3) Observing horses in the post parade and warm-up for signs of injury or unsoundness.
- 4) Attending the starting gate during the loading of the horses.
- 5) Monitoring horses during the running of the race.
- 6) Assessing and providing emergency care to injured horses.
- 7) Observing and assessing horses following their participation in a race.
- 8) Recommending to the Stewards the scratch<sup>15</sup> of any horse determined to be ill, injured, or unsound.
- 9) Establishing ineligibility to race through placement on the Veterinarians' List horses scratched on the recommendation of the NYRA veterinarians, or scratched for medical reasons at the request of trainers.
- 10) Maintaining records of exams, observations, and other information relevant to each individual horse.

NYRA employs five veterinarians to perform these duties. Dr. Anthony Verderosa serves as the Chief Examining Veterinarian. There are four associate members of the NYRA Veterinary Department. The Veterinary Department functions under the oversight of, and is accountable to, the NYRA Vice-President and Director of Racing, P. J. Campo, who also serves as the Racing Secretary. The organizational structure with the Veterinary Department accountable to the Racing Department establishes a potentially critical conflict of interest. The Racing Office attempts to generate full fields, as wagering handle is directly linked to field size. Racetrack management has a vested interest in maximizing field size. Conversely, field size, or the economic impact of a scratch, must **never** be a consideration when an examining veterinarian assesses a horse's suitability to race.

### 1) Pre-Race Exam

Pre-race examinations are performed in the morning on each horse entered to race. Qualified, impartial veterinarians having no financial relationship with the owner or trainer of a horse should perform these exams. Moreover, these veterinarians should not be reporting to the Racing Office, which has a vested interest in maximizing field size.<sup>16</sup>

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<sup>15</sup> The withdrawal of a horse prior to its participation in a race.

<sup>16</sup> The Racing Office attempts to generate full fields, as wagering handle is directly linked to field size. The handle has been the sole economic driver of horse racing until the relatively recent supplemental funding of purses from casino revenues.



The goal of the exam is to identify horses unfit to race as a result of unsoundness, injury, or illness, and to recommend to the Stewards that said horses be scratched.<sup>17</sup> The pre-race exam protocol should include a review of a horse's past racing performances, previous exam results, and history of regulatory veterinary interventions to complement the hands-on physical exam of the horse. Exam findings should be thoroughly and consistently documented to facilitate retrieval and review at subsequent exams. The use of standardized terminology, consistent exam protocols and interpretation of exam findings allows the veterinarians to establish an understanding of a horse's condition over time, and the relevance of any changes in its condition. For horses that are "passed" following the morning exam, the pre-race exam protocol resumes in the paddock where the veterinarians observe horses being saddled and walked in-hand prior to being mounted. Monitoring continues as horses enter the track and warm up. Horses are monitored in the post parade at a range of gaits for signs of unsoundness or discomfort. Veterinarians should be strategically located on the track to best observe the horses as they warm up and to be available to consult with any jockey who has reservations about the condition of his mount.

The following pre-race examination protocol was provided by NYRA to the National Thoroughbred Racing Association's Safety and Integrity Alliance (the "NTRA Alliance") in its application for racetrack accreditation<sup>18</sup>.

*Pre-race examination:*

1. *Ascertain the ID of the horse (tattoo or markings if no tattoo).*
2. *Ascertain sex of the horse (report to Steward on scratches and to Horse ID).*
3. *Perform a visual examination of the entire horse.*
4. *Perform digital palpation of limbs, including flexion of both front limbs.*
5. *Include aluminum pads and bar shoes in findings and report to Steward on scratches.*
6. *Watch the horse jog in hand.*

The Task Force observation of pre-race exams affirmed that the NYRA veterinarians follow this protocol. However, the NYRA examining veterinarians advised the Task Force that they were unaware of, and had not seen, the written protocol.

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<sup>17</sup> The Stewards have plenary power over all matters regarding the conduct of racing, enforcement of the Rules, and the conduct of all licensees of the NYSRWB. Under New York's regulatory framework, there are three Stewards at the NYRA tracks. One is appointed by the NYSRWB, one is appointed by NYRA, and one is appointed by The Jockey Club. There is no similar framework in North American racing outside of New York.

<sup>18</sup> Accreditation is awarded to racetracks that commit to specified uniform standards and practices related to racing safety, equine welfare and wagering integrity. The Alliance Code of Standards addresses: (1) injury reporting and prevention, (2) racing environment safety, (3) medication and testing, (4) jockey safety and health, (5) aftercare for retired horses and (6) wagering security. Alliance members are encouraged to not only meet, but, exceed Code standards.

The following information was obtained through on-site inspections, interviews with NYRA veterinarians, past and present; practicing veterinarians; trainers; and materials provided by NYRA and the National Thoroughbred Racing Association (the “NTRA”).

NYRA veterinarians reported they did not have access to past performances, high-speed exercise history, or historical exam findings to review prior to performing pre-race exams. Dr. Verderosa reviewed information relevant to each horse and notified the examining veterinarians of the horses he determined to be of interest. Given the relative inexperience of some members of the Veterinary Department, it would be preferable for all NYRA veterinarians to engage in this exercise promptly after entries are published and well before race day.

NYRA veterinarians perform the in-stall physical exam standing on the left side of the horse. The examination of the right foreleg from the left side of the horse is awkward and constrained. In some exams, it was noted that the entire right side of the horse was unobserved by the NYRA veterinarian. Both forelegs are palpated and passively flexed to detect signs of inflammation (heat, swelling, pain, resistance to pressure or manipulation) and to note changes from the previous exam. In one case observed by the Task Force, a horse was wearing ice boots that were removed upon the arrival of the NYRA veterinarian, who then proceeded to perform the exam. The application of ice prior to the exam severely limits the ability of the veterinarian to detect the presence of heat in a joint or region of a limb and compromises the validity of pre-race exam findings.

Exam findings are recorded contemporaneously by the veterinarian in a short hand that is unique to NYRA, and then are subsequently transcribed by an administrative assistant into The Jockey Club InCompass Pre-Race Veterinary Exam system and a NYRA in-house information management system. The Task Force questions the usefulness of redundant medical records systems, and whether the information recorded in each system is consistent. The Incompass Pre-Race system is designed for use on a tablet PC with internet connectivity, thus allowing the veterinarian at the time of the exam to directly enter data and review all previous exams, race performances, and published exercise history. The transcription of exam findings into InCompass eliminates much of the stall-side value of this shared-information system.

NYRA veterinarians reported being instructed that significant findings, such as detection of heat/fever in a limb, resistance to palpation or flexion, or subtle lameness, were not to be included in a horse’s regulatory health record. This disclosure confounded the Task Force’s reviews of the pre-race exam findings associated with the injured horses. It was not possible to know what was NOT recorded for each horse. As a practice, the selective recording of exam findings compromises the performance of subsequent exams and diminishes the value of any pre-race exam.

Following the in-stall exam, the horse is removed from the stall and jogged going away from, and then back toward, the examining veterinarian, who observes the horse for signs of unsoundness or discomfort. The veterinarians described inconsistent criteria for the determination of unsoundness that would warrant a scratch recommendation to the

Stewards. The term “Fair” is used by all of the NYRA veterinarians to describe a gait abnormality. However, for each veterinarian, “Fair” had a different meaning. For one of the veterinarians, it meant a consistent subtle lameness. For another, it meant a mild lameness that resolved after a short period of walking or warm up. For yet another, it meant an idiosyncratic gait that appeared to be normal for that horse, and unrelated to lameness.

A trainer reported that after observing an entered horse undergo its pre-race exam and receive clearance from the NYRA veterinarian, the trainer promptly submitted a scratch request to the Stewards, stating that the horse appeared unsound during the exam. Given this information, and the determination that a number of the fatally injured horses should not have raced, the Task Force is concerned that: 1) the NYRA veterinarians’ criteria for the determination of racing soundness are inadequate; 2) there is pressure on the NYRA veterinarians not to initiate scratches; or 3) there is a lack of proficiency in identifying unsound horses.

In contrast, a review of all NYRA pre-race exams for approximately 100 horses (injured and uninjured) revealed that every exam recorded some degree of enlargement of the fetlocks and knees. This pattern was noted in the records of all NYRA examining veterinarians over a multiple year period. There was no horse for which exam findings acknowledged an absence of pathologic change. This is in stark contrast to assertions that unsoundness is being overlooked or dismissed, but no less troubling. It raises the questions of whether, and why, NYRA veterinarians were unwilling or unable to acknowledge a horse as having no musculoskeletal changes.

Dr. Verderosa, the most experienced member of the Veterinary Department, participates in pre-race exams on a limited basis, and instead is occupied with administrative duties during the morning hours. Given the relative inexperience of other members of the Department, the Task Force believes that Dr. Verderosa’s time would be better spent mentoring and developing the skills of his team. One of the examining veterinarians reported that Dr. Verderosa never observed her examine a single horse. Another reported that the sum total of her training amounted to being accompanied on track by another NYRA veterinarian--for one race. There has been a high rate of employee turnover in the Veterinary Department. Exit interviews could have revealed issues that are now being reported by the Task Force. The Task Force observed a lack of structured training, mentoring, and performance review for the new employees, many of whom had not previously served as racing regulatory veterinarians. This environment empowered non-veterinarians to challenge NYRA veterinarians’ decisions. The success of some of these challenges created an environment in which veterinarians felt intimidated and reluctant to make unpopular scratch recommendations.

During its site visit April 19 to 20, 2012, the Task Force learned that the NYRA Steward was being required to accompany NYRA veterinarians on a rotational basis during the morning pre-race exams. The Task Force was unaware of any other racetrack or racing jurisdiction where a Steward accompanies a veterinarian performing a pre-race exam. The justification for this procedure is unknown, but raises speculation that there were concerns about the veterinarians being intimidated or their competency questioned. In the case of

the latter, it would be exceedingly inappropriate to have a layperson assessing a veterinarians' performance.

## **2) Scratches**

In Thoroughbred racing, the daily responsibility for executing scratches is typically shared, on a rotational basis, among the Stewards. At Aqueduct, the NYRA Steward processes scratches two days of each week. On the other days, NYRA Racing Office personnel process scratches. This protocol deviates from standard practice in other racing jurisdictions, where only the Stewards have the authority to execute scratches. and again reinforces the inappropriate dynamic between the Racing and Veterinary Departments.

NYRA veterinarians recommend scratches for horses they determine to be ill, injured, or unsound during the pre-race exam, in the post parade or starting gate, and for horses declared to be unsound by the jockey, even if the NYRA veterinarian assesses the horse as sound. This is a responsible protocol, and an industry standard, to insure that a horse of indeterminate soundness does not compete in a race until a soundness assessment is made in a controlled environment and with an appropriately thorough exam. It must be noted, however, that while the protocol is standard industry practice, many jockeys in their interviews with the Task Force expressed a reluctance to present horses to be scratched prior to entering the starting gate for fear of economic reprisal from the trainer, manifested as the potential loss of future riding opportunities.

During the 2009-2010 Aqueduct meet when horses were examined in the detention barn pre-race, NYRA veterinarians initiated 30 scratches based on a pre-race exam determination of unsoundness. Seventy-five scratches were initiated during the 2010-2011 meet and 57 scratches were initiated during the 2011-2012 meet. There are two possible explanations for this. Dr. Verderosa suggested that the presence of the pre-race security barn served as a deterrent to trainers of horses that were likely to be recommended for a scratch by NYRA examining veterinarians. The second possibility was that there was an overall negative change in the relative musculoskeletal health of the population. This theory was supported by interviews with the jockeys and some trainers, who stated that they believed the horse population during the 2011-2012 Aqueduct meet was noticeably inferior and less sound when compared to previous years.

Aqueduct provided the following Scratch Protocol to the NTRA Alliance in its application for accreditation:

- 1. The NYRA veterinarian speaks to the trainer or representatives.*
- 2. The NYRA veterinarian calls the Steward on scratches to recommend a scratch.*
- 3. There are no second opinions allowed by either a private practitioner or another NYRA veterinarian.*
- 4. A horse that is scratched goes on either a 10 day restricted list or a 14 day Veterinarian's List at the discretion of the examining veterinarian.*

This protocol was not made available to the NYRA examining veterinarians and none were aware of or had ever seen it.

In its investigation, the Task Force determined that there were discrepancies between the documentation provided in the 2011 NTRA Alliance Application and the actual practices pertaining to scratch procedures. The Task Force learned of a trainer who, dissatisfied with a NYRA veterinarian's assessment of his horse, arranged through the Racing Office for the veterinarian in question to no longer perform pre-race exams on his horses. The Task Force was made aware of other instances in which NYRA veterinarians were instructed to re-evaluate horses having been recommended for a scratch. There were also reports of scratch recommendations being refused or overturned by the Racing Office.

It is troubling to the Task Force that 1) a trainer would be able to "adjust" regulatory practices; 2) there is the perception that there are varying standards of racing soundness amongst the NYRA Veterinary Department; and 3) that a given horse might be determined to be unsound by one NYRA veterinarian, but overruled by another following intervention by the Racing Office after a scratch recommendation had been made. These problems occur when decisions regarding racing soundness are made by veterinarians employed by the racetrack rather than by veterinarians employed by the regulatory authority, and underscore a major concern of the Task Force as it relates to the welfare and safety of horses and their riders. The NYRA organizational structure, which has the Veterinary Department reporting and accountable to the Racing Office, is a critical conflict-of-interest. The racetrack-employed veterinarian's advocacy for the horse can become conditional and based upon the needs of the employer, rather than the needs of the horse. The Task Force believes that this conflict-of-interest is best resolved by transferring the regulatory veterinary responsibilities to the NYSRWB and having these veterinarians employed by the State. If this is not feasible, then existing protocols must immediately change so that the Veterinary Department reports directly to the Stewards and has no accountability to the Racing Office. Further, in regards to specific pre-race scratch recommendations other than "at-the gate," the Task Force believes that there should be a consensus among the veterinarians before a scratch recommendation has been officially submitted, and not based upon an individual recommendation. Once made, the recommendation should then be considered final.

### **3) Veterinarian's List**

The NYRA veterinarian's regulatory responsibilities also include the management of the Veterinarian's List (hereinafter the "Vet's List") and the Restricted List, which are lists of horses ineligible to enter to race as a result a medical condition. The nature of the condition that warrants the scratch determines whether the horse is placed on the Vet's List or the Restricted List. Horses with minor conditions such as bruised feet or a foot abscess are placed on the 10-day Restricted List. Additionally, horses with subtle lameness of undiagnosed cause have also been placed on this List. These horses are ineligible to race for 10 days, but do not undergo follow-up evaluation by NYRA veterinarians when the restriction ends. The Task Force believes that all horses scratched for medical reasons for

which a period of ineligibility is warranted should be placed on the Vet's List and that all horses scratched for lameness or unsoundness should undergo a follow up evaluation by a NYRA veterinarian before release. The use of the Restricted List should be abandoned.

When the condition warranting the scratch recommendation is determined to be more serious, the horse is placed on the Vet's List. Additionally, horses may be placed on the Vet's List by any NYRA veterinarian based upon observation or examination prior to, or after, racing. Horses scratched as a result of trauma in the post parade or gate are permitted to enter future races at the discretion of the NYRA Veterinarian on a case-by-case basis. None of the horses that experienced fatal injuries between November 30, 2011 and March 18, 2012 had been placed on the Vet's List or the Restricted List during the meet.

The following protocol to determine if a horse warrants addition to the Vet's List was provided by NYRA to the Alliance (Exhibit E):

1. *Any horse scratched at the gate for unsoundness*
2. *Any horse scratched by the association vet after pre-race inspection*
3. *Any horse that returns with blood in both nostrils*
4. *Any horse that returns lame after the race*
5. *Any horse that is considered DNF (Did Not Finish)*
6. *Any horse given an equine ambulance ride for any reason during the races*
7. *Any horse deemed appropriate by the Chief Examining Veterinarian after a physical examination*

As with the pre-race and scratch protocols, this protocol was not made available to the NYRA veterinarians nor had they ever seen it.

All NYRA Vet's List removals are made at the discretion of Dr. Verderosa. Release requirements may include:

1. *Watching horse breeze at least ½ mile during training hours. Horse must return and cool out racing sound.*
2. *Blood may be drawn for testing*
3. *The Chief Examining Veterinarian may request further diagnostics, i.e. radiographs*

Aqueduct shares its Vet's List and has reciprocity with other racing jurisdictions, thus ensuring universal ineligibility until a horse has met the criteria for release. However, the Restricted List is not shared, and thus there can be no universal ineligibility for horses so listed—some of which were scratched because of lameness or unsoundness. The Task Force was alerted to a horse that was scratched for lameness at a NYRA track, placed on the Restricted List, and raced in another jurisdiction during its period of ineligibility. NYRA's internally used Restricted List is ineffective in preventing an unsound horse from racing.

Aqueduct received its initial NTRA Alliance accreditation in 2009, and was re-accredited in 2011<sup>19</sup>. NYRA was assigned a “Best Practice” rating for Pre-race Examinations and a “Best Practice” rating for Post-Race Veterinary Examinations.

#### **4) Racing Injuries**

Regulatory veterinarians should be familiar with the types of injuries sustained by racing horses and be proficient in the triage and on-track emergency management of horses injured or in distress. Timely follow-up should be performed to determine case outcome. NYRA veterinarians demonstrate the necessary proficiency in responding to on-track emergencies. The Task Force was advised that case follow-up is performed, but the information is inconsistently shared within the Veterinary Department.

The Task Force believes that the Veterinary Department should convene routinely to review practices and procedures to identify opportunities to mitigate the occurrence of injuries and enhance potential case outcome when injuries do occur. Previous NYRA veterinarians advised that this, in fact, had been a standard practice for each occurrence of a racing injury. This is no longer the case.

The Task Force further believes that there was a lack of response by the Veterinary Department to the occurrence of fatalities in the 2011-2012 meet. There was no review of NYRA veterinary procedures nor were attempts made to more accurately assess horses through strategic examinations at times other than the pre-race exam. The monitoring of horses after entry, after racing, between races, and during training hours represents a missed intervention opportunity to prevent injury.

#### Conclusions:

- The accountability of the Veterinary Department to the Racing Office creates a critical conflict-of-interest that can impact the veterinarians’ decisions. In other racing jurisdictions, this conflict is avoided by having all regulatory veterinarians employed by the racing commission or the state regulatory body.
- The execution of scratches by Racing Office personnel, rather than the Stewards, establishes an untenable and inappropriate dynamic in which laypersons resist or overtly challenge the recommendations of regulatory veterinarians. Field size, or the economic impact of a scratch, must never be a consideration when an examining veterinarian assesses a horse’s suitability to race.
- The inconsistencies in pre-race exam procedures and scratch criteria engender a loss of confidence in the capability of the examining veterinarians and undermine the process that is designed to protect the horses and riders.

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<sup>19</sup> Pertinent Accreditation findings from these two inspections are included as Exhibits C & D.

- Written protocols containing standards and practices were not provided to the NYRA veterinarians. The NYRA veterinarians would have benefitted from a manual that clarified regulatory responsibilities and authority, protocols for performing assigned duties and expectations of NYRA, the NYSRWB, the horsemen, and the jockeys. (Exhibit H: KHRC Procedures and Practices)
- It is advisable to convene NYRA veterinarians as a panel to collectively assess, and achieve consensus on, any horse whose condition suggests or warrants a scratch because of unsoundness. This is a valuable training opportunity for the less experienced veterinarian, and strengthens decisions made by the NYRA veterinarians with respect to a horse's racing soundness.
- Inconsistencies in information management diminish the efficacy and overall value of the pre-race examination.
- The lack of a structured training and mentoring program for NYRA veterinarians has resulted in individuals functioning independently and without adequate support.
- The failure to strategically examine horses represents a missed opportunity to prevent injury.
- The use of the 'Restricted List' for horses determined to be unsound eliminates case follow up, which is warranted in all cases of lameness, and represents a missed opportunity to prevent injury. The 'Restricted List' should be abandoned.
- The failure of jockeys to communicate reservations about horses' soundness to the regulatory veterinarians establishes an unacceptably elevated level of risk for all on the racetrack.
- The apparent lack of response from the Veterinary Department to the occurrence of racing fatalities during the 2011-2012 meet in terms of a Department-wide discussion and review of procedures and processes within the Veterinary Department is of great concern to the Task Force.

## **E. Claiming Races and Rules**

### **1) Claiming Races**

Claiming races comprise the majority of races in North America. Every horse entered in a claiming race is for sale at a pre-determined, published price. The commitment to purchase (claim) a horse must be made in writing and deposited in a locked claims box by a prescribed deadline prior to the race. The Stewards make claim notifications after the race. The claiming process is blinded. A trainer does not know if a claim has been made for his horse until after the race. A claimant does not know if he is successful in purchasing a



horse until after the race. If more than one claim is made for a single horse, the successful claimant is determined by lottery. The successful claimant officially becomes the owner of the horse when the starting gate opens, while the physical transfer of the horse, regardless of its condition- healthy, injured or otherwise- is made after the running of the race.

Over the past two years, the number of claiming races run at Aqueduct has increased in relative proportion to the total number of races run during this same period. During the 2009-2010 meet, out of a total 519 races run, 350 (67%) were claiming races. In 2010-2011, out of 636 total races, 377 (59%) were claiming races, representing a slight decrease in overall percentage. In 2011-2012, the percentage of claiming races returned to the 2009-10 level, with 469 claiming races out of a total of 683 races (69%) carded (Figure 6). It is important to note that the data from 2009-10 and 2010-2011 represent complete 365-day cycles. The percentage of claiming races for 2011-2012 could change with the inclusion of data after the conclusion of the 2012 fall meet.

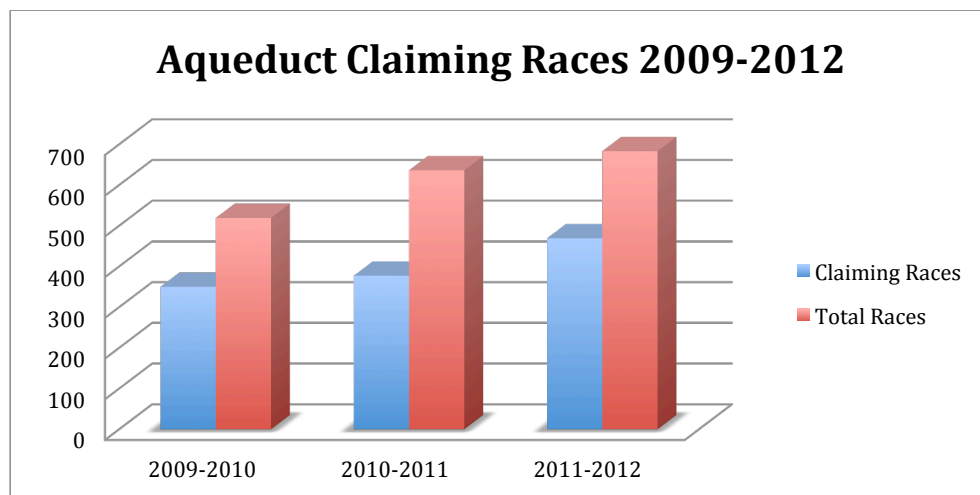


Figure 9: Aqueduct claiming races and total races, 2009-2012.

The Resorts World Casino opened at Aqueduct on October 28, 2011. Six and one-half percent (6.5%) of the net profit from the casino is dedicated to purses, which through the winter meet at Aqueduct, translated into \$14.8 million dollars. In early December 2011, NYRA announced purse increases for the Aqueduct winter meet, with purses for lower level claiming races increasing by, in some cases, more than 200%. Purses for upper tier claiming, allowance, and Stakes races also increased, but with relatively less economic impact than was seen in the lower claiming ranks.

During the 2011-2012 meet, \$ 7,500 claiming horses competed for purses between \$29,000 (purse to claim price ratio of 3.9) and \$40,000 (purse to claim price ratio of 5.3). Additionally, there was an increase in the number of claims, particularly for those horses in the lower claiming ranks that were competing for the increased purses. According to information provided by NYRA, 184 claims were made during the 2009-2010 meet, and 189

during the 2010-2011 meet. Some horses were claimed more than once. For 2011-2012, there were 449 claims, an increase of 138% when compared to 2010-2011. In one instance, 18 claims were submitted for a single horse. This level of claiming activity was unprecedented.

An unintended consequence of the increase in claiming purses was a relative “devaluation” of the horse, whereby the purse was of substantially greater value than the horse competing for it (purse to claim price ratios greater than 1.65). The Task Force believes this imbalance incentivized poor decisions in the management of some horses. The purse increases led to a sharp rise in claiming activity, particularly for horses with claiming prices  $\leq$  \$25,000, a class of horses that has been identified as being at increased risk of fatal musculoskeletal injury. 17 of the 21 fatalities in this investigation occurred in claiming races. The disproportionate number of claiming horses in the population of fatalities suggests that inadequate protection was afforded to this class of horse.

## **2) Claiming Rules**

NYSRWB Rule 4038 governs the claiming of horses at the NYRA tracks. There are two sections of this Rule that became relevant to the 2011-2012 racing fatalities. First, under Rule 4038.2 in effect during the Aqueduct meet, the minimum price for which a horse could be entered in a claiming race was \$1,200. This Rule contained no provision to address a potential imbalance between the value of the horse and the purse of the race, as occurred during the Aqueduct meet. This imbalance contributed to perceptions that horses were being entered in claiming races beyond their level of competition and forced to perform to the point of serious injury or death. In response to the fatal injuries occurring in claiming races during the Aqueduct meet, the NYSRWB, on April 2, 2012, adopted an emergency amendment to Rule 4038.2 requiring that the claiming price be not less than 50% of the value of the purse for the race (purse-to-claim price ratio of 2.0). After the emergency amendment took effect, claiming activity was restored to a more typical level. This change no doubt incentivized improved management decisions. However, the Task Force believes that a better approach would have been to follow the AAEP’s recommendation that a sliding scale be instituted in claiming rules to accommodate the potential rise or fall of claiming purses in the future, rather than an arbitrary number. Accordingly, the Task Force believes that the purse to claim price ratio should be no greater than 1.6, in which the value of the horse is approximately equal to the winner’s share of the purse, and that the Rule should be amended accordingly.

Second, under Rule 4038 in effect during the Aqueduct meet, the Stewards could only void a claim if the claim form was deficient, the age or sex of the horse was misrepresented or the claimant rejected the horse following notification of a positive drug test. In recent years, the racing industry has been discussing a change to the claiming rules that would void a claim in the event a horse sustains a fatal injury during a race or does not return to be unsaddled. In response to the fatal injuries during the Aqueduct meet the NYSRWB, on April 25, 2012, adopted an emergency amendment to Rule 4038 to provide that a claim is deemed void in the event the claimed horse dies during the race or is euthanized on the track. This amendment is intended to protect the horse by discouraging

willful entry of an injured or unsound horse with the expectation that the horse will be claimed and become someone else's liability. This Rule is similar to the 2009 AAEP recommendation that "horses that do not finish the race or those that sustain a catastrophic injury during the race remain the property of the original owner."<sup>20</sup> The variation in the language reflects the complexity of a situation in which decisions regarding euthanasia must be made on the racetrack in a very public and emotional environment.

The Task Force believes it is in the best interest of an injured horse to undergo a thorough medical assessment (that may include diagnostic imaging) to determine appropriate medical treatment, the need for euthanasia and consideration of available therapeutic options. This cannot reasonably be achieved on the racetrack itself. It is NYRA policy to transport injured horses, even when euthanasia is anticipated, to the barn area for appropriate evaluation. The Task Force believes it is preferable that a decision to perform on-track euthanasia be limited to those horses that cannot be safely stabilized and transported and that no injured horse should be euthanized unless absolutely necessary. In this regard, the Task Force believes that the amended claiming rule does not allow for the possibility that the injured horse may have suffered an injury that allows it return to racing. In this instance, the claimant of the horse may decide that he wants to keep the horse. The decision to euthanize a horse in a claiming race should not be driven by the fact that the claim will be voided. Although it is unlikely that a claimant will want to keep an injured horse, he should have the option of making an informed decision whether or not to void the claim. The emergency amendment to Rule 4038 contravenes this philosophy. Accordingly, the Task Force recommends that NYSRWB Rule 4038.5 be amended to provide that a claim is voidable, at the discretion of the claimant and within one hour of the conclusion of the race, for a horse that is vanned off the track.

*Conclusions:*

- The Task Force believes that the rapid and disproportionate increase in purses for the lower level claiming races commoditized those horses, thus increasing their risk for mismanagement and subsequent injury. The elevated purses stimulated claiming activity and incentivized poor management decisions. The NYSRWB emergency amendment of Rule 4038.2 established a more appropriate ratio of claiming purse to claiming price and eliminated this incentive. However, rather than using an arbitrary number, the Task Force believes that the purse to claim price ratio should be no greater than 1.6, in which the value of the horse is approximately equal to the winner's share of the purse, and that the Rule should be amended accordingly.
- In the opinion of the Task Force, NYSRWB rules in effect during the Aqueduct meet unintentionally facilitated the transfer of unsound or physically

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<sup>20</sup> The AAEP White Paper "Putting the Horse First," Veterinary Recommendations for the Safety and Welfare of the Thoroughbred Racehorse is included as Exhibit E.

compromised horses through the claim box. The Task Force believes the NYSRWB emergency amendment to Rule 4038 represents an improvement by establishing a deterrent to the willful entry of a compromised horse, but that it should be further amended to provide that a claim is voidable by the claimant within one hour of the conclusion of the race if the horse is vanned off the track. The voiding of a claim should not require the death of the horse.

## **F. Shoeing Practices**

Shoeing practices were considered as a possible factor in the occurrence of these injuries, since opinions were offered that traction devices (or the lack of traction devices) might have influenced the interaction of the hoof with the racing surface.

In the opinion of the Paddock Farriers, the inner track at Aqueduct has always been “deep.” Horses racing over the inner track were traditionally shod behind with mud calks or other traction devices. In 2011 NYRA prohibited the use of these traction devices.<sup>21</sup>

The hoof conformation of the horses that raced at the Aqueduct meet was typical of horses racing at other racetracks. Some of these horses have a “long toe and under-run heel” conformation that is not unique to the Aqueduct population. This conformation represents a “skewed” foot-pastern axis that delays “breakover” of the digit and puts increased strain on the suspensory apparatus, fetlock joint and flexor tendons of horses. Limited examination of the horses in the paddock at Aqueduct indicated that a small percentage of horses did fit the description of long-toe, under-run heel foot conformation, but it was not possible to examine or comment on the conformation of the horses that were injured. Based upon interviews with trainers and farriers, as well as observations by Task Force members during site visits at Aqueduct, there was no indication that shoeing practices during the 2011-2012 meet were different from those in 2011 or contributed to the fatal injuries of these horses.

*Conclusion:* In the opinion of the Task Force, the shoeing practices used during the 2011-2012 Aqueduct meet were conventional and consistent with those used in 2011 and were not a factor in the occurrence of racing fatalities.

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<sup>21</sup> The following house rule was published in the 2011 Fall Condition Book 2:

*A Queens Plate or a Toe Grab up to 4 mm will be allowed on front shoes on the dirt. No other traction device will be allowed. Equivalent shoe shall be determined at the sole discretion by the order of the stewards. Only plain hind shoes may have a (1/4") bend, bar shoes and aluminum pads will be permitted all around. Any other equivalent traction device will be at the sole discretion by the order of the Stewards. Any horse that reports to the paddock and is not in compliance with shoe regulations shall be scratched and a fine will be issued at the discretion of the Stewards.*

*TURF SHOE POLICY: ONLY Queen's Plate or Queen's Plate XT will be allowed on the Front and Hind.*

## **G. Medication and Testing**

The Task Force members are acutely aware of the intense scrutiny being given the racing industry on the use of medications and drugs. The Task Force members are also mindful of the numerous suggestions that illicit drugs or inappropriate medication must have been a contributing factor in the large number of fatal injuries that occurred during the Aqueduct meet. The Task Force's specific mandate included a directive to investigate whether drugs and medications did, in fact, contribute to the fatal injuries during the Aqueduct meet and to review existing policies and procedures and recommend any changes. Accordingly, at the outset of this investigation, The Task Force determined to objectively and aggressively investigate any role that medication may have played in the fatal injuries sustained by the horses in this investigation. Veterinary records of each horse were requested and examined. The Task Force performed a review of drug testing in New York and test sample results for the Aqueduct horse population. Test results of the injured horses, if samples were collected, were reviewed. Trainers, assistant trainers, owners and practicing veterinarians were interviewed. NYSRWB investigators were interviewed. Owners were asked to provide copies of their veterinary bills for review. The investigation extended beyond the fatally injured population to examine medication policies and practices that may be compromising the welfare and safety of the horse and rider, the integrity of competition, and the public interest.

### **1) Medication Regulation**

New York's regulatory system for medication is time-based. Under this system, the use of drugs, medications and other substances in horses is restricted by when they may be administered prior to a race. Under NYSRWB Rule 4032.2, all drugs that are recognized as being permitted for use in horses, and having a therapeutic benefit, are listed with restrictions on when their use is no longer permitted before a race. The level of detection ("LOD") employed by the testing laboratory to determine when a horse is racing under the improper influence of a therapeutic medication or an illicit drug is tied to the specific withdrawal deadline specified in the Rule.

### **2) Sample Collection and Testing**

The post-race testing protocol in New York and, in particular Aqueduct, is for the first three finishers of every race; specials (including all horses vanned off the racetrack unless they were sedated for transport); and all claimed horses are directed to the test barn to undergo blood and urine sampling for drug testing. Urine and blood samples are subjected to immunoassay and liquid chromatography and mass spectrometry screening and confirmation testing. The standard testing protocol includes analysis for NSAIDs, corticosteroids, anabolic steroids, therapeutic substances which have set time limits; local anesthetics, blood and gene doping agents for which tests are available, and other prohibited drugs.

The testing of all urine and blood samples collected at Thoroughbred and standardbred racetracks in New York is performed at the New York Equine Drug Testing

and Research Laboratory at Morrisville State College (the “Laboratory”) under the direction of George Maylin, DVM, PhD, an internationally recognized equine toxicologist and pharmacologist. The Laboratory performs drug testing and also conducts ongoing research on the detection of emerging drugs that should be of concern to racing based on the potential of these drugs to compromise the welfare of the horse, its performance, and the integrity of the race. Dr. Maylin is the principal advisor to the NYSRWB on medication and testing issues. The Laboratory is currently undergoing assessment for accreditation to ISO 17025, the recognized international standard for certifying the competency of a drug testing laboratory. Accreditation certifies the quality and consistency of the testing procedures and the laboratory’s analytic capabilities. The Laboratory has also committed to accreditation to the recently developed and more stringent Racing Medication and Testing Consortium Code of Standards for laboratories conducting drug testing for U.S. racing.

### **3) Aqueduct Meet Test Results**

There were 7,106 blood samples tested by the Laboratory during the 2011-2012 Aqueduct meet, inclusive of post-race tests, pre-race blood samples for TCO<sub>2</sub> analysis, out-of-competition testing, and post-work blood samples. The Laboratory advised the Task Force that no illegal or performance enhancing substances and no drugs associated with doping were detected in blood and urine samples collected from horses during the Aqueduct meet. There were five positive tests reported from samples collected between November 30, 2011 and March 20, 2012.<sup>22</sup> One positive test was for an excess level of phenylbutazone, a permitted and regulated NSAID. Two positive tests were for an excess level of flunixin (Banamine®) another permitted and regulated NSAID. Two positive tests were for clenbuterol, a regularly used bronchodilator that may not be administered within 96 hours of a race. None of these positive tests originated from any of the fatally injured horses. Each positive test was investigated by the NYSRWB and appropriate disciplinary action was taken. The Task Force determined that, without exception, trainers and veterinarians were aware of the rule setting time restrictions for medication administration to horses entered to race.

### **4) The Fatally Injured Group**

The collection and testing of the samples obtained from the fatally injured horses differed from the normal collection and screening protocol in two respects. First, no urine samples were collected from any of the fatally injured horses, and no blood samples were collected from 11 of the 21 fatally injured horses. Second, blood samples from 10 of the fatally injured horses were obtained by a NYRA veterinarian attending the horse on-track and not by testing personnel from the Test Barn according to normal protocol. In each case, the NYRA veterinarian collected two tubes of blood. These blood samples were identified by

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<sup>22</sup> The Laboratory reported that no furosemide (Salix®) was detected in a blood sample obtained from a horse reported to have been administered Salix®. This is an indication that the horse did not receive Salix®. The Task Force did not consider this to be a positive drug test.

the standard Sample Identification Cards used in the Test Barn. There was no designation on the Card identifying the samples as “specials” or originating from injured horses. Because the Laboratory had no urine samples to test from the injured horses, it was unable to perform its standard urine screening. Furthermore, according to the Laboratory, its ability to fully screen the blood samples from the injured horses was limited to testing for NSAIDs, corticosteroids, anabolic steroids and local anesthetics because of the limited plasma volume available from these horses immediately post-exercise, which was less than samples received during routine sampling.

The Laboratory understood the samples to be routine post-race samples, rather than specials collected from injured horses, but did not advise the NYSRWB that it had received samples of insufficient volume to enable it perform the full complement of drug tests. This lack of communication prevented a change in protocol that could have 1) allowed for the appropriate collection of samples from injured horses, when possible, for full drug testing; 2) allowed the NYSRWB to determine the scope of testing it wanted; or 3) documented that the scope of testing was modified because insufficient samples had been obtained from these horses. The Task Force believes that a notification/authorization protocol should be established so that the Laboratory is advised when a sample is collected from an injured horse and that Laboratory notifies the NYSRWB when it has received a deficient sample so that the appropriate scope of testing can be determined..

Nonetheless, based upon the fact that no illicit or non-therapeutic drugs were detected in any post-race samples subjected to the full complement of drug screening during the period of investigation, and based upon further information that the Task Force was able to review, the Task Force has no reason to believe that any of the fatally injured horses was administered an illicit or non-therapeutic drug.

The Task Force interviewed trainers and practicing veterinarians at Aqueduct regarding pre-race medication practices and asked each if they recommended a standard pre-race medication program for their clients’ horses. The veterinarians were consistent in responding that they had no standard recommendations because each trainer had his/her own philosophy about pre-race treatments. Trainers consistently indicated that they determined the pre-race medication program for the horses in their stable. In no case was medication administered to a horse by a veterinarian absent the request or authorization of the trainer.

The Task Force determined that, in the 48 hours prior to their races, 18 of the 21 fatally-injured horses were administered NSAIDs. 14 of these horses received Phenylbutazone, four horses received flunixin (Banamine®) and one horse received ketoprofen (Ketofen®). Five horses received two NSAIDs prior to the race. All 21 horses were administered furosemide (Salix®). Four horses were administered corticosteroids. Four horses started without any pre-race medication for inflammation. All the medications reportedly administered to the fatally injured horses are recognized and accepted therapeutic medications.

Horse	NSAIDS			Corticosteroid	Furosemide	Other
	Phenylbutazone	Flunixin	Ketoprofen			
Speight of Hand	X	X		X	X	
Dreamin of Silver	X				X	
Inishmore	X			X	X	
Mannington	X				X	Electrolytes
Scorper	X				X	Electrolytes
Afleet Sue	None				X	
Raw Moon	X				X	
Fortydeuce		X			X	Hyaluronic Acid Conjugated estrogens
Sheeds Paisley	X			X	X	
Skorton	X		x		X	
Unruly Storm	None				X	
Coronado Heights	X	X			X	Hyaluronic Acid Conjugated estrogens Vitamin C
Tiz A Lil Meatball	X				X	
Bernie's Love	X				X	Vitamins Electrolytes
Wes Vegas	X				X	
Almighty Silver	X				X	Conjugated estrogens Vitamins Tetracycline
Big Polka Dot		X		X	X	
Hubbard	None				X	
Hillsboro Bay	None				X	Electrolytes
Deferred Risk	X	X			X	Electrolytes
Smartie Bobbie	x	x				IV fluids

Table 4. Pre-race medications.

### 5) Specific Medication Issues Identified For Review

As a part of its mandate, the Task Force was directed to consider specific medication issues that have been offered, not only as possible contributing factors to the fatal injuries of horses in this investigation, but also as they may relate to the welfare of the horse and the safety of the jockeys. In particular, the Task Force examined the use of NSAIDs, corticosteroids, clenbuterol (Ventipulmin®) and furosemide (Salix®) by New York's horsemen. With respect to furosemide, the Task Force will not offer an opinion on the industry's current divisive debate on the use of furosemide to reduce the prevalence and severity of EIPH. The Task Force was specifically asked to look at whether the use of furosemide was a possible contributing factor in the fatalities that are the subject of this investigation and we will confine our comments to that question.



## **a) Non-Steroidal Anti-inflammatory Drugs (NSAIDs)**

Phenylbutazone, flunixin (Banamine®) and ketoprofen (Ketofen®) belong to a class of drugs previously referred to as NSAIDs. They are used for the management of mild to moderate pain, fever and inflammation and exert their effect by reducing levels of prostaglandins, the body's chemicals that are responsible for pain, fever and inflammation. NSAIDs are designated as Class four substances in the Association of Racing Commissioners International (the "ARCI") Uniform Classification of Foreign Substances, based on their limited potential to affect racing performance. Commonly used NSAIDs in human medicine include ibuprofen (Motrin®), indomethacin (Indocin®) and naproxen (Aleve®). While phenylbutazone, flunixin and ketoprofen are prescription medications, these medications are not, as has been suggested by others, appropriately characterized as "powerful painkillers." For decades, their use has been highly regulated by the racing industry and the subject of extensive scientific research.

Prior to February 2012, Rule 4043.2 prohibited the use of phenylbutazone within 24 hours of a race. In February 2012, New York amended this Rule to extend the restricted use of phenylbutazone to 48 hours pre-race. Flunixin, while exerting a pharmacologic effect similar to phenylbutazone, is a shorter acting medication and is not present at therapeutic levels if administered outside 24 hours. The ARCI Model Rule for flunixin is a published threshold of 20 nanograms per ml plasma and is associated with a 24-hour withdrawal time. The current New York regulation prohibits administration of flunixin within 24 hours prior to competition.

For years, at the request of the NYSRWB and NYRA, the Laboratory has routinely monitored the concentrations of NSAIDs in post-race blood samples collected from horses at the NYRA tracks. The Laboratory used the ARCI Model Rule thresholds as its LOD for the NSAIDs. The Laboratory advised the Task Force that concentrations of NSAIDs in blood samples from the NYRA tracks have been consistently well below the NYSRWB and ARCI Model Rule thresholds, and is evidence of ongoing compliance with the NYSRWB rule governing the administration of NSAIDs. While there was one positive test for an excessive concentration of phenylbutazone during the period of this investigation, the Laboratory advised the Task Force that positive tests for excessive concentrations of NSAIDs from NYRA horses are rare. Despite concerns in other States that concentrations of phenylbutazone and flunixin, as detected in post-race samples, may be compromising pre-race examinations, this has not been the case in New York.

The Task Force retained Dr. Noah Cohen, an internationally recognized veterinary epidemiologist at Texas A & M University, to perform a statistical analysis to determine if there was any association between phenylbutazone administration and fatal injury in the population of horses in this investigation. Fatally injured horses were paired with uninjured control horses randomly

selected from the same races, and the administration of phenylbutazone was compared, using a Fisher's Exact Test. There was no statistically significant difference ( $P=0.7186$ ) between the proportion of injured horses that received phenylbutazone (15/21; 70%) and the proportion of the uninjured horses that received phenylbutazone (17/21; 81%).

Horses may also be administered NSAID's during the intervals between races to manage conditions associated with athletic training and to minimize the development of degenerative joint disease (a consequence of athletic training over time). While this medication philosophy is sound and of benefit to the health and welfare of the horse in active race training, the consistent use of NSAIDs outside of competition and during training, may obscure minor changes in a horse's condition (i.e. heat or filling in a joint, or subtle changes in gait), making it more difficult for a trainer to assess a horse's response to race training. The inability to recognize and appropriately address minor orthopedic conditions may contribute to the occurrence of more severe injury.

## **b) Corticosteroids**

Corticosteroids are potent anti-inflammatory agents that are used to treat a broad range of medical conditions in horses. This class of medication has a substantial place in the ethical practice of veterinary medicine. Corticosteroids may be administered topically, orally, intravenously, intramuscularly, in the spinal canal, by inhalation, or by intra-articular<sup>23</sup> injection. The appropriate use and regulation of corticosteroids in all equine competitions (racing and non-racing) and in consideration of the welfare of the horse, is the current focus of intense research and review.

The use of intra-articular corticosteroids to treat equine joint disease has been extensively reviewed. Both the benefits and the negative consequences of intra-articular corticosteroid administration are well documented (Trotter, 1991; Frisbie, 1998; Murray, 2002; Bolt, 2008). Three of the most commonly used intra-articular corticosteroids--betamethasone (Celestone®), methylprednisolone acetate (DepoMedrol®), and triamcinolone acetonide (Vetalog®)-- have been studied to document their pharmacological and clinical effects (McIlwraith, 2010). While chemically related, these medications differ, and must be considered individually with respect to therapeutic use and regulation. . Betamethasone and triamcinolone are not associated with any negative effect on articular cartilage (McIlwraith, 2010). In fact, triamcinolone acetonide (Vetalog®) has been shown to be chondroprotective<sup>24</sup> and can promote cartilage health (McIlwraith, 2010 & Frisbie 1997). Methylprednisolone acetate (DepoMedrol®), however, has been demonstrated to have degradative effects on articular cartilage (Frisbie, 1998).

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<sup>23</sup> The injection of medication into the joint space of the horse, usually to treat inflammation.

<sup>24</sup> Preventing damage to articular cartilage

Intra-articular corticosteroids have a prolonged clinical effect (McIlwraith, 2010).

While there is no scientific evidence that a single dose of intra-articular corticosteroids either causes harm to subchondral bone or promotes catastrophic injury, the repetitive use of intra-articular corticosteroids, particularly methylprednisolone, may cause significant damage to the cartilage in the joint. Additionally, the intra-articular use of corticosteroids can mask the inflammatory changes ordinarily associated with joint disease, and can confound the pre-race clinical examination. For these reasons, regulation of intra-articular administration of corticosteroids is appropriate.

In New York under Rule 4043.2, corticosteroid administrations that are not intra-articular are prohibited within 48 hours of a race. However, for intra-articular injections, a horse must not race for at least five days following the injection and the trainer must notify the Stewards of the injection, in writing, before the horse is entered to race. The Task Force has determined that there has been no compliance with, nor enforcement of, the notification requirements for intra-articular corticosteroid administration under this rule. The Task Force believes that this is a serious deficiency that must be promptly addressed.

The Task Force is also greatly concerned that in claiming races, there is no way for a successful claimant to determine if the horse he/she has claimed has been recently injected with an intra-corticosteroid, putting that horse at risk for redundant medical treatment as well as preventing an accurate assessment of the horse's soundness. The Task Force believes that in this limited instance, it is appropriate that the NYSRWB, by regulation, institute a reporting requirement that provides disclosure to the successful claimant of any intra-articular corticosteroid injection performed within 30 days of the race. The Task Force believes that this appropriately establishes accountability for subsequent medical decisions and is in the best interests of the racing safety of the horse and rider.

While a role for corticosteroids in the pathogenesis of catastrophic injury has never been proven (McIlwraith, 2010), the Task Force noted that four of the fatally injured horses in this investigation received intra-articular corticosteroid injections within seven days of racing. The anti-inflammatory effect of these treatments likely confounded the pre-race examination of these horses, and the brief time interval between treatment and the race did not provide for an opportunity to evaluate the results of that treatment prior to racing. The Task Force believes that the health and safety of racehorses and jockeys will be improved by reducing the use of legal anti-inflammatory medications in the time after the horse is entered to race. In its White Paper *Clinical Guidelines for Veterinarians Practicing in a Pari-Mutuel Environment (Exhibit F)* the AAEP affirms that making health care decisions based on the entry date of a race is not fundamentally in the best interests of the horse and that all medical treatments of the racehorse should be based upon a veterinary diagnosis with appropriate time allowed following the treatment of an injury to assure that the horse is recovered

prior to racing. In this regard, the Task Force believes that the NYSRWB should further amend Rule 4043.2, on an emergency basis, to prohibit a horse from receiving an intra-articular administration of methylprednisolone acetate within 15 days of the race and, for all other intra-articular corticosteroid administrations, within seven days of the race. Systemic corticosteroids should be prohibited within five days of the race. Additionally, the presence of more than two corticosteroids in a post race sample should be prohibited.

These recommendations notwithstanding, the regulation of corticosteroids is best going to be achieved through the use of published thresholds and withdrawal guidance. A testing laboratory is limited in its ability to provide analytic support for enforcement of a time-based IA corticosteroid regulation when the rule does not specify a total maximum dose or a maximum number of joints to be injected. The administration of multiple IA corticosteroid injections, when performed in compliance with a specified withdrawal time, will result in substantially different plasma and urine concentrations than a single IA injection. Under a time-based regulation, both injection protocols are permitted even though they represent dramatically different medication loads and clinical intent. The Task Force is aware that the RMTC intends to issue guidelines on corticosteroids to the industry at some future date. The Task Force recommends that the NYSRWB should immediately enact the Task Force's recommendations and consider any changes, if appropriate, when the RMTC issues its guidelines.

### **c) Clenbuterol**

Clenbuterol (Ventipulmin®) is a potent bronchodilator that is FDA approved for treatment of lower airway inflammation and upper respiratory infections in the horse. In addition to its pharmacologic effect on the respiratory tract, oral administration of clenbuterol increases muscle and decreases fat in cattle, pigs, poultry and sheep. Clenbuterol exerts its anabolic effect by changes in gene expression (Spurlock, 2006). There are recent reports of illegally compounded clenbuterol being used as an alternative to the prohibited use anabolic steroids in Quarter Horse racing. There is also a widespread belief that clenbuterol, because of its anabolic effects, is being used beyond its intended therapeutic purpose in Thoroughbred racing.

Clenbuterol has been regulated by the racing industry since its FDA approval for use in horses. However, uniformity with respect to the use of this medication has eluded the industry, and many jurisdictions have employed different withdrawal times and LOD's. In New York, pursuant to Rule 4043.2, clenbuterol may not be administered to a horse within 96 hours of a race. The American Quarter Horse Association recently prohibited the use of clenbuterol within 30 days of a race. The California Horse Racing Board has also recently amended its rules to prohibit the administration of clenbuterol to a horse within 21 days of a race.

In interviews with trainers, the Task Force learned that a large number of the horses at NYRA tracks were being administered daily doses of clenbuterol, albeit in compliance with the NYSRWB rule that requires that the drug be discontinued at least 96 hours prior to competition. Some trainers indicated that clenbuterol is very useful to prevent respiratory infections in horses experiencing EIPH (respiratory bleeding), while others stated their horses looked better and had increased appetites when treated with clenbuterol. Many trainers indicated that they were using clenbuterol only because others were doing so, and would support a more restrictive rule if it could be enforced. It was abundantly clear to the Task Force that while the NYSRWB's time limit regarding clenbuterol was being followed, the medication is in common use as a substitute for anabolic steroids and not for the legitimate therapeutic purpose for which it is intended.

The Task Force believes that the NYSRWB should amend Rule 4043.2, on an emergency basis, to prohibit the administration of clenbuterol within 21 days of a race. In the event that enforcement of this regulation cannot be supported with post-race testing, the Task Force recommends that compliance with this rule be enforced through the use of out-of-competition testing. The RMTTC and ARCI are presently collaborating on formulating a new recommendation for clenbuterol administration. The NYSRWB should consider their recommendation when it is issued.

#### **d) Furosemide**

Furosemide is a potent diuretic that is commonly administered on race day to prevent and/or minimize the severity of EIPH in the racehorse. It is beyond the scope of the Task Force to render an opinion on the contentious issue of a proposed ban of furosemide on race day. However, in an effort to determine if there was an association between the pre-race treatment of horses with furosemide and the fatalities under investigation, the Task Force asked Dr. Cohen to perform a statistical analysis of furosemide administration to the fatally injured horses compared against a control population from the same races. All of the fatally injured horses were treated with furosemide on race day. One hundred fifty three of the 159 uninjured horses in those same races received furosemide. There was no statistically significant difference between the proportion of injured horses that received furosemide (21/21; 100%) and the proportion of the uninjured horses that received furosemide (148/153; 97%), using Fisher's Exact Test ( $P = 1.000$ ).

There are significant limitations to a scientific analysis of the small number of horses involved in this investigation and it is prudent to avoid making a sweeping conclusion from such a limited data set. However, in terms of relative risk factors, it is intuitive that the magnitude of the contribution of furosemide to catastrophic injury cannot be very large because nearly all horses are treated with furosemide and because catastrophic injury, statistically and comparatively speaking, is such a rare event.

## H) Extracorporeal Shockwave Therapy

Extracorporeal Shockwave Therapy (ESWT) and Radial Pulse Wave Therapy were introduced into equine medicine in 1998. These instruments generate an acoustic pressure wave that penetrates tissue and delivers that energy to target tissues. ESWT increases blood circulation to injured tissue by the formation of new blood vessels, decreases inflammation, and up-regulates cytokines (growth factors) that promote healing of injuries.

Initially this technology was expensive, bulky and difficult to transport, limiting its use to teaching hospitals and equine specialty clinics. In recent years, ESWT units have become small, portable and affordable, such that their use in racing is widespread and a common treatment modality, primarily for soft tissue injuries. Convenience aside, the use of ESWT should be restricted to use by licensed veterinarians following an appropriate diagnostic workup.

In clinical trials, ESWT has been effective in treating conditions ranging from orthopedic (bone) to soft tissue injuries (McClure 2004, Caminoto, 2005; Morgan, 2009; Kawcak, 2011). Most conditions for which ESWT is indicated also require reduced duration and intensity of exercise post-treatment while the pathologic conditions resolve. Despite its therapeutic value, there are safety concerns associated with use of ESWT. There is an interval (up to four days) of analgesia post-ESWT treatment (Waldern, 2005; McClure, 2005; Dahlberg, 2006) and the use of ESWT in close proximity to a race may allow an injured or unsound horse to compete. During the interview process, trainers asserted that the improper use of ESWT on horses racing at Aqueduct masked their unsoundness.

The NYSRWB does not currently have a rule regulating the use of ESWT. NYRA, however, as a racetrack accredited by the NTRA Alliance, is required as a condition of accreditation to regulate the use of ESWT consistent with the ARCI Model Rule.<sup>25</sup>

Accordingly, in May 2009, NYRA imposed the following House Rule:

*NYRA Shockwave Treatment Policy:*

*Possession and use of Shockwave Therapy equipment on NYRA grounds is limited to*

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<sup>25</sup> Rule ARCI-011-15 (5), "Prohibited Practices", ESWT is a prohibited practice unless certain conditions are met. They are:

- (a) Any treated horse shall not be permitted to race for a minimum of 10 days following treatment;*
- (b) The use of Extracorporeal Shockwave Therapy or Radial Pulse Wave Therapy machines shall be limited to veterinarians licensed to practice by the Commission;*
- (c) Any Extracorporeal Shockwave Therapy or Radial Pulse Wave Therapy machines on the association grounds must be registered with and approved by the Commission or its designee before use;*
- (d) All Extracorporeal Shockwave Therapy or Radial Pulse Wave Therapy treatments must be reported to the official veterinarian on the prescribed form not later than the time prescribed by the official veterinarian.*

*licensed veterinarians.*

*Shockwave therapy machines on NYRA grounds must be registered with the Chief Examining Veterinarian.*

*The attending veterinarian shall be responsible for reporting treatments to the NYRA veterinarian and the Stewards.*

*All Shockwave therapy treatments must be called in to the Veterinary Reporting Line (516) 488-2151 within 24 hours. Reports shall include the trainer, horse, date and time and area treated.*

*Horses may not race for a minimum of ten (10) days after receiving Shockwave treatment, whether treated on NYRA grounds or off the premises.*

*Violations of this rule shall be subject to the review of the Barn Area Violations panel, which may impose penalties up to and including the revocation of both NYRA credentials and the privilege of working upon NYRA's premises.*

NYRA subsequently amended its House Rule as follows:

*Effective Monday, June 15, 2009, the following will be added to the original protocol, outlined in your current signed and dated NYRA Shockwave Treatment Policy form. ALL SHOCKWAVE TREATMENTS MUST BE DONE BETWEEN THE HOURS OF 12:00 PM AND 4:00 PM ON MONDAYS, WEDNESDAYS AND FRIDAYS. Please set up an appointment through the Stewards office at (516) 488-6000 Ext. 3261 so a Security Guard can login the treatment. Following completion of Shockwave Therapy, veterinarians are to provide the attending Security officer with the specific details for their login sheet. (Security personnel are required to submit this information to the Chief Examining Veterinarian and NYRA Steward within 24 hours).*

Although the NYRA House Rule comported in all respects with the ARCI Model Rule, the regulation of ESWT was left to NYRA rather than the NYSRWB. NYRA is not a regulatory body and the investigatory, regulatory and enforcement mechanisms of the NYSRWB are not available to it.

Trainers and veterinarians were interviewed with regard to use of ESWT during the 2011-2012 Aqueduct meet. According to the trainers of the fatally injured horses, none were treated with ESWT. There was wide variation in the interest and experience with ESWT. It was reported to the Task Force some trainers possess and use ESWT machines absent veterinary participation or supervision. Those who believed that ESWT was helpful to treat musculoskeletal injuries reported that they adhered to NYRA's House Rule.. The practicing veterinarians reported that they believed some individuals were performing ESWT in violation of the NYRA House Rule. Some trainers reported that they observed other trainers administering ESWT in violation of the NYRA House Rule. At the time the Task Force was completing this Report, the ARCI moved to expand the scope of its Model Rule to extend the restrictions on the use of ESWT to "training".

On August 9, 2012, the NYSRWB announced that it was seeking industry comment on a proposed ESWT rule. The proposed rule mirrors the recently modified ARCI Model Rule. The Task Force believes that the expansion of the rule to include restrictions on ESWT use

on horses in “training,” is inappropriate for the following reason: “Training” is too broad a term as it encompasses activity that may be safely used in conjunction with ESWT. Training of Thoroughbred racehorses includes walking, trotting, galloping and breezing. The intent of the Rule is to protect the horse and rider from experiencing a catastrophic injury during high-speed exercise. While it makes sense to restrict the racing or breezing of horses recently treated with ESWT, less intense exercise, such as walking, trotting or even galloping in sound horses treated with ESWT does not necessarily represent an inordinate risk for either the horse or the rider.

Conclusions:

- Although, ESWT is a recognized medical procedure used to promote healing of both orthopedic and soft tissue injuries and to reduce joint inflammation, its analgesic effects require strict regulation and control. The Task Force acknowledges that the ability to regulate the use of ESWT is confounded by off-site administration, its illicit use by trainers, and the absence of a blood or urine test to detect its inappropriate use. Based upon the information provided to the Task Force during this investigation, and while acknowledging that ESWT may be used in violation of the NYRA House Rule, there is no evidence to conclude that the use of ESWT was a factor in the occurrence of any of the fatalities under investigation.
- The Task Force believes that the regulation of ESWT is a regulatory responsibility of the NYSRWB, which has greater policing and sanctioning authority than NYRA. The NYSRWB should adopt a Rule similar to the ARCI Model Rule, but its controlled use should be limited to racing and high-speed exercise.
- The Task Force further that security needs to be enhanced to prevent the unauthorized or inappropriate use of ESWT and that trainers and all racing personnel must be encouraged to report observed violations of ESWT rules, using established toll-free reporting procedures. Accurate disclosure of treatments is the priority rather than an abstract constraint on training.



## **VII. OVERALL CONCLUSIONS REGARDING THE FATALLY INJURED GROUP**

The Task Force, in the first instance, was charged with identifying factors that caused or may have caused the fatal racing injuries of 21 horses during the 2011-2012 Aqueduct meet. The Task Force had the clarity of a retrospective view. This perspective was not available to the individuals directly responsible for the care and treatment of these horses in real time. In this context, and with full appreciation of the advantages inherent in this type of investigation, the Task Force believes that there were missed opportunities for intervention to prevent these injuries. However, the Task Force does not intend for this Report to be used to find fault, assign blame, or otherwise result in disciplinary action for events that have occurred. This Report is intended to be a constructive analysis, identifying actions with the potential to prevent or mitigate injury to horses and riders, and our overall conclusions regarding the fatally injured horses as a group sets the stage for our recommendations.

Therefore, with respect to its charge to investigate the cause or causes of the 21 fatalities that occurred during the Aqueduct meet between November 30, 2011 and March 18, 2012, the Task Force has concluded as follows:

- There was no single event or circumstance that was responsible for the 21 racing fatalities.
- There were two significant anomalies that clearly distinguished this meet from previous ones-- a major infusion of cash into the purse structure from VLT revenues and the unusual weather.
- While larger purses have attracted better horses to New York Racing, the disproportionate increase of purses in the lower-level claiming races incentivized poor decision-making by a range of stakeholders.
- The unprecedented winter weather of 2011-2012, which featured unseasonably dry conditions and periods of warm temperatures, may have made it difficult to maintain consistent water content of the track, but the lack of scientific knowledge of the ideal surface moisture content makes it impossible to determine the significance of this finding. However, the unseasonably mild weather did eliminate periods of enforced rest ordinarily associated with routine winter conditions and weather related cancellations of training and racing.
- Some trainers may have failed to identify horses at risk, or failed to act appropriately to protect horses they recognized as at risk, likely in response to economic incentives.

- The most significant factor for fatal musculoskeletal injury in the racehorse is the presence of pre-existing injury. Many of the horses in this investigation were understood to have had pre-existing musculoskeletal conditions prior to the race in which they were fatally injured. The Task Force believes that the use of systemic or intra-articular corticosteroids may have impaired veterinarians and trainers in accurately assessing horses' soundness leading up to a race. The Task Force also believes that the use of these medications too close to the race may have limited the ability of the NYRA veterinarians to identify the presence of pre-existing conditions disposed to progressing to catastrophic injury.
- The failure of trainers to report intra-articular injections as required by NYSRWB Rule 4043.2, and the failure of the NYSRWB to monitor compliance with and enforce this Rule, prevented the NYSRWB and the NYRA veterinarians from identifying a pattern of redundant intra-articular corticosteroid treatments that had the potential to misrepresent the true clinical condition of a horse and confound the examining veterinarian's pre-race assessment.
- In some cases, practicing veterinarians failed to intervene when horses of suspect soundness, having conditions for which medical treatment was performed, were raced at an interval that may have prevented evaluation of the horse's response to treatment prior to racing.
- There was no evidence provided by the Testing Laboratory that illegal or illicit drugs, or medications used for non-therapeutic purposes, were administered to any of the fatally injured horses. However, the failure to collect urine samples and the reduced volume of plasma collected from only a portion of the horses post-exercise made it impossible to say with certainty that this was the case in all of the fatally injured horses. This inconsistency of the analytical testing of the fatally injured horses compromised the ability of the Task Force to draw conclusions regarding the role of medication.
- There is no evidence that ESWT was performed on any of the fatally injured horses.
- There was no association between fatal injury and the pre-race administration of phenylbutazone within 24-48 hours of racing and furosemide treatment within four hours of racing. Although the number of injured horses in this investigation was small by statistical standards, an appropriate statistical analysis failed to show any association between pre-race treatment with these medications and fatal injury.
- The shoeing practices were not a factor in any of the fatal injuries.
- NYRA's organizational hierarchy, establishing Veterinary Department accountability to the Racing Office, created conflicts of interest and pressures

that influenced the actions of NYRA veterinarians, resulting in inadequate protection of horses.

- Inconsistencies in NYRA Veterinary Department procedures and protocols compromised the ability of the examining veterinarians to identify horses at risk and intervene accordingly.
- NYRA veterinarians have the ability to require ultrasound, radiographic, or other imaging modalities in special circumstances to identify pre-existing conditions that can lead to fatal musculoskeletal injury, yet there was no indication that this was done in regard to any of the injured horses. This likely represented missed opportunities for a medical intervention to prevent injury in some cases.
- Enhanced scrutiny protocols typical of high-profile events were not in place for horses competing in lower to mid-level races.
- Numerous risk factors were found in the population of fatally injured horses, and while further validation of this tool is indicated, risk factor assessment may assist in identifying horses of interest for the purposes of risk management, increased scrutiny, strategically timed examinations, and possible intervention.
- The reluctance of jockeys and exercise riders to draw attention to horses they believed to be unsafe endangered horses and riders. The decision to prioritize prospective financial gain above personal safety is indicative of flawed thinking in which a hypothetical situation (future riding opportunities) supersedes a present reality of an unsound horse and risk of injury. If a rider is injured as a result of riding an unsound horse, the question of potential future earnings becomes moot.
- Based upon the information reviewed, the Task Force believes that opportunities may have been missed to prevent the fatal injuries in 11 of the 21 horses included in this investigation.
- The absence of a complete necropsy for any of the fatally injured horses significantly compromised the ability of the Task Force to determine their cause of death or pre-existing musculoskeletal condition, other than the condition warranting euthanasia in 20 of the 21 fatalities.

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## **VIII. ADDITIONAL MATTERS ADDRESSED BY THE TASK FORCE**

In addition to the analysis of the individual fatalities and other possible factors that might have contributed to the occurrence of the fatalities during the Aqueduct meet, the Task Force addressed additional matters pursuant to its mandate or that warranted comment or recommendations as the result of its review. These are: 1) medical records; 2) necropsy protocols and procedures 3) the Equine Injury Database & Risk Factors; 4) Equine Medical Director and 5) NYRA governance.

### **A. Medical Records**

Each trainer makes daily health care decisions about his horses and engages the services of one or more veterinarians to treat those horses as required. It is not uncommon for more than one veterinarian to provide service to a particular stable, with each unaware of the other's presence and without knowledge of treatments performed by others.

Veterinary State Licensing Boards require veterinarians to maintain medical records that document the treatment of animals in their care. However, because more than one veterinarian may be providing care to a given horse, and because the veterinarians' records are maintained independently, no comprehensive, all-inclusive medical record exists for a race horse.

The Task Force determined that, in many cases, the medical records provided to the Task Force were not compliant with NYSRWB rules by failing to provide medical justification for the procedure performed. The Task Force further noted that the current Rule does not require veterinarians to record the dose or route of administration of medication. Therefore, even compliant records lack sufficient information to properly document medical treatments.

The Task Force also identified discrepancies between trainers' descriptions of veterinary care and information provided in veterinarians' records. In some cases the records provided to the Task Force appeared to be transcriptions rather than photocopies of original records. The Task Force believes that veterinarians should be required to use practice management software for recording of all veterinary services provided. This software should include user name and time and date stamps for all entries and any subsequent changes so that records cannot be amended or redacted without user accountability.

While the issues pertaining to the keeping of medical records for racehorses are a matter of broad interest by NYRA and the NYSRWB, the lack of transfer of medical information at the sale of a horse in a claiming race is of particular concern to the Task Force. In the context of a sale of a horse, the AAEP Ethical and Professional Guidelines, *Position on Sale Disclosure (1998)*, provides the following: "AAEP supports the position that

*when a horse is sold, any known invasive surgery, disease, injury or congenital defect, which is not apparent, should be disclosed to the intended buyer by the owner and/or agent.”*

In the course of this investigation the Task Force concluded that it is impossible to determine if the joints of a horse have been injected with corticosteroids in the interval preceding a race. While the Laboratory is able to detect the presence of corticosteroids in plasma, it is not able to ascertain the route of administration. Since horses are regularly sold in claiming races and medical records are not transferred at the time of sale, horses are put at increased risk of repeated, and potentially unnecessary invasive joint therapies. NYSRWB Rule 4043.2(i) requires trainers to notify the Stewards of an intra-articular corticosteroid injection, in writing, before the horse is entered to race.

This Rule is neither being observed nor enforced. The Task Force believes that this Rule should be enforced and amended such that the record of all intra-articular corticosteroid injections within 30 days of a race will be transferred to the new owner within 48 hours of the time that the claim is finalized.

The Task Force also believes that the current medical record requirement for practicing veterinarians should require the recording of dose and route of administration for a given medication. The Task Force noted in the review of medical records provided by the NYSRWB that there was inconsistent justification for medical treatments. These discrepancies should be addressed immediately.

## **B. Necropsy Protocols and Procedures**

A necropsy is an autopsy performed on a deceased horse. It is a veterinary medical procedure that consists of a thorough examination intended to determine the cause and manner of death and to evaluate any disease or injury that may have been present. It is most appropriately performed by a board certified veterinary pathologist at a fully equipped veterinary diagnostic laboratory.

The NYSRWB does not require that a necropsy be performed on a horse that dies as a result of a racing or training related injury at a NYRA track. Rather, it is within the discretion of the NYSRWB. The Rule that addresses the death of a horse, Rule 4007.8, provides:

*4007.8. Death of a horse.*

*(a) Upon the death of a horse on any part of the grounds of a thoroughbred racetrack the remains of the deceased horse shall not be removed without:*

*(1) the execution of a death certificate by a board-licensed veterinarian, in a form as the board may prescribe, and contain such information as the board may require;*

*(2) the filing of said death certificate with the State steward or his designee; and*

*(3) the written consent of the State steward or his designee, authorizing the removal of the remains.*

*(b) Upon the death of a horse on the grounds of a thoroughbred track, the board at its discretion through its agents, may take control of the bodily remains of the deceased horse; and/or order, direct and cause an appropriate necropsy to be conducted on the remains of said horse, in order to determine the cause of death. A qualified veterinarian at a facility designated by the board shall conduct the necropsy.*

*(c) It shall be the responsibility of the racetrack at all times to prevent the unauthorized removal from the racetrack of the remains of a deceased horse.*

Apparently, it is illegal to perform a necropsy on a large animal within the New York City limits. Consequently, horses fatally injured at Aqueduct must be transported to Belmont Park for field dissection of the affected limb.

Separate and apart from the state regulation, NYRA is a member of the NTRA Alliance and is accredited to the Alliance Code. The relevant Code provision, Section 1(D), is as follows:

*Post-Mortem Veterinary Examinations*

*To facilitate accurate and complete reporting as part of EID, Post-Mortem Veterinary Examinations shall be performed on all horses that die or are euthanized during a Race Period or a Non-Race Period at Racetrack Members' racetrack(s), based on the protocols detailed in the AAEP Guidelines for Necropsy of Racehorses.*

*To the extent the regulatory authorities do not adapt a mandatory protocol for Post-Mortem Veterinary Examinations consistent with the AAEP Guidelines for Necropsy of Racehorses, Members shall advocate for the adoption of protocols for Post-Mortem Veterinary Examinations. In addition, so long as such protocols have not been adopted in any racing jurisdiction, Racetrack Members in such jurisdiction shall adopt a House Rule and provide appropriate veterinary personnel to perform such Post-Mortem Veterinary Examinations, record the examination information, and promptly submit the information to the EID. If, however, after a reasonable period of time, a Member's advocacy fails to achieve passage of the amendment necessary to bring the contrary legislative or regulatory enactment into conformity with the Code, such failure shall result in revocation of current accreditation, awarding of provisional accreditation or denial of future accreditation.*

NYRA protocols require its chief veterinarian to complete a death certificate for every horse that dies at Aqueduct. Further, for all horses that sustain catastrophic racing injuries, blood samples are to be collected and subjected to drug testing. As mentioned

earlier, this was not done in all of the fatalities investigated by the Task Force. When possible, the samples are to be collected prior to euthanizing the horse. Information relevant to the injury is supposed to be entered in the EID and the NYRA Horse Injury Database. At the direction of the NYSRWB, deceased horses can be transferred to Cornell University for complete post mortem examination. A review of this protocol was graded as “More Than Satisfactory” following the NTRA Alliance inspection of Aqueduct in 2011. Nonetheless, it was noted in the 2011 NTRA Accreditation Report that “It does not appear that there is a standing procedure in place to quickly facilitate the transportation of a dead horse to Cornell.”

The NYSRWB investigative reports on the death of each horse that were the subject of this investigation included NYRA death certificates with injury descriptions in sufficient detail to justify the decision for euthanasia. Further, evidence (photocopies of ID tags for blood samples) was obtained indicating that blood samples were drawn from some, but not all, of the horses that experienced fatal injuries on the racetrack.

For 20 of the 21 fatally injured horses in this investigation, the obvious cause of death was euthanasia. For one horse, Raw Moon, death was spontaneous and the cause of death was not determined. A complete necropsy of this horse could have provided an opportunity to document cardiovascular or other medical conditions that could have been the cause of the sudden death of what appeared to be an otherwise healthy horse.

For the 19 cases of fatal musculoskeletal injury, limited field dissection of the injury sites clarified antemortem clinical assessments, but provided little insight into the horses’ overall musculoskeletal health, or any other conditions that may have contributed to the fatal condition.

In a significant departure from the NTRA Safety & Integrity protocol described above, none of the fatally injured/euthanized horses that died between November 30, 2011 and March 18, 2012 underwent a full necropsy examination by a veterinary pathologist. In the absence of appropriate post-mortem examination findings of the horses that were euthanized during the period of investigation, it was impossible to determine the precise character and degree of pathologic change. In particular, the absence of appropriate examination findings by a veterinary pathologist made it impossible to document the presence or absence of pre-existing orthopedic disease or conditions affecting other body systems.

Complete necropsies of the 21 fatalities could have provided answers to important clinical questions such as whether there were (1) pre-existing bony or soft tissue abnormalities present in the injured leg that predisposed the horse to more severe injury; and (2) bony or soft tissue abnormalities in the other, unaffected limbs that could have influenced weight distribution and predisposed the horse to more severe injury. A complete necropsy could have yielded information about other body systems and conditions that may not have been clinically apparent. The absence of necropsy findings on any of the horses in this investigation compromised the ability of the Task Force to provide answers to these



important clinical questions and to determine what factors may have contributed to the deaths of these horses.

The injury narrative of the NYSRWB investigation report of one case, Sheeds Paisley, included the following statement: “Suffered a skeleton injury and fell and suffered an apparent broken neck.” This was later reported as fact in an ESPN broadcast prior to the Belmont Stakes. The Task Force investigation concluded that this finding could not have been substantiated by the scope of the examination performed by the NYRA veterinarians. In this case, a speculative diagnosis was reported as fact.

*Conclusion:*

The Task Force believes that the absence of complete necropsy findings for the 21 case horses significantly compromised the investigation of their deaths. Field dissection of the affected site is inadequate for anything beyond documenting the extent of the condition that warranted euthanasia. The Task Force believes that a complete necropsy examination performed by a board certified veterinary pathologist at a designated veterinary diagnostic laboratory should be required in all cases of racing fatality, and that NYRA and the NYSRWB must develop a protocol to implement this requirement. This protocol should require that NYRA have the necessary equipment (refrigerated truck) to ensure a timely transfer of the horse from NYRA grounds to the designated veterinary diagnostic laboratory.

**C. Equine Injury Database and Risk Factors.**

In the July 2008, the EID was established to collect data, using standardized formatting and terminology, on injuries and other conditions sustained by horses engaged in racing or training. The goals of the EID were to 1) document the frequency, nature, and outcome of racing injuries; 2) identify strategies for the prevention or mitigation of racing injuries; and 3) to establish a database for population studies. Four years later, and encompassing over 1.5 million race starts representing 92% of flat racing starts in North America, studies are underway to examine the complex relationship of multiple factors to the prevalence of injury in the racehorse. Strategies for reducing the occurrence of on-track injuries include the identification horse and exercise history profiles associated with the highest risk of injury, particularly catastrophic lower limb fracture, which represents the most common cause of fatality in the racehorse. Risk factor analysis is a component of human medical care. For example smoking, alcohol consumption, and body weight are risk factors for heart disease. In evaluating a patient for possible heart disease, the doctor conducts a physical examination, performs diagnostic tests and assesses patient and family history, including the presence or absence of the risk factors of diet, exercise, alcohol consumption and smoking. Similarly, risk factors for injury of racehorses can be used in conjunction with the pre-race examination to assess an individual horse with respect to participation in a race. Musculoskeletal injuries in Thoroughbred racehorses have been associated with sex, age, age at first race, racing frequency, duration of racing career, intensity of racing and training schedules and other factors (Parkin 2004, Cohen 2000,

Estberg 1998, Hernandez 2011, Estberg 1996, Carrier 1998, Anthenill 2007, Parkin 2005, Parkin 2008, Cogger 2006), Perkins 2005).

At the 2011 Jockey Club Roundtable Conference, Dr. Parkin, identified six events or circumstances that are associated with increased risk of fatal musculoskeletal injury in the Thoroughbred racehorse. The first category of risk factors involve racing history profiles, based on historical information and referenced against a proposed race date. These include: 1) horses that have not raced in the past 15-30 days; 2) horses that have not raced in the last nine months; and 3) horses with numerous starts in the past 1-6 months.

The second category of risk factors refers to physical characteristics that are unique to individual horses and includes: 1) intact males; 2) older horses (3 years of age and older); and 3) horses making their first start at three years of age or older. In this category, the horse that meets all increased risk criteria is 40 times more likely to experience a fatal lower limb fracture than the horse that meets none. It is reasonable to expect the majority of horses will have risk profiles that place them in the medium risk category. By combining risk profile analysis with observation and physical examination of horses, horsemen and veterinarians have an improved ability to identify horses at markedly increased risk and implement measures to mitigate that risk. Parkin's 2011 EID analysis determined that 50% of cases of catastrophic fractures of the lower limb occurred in the top 25% of high-risk profiles.

In addition to the above categories, Dr. Parkin identified two additional race categories that were associated with increased risk of injury: 1) races at a distance of seven furlongs or less and 2) claiming races at \$25,000 purse value or less.

As described in *Section IV, Review of the 2011-2012 Aqueduct Fatalities*, the Task Force applied Dr. Parkin's risk factors in its review of each fatality in this investigation. 13 of the 21 horses had six or more risk factors present.

Horse	No start 15 days	No start 30 days	1st start last nine mos	Intact male	3 and up	Not raced as two yr-old	Multiple starts 1-6 mos	Distance < seven f	CIm ≤ \$25,000	Total
Afleet Sue	X	X	X		X	X		X		6
Almighty Silver	X	X			X	X	X		X	6
Bernies Love	X		X	X	X	X		X		6
Big Polk a Dot	X				X	X	X		X	5
Coronado Heights	x		X		X	X		X	X	6
Deferred Risk	X	X	X		X	X		X	X	7
Dreamin of Silver	X		X		X	X		X	X	6
Fortydeuce	X	X	X	X	X				X	6
Hillsboro Bay	X	X			X		X	X	X	6
Hubbard					X		X		X	3
Inishmore	X	X	X		X					4
Mannington	X				X			X		3
Raw Moon	X		X		X			X		4
Scorper	X				X		X	X	X	5
Sheeds Paisley			X		X	X			X	4
Skorton	X	X	X		X		X	X	X	7
Smartie Bobbi	X				X	X		X	X	5
Speight of Hand	X	X		X	X			X	X	6
Tiz a Lil Meatball	X	X	X		X	X	X	X	X	8
Unruly Storm	X	X			X	X	X	X	X	7
Wes Vegas	X	X	X		X	X		X	X	6

Table 5. Risk Factor table of the 21 fatalities.

Horses identified as being at increased risk of injury can, and do, race safely and successfully. In a group of racehorses subjected to pre-race examination, 3.7% were assessed by the examining veterinarians to be at increased risk of injury (Cohen, 1999). Of those, only 1.6% of the 3.7% judged to be at increased risk of injury were observed to have been injured in that race. For the purposes of that study, injury was defined as “an obvious onset of lameness or change in gait” observed by Kentucky Horse Racing Authority veterinarians during racing. It is worth noting that there was no follow up performed on those horses identified as ‘at-risk’. It is not known if horses developed lameness after returning to their barns, or if there were extended intervals to their next start. Additionally, this study was performed when Kentucky medication regulations permitted the administration of corticosteroids and NSAIDs up to four hours prior to a race. Medication may have confounded the veterinarians’ ability to assess the conditions of the horses prior

to and immediately after finishing a race.

In this study the investigators noted that although an abnormality of the suspensory ligament was associated with increased risk of injury, it would not be sufficient as a sole criterion to exclude a horse from racing due to both variability in the scoring of suspensory ligament abnormalities by examining veterinarians and the small number of affected horses in that study. Subsequent research findings (Hill, 2001; LeJeune, 2003; Hill, 2004; Perkins, 2005) have strengthened this association, and the pre-existing suspensory ligament injury is identified as one of the most important risk factors for fracture of the cannon bone in Thoroughbred racehorses.

Numerous studies have suggested that risk factors may have a regional or geographic component. A 1991 study at NYRA racetracks (Mohammed HO 1991) identified the following risk factors for injury:

1. Track (Saratoga had fewer fatalities than other NYRA tracks)
2. Track composition (Turf courses had fewer fatalities than dirt courses)
3. Number of seasons in racing (Horses with more years of racing had increased risk)
4. Number of starts per year (Horses with more starts had increased risk)
5. Program schedule (Horses in later races had increased risk)
6. Age of the horse (Older horses had increased risk)
7. Season (Summer had higher risk than did Winter or Spring)

Risk factors common to North American racing jurisdictions, those confirmed by multiple studies, and those specific to NYRA are the most appropriate to apply to horses racing at New York's racetracks.

Conclusion:

There is no single intervention that would be effective in preventing all injuries in racehorses. The inclusion of risk factors adds a valuable tool in identifying horses for which additional scrutiny is warranted.

The process of screening horses both in and out of competition can be used to detect pre-existing conditions that have been proved to predispose a horse to fatal injury. The pre-existing condition may, in fact, be the most important risk factor of all. Available diagnostic techniques should be used by practicing veterinarians to identify pre-existing conditions that have been associated with fatal injury (e.g. specific pathology of the proximal sesamoid bones and the distal cannon bone have been identified as pre-existing conditions that predispose to fatal injury (Anthenill 2010, Radtke 2003). The Task Force believes that had appropriate diagnostic imaging been used, the outcome for several of the fatally injured horses might have been different. Regulatory veterinarians are able to require ultrasonographic and/or radiographic examinations of horses with clinical signs of tendon or suspensory ligament pathology, but rarely exercise this authority, which represents another missed opportunity to prevent an injury.

Efforts to identify risk factors and develop injury mitigation strategies are ongoing. Finally, any risk management protocol must be tested to assess its effect and refine its subsequent implementation.

#### **D. Equine Medical Director**

Other racing jurisdictions employ Equine Medical Directors who 1) provide oversight of regulatory veterinary activities, and drug and medication testing and surveillance programs; 2) are the regulatory authority's liaisons to the official laboratory; and, 3) serve as consultants to the regulatory authority on matters related to veterinary medicine and equine health, safety, and welfare. The Equine Medical Director should have strong background in horseracing (either as a practicing veterinarian or racing regulatory veterinarian) and be familiar with current and emerging industry issues and trends.

For an Equine Medical Director to provide oversight of regulatory veterinary activities, it is recommended that all regulatory veterinarians be employed by the NYSRWB. This employment scenario would neutralize the ability of association employees to exert influence over the pre-race exam process or scratch recommendations.

The Task Force was informed that under a previous Administration, the NYSRWB requested funding to establish such a position in New York, but the request was denied. This Report has identified numerous veterinary, medication, testing, health and welfare issues that could have been addressed by an Equine Medical Director.

The Task Force strongly recommends that the State establish the position of Equine Medical Director to oversee and advise the State on all matters related to veterinary practices and protocols, medication and drug testing, and equine health, welfare and safety issues. The Task Force further recommends that all racing regulatory veterinarians be employed by NYSRWB. These positions must be properly funded to attract and retain qualified individuals.

#### **E. NYRA Governance**

##### **1) Racing Operations Oversight**

NYRA has numerous individuals who have racing-related responsibilities. There are Vice Presidents of Facilities and Racing Surfaces, Simulcasting (including mutuels), Security, and Director of Racing (Racing Secretary), and an Assistant Racing Secretary, Stakes Coordinator, Manager of Racing Operations Director of Horsemen's Relations and Stable Supervisor. Although these individuals perform valuable functions, it is clear to the Task Force that NYRA needs to create an executive level position for a qualified individual to oversee and coordinate all aspects of the racing operation. At the current time, it appears that this responsibility rests with the Director of Racing, whose actual role is being the

Racing Secretary. The responsibilities required for the position that the Task Force envisions go beyond the expertise and responsibility of a Racing Secretary, who must focus on the condition book, the writing of races, the allocation of stalls, the quality of the racing cards and interaction with trainers.

The Task Force believes that NYRA should create an executive-level position such as an Executive Vice President of Racing Operations, who will be responsible for 1) coordinating all racing related departments and functions; 2) serve as the liaison between management, the Racing Office, the horsemen and the NYSRWB; 3) is able to communicate and effectively represent NYRA with owners and trainers, the betting public and the media; 4) can oversee a NYRA Health and Safety Committee; 5) can coordinate a mortality review process; and, (6) who effectively understands all aspects of racing to strengthen New York racing as the best in the world.

## **2) Mission Statement**

The NYRA Mission Statement defines the priorities, goals and objectives of the association and reflects the culture of the organization.<sup>26</sup> This statement makes reference to a tradition of excellence with a focus on integrity, credibility and a commitment to improve the sport of horse racing and pari-mutuel betting. There is a commitment to a collaborative effort to achieve a strong positive Thoroughbred racing experience in New York, and to a high level of customer satisfaction. The Mission Statement, while laudable, is clearly focused upon the economic metrics of the racing program and does not include a commitment to the health and safety of the horse and rider.

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<sup>26</sup> The Mission Statement says; *“The goal of The New York Racing Association, Inc. ( “New NYRA” ) is to continue the long-standing tradition of excellence in horse racing that NYRA Inc., f/k/a The New York Racing Association Inc. ( “Old NYRA” ), has provided since 1955. We set the highest standard for thoroughbred racing in the United States by demanding integrity, credibility and continuously working to improve the sport of horse racing and pari-mutuel betting. New NYRA strives to attract the highest quality horses and owners through a strong purse structure and integrity on the track that is transparent and second to none. Pari-mutuel pools that are beyond reproach and which ensure each customer a fair and equal opportunity with their wagering dollar support this quality-racing product.*

*New NYRA also recognizes that there is a strong interdependence among those members who contribute to the racing experience. New NYRA ’ s success is inextricably bound with the success of owners, breeders, trainers, jockeys and the racing fans. It is important to promote collaboration among these groups in order to maintain a strong positive thoroughbred racing experience in New York and to serve the best interests of the state agricultural industries, owners, breeders, patrons, and all other stakeholders, including the State of New York.*

*It is essential to develop the highest level of customer satisfaction during New NYRA ’ s live racing events. A high level of customer satisfaction will keep current customers returning to enjoy the New NYRA experience and will help attract new fans and owners to the sport that will guarantee future growth for thoroughbred racing in New York.”*

Conclusion:

The Task Force believes that the safety of the horse and rider are core priorities for NYRA and should be prominently included in the NYRA Mission Statement. The Task Force believes that including a strong commitment to safety of the horses and riders in the NYRA Mission Statement will help to shape the culture of NYRA to include an appropriate focus on the safety and welfare of horses and riders.

**3. Health and Safety Committee**

An important step in ensuring a strong institutional commitment to the health and safety of horses and riders is to form a standing health and safety committee tasked to establish a culture of health and safety throughout NYRA. This committee should be chaired by the NYRA executive responsible for all racing operations and be composed of horsemen, jockeys, regulatory veterinarians, racing officials, practicing veterinarians and other relevant NYRA racing officials to anticipate and address existing and potential health and safety needs of horses and riders. This committee should convene regularly to ensure that the checks and balances built into the system are followed, create protocols to strengthen advocacy for the safety of both riders and horses, develop intervention strategies to protect the horse and rider and identify strategies to mitigate the consequences of commercial pressures that put horses and riders at risk.

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## IX. RECOMMENDATIONS OF THE TASK FORCE

### 1. Regulatory Veterinary Practices and Procedures

- **Veterinary oversight of racing at NYRA's tracks should be the function of the State regulatory body and not NYRA. The veterinarians responsible for pre-race and other examinations and all other racing related responsibilities should be employed by the State and under the supervision of an Equine Medical Director.**
- **The protocol requiring the NYRA Veterinary Department to report directly to the NYRA Racing Office is an unacceptable conflict of interest that must be changed immediately. Whether or not the State assumes responsibility for veterinary oversight, the NYRA Veterinary Department must report directly to the Stewards.**
- **Veterinary Department practices and procedures must be developed and documented in a Standard Operating Procedures Manual. (See Exhibit H)**

This manual should:

- Document the standard pre-race examination procedures.
  - Specify trainer requirements for the presentation of horses at the time of the pre-race examination (i.e. legs must be clean and dry and ice tubs or ice boots not permitted until after the examination).
  - Require contemporary data entry by tablet PC into the InCompass Pre-Race exam module.
  - Provide guidance for when the veterinarians should require diagnostic imaging of horses. (i.e. edema or tenderness to palpation of the flexor tendon or suspensory ligament).
  - Perform a review of information management systems to determine if redundant recording of pre-race examination findings (InCompass and NYRA internal information management system) is warranted.
- **A standardized protocol for the initiation of scratches at the time of the pre-race examination must be developed, documented and implemented.**

These protocols should include:

- A consensus of the regulatory veterinarians must be reached before a recommendation to scratch is made to the Stewards. All Veterinary Department scratch recommendations must be processed and approved by the Stewards.
- All Veterinary Department-initiated scratches must be entered into the Jockey Club Equine Injury Database.

- **A standardized protocol for the initiation of gate or post-parade scratch recommendations must be developed, documented and implemented.**

These protocols should:

- Define the specific criteria for the initiation of a scratch.
- Define the scratch communication protocol.

- **A standardized protocol for the assignment of a horse to the Veterinarian's List must be developed, documented and implemented.**

These protocols should:

- Define the specific criteria for the assignment of a horse to the Veterinarian's List.
- Define the specific criteria for the assignment of a horse to the Restricted List, use of which should be limited to horses scratched for reasons other than orthopedic or musculoskeletal symptoms.

- **The use of a Restricted List should be abandoned.**
- **Protocols for the management and review of horses sustaining non-fatal conditions during a race must be developed, documented and implemented.**
  - Veterinarians must be trained, and their proficiency verified, in identifying and stabilizing common musculoskeletal injuries.
  - Protocols for standing and recumbent chemical restraint must be reviewed and documented.
  - Standard protocols must be developed and documented to require the collection of blood and urine samples, whenever possible, in sufficient volume to permit comprehensive drug testing.
  - The testing laboratory must be notified of any medications, including emergency medications, administered by veterinarians prior to sampling.
  - Standard protocols for the chain of custody involving the collection of urine and blood samples from these horses must be reviewed and documented and should include a requirement that the testing laboratory be notified that the samples are from injured horses.
  - There should be a team review by the Veterinary Department of pre-race examination findings, post-parade observations and other horse-related information to determine if intervention opportunities were missed, or to facilitate improved case outcome.
  - All relevant information must be entered into The Jockey Club Equine Injury Database, using standard terminology.
  - There should be a case follow-up with the trainer and the attending veterinarian(s) to determine possible cause or causes of the injury and to determine whether intervention opportunities were missed.

- **Protocols for the management of horses sustaining fatal conditions during a race must be developed, documented and implemented.**
  - Standard protocols must be developed and documented to require the collection of blood and urine samples, whenever possible, in sufficient volume to permit comprehensive drug testing.
  - The testing laboratory must be notified of any medications, including emergency medications, administered by veterinarians prior to sampling.
  - Standard protocols for the chain of custody involving the collection of urine and blood samples from these horses must be reviewed and documented and should include a requirement that the testing laboratory be notified that the samples are from injured horses.
  - The Veterinary Department and the NYSRWB must coordinate to ensure the transfer of the horse to a veterinary diagnostic laboratory for a complete necropsy by a board certified veterinary pathologist.
  - The Veterinary Department should create a database of racing pathology findings for research purposes.
  - There should be a team review by the Veterinary Department of pre-race examination findings, post-parade observations and other horse-related information to determine if intervention opportunities were missed, or to facilitate improved case outcome.
  - All relevant information, including the results of the necropsy, must be entered into the Jockey Club Equine Injury Database, using standard terminology.
  - There should be a case follow-up with the trainer and attending veterinarian(s) to determine possible cause or causes of the injury and to determine whether intervention opportunities were missed.
  - There should be a case follow-up with trainer and attending veterinarian to determine possible cause or causes of the injury and to determine whether intervention opportunities were missed.
  
- **In the event of an increased occurrence of musculoskeletal injuries during a race meeting, the Veterinary Department should meet to review existing practices, develop strategies to reduce or mitigate injury occurrence, and to enhance identification of horses for which intervention is warranted.**
  
- **The Veterinary Department should develop and implement strategies intended to identify “horses of interest” that warrant increased scrutiny. (See Exhibit G).**

These strategies should include:

- A review of the past performances of the horses post entry.
- A daily review of race videos.
- Incorporate a “risk factor” assessment.
- A review of the Veterinarian’s List / scratch history.
- Identification of deviation from known trainer patterns/behavior.
- A review drug surveillance information received from testing laboratory

- A review of intelligence received from stakeholders.
  - Observe the horses after entry.
  - Observe the horses post-race.
  - Observe the horses between races.
  - Observe the general population on-track during training hours.
  - Meet with the practicing veterinarians to help document training injuries and input data into the Jockey Club Equine Injury Database.
- **Veterinary Department employees should undergo a structured training program and regular reviews.**

These strategies should include:

- All Veterinary Department employees should be provided with 1) an employee's manual that unequivocally defines NYRA/NYSRWB expectations and the veterinarian's responsibilities; and 2) a manual containing all standardized operating practices and procedures.
- The Chief Examining Veterinarian must mentor junior associate veterinarians with frequent oversight, and provide regular performance reviews to be included in the employee's personnel file.
- Conduct regularly scheduled in-service days to assess the efficacy of protocols and procedures, with revisions implemented as warranted.
- Provide opportunities for annual continuing education for associate veterinarians specific to regulatory veterinary duties (i.e.: International Conference of Racing Analysts and Veterinarians or the AAEP Racing Regulatory Veterinarians' meeting).
- Interact with racing regulatory veterinarians in other racing jurisdictions.
- Conduct exit interviews of departing veterinary personnel to document circumstances leading up to that event.

## **2. Necropsy; Review Board; and Post-Mortem Investigation**

- **The NYSRWB should require a complete necropsy at a veterinary diagnostic laboratory of all horses fatally injured at NYRA's racetracks.**

The NYSRWB should:

- Direct NYRA to establish relationships with either Cornell University, Tufts University or another veterinary diagnostic laboratory equipped to perform this service.
- Direct NYRA to establish reliable transportation of deceased horses to the veterinary diagnostic laboratory (i.e.: lease/purchase of a refrigerated truck).
- Ensure that NYRA protocols are consistent with the NTRA Alliance Code and monitor compliance with those protocols.

- Require that blood samples in sufficient volume be obtained from every fatally injured horse as well as urine samples, whenever possible, to permit a complete screening for drugs and foreign substances.
- **A NYRA Mortality Review Board should be created and convened to review any and all training and racing (exercise-related) fatalities. (See Exhibit I)**
  - This review board should be chaired by the NYRA executive who is responsible for overseeing all aspects of the racing operation and should include the chief examining veterinarian and representatives from the NYTHA and the Jockeys' Guild.
  - The trainer, assistant trainer (if applicable) and the attending veterinarian (s) should attend the Board proceeding
  - The Board should review all factors believed to have possibly contributed to the fatal injury, using a standardized procedure (see Exhibit I in appendix) and determine whether opportunities for intervention were missed to reduce future injuries.
  - A report of the review board proceedings should be made a part of the NYSRWB investigative report.
  - A record of fatalities sorted by trainer should be maintained by the Stewards in order to track prevalence among trainers at NYRA racetracks.
- **The NYSRWB should improve the documentation of findings included in the investigation reports of fatal injuries.**
  - NYSRWB death certificates and investigative reports should include findings of fact only when describing injuries and should not reference speculative diagnoses that are outside the scope of the actual necropsy or field dissection findings.
  - The NYSRWB investigation report should include the findings of the Mortality Review Board, the results of the necropsy, and any other information relevant to the fatality.

### **3. Claiming Rules and Policies**

- **The NYSRWB should amend, on an emergency basis, its recently amended Rule 4038.5 to provide that a claim is voidable for a horse that is vanned off the track, within one hour of the race, at the discretion of the claimant.**
- **The NYSRWB should amend, on an emergency basis, Rule 4038 to provide that the claimant of a horse shall be notified, within 48 hours after the claim is finalized, of any intra-articular corticosteroid administrations to the horse within 30 days of the race.**

- **In order to ensure that the purses for claiming races more appropriately reflect the value of the horses entered in such races, the NYSRWB should modify its recently amended Rule 4038.2 so that the purse to claim price ratio should be no greater than 1.6, in which the value of the horse is approximately equal to the winner's share of the purse.**

#### **4. Medication, Testing and Regulation**

- **The NYSRWB should, on an emergency basis, amend Rule 4043.2 to prohibit: (1) the intra-articular administration of methylprednisolone (DepoMedrol®) within 15 days of the date of the race; (2) the administration of all other intra-articular corticosteroids within seven days of the date of the race; and (3) the administration of all systemic corticosteroids within five days of the date of the race.**
- **The NYSRWB should amend Rule 4043.2 (i), on an emergency basis, to require that a trainer must notify the Stewards in writing, within 48 hours, of all intra-articular corticosteroid administrations. The NYSRWB must ensure compliance with, and the enforcement of Rule 4043.2(i).**
  - Trainers should be required to maintain accurate records of intra-articular corticosteroid administration.
  - These records should be submitted to the NYSRWB and filed in an electronic database within 48 hours of each intra-articular administration.
  - This record of intra-articular corticosteroid injections should be provided to the successful claimant within 48 hours from the time that the claim is finalized.
- **The NYSRWB should amend Rule 4043.2, on an emergency basis, to prevent the administration of clenbuterol to a horse within 21 days of the date of the race.**
- **The NYSRWB should expand its recently enacted out-of-competition testing rule for the Thoroughbred industry to include testing for compliance with the corticosteroid and clenbuterol recommended rule changes in this Report.**
- **The NYSRWB should perform a comprehensive review of the sample collection and Laboratory testing protocols and procedures to ensure that these protocols meet its regulatory requirements and priorities, including the collection and proper identification of urine and blood samples from all non-fatal and fatally injured horses and the comprehensive testing of such samples. The Laboratory should be required to notify the NYSWB of any sample that was insufficient for full screening for prohibited substances.**
- **The Laboratory should be required to: 1) complete the ISO 17025 accreditation process as soon as possible; 2) complete RMTCC Code accreditation; and 3) participate in any ARCI/RMTCC quality assurance program. In the absence of an**

**ARCI/RMTC quality assurance program, the laboratory should participate in a passed-sample exchange program with another ISO 17025 accredited laboratory.**

- If ISO 17025 accreditation is not awarded, the laboratory should inform the NYSRWB of deficiencies identified in the accreditation process and provide a corrective action plan.

## **5. Medical Records**

- **Veterinarians should be required to use practice management software for recording of all veterinary services provided. This software should include user name and time and date stamps for all entries and any subsequent changes so that records cannot be amended or redacted without user accountability.**
- **The NYSRWB should amend Rule 4032 to require practicing veterinarians to record dose and route of administration of any medication administered to a horse.**
- **The NYSRWB should require that a record of all intra-articular corticosteroid injections of a horse within 30 days of a race should be made available to the successful claimant of a horse within 48 hours from the time the claim is finalized (see Recommendation #3 above).**
- **The NYSRWB should require that trainers keep a treatment log, including the time, dose and route of administration of all medications administered to horses under their care by the trainer and that the log be made available to the NYSRWB on request.**
- **The NYSRWB should perform regular and random compliance audits. A compliance audit should be required for any positive drug test reported by the Laboratory.**

## **6. Extracorporeal Shockwave Therapy**

- **The NYSRWB should adopt a regulation strictly regulating the use of ESWT consistent with the ARCI Model Rule, but limit the scope of the regulation to racing (and breeding) and not general training.**
  - Security personnel must be trained to recognize indications of ESWT use.
  - The NYSRWB and NYRA should promote the use of a toll-free tip line to report illicit use of ESWT

## 7. Equine Medical Director

- **The NYSRWB should hire an Equine Medical Director.**
  - The Equine Medical Director will provide direction and oversight of regulatory veterinary protocols
  - The Equine Medical Director will counsel the NYSRWB in matters pertaining to medication regulation, racetrack veterinary practice, drug testing and equine health and safety
  - Compensation must be adequate to attract and retain an individual of suitable experience and aptitude for this position of responsibility.

## 8. NYRA Governance

- **NYRA should create an executive-level position to oversee and coordinate all aspects of the racing operation, including but not limited to the Racing Office, backstretch, horsemen's relations, stakes coordination, racing surfaces, and pari-mutuels.**
  - Include advocacy for health and safety of riders and horses in the job description for this executive-level position (Vice President-Director of Racing).
  - Develop strategies that promote the health and safety of the horses and riders.
  - Establish systems to ensure that NYRA health and safety programs are monitored and updated over time.
- **Create a NYRA Health and Safety Committee**
  - This committee should be tasked to establish a culture of health and safety throughout NYRA.
  - The NYRA executive for racing operations should chair this standing committee of horsemen, jockeys, regulatory veterinarians, racing officials and practicing veterinarians to address health and safety needs of horses and riders.
  - This committee should convene regularly to ensure that the checks and balances built into the system are followed, create protocols to strengthen advocacy for the safety of both riders and horses, develop intervention strategies to protect the horse and rider, and identify strategies to mitigate the consequences of commercial pressures that put horses and riders at risk.
- **Incorporate the health and safety of riders and horses in the NYRA Mission Statement.**
- **Empower and protect jockeys to express concerns regarding the condition of their horse prior to the race by promoting a culture of trust.**



- The initiation of a scratch (in the post-parade or at the starting gate) requires a cooperative effort between the jockey and the NYRA or other regulatory veterinarian at the time of the scratch and in the follow-up period.
  - A private meeting should be held prior to the start of each meet between jockeys and NYRA or other regulatory veterinarians to build a relationship and emphasize goal of advocacy for horse and rider safety.
  - The jockeys should meet with the Stewards to clarify expectations and emphasize the intent of the Stewards to take a hard line on lack of effort.
  - The Jockeys' Guild should create a protocol to educate the jockeys on their on-track responsibilities with respect to safety and the initiation of scratches.
  - The New York apprentice program should incorporate training and role-playing to improve communication skills.
- **Educate trainers on the use of risk factors and intervention strategies to reduce injury.**
    - Partner with continuing education providers to create appropriate content.
    - Hold seminars at the tracks.
    - Publish written training materials.
    - Create webinars for on-line continuing education.
    - The NYSRWB should enact a rule to require (4 hours) of annual continuing education for trainers and assistant trainers in order to be licensed
  - **Increase the awareness and transparency of NYRA house rules.**
    - NYRA House Rules should be published in the condition book and on the NYRA website in its entirety.

## 9. Racing Surface and Weather Monitoring

- **Establish an advanced comprehensive racetrack and weather monitoring program, using electronic monitoring, reporting and record-keeping systems and build a data base to include factors that control track consistency and are thus most likely to influence the safety of the racetrack.**
  - Store current data in a readily available relational database so that data can be retrieved selectively for any time period and for any data field of interest.
  - Weather data should include all sensors associated with evaporation from the surface, including solar, wind speed, wind direction, wind gusts, temperature and humidity.
  - Develop a model of evaporation from the harrowed surface of the racetrack.
  - Complete maintenance data should include the amount of water added to the racing surface.

- Depth, speed and usage of harrows, floats and rollers should be documented. This can be integrated into tractor data acquisition systems or operated independently
  - Current temporal moisture content and composition data should be stored in an electronic database that facilitates comparison over time.
  - Complete composition data should be sampled at predefined intervals based upon an understanding of the temporal changes in the composition of the track.
  - Spatial variation of cushion depth, which is currently measured on a regular basis, should be stored in a readily available electronic format.
  - Spatial variability of moisture content on the track should be measured on a regular basis in order to facilitate understanding of this key factor in track variability. Key locations can be identified which will form the basis for future decision-making regarding water addition.
  - Link these track variables with the EID to determine associations between the variables in consistency of the racing surface and fatal injury occurrence.
- 
- **NYRA should perform due diligence and reconsider whether the installation of a synthetic surface on the inner track at Aqueduct would reduce the number of fatalities on that surface.**

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## **XI. Exhibits**

- A. Equine Injury Database Statistical Analysis - Parkin**
- B. Report on the Racing Surface by Racetrack Consultant**
- C. Aqueduct NTRA 2009 Accreditation Report**
- D. Aqueduct NTRA 2011 Accreditation Report**
- E. AAEP White Paper on Thoroughbred Racing**
- F. AAEP Clinical Guidelines for Veterinarians Practicing in a Pari-Mutuel Environment**
- G. KHRC Identification of Horses of Interest**
- H. Procedures and Practices for the Kentucky Horse Racing Commission Veterinarians**
- I. Recommended Protocol for a Mortality Review Board**

## **XI. EXHIBITS**



## **Exhibit A**

### **Equine Injury Database Statistical Analysis**

Investigations of fatality rates at NYRA tracks  
(2008/2009 to 2011/2012 seasons)

Dr. Tim Parkin BSc, BVSc, FHEA, PhD, DipECVPH, MRCVS  
University of Glasgow, UK

Report date: 26th-June-2012

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## 1. INTRODUCTION

The summary statistics that follow represent estimates of prevalence of fatality stratified in a number of different ways. The vertical bars on relevant plots represent 95% confidence intervals (95% CI)<sup>1</sup>. These indicate the likely range of values for each prevalence estimate. However, values near to the point estimate are much more likely than values at the end of the range.

It is important to consider 95% CIs as the calculated estimates of prevalence should be regarded as a two year sample of data and therefore not a complete census. The 95% CIs are generally smaller (i.e. there is more certainty about the point estimate) when the sample size is larger (i.e. more starts). Overlap of two 95% CIs for different prevalence estimates indicates that it is unlikely that there is a statistically significant difference between them.

## 2. SUMMARY OF STATISTICAL ANALYSES

- Starts made at Aqueduct on the Inner track were not statistically significantly more likely to end in fatality in the 2011/12 season compared to the previous three seasons. – PAGE 10
- Starts made at Aqueduct on the Dirt track were more likely to end in fatality in the 2011/12 season compared to the previous three seasons. – PAGE 10

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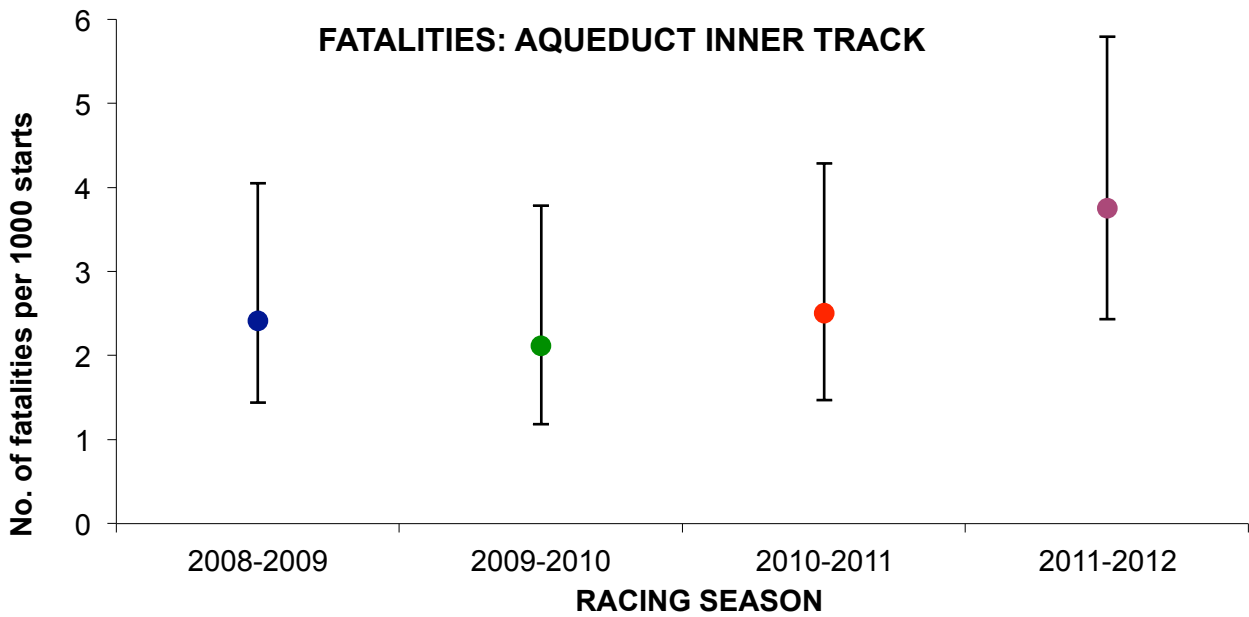
<sup>1</sup> These 95%CI's have been calculated using the method proposed by Wilson (1927) which is appropriate when dealing with small numbers of outcomes and low prevalence estimates.

- Starts made at Aqueduct on any track were more likely to end in fatality in the 2011/12 season compared to the previous three seasons. – PAGE 11
  
- Factors associated with an increased risk of fatal injury across all NYRA tracks were: (PAGES 21-22)
  1. Gender (starts made by entire males being more likely to end in fatality)
  2. Type of race (starts in claiming races being more likely to end in fatality)
  3. Track (starts at Aqueduct being more likely to end in fatality than starts at Belmont or Saratoga)
  4. Course Type (starts at the inner track being more likely to end in fatality than starts on other tracks)
  
- There were statistically significantly more starts at Aqueduct made by entire males in the 2011/2012 season compared with the 2010/2011 season. – PAGE 23
  
- In all of the last three seasons combined, there were statistically significantly more starts made in claiming races at Aqueduct, compared to Belmont and Saratoga. – PAGE 25
  
- In all of the last three seasons combined, there were statistically significantly more starts in claiming races at Belmont compared to Saratoga. – PAGE 25
  
- In all of the last three seasons combined, starts on the Aqueduct dirt or inner tracks were no more or less likely to end in fatality than the National average on dirt tracks. – PAGE 32
  
- In all of the last three seasons combined, starts on the Aqueduct inner track were more likely to end in fatality than the national average on synthetic tracks. – PAGE 32
  
- Starts on the inner track at Aqueduct in the 2011/12 season were more likely to end in fatality than the national average on either dirt or synthetic tracks between 2008 and 2011. – PAGE 33

- Starts on the dirt track at Aqueduct in the 2011/12 season were more likely to end in fatality than the national average on synthetic tracks between 2008 and 2011. – PAGE 33

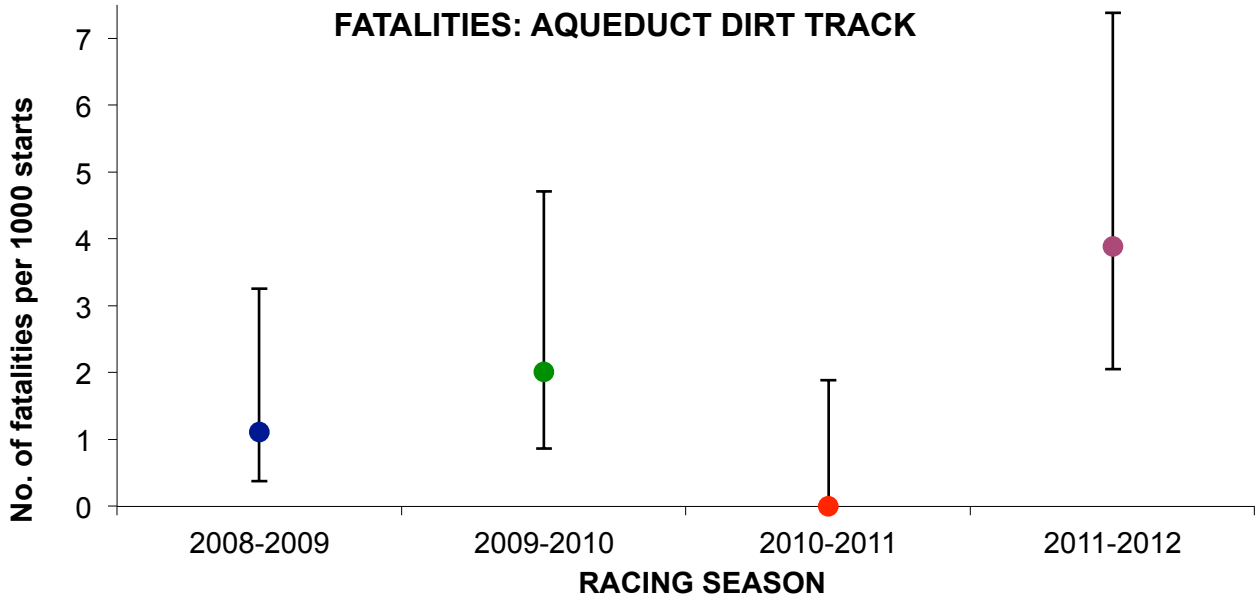
### 3. Comparison of 2011/2012 season at Aqueduct with previous three seasons

Figure 1. Prevalence estimates on the Aqueduct inner track for each racing season.



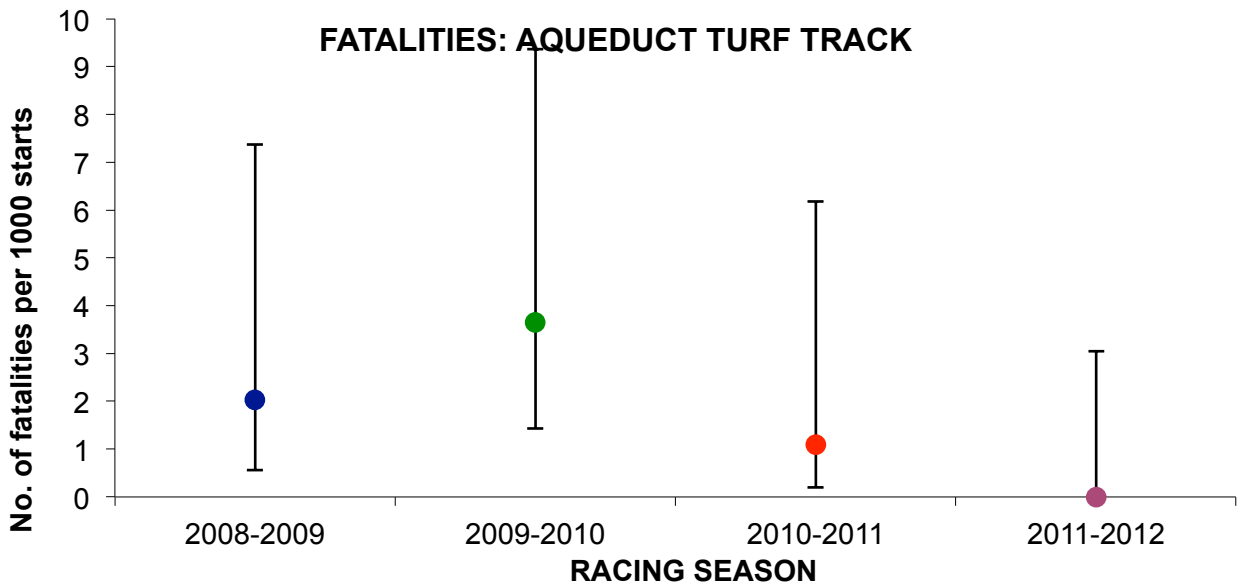
<b>Prevalence estimate</b>	2.41	2.12	2.51	3.75
<b>95% CI</b>	1.44 - 4.05	1.18 - 3.78	1.46 - 4.28	2.43 - 5.79
<b>No. of fatalities</b>	14	11	13	20
<b>No. of starts</b>	5799	5199	5189	5329

Figure 2. Prevalence estimates on the Aqueduct dirt track for each racing season.



<b>Prevalence estimate</b>	1.11	2.01	0	3.89
<b>95% CI</b>	0.38 – 3.25	0.86 – 4.71	0 – 1.89	2.05 – 7.38
<b>No. of fatalities</b>	3	5	0	9
<b>No. of starts</b>	2706	2482	2033	2313

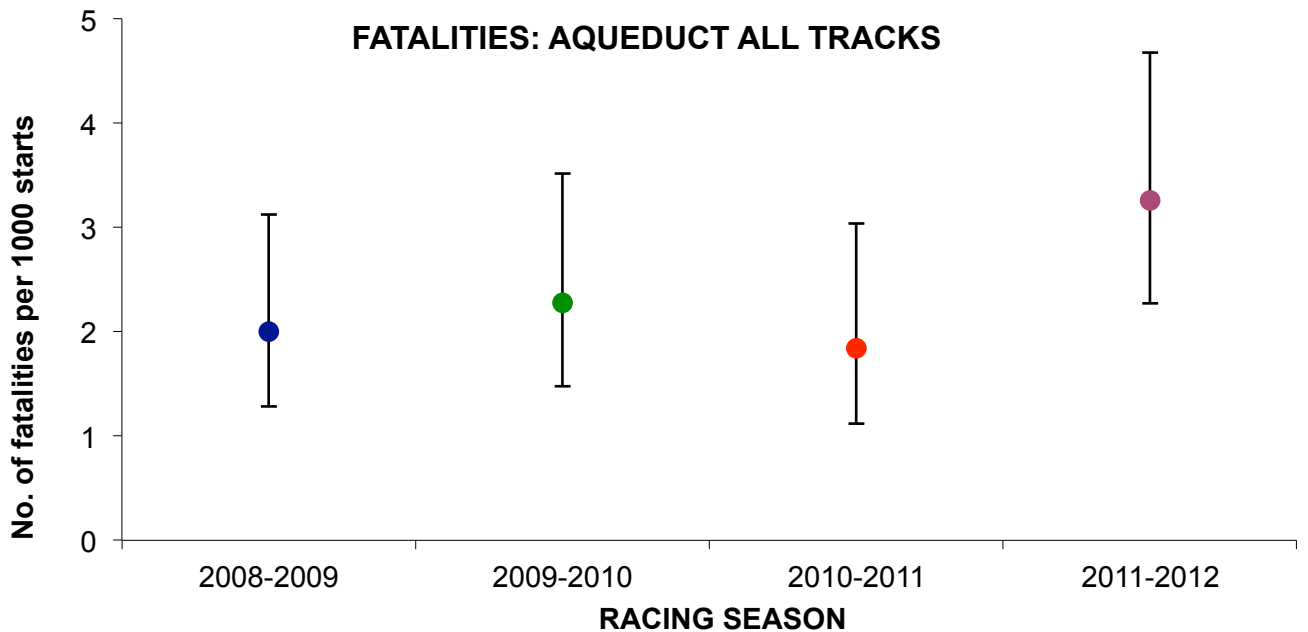
Figure 3. Prevalence estimates on the Aqueduct turf track for each racing season.



<b>Prevalence</b>	2.03	3.66	1.1	0
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estimate				
95% CI	0.56 – 7.37	1.42 – 9.36	0.19 – 6.18	0 – 3.04
No. of fatalities	2	4	1	0
No. of starts	985	1094	913	1259

Figure 4. Prevalence estimates on ALL Aqueduct tracks for each racing season.



Prevalence estimate	2.0	2.28	1.84	3.26
95% CI	1.28 – 3.13	1.48 – 3.52	1.12 – 3.04	2.27 – 4.68
No. of fatalities	19	20	15 (1 unspecified surface)	29
No. of starts	9490	8775	8135	8901

### 3. Comparison of 2011/2012 season at Aqueduct with previous three seasons

#### Statistical analysis

Chi-squared tests were used to identify statistically significant differences in the prevalence of fatality on different surfaces.

1. Inner track: 2008/09 – 2010/11 vs. 2011/12 season

	No. of starts ending in fatality	No. of starts NOT ending in fatality	TOTAL no. of starts
2008/09 – 2010/11 season	38	16149	16187
2011/12 season	20	5309	5329
BOTH	58	21458	21516

Relative Risk = 1.60

95% Confidence interval = 0.93 – 2.74

Chi-squared statistic = 2.45

P-value = 0.12

Interpretation

Given the current data set there was no statistically significant difference in the prevalence of fatality on the inner track at Aqueduct between the 2008/9 – 2010/11 seasons and the 2011/12 season (P-value = 0.12). Although these figures do represent a 60% increase in the prevalence of fatality during the 2011/12 season compared to the average for the previous three seasons.

2. Dirt track: 2008/09 – 2010/11 vs. 2011/12 season

	No. of starts ending in fatality	No. of starts NOT ending in fatality	TOTAL no. of starts
2008/09 – 2010/11 season	8	7213	7221
2011/12 season	9	2304	2313
BOTH	17	9517	9534

Relative Risk = 3.51

95% Confidence interval = 1.36 – 9.09

Chi-squared statistic = 6.14

P-value = 0.01 (Fisher Exact test)

Interpretation

There was a statistically significant difference in the prevalence of fatality on the dirt track at Aqueduct between the 2008/9 – 2010/11 seasons and the 2011/12 season (P-value = 0.01). The estimated relative risk of 3.51 indicates that the risk of

a start on the dirt track at Aqueduct ending in fatality was 3.5 times greater in the 2011/12 season than in the previous three seasons, combined. NOTE the 95% confidence intervals indicate the potential size of the relative risk. So although the point estimate is 3.51 the true relative risk is likely to be anywhere between 1.36 and 9.09. These figures represent a 250% increase in the prevalence of fatality during the 2011/12 season compared to the average for the previous three seasons.

### 3. All Aqueduct tracks: 2008/09 – 2010/11 vs. 2011/12 season

	No. of starts ending in fatality	No. of starts NOT ending in fatality	TOTAL no. of starts
2008/09 – 2010/11 season	54	16133	16187
2011/12 season	29	5300	5329
BOTH	83	21433	21516

Relative Risk = 1.63

95% Confidence interval = 1.04 – 2.56

Chi-squared statistic = 4.1

P-value = 0.04

#### Interpretation

There was a statistically significant difference in the prevalence of fatality on all tracks, combined at Aqueduct between the 2008/9 – 2010/11 seasons and the 2011/12 season (P-value = 0.04). The estimated relative risk of 1.63 indicates that the risk of a start on all tracks at Aqueduct ending in fatality was 1.6 times greater in the 2011/12 season than in the previous three seasons, combined. NOTE the 95% confidence intervals indicate the potential size of the relative risk. So although the point estimate is 1.63 the true relative risk is likely to be anywhere between 1.04 and 2.56. These figures represent a 63% increase in the prevalence of fatality during the 2011/12 season compared to the average for the previous three seasons.



**4. Comparison of the prevalence of fatality at NYRA tracks from 2008/2009 season to 2010/2011 season.**

Figure 5. Prevalence estimates at all NYRA tracks for the 2008-2009 season

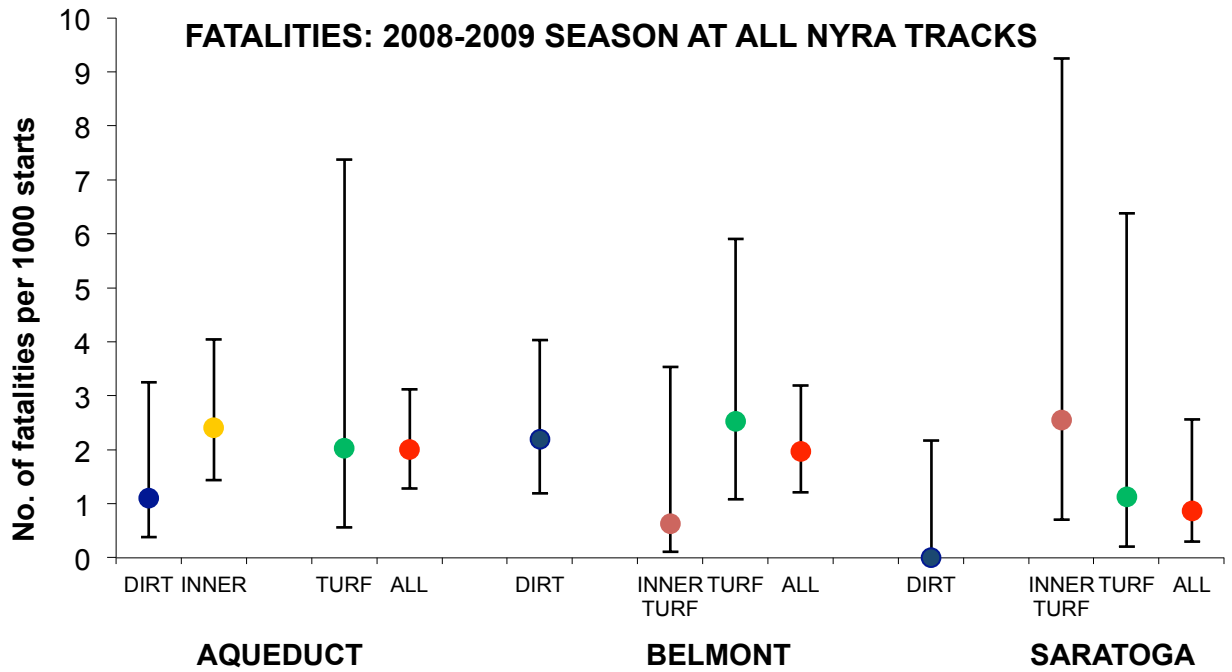
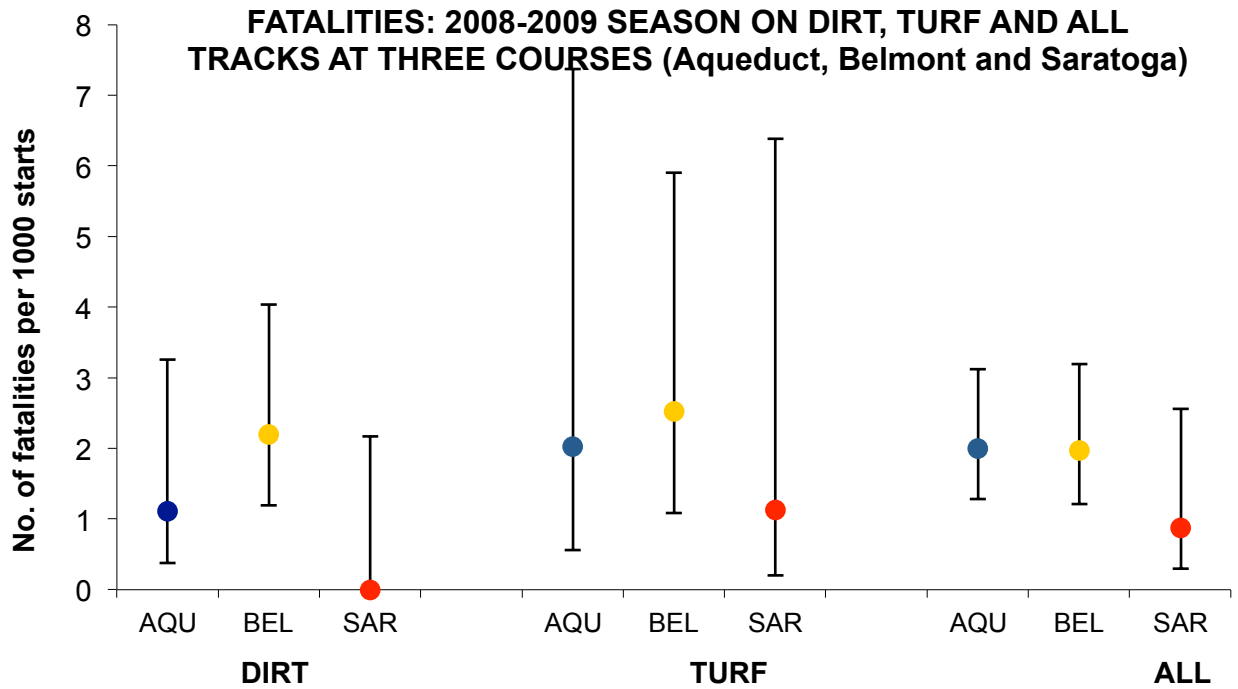


Figure 6. Prevalence estimates on NYRA dirt, turf and all tracks at each course for the 2008-2009 season.



2008-2009 SEASON	PREVALENCE ESTIMATE (95% CONFIDENCE INTERVAL)				
	----- Number of fatalities/Number of starts				
TRACK	DIRT	INNER TRACK	INNER TURF	TURF	ALL
AQUEDUCT	1.11 (0.38 – 3.25) ----- 3/2,706	2.41 (1.44 – 4.05) ----- 14/5,799	-	2.03 (0.56 – 7.37) ----- 2/985	2.0 (1.28 – 3.13) ----- 19/9,490
BELMONT	2.2 (1.19 – 4.04) ----- 10/4,553	-	0.63 (0.11 – 3.54) ----- 1/1,596	2.53 (1.08 – 5.9) ----- 5/1,978	1.97 (1.21 – 3.2) ----- 16/8,127
SARATOGA	0 (0 – 2.17) ----- 0/1,768	-	2.55 (0.7 – 9.25) ----- 2/784	1.13 (0.2 – 6.39) ----- 1/883	0.87 (0.3 – 2.56) ----- 3/3,435

Figure 7. Prevalence estimates at all NYRA tracks for the 2009-2010 season

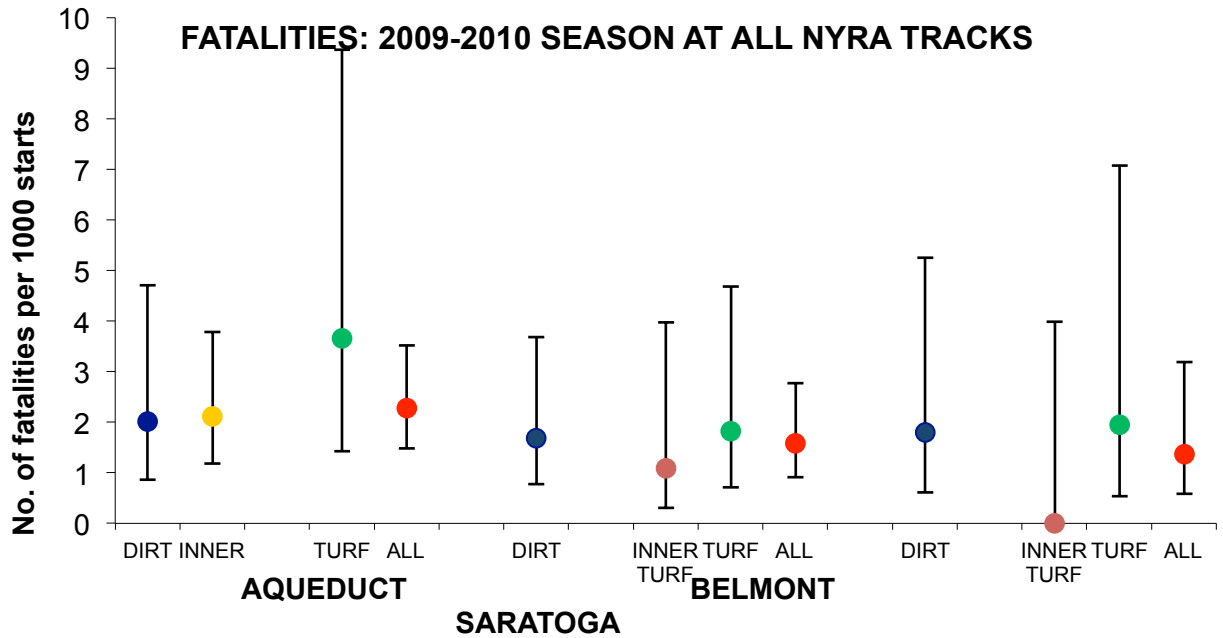
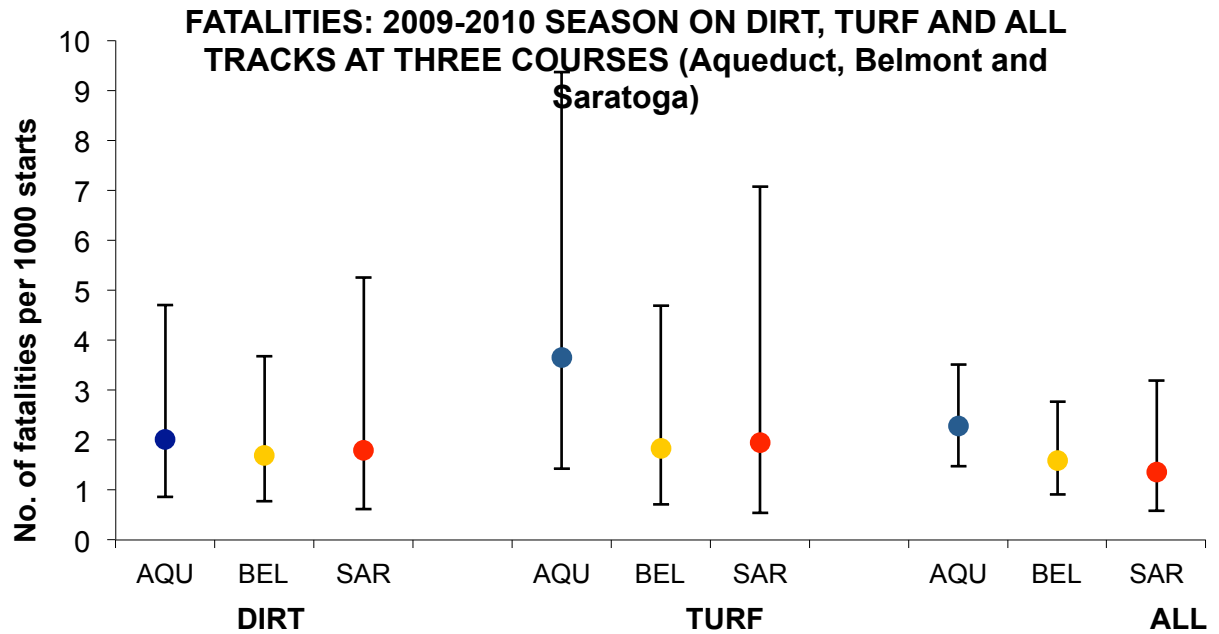


Figure 8. Prevalence estimates on NYRA dirt, turf and all tracks at each course for the 2009-2010 season.



2009-2010 SEASON	PREVALENCE ESTIMATE (95% CONFIDENCE INTERVAL)				
	----- Number of fatalities/Number of starts				
TRACK	DIRT	INNER TRACK	INNER TURF	TURF	ALL
AQUEDUCT	2.01 (0.86 - 4.71) ----- 5/2,482	2.12 (1.18 - 3.78) ----- 11/5,199	-	3.66 (1.42 - 9.36) ----- 4/1,094	2.28 (1.48 - 3.52) ----- 20/8,775
BELMONT	1.69 (0.77 - 3.68) ----- 6/3,550	-	1.09 (0.30 - 3.97) ----- 2/1,832	1.83 (0.71 - 4.69) ----- 4/2,189	1.58 (0.91 - 2.77) ----- 12/7,571
SARATOGA	3 (0.61 - 5.26) ----- 3/1,673	-	0 (0 - 3.98) ----- 0/961	1.95 (0.53 - 7.07) ----- 2/1,027	1.37 (0.58 - 3.19) ----- 5/3,661

Figure 9. Prevalence estimates at all NYRA tracks for the 2010-2011 season

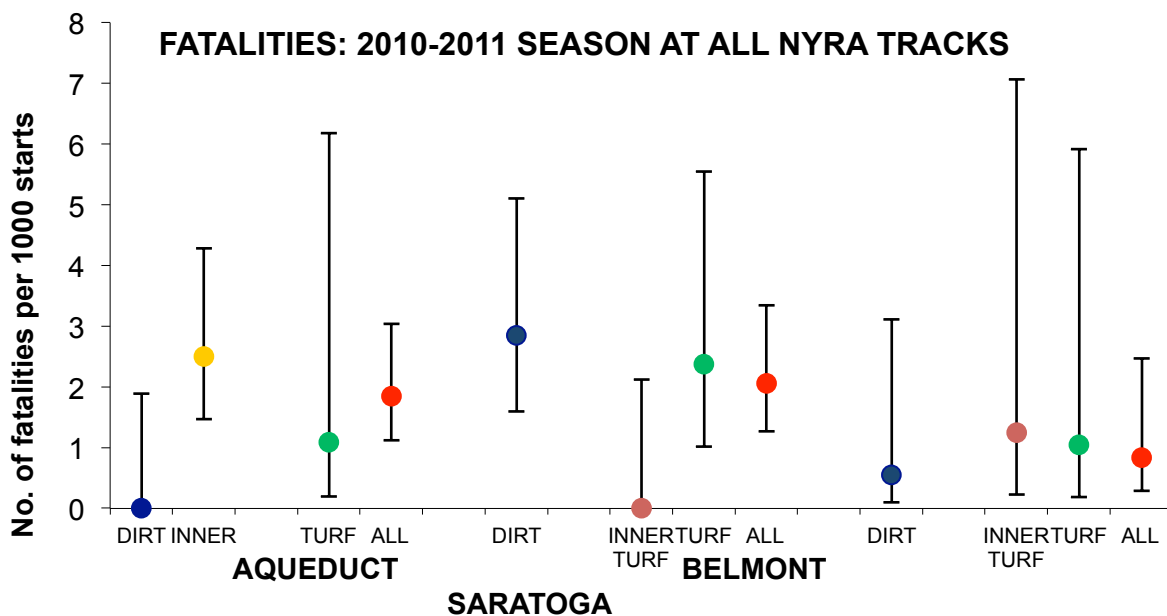
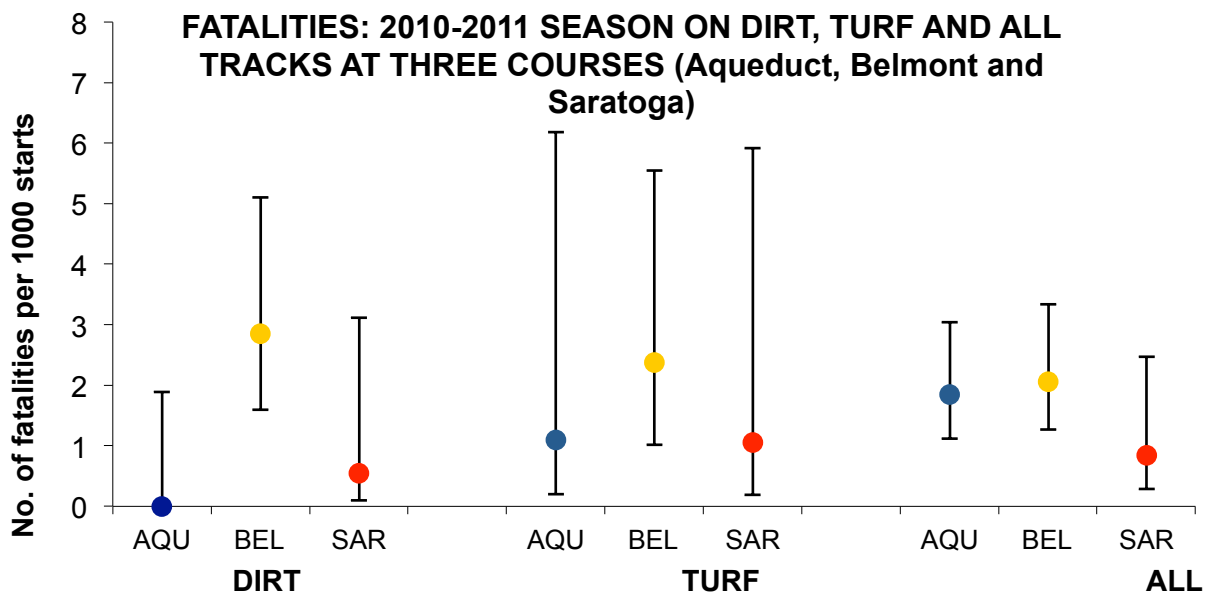


Figure 10. Prevalence estimates on NYRA dirt, turf and all tracks at each course for the 2010-2011 season.



2010-2011 SEASON	PREVALENCE ESTIMATE (95% CONFIDENCE INTERVAL) ----- Number of fatalities/Number of starts				
	DIRT	INNER TRACK	INNER TURF	TURF	ALL
	<b>AQUEDUCT</b>	0 (0 - 1.89) ----- 0/2,033	2.51 (1.46 - 4.28) ----- 13/5,189	-	1.1 (0.19 - 6.18) ----- 1/913
<b>BELMONT</b>	2.85 (1.59 - 5.1) ----- 11/3,854	-	0 (0 - 2.12) ----- 0/1,808	2.38 (1.01 - 5.55) ----- 5/2,105	2.06 (1.27 - 3.34) ----- 16/7,767
<b>SARATOGA</b>	0.55 (0.1 - 3.12) ----- 1/1,813	-	1.25 (0.22 - 7.06) ----- 1/798	1.05 (0.19 - 5.92) ----- 1/953	0.84 (0.29 - 2.47) ----- 3/3,564

† The course on which one fatality occurred was not specified.

#### 4. Comparison of the prevalence of fatality at NYRA tracks from 2008/2009 season to 2010/2011 season.

##### Statistical analysis

**Introduction:** In order to assess the potential statistical significance of any differences in the likelihood of fatality at different tracks and on different courses, as well as account for season, sex and other potential explanatory variables multivariable logistic regression models were developed. The outcome of interest was fatal injury at any of the three NYRA racecourses between 1<sup>st</sup> January 2008 and 6<sup>th</sup> May 2012.

**Results:** Two multivariable models were developed including either track name (Aqueduct, Belmont or Saratoga) or course type (Dirt, Inner track, Inner turf or Turf). It was not possible to create a model with both track name and course type included as Aqueduct is the only track that included “inner track” races and Belmont and Saratoga were the only tracks that included “inner turf” races.

Model 1.

RISK FACTOR	Odds ratio	P-value	Lower 95% CI	Upper 95% CI
GENDER Filly, Mare or Gelding	1			
Horse, Colt or Ridgling	3.07	<0.001	2.24	4.21
TRACK NAME Belmont or Saratoga	1			
Aqueduct	1.67	0.001	1.22	2.29
RACE TYPE Non-claiming races*	1			
Claiming races (CLM or MCL)	1.63	0.002	1.19	2.24

\* ALW, AOC, MSW, OCL, SHP, SOC, SST, STK, STR  
(CI = confidence interval)

Model 2.

RISK FACTOR	Odds ratio	P-value	Lower 95% CI	Upper 95% CI
GENDER Filly, Mare or Gelding	1			
Horse, Colt or Ridgling	3.08	<0.001	2.24	4.22
COURSE TYPE Dirt, Turf or Inner Turf	1			
Inner Track	1.68	0.001	1.23	2.29
RACE TYPE Non-claiming races*	1			
Claiming races (CLM or MCL)	1.64	0.002	1.20	2.24

\* ALW, AOC, MSW, OCL, SHP, SOC, SST, STK, STR  
(CI = confidence interval)

Interpretation: Both models are very similar.

SEX: In both models, starts made by entire male horses (Horse, Colt or Ridgling) were 3.1 times more likely to end in fatality than starts made by geldings, fillies or mares.

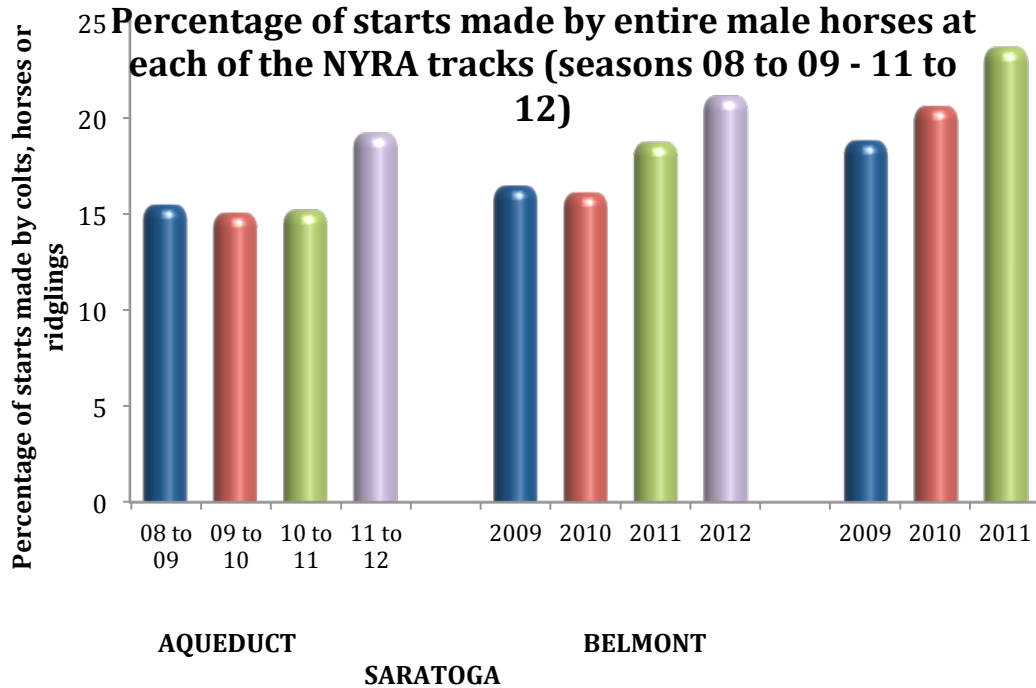
RACE TYPE: In both models, starts made by horses in claiming races were 1.6 times more likely to end in fatality than starts made by horses in non-claiming.

TRACK NAME: Starts made at Aqueduct were 1.7 times more likely to end in fatality than starts made at Belmont or Saratoga.

COURSE TYPE: Starts made on the "inner track" were 1.7 times more likely to end in fatality than starts made on the dirt, turf or inner turf tracks at any of the NYRA racecourses.

**Are there more entire males racing in the more recent seasons?**

Figure 11. Percentage of starts made by entire male horses at each of the NYRA tracks since the 2008 to 2009 season. (Entire males includes colts, horses and ridglings)



All Aqueduct tracks: 2011/12 vs. 2010/2011 season

	No. of starts by entire males	No. of starts NOT by entire males	TOTAL no. of starts
2010/11 season	1236	6899	8135
2011/12 season	1708	7193	8901
BOTH	2944	14092	17036

Chi-squared statistic = 47.5

P-value <0.001

**Interpretation**

There was a statistically significant increase in the number of starts made by entire males in the 2011/2012 season compared with the 2010/2011 season (P-value <0.001)



**Were there more claiming races or starts made by horses with a claiming price in the more recent seasons?**

Figure 12. Percentage of starts in claiming races at each of the NYRA tracks since the 2008 to 2009 season

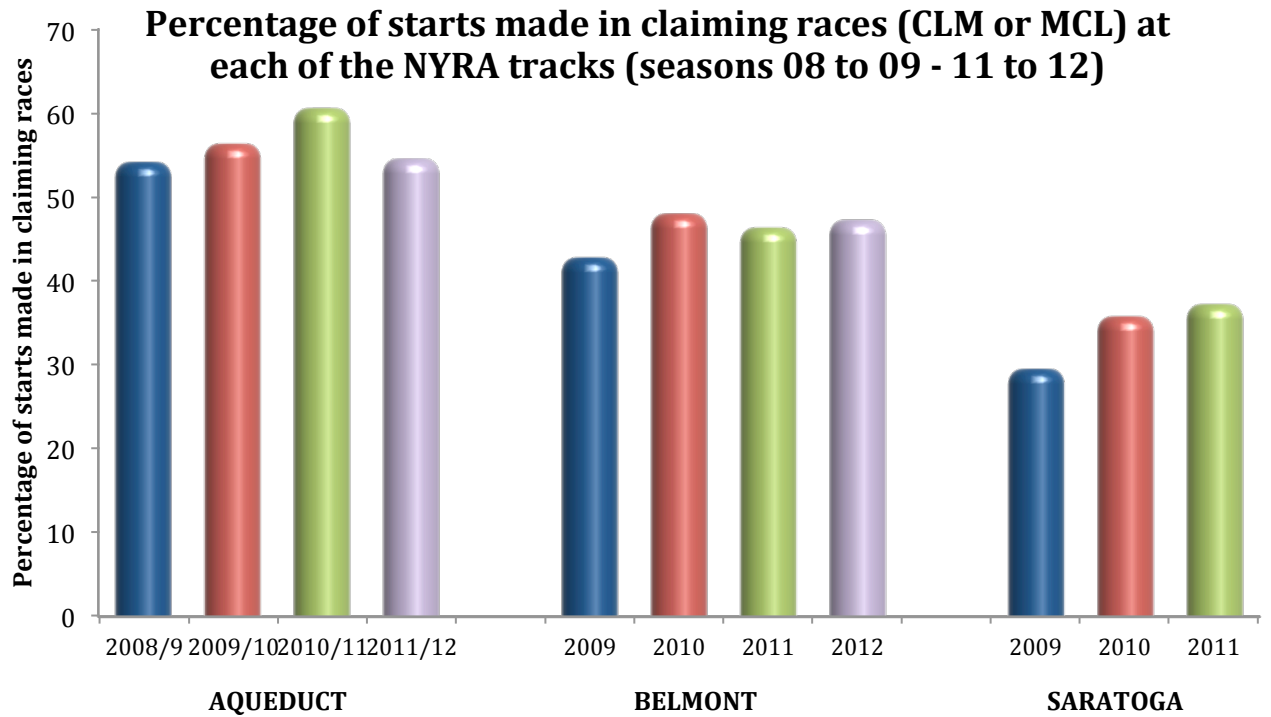
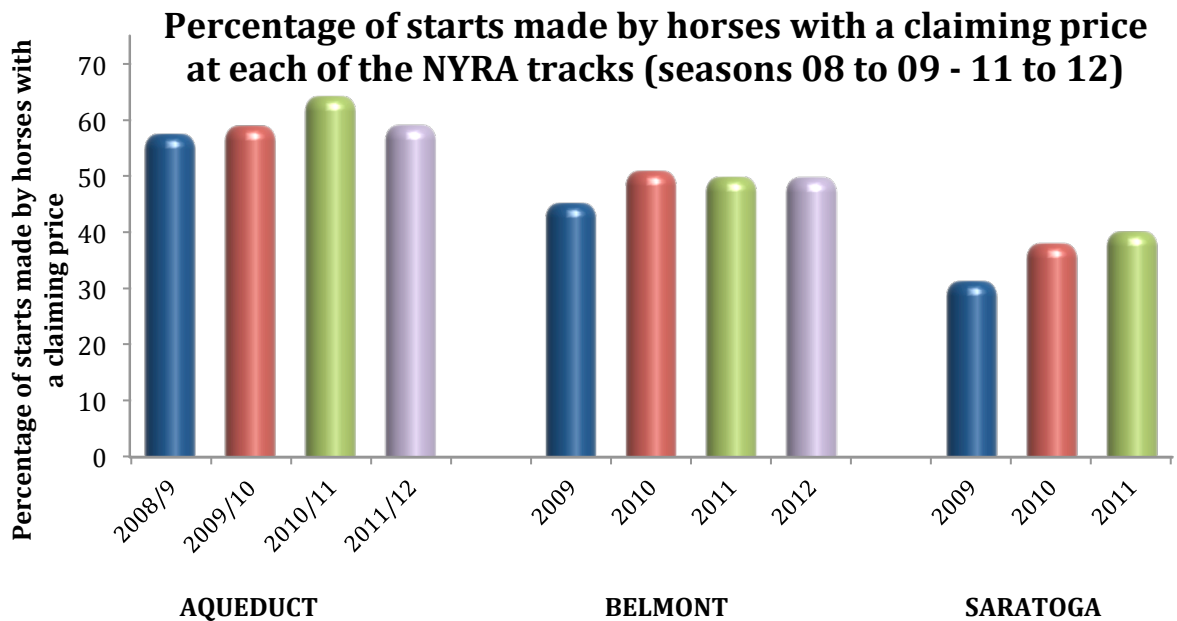


Figure 13. Percentage of starts made by horses with a claiming price at each of the NYRA tracks since the 2008 to 2009 season



There is no clear trend to suggest that the number of claiming races or horses with a claiming price has increased in the last few seasons.

**Are there significant differences in the proportion of races that are claiming races at the three NYRA tracks?**

	No. of starts in claiming races	No. of starts NOT in claiming races	TOTAL no. of starts
AQUEDUCT	19896	15405	35301
BELMONT	11083	13130	24213
BOTH	30979	28535	59514

Chi-squared statistic = 644.7

P-value <0.001

Interpretation

Statistically significantly more starts at Aqueduct (56.4%; 19,896/35,301) were in claiming races than non-claiming races, compared to starts at Belmont (45.8%; 11,083/24,213) (P-value <0.001)

	No. of starts in claiming races	No. of starts NOT in claiming races	TOTAL no. of starts
AQUEDUCT	19896	15405	35301
SARATOGA	3657	7003	10660
BOTH	23553	22408	45961

Chi-squared statistic = 1593.2  
P-value <0.001

#### Interpretation

Statistically significantly more starts at Aqueduct (56.4%; 19,896/35,301) were in claiming races than non-claiming races, compared to starts at Saratoga (34.3%; 3,657/10,660) (P-value <0.001)

	No. of starts in claiming races	No. of starts NOT in claiming races	TOTAL no. of starts
BELMONT	11083	13130	24213
SARATOGA	3657	7003	10660
BOTH	14740	20133	34873

Chi-squared statistic = 398.4  
P-value <0.001

#### Interpretation

Statistically significantly more starts at Belmont (45.8%; 11,083/24,213) were in claiming races than non-claiming races, compared to starts at Saratoga (34.3%; 3,657/10,660) (P-value <0.001)

### **Are there significant differences in the proportion of starts made by horses with a claiming price at the three NYRA tracks?**

	No. of starts in claiming races	No. of starts NOT in claiming races	TOTAL no. of starts
AQUEDUCT	21150	14151	35301
BELMONT	11797	12416	24213
BOTH	32947	26567	59514

Chi-squared statistic = 727.9  
P-value <0.001

### Interpretation

Statistically significantly more starts at Aqueduct (59.9%; 21,150/35,301) were made by horses with a claiming price, compared to starts at Belmont (48.7%; 11,797/24,213) (P-value <0.001)

	No. of starts in claiming races	No. of starts NOT in claiming races	TOTAL no. of starts
AQUEDUCT	21150	14151	35301
SARATOGA	3907	6753	10660
BOTH	25057	20904	45961

Chi-squared statistic = 1786.7

P-value <0.001

### Interpretation

Statistically significantly more starts at Aqueduct (59.9%; 21,150/35,301) were made by horses with a claiming price, compared to starts at Saratoga (36.7%; 3,907/10,660) (P-value <0.001)

	No. of starts in claiming races	No. of starts NOT in claiming races	TOTAL no. of starts
BELMONT	11797	12416	24213
SARATOGA	3907	6753	10660
BOTH	15704	19169	34873

Chi-squared statistic = 435.7

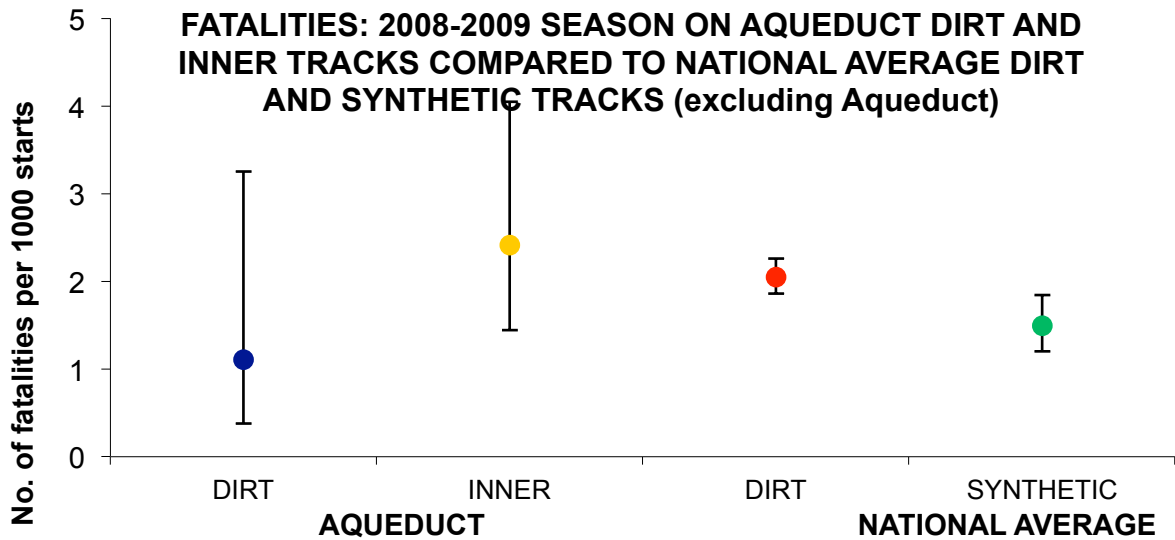
P-value <0.001

### Interpretation

Statistically significantly more starts at Belmont (48.7%; 11,797/24,213) were made by horses with a claiming price, compared to starts at Saratoga (36.7%; 3,907/10,660) (P-value <0.001)

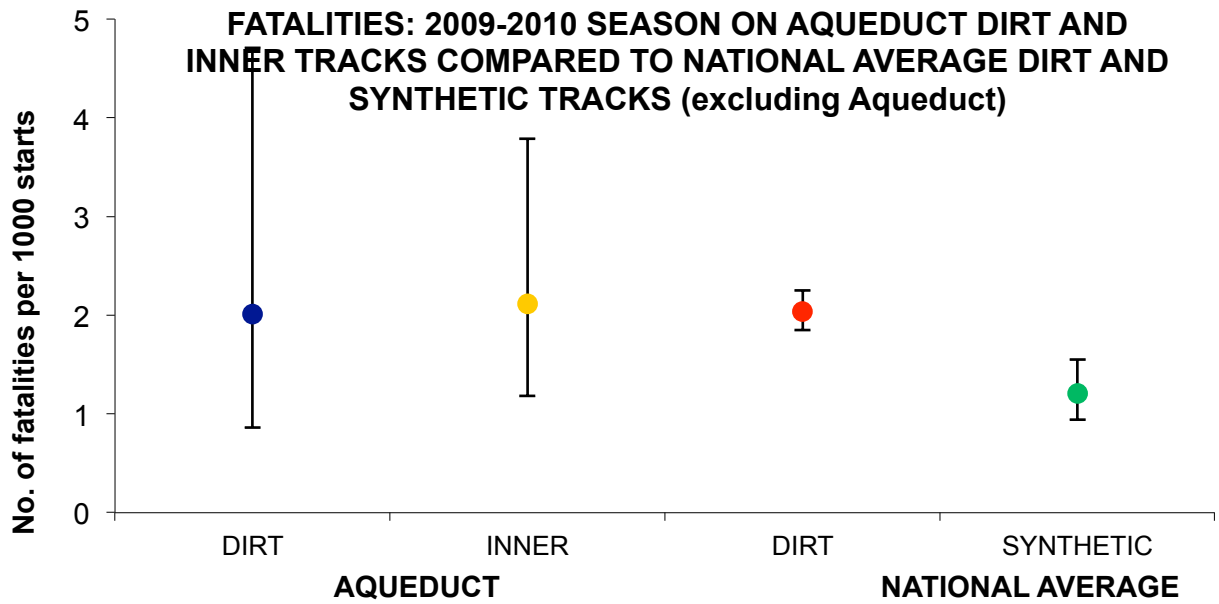
**5. Comparison of the prevalence of fatality at the Aqueduct dirt and inner tracks and the national average on dirt and synthetic tracks.**

Figure 14. Prevalence estimates at Aqueduct dirt and inner tracks compared to the national average on dirt and synthetic tracks for the 2008-2009 season.



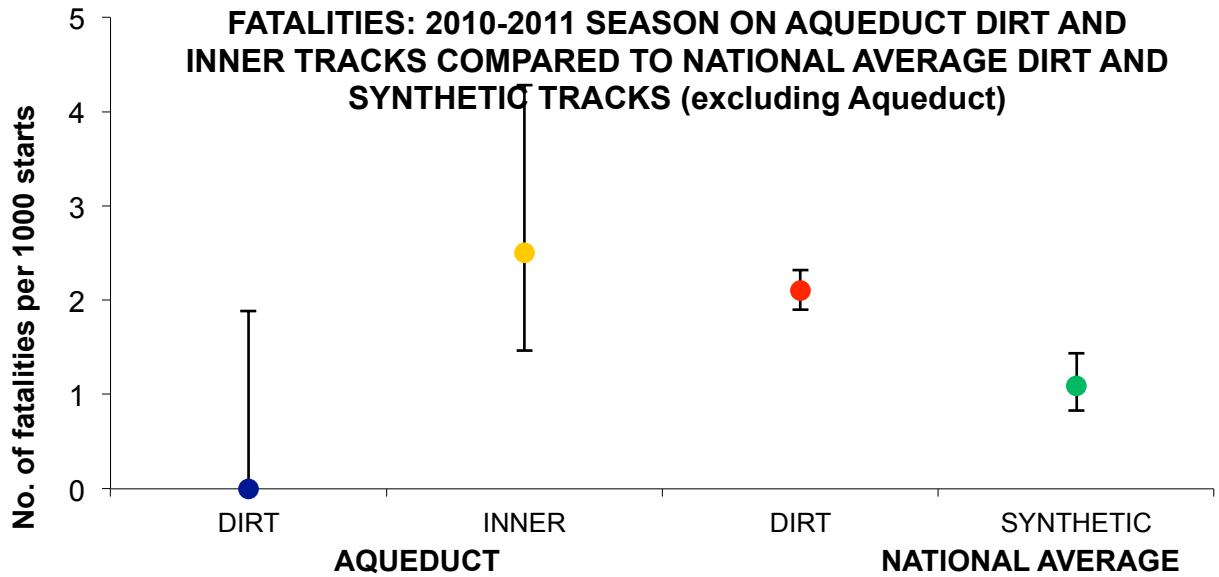
<b>Prevalence estimate</b>	1.11	2.41	2.05	1.49
<b>95% CI</b>	0.38 - 3.25	1.44 - 4.05	1.86 - 2.26	1.20 - 1.84
<b>No. of fatalities</b>	3	14	405	85
<b>No. of starts</b>	2,706	5,799	197,277	57,135

Figure 15. Prevalence estimates at Aqueduct dirt and inner tracks compared to the national average on dirt and synthetic tracks for the 2009-2010 season.



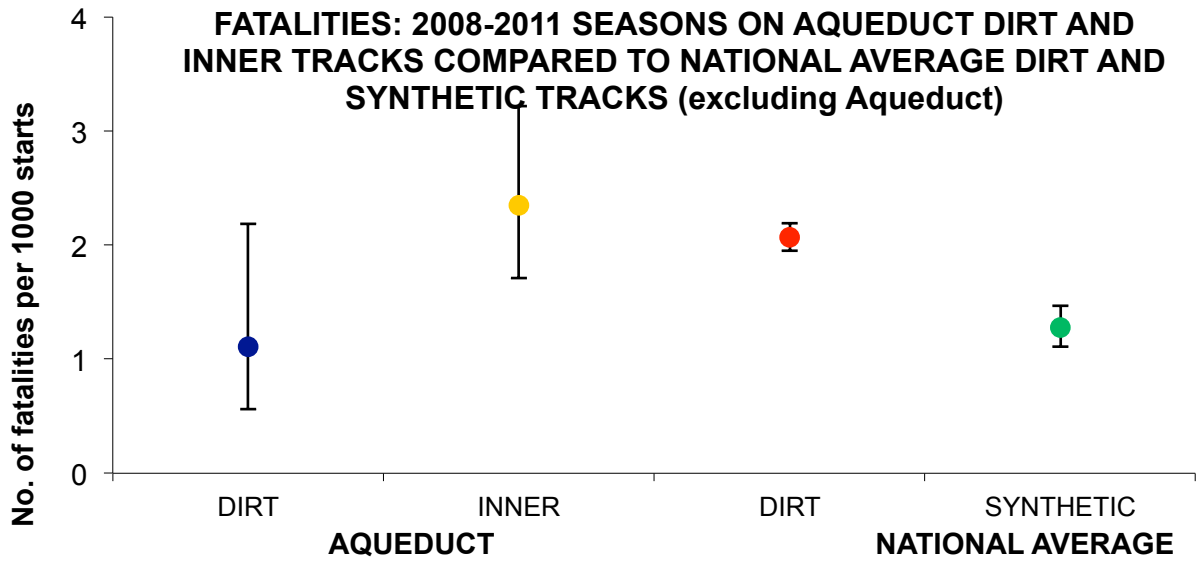
<b>Prevalence estimate</b>	2.01	2.12	2.04	1.21
<b>95% CI</b>	0.86 - 4.71	1.18 - 3.78	1.85 - 2.25	0.94 - 1.55
<b>No. of fatalities</b>	5	11	398	61
<b>No. of starts</b>	2,482	5,199	194,720	50,386

Figure 16. Prevalence estimates at Aqueduct dirt and inner tracks compared to the national average on dirt and synthetic tracks for the 2010-2011 season.



<b>Prevalence estimate</b>	0	2.51	2.1	1.09
<b>95% CI</b>	0 - 1.89	1.46 - 4.28	1.90 - 2.32	0.83 - 1.44
<b>No. of fatalities</b>	0	13	385	50
<b>No. of starts</b>	2,033	5,189	183,266	45,700

Figure 17. Prevalence estimates at Aqueduct dirt and inner tracks compared to the national average on dirt and synthetic tracks for the 2008/9-2010/11 seasons.



<b>Prevalence estimate</b>	1.11	2.35	2.07	1.28
<b>95% CI</b>	0.56 - 2.18	1.71 - 3.22	1.95 - 2.19	1.11 - 1.47
<b>No. of fatalities</b>	8	38	1,188	196
<b>No. of starts</b>	7,221	16,187	575,263	153,221



**5. Comparison of the prevalence of fatality at the Aqueduct dirt and inner tracks and the national average on dirt and synthetic tracks.**

**Statistical analysis**

**Are there significant differences in the prevalence of fatality at Aqueduct dirt or inner tracks compared to the national average on dirt or synthetic tracks? (Three seasons from 2008/9 to 2010/11)**

	No. of starts ending in fatality	No. of starts NOT ending in fatality	TOTAL no. of starts
NATIONAL AVERAGE DIRT	1188	574,075	575,263
AQUEDUCT DIRT	8	7,213	7,221
BOTH	1196	581,288	582,484

Chi-squared statistic = 2.74; P-value = 0.10

**Interpretation**

Given the current data set there was no statistically significant difference in the prevalence of fatality on the dirt track at Aqueduct compared to the national average on dirt tracks (P-value = 0.10).

	No. of starts ending in fatality	No. of starts NOT ending in fatality	TOTAL no. of starts
NATIONAL AVERAGE DIRT	1,188	574,075	575,263
AQUEDUCT INNER TRACK	38	16,149	16,187
BOTH	1,226	590,224	591,450

Chi-squared statistic = 0.48; P-value = 0.49

**Interpretation**

Given the current data set there was no statistically significant difference in the prevalence of fatality on the inner track at Aqueduct compared to the national average on dirt tracks (P-value = 0.49).

	No. of starts ending in fatality	No. of starts NOT ending in fatality	TOTAL no. of starts
NATIONAL AVERAGE SYNTHETIC	196	153,025	153,221
AQUEDUCT DIRT	8	7,213	7,221
BOTH	204	160,238	160,442

Chi-squared statistic = 0.16; P-value = 0.70

### Interpretation

Given the current data set there was no statistically significant difference in the prevalence of fatality on the dirt track at Aqueduct compared to the national average on synthetic tracks (P-value = 0.70).

	No. of starts ending in fatality	No. of starts NOT ending in fatality	TOTAL no. of starts
NATIONAL AVERAGE SYNTHETIC	196	153,025	153,221
AQUEDUCT INNER TRACK	38	16,149	16,187
BOTH	234	169,174	169,408

Relative Risk = 0.54; 95% Confidence interval = 0.39 – 0.77

Chi-squared statistic = 11.35; P-value <0.001

### Interpretation

There was a statistically significant difference in the prevalence of fatality on the inner track at Aqueduct compared to the national average on synthetic tracks (P-value < 0.001). The estimated relative risk of 0.54 indicates that the risk of a start on the national average of synthetic tracks ending in fatality was 0.54 times the risk of a start on the Aqueduct inner track ending in fatality. In other words the risk on the inner track at Aqueduct is approximately twice that of the national average on synthetic tracks. NOTE the 95% confidence intervals indicate the potential size of the relative risk. So although the point estimate is 0.54 the true relative risk is likely to be anywhere between 0.39 and 0.77.

**Are there significant differences in the prevalence of fatality at Aqueduct dirt or inner tracks (2011/2012 season) compared to the national average on dirt or synthetic tracks (2008-2011 seasons)?**

	No. of starts ending in fatality	No. of starts NOT ending in fatality	TOTAL no. of starts
NATIONAL AVERAGE DIRT (08-11)	1188	574,075	575,263
AQUEDUCT DIRT (11/12)	9	2,304	2,313
BOTH	1197	576,379	577,576

Chi-squared statistic = 2.88; P-value = 0.06 (Note this is very close to being statistically significant)

### Interpretation

Given the current data set there was no statistically significant difference in the prevalence of fatality on the dirt track at Aqueduct in the 2011/12 season compared to the national average on dirt tracks between 2008 and 2011 (P-value = 0.06).

	No. of starts ending in fatality	No. of starts NOT ending in fatality	TOTAL no. of starts
NATIONAL AVERAGE DIRT (08-11)	1,188	574,075	575,263
AQUEDUCT INNER TRACK (11/12)	20	5,309	5,329
BOTH	1,208	579,384	580,592

Relative Risk = 0.55; 95% Confidence interval = 0.33 – 0.86

Chi-squared statistic = 6.46; P-value = 0.01

Interpretation

There was a statistically significant difference in the prevalence of fatality on the inner track at Aqueduct in the 2011/12 season compared to the national average on dirt tracks between 2008 and 2011 (P-value < 0.001). The estimated relative risk of 0.55 indicates that the risk of a start on the national average of dirt tracks between 2008 and 2011 ending in fatality was 0.55 times the risk of a start on the Aqueduct inner track in the 2011/12 season ending in fatality. In other words the risk on the inner track at Aqueduct in the 2011/12 season was approximately twice that of the national average on dirt tracks between 2008 and 2011. NOTE the 95% confidence intervals indicate the potential size of the relative risk. So although the point estimate is 0.55 the true relative risk is likely to be anywhere between 0.35 and 0.86.

	No. of starts ending in fatality	No. of starts NOT ending in fatality	TOTAL no. of starts
NATIONAL AVERAGE SYNTHETIC (08-11)	196	153,025	153,221
AQUEDUCT DIRT (11/12)	9	2,304	2,313
BOTH	205	155,329	155,534

Relative Risk = 0.33; 95% Confidence interval = 0.17 – 0.64

Chi-squared statistic = 9.91; P-value = 0.003 (Fisher Exact)

Interpretation

There was a statistically significant difference in the prevalence of fatality on the dirt track at Aqueduct in the 2011/12 season compared to the national average on synthetic tracks between 2008 and 2011 (P-value = 0.003). The estimated relative risk of 0.33 indicates that the risk of a start on the national average of synthetic tracks between 2008 and 2011 ending in fatality was 0.33 times the risk of a start on the Aqueduct dirt track in the 2011/12 season ending in fatality. In other words the risk on the dirt track at Aqueduct in the 2011/12 season was approximately three times that of the national average on synthetic tracks between 2008 and 2011. NOTE the 95% confidence intervals indicate the potential size of the relative risk. So although the point estimate is 0.33 the true relative risk is likely to be anywhere between 0.17 and 0.64.

	No. of starts ending in fatality	No. of starts NOT ending in fatality	TOTAL no. of starts
NATIONAL AVERAGE SYNTHETIC (08-11)	196	153,025	153,221
AQUEDUCT INNER TRACK (11/12)	20	5,309	5,329
BOTH	216	158,334	158,550

Relative Risk = 0.34; 95% Confidence interval = 0.22 – 0.54

Chi-squared statistic = 21.38; P-value < 0.001

#### Interpretation

There was a statistically significant difference in the prevalence of fatality on the inner track at Aqueduct in the 2011/12 season compared to the national average on synthetic tracks between 2008 and 2011 (P-value < 0.001). The estimated relative risk of 0.34 indicates that the risk of a start on the national average of synthetic tracks between 2008 and 2011 ending in fatality was 0.34 times the risk of a start on the Aqueduct inner track in the 2011/12 season ending in fatality. In other words the risk on the inner track at Aqueduct in the 2011/12 season was approximately three times that of the national average on synthetic tracks between 2008 and 2011. NOTE the 95% confidence intervals indicate the potential size of the relative risk. So although the point estimate is 0.34 the true relative risk is likely to be anywhere between 0.22 and 0.54.

## Exhibit B

### Review of Aqueduct Track Maintenance



### Biologically Applied Engineering

**Racing Surfaces Testing Laboratory 61 Bennoch Rd. Orono Maine  
04473 USA *May 16, 2012***

*New York Horse Racing Governor's Task Force Re: Review of maintenance at  
Aqueduct Racetrack January 1, 2012 to April 15, 2012*

The following is a review of the track maintenance at New York Racing Association (NYRA) Aqueduct Racetrack. The purpose of the review is to compare the current processes and procedures to best practices in the industry. It is not possible to determine if there is a causal relationship between racetrack maintenance or the maintenance response to weather and the racing related horse injuries in the first quarter of 2012. The number of variables is too large, the data set is too incomplete and the incidence of injury too low to provide the needed correlates and the statistical power needed for anything to be concluded for a single race meet. Future work should focus on ensuring that complete data are available in electronic form for more complete analysis. This data can then be evaluated in light of a larger study to understand risk factors which may exist in a single race meet and more effectively identify best practices for the maintenance of racing and training surfaces.

While it is not possible to make a causal link between weather or maintenance and risk to the horse and rider, it is possible to determine if the maintenance of the surface changed during the period in question. In addition, if a pattern of maintenance which is outside of the norm in Thoroughbred horse racing exists it may indicate a need for justification for the approach. This report will focus on both understanding the current maintenance of the NYRA surfaces as well as proposing a path forward for improved record keeping and monitoring which will enable future inquiries to work from a better factual basis.

*Background:*

There is currently no systematic industry wide understanding of risk to horses which is related to racetrack surfaces, weather or racetrack maintenance. Some studies have suggested that certain maintenance related conditions, such as a sealed track, are related to risk, while others have come to different conclusions that have been associated with different climactic conditions and track designs. These studies are, without exception, limited to either a single racetrack or to racing and training surfaces in close geographic proximity and with similar climactic conditions. The studies typically represent only a short time period and do not control for the variation in track design that has evolved in response to climate and local material availability. Similarly, studies that have considered the effect of weather are only useful for the track design and the climate at the track under consideration. In most cases insufficient information is included to describe the design and composition of the track in order to facilitate meta-study of existing data. Any generalization of the results from the small studies runs the risk that cultural practices which have evolved in response to local materials and climate will be lost and the quality and consistency of the racing surface will be negatively impacted. Therefore recommendations for improved maintenance practices should be made with great caution and efforts should instead focus on consistency, response from trainers and documentation of current practice. Once the data on current practice are available it will be possible over time to identify practices which are both beneficial and detrimental to the consistency of the track. Because of the large number of confounding factors, drawing statistically defensible conclusions will require data to be collected from dozens of racetracks over multiple years. However, it is likely that simply documenting and tracking current practice will increase the operational consistency at participating tracks due to increased transparency and oversight. While the effort required is quite large, racing surfaces, along with pre-race veterinary examinations and medication rules, is one of the few risk factors that influence every horse running on a particular day at the track. Therefore, while at present any linkage of track surfaces to risk to the horse is not well defined, understanding the condition of the surface is an element of improving safety in horse racing.

The only scientifically defensible evaluation which can be made at this time regarding the Aqueduct surface is to compare the track to maintenance practices at tracks with similar designs. The need for improved safety makes it imperative that in the future more information must be available not only from Aqueduct but from all racetracks in the US. In this manner the effectiveness of culturally evolved track maintenance procedures can be understood and evaluated for not only the New York Racing Association tracks but for all racetracks. It is only with the availability of comprehensive and accessible data that future analyses can be performed in a responsible manner. Finally, an underlying assumption has been made in all of the work from the Racing Surfaces Testing Laboratory and from my research regarding racing surfaces. The underlying assumption is that consistency of a surface, temporally but even more important spatially, is the single highest priority for the surface. This assumption is based on extensive literature from human biomechanics and a modest amount of work in equine biomechanics which provides some idea of the ability of the horse to adapt,

with time, to a particular surface.

Changes in gait and even musculoskeletal adaptation may be possible given time and care. However, it is highly unlikely that a horse can adapt either over a short period of time or even between strides to a changing surface. This assumption, while only peripherally supported in the literature, should be noted to underlie the current evaluation.

### *Evaluation Factors*

This review was performed over a three-day period, April 13-15, 2012. The review included:

1. Age and condition of maintenance equipment
2. Existence of consistent maintenance methods
3. Review of internal and external material composition testing
4. Measurement of the racing surface – cushion depth and moisture
5. Documentation of the maintenance procedures performed during the period in question
6. Ability to demonstrate a consistent approach to changes in response to weather events.

Each of these areas will be discussed below, followed by a series of recommendations for future work.

### *Equipment Availability and Condition*

Attached to this report is a summary of the current equipment used for maintenance at Aqueduct Racetrack. The equipment is of somewhat mixed age and condition but demonstrates the strong commitment to replacement of aging infrastructure which has occurred over the last two to three years. The most important equipment for the maintenance of a dirt thoroughbred racetrack is the water truck. The water trucks used on the Aqueduct racing surface are state-of-the-art using separate pony motors to drive a pump on the long watering arm (shown in appendix). A key factor in inconsistency and probably the most important source of variability on North American dirt racing surfaces is the use of power take off (PTO) pumps and a fan spray system for watering of racing surfaces. At the NYRA tracks, the PTO trucks are only used on horse paths and areas outside of the racing and training surfaces. The large capacity of the long arm trucks make them superior to all but a few of the trucks in use around the country. Because the NYRA racing surfaces are large and tend to be fast draining, the tracks are particularly well suited to use of large capacity water trucks. Standard road chassis and

unspaced dual wheels are used on the trucks. The use of unspaced dual wheels is standard practice in North America and is acceptable as long as the trucks are, to the extent possible, kept off of the racing surface. In this case, the dual wheel water tucks only pass over the racing surface when races are run out of the chute. For races out of the chute the horses cross over the surface which is compacted by the dual wheel axles.

The quantity of other equipment available for maintenance, including floats and harrows, is reasonable. The design of the floats in particular is good with different weight floats (note double plate floats shown in appendix) and the ability to back rake the track in order to ease the transition from a sealed to an open track. The harrow design and other characteristics of the track's maintenance equipment are consistent with the design of the NYRA tracks. A sufficient number of tractors of recent vintage are also available to haul the equipment. Currently, the choice and use of equipment for maintenance is a cultural adaptation to local materials and climate. Thus, while it is not possible to say that the type of harrow in use is optimal for the application, it is clear that the choice of harrow is reasonable for the track design. Finally, as with all racetracks, continuing maintenance of the equipment is an ongoing issue. The equipment at Aqueduct and Belmont was in good condition at the time of the visit, with harrows consistently adjusted. In particular, a system is in place for adjusting the harrows for tooth wear and all critical equipment, including harrows and graders, are in good operational condition with backup equipment available for most of the equipment in case problems arise.

### *Maintenance Methods*

One of the key elements of track maintenance is to develop maintenance procedures which are followed on a consistent basis with a coordinated adaptation made by the crew to respond as needed for weather. With an operation the size of NYRA and multiple racing surfaces at three locations, coordination and consistency is also a priority. The model used at NYRA is the use of a team to oversee the operation with tasks delegated as required to trusted people at each of the tracks. For example, while Glen Kozak leads the team, Jerry Porcelli, the former track superintendent, can oversee track work on the racing surface at Aqueduct when Glen is at Belmont for training track related issues. Staffing is adequate for the required work although a lack of breadth of skills and restrictive work rules in the work force makes operational planning difficult. Glen was responsive during my visit to communications from horsemen and employees regarding both the track and backside maintenance issues. The response to questions was done in person or over a Blackberry and was consistent and fair. The large amount of deferred maintenance makes this aspect of managing the tracks a significant challenge which will continue for some time to come. However, the management of NYRA's surfaces, in particular with Glen Kozak's leadership, is a model for the industry. I am not aware of any other person with the same operational and budget oversight of tracks equivalent to Kozak's position at NYRA. Other racetrack management entities with responsibility for multiple surfaces should emulate the combination of



management, operational and logistical coordination that NYRA is able to develop with Kozak's leadership. Currently, the potential of the position is not fully realized which is both a legacy of recent resource limitations and the need to overcome restrictive work rules. However the management of the position with both maintenance and innovation based on electronic record keeping is likely to be the most important trend in the industry and with significant potential to improve the safety of the racing surfaces. While NYRA is currently functioning at the state of the art for North American horse racing, this level of safety consciousness is inadequate for the safety of the horse and the rider. The management structure of the racing surfaces organization makes NYRA better able to realize this potential than any other entity in horse racing.

### *Track Composition and Measurement Methods*

New York Racing, under the leadership of Joe King, set the standard for track composition testing more than four decades ago. The continuing use of standard composition measurements has helped NYRA to maintain their surfaces. Basic composition testing (sieve and hydrometer) is done on a regular basis on site by a NYRA employee (shown in appendix). In addition, NYRA is one of the founding supporters of the Racing Surfaces Testing Laboratory, an industry-supported 501c3 non-profit that develops new composition testing methods. More extensive testing has been done on all of the NYRA surfaces using the more complete analysis done by the Racing Surfaces Laboratory. NYRA has performed limited testing with the Racing Surfaces Testing Laboratory, focusing, instead, on benchmarking existing methods against both their internal lab and local commercial testing laboratories (see appendix). At the same time NYRA has gradually begun to implement a testing program which focuses on the more advanced testing. This approach is rare in racing and demonstrates that NYRA recognizes that the "art" of maintenance serves as a stop gap as we begin to more fully understand the science of racing surface materials. The total amount of data available for the NYRA surfaces is extensive and is currently maintained as paper files. The track is monitored based on historical targets for clay, silt and sand as measured by sieve and hydrometer. This will be supplemented by more complete testing as NYRA is part of the development and comparison for newer test methods such as triaxial shear strength and x-ray diffraction for sand and clay mineralogy.

Based on test results from NYRA testing, commercial laboratory testing and Racing Surfaces Testing Laboratory tests, the Aqueduct surface is typical of a fast draining track used in high rainfall regions. The most recent Aqueduct Inner track results show 88% sand with 88.4% by weight of quartz and includes only small quantities of clay of the non-expanding type (detailed in appendix). The composition is such that large amounts of water would be expected to be required to hold the track together, but the track would also recover quickly from large amounts of natural precipitation. Overall, the track is of a composition and design which would be expected in an area with significant natural rainfall.

### *Track Cushion and Moisture*

Historically a great deal of emphasis has been directed toward the composition of a track. This focus has occurred at least in part because of the ability to obtain quantitative sieve and hydrometer data under controlled lab conditions. However, while composition can be important, it is significantly less important in daily operation than cushion depth and moisture content. Cushion depth and moisture content can have very significant variation spatially, with changes occurring over a relatively short time period. Typical variation in composition will result in changes on the order of 5%-10% of the shear strength and occur over a period of at least a month or more. Based on data from Aqueduct, variation in composition would have an even smaller effect, on the order of less than 2% of the shear strength. In contrast, a change of 20-30% in the shear strength can occur in a single day as a result of excess or insufficient water. The areas of change can be localized due to gaps or overlap with the water truck or drainage problems in an area of the track. Rainfall can help maintain the consistency of the track but, depending on the drainage system, significant inconsistencies can also occur during periods of heavy rainfall.

Similarly, on a shallow sand track like the inner Aqueduct track, areas with inconsistent grading can have an effect comparable to moisture on the peak load on the leg. The shallow areas of the track commonly develop where the harrows have been brought onto the track and started at the same location for a number of racing days. While careful monitoring of maintenance practices can reduce this effect, only with regular use of a grader, along with measurement of the track depth, can shallow areas be avoided.

The equipment used for watering of the track is state of the art, as noted above. A tow behind grader is used in the racing lanes as shown in the appendix. While this is an out of date piece of equipment that is used as a result of work rules, the results are good due to the experience of the operator. Most importantly and very unusual is the practice at NYRA tracks of plotting the cushion depth. Cushion depth is measured manually and plotted and posted for the public. This exceeds the level of transparency and accountability of other racetracks in North America and defines best practices for horse racing. The labor intensive measurement method used results only in paper records so that analysis of the effectiveness of the measurement and grading is not practical. However, the culture of data demonstrated by the New York Racing Association is exceptional and at this point, only modern record keeping is needed in order to set a new standard for best practices in racing.

Currently, single point moisture content measurements are also made. The most accurate possible method, oven drying of the sample (thermogravimetric methods), is used, which is consistent with ASTM standard test methods. This data are again maintained as a paper record. Because the data are taken for very few samples, it addresses temporal variation in moisture content. While temporal variation is very important, this measurement should also be complemented with a measurement of spatial variation in moisture content. Although the variability of moisture content is

critical, currently very few racetracks (one example being the Jockey Club Brasileiro) monitor the moisture variation around the track. As with the cushion depth, the moisture content data currently monitored from the NYRA racing surfaces exceeds common practice for nearly all other US racetracks. However, the absence of electronic records also limits the ability to use this data effectively. Cushion depth and moisture data when documented on a sufficient scale, will form the core of statistically significant research and provide a basis for a safety implementation program which has the greatest potential to reduce the impact of surfaces on safety of horses and riders. The commitment of NYRA to making decisions based on data is truly exceptional and represents an opportunity for NYRA to take a position as the industry leader in monitoring the consistency of racing surfaces.

### *Ability to Demonstrate Response to Weather Events*

The most important factor in the consistency of the racing surface is the ability of the maintenance team to adapt to weather events. With the proper tools in place: harrows, floats and water trucks, normal precipitation or drought can be accommodated with what is generally considered to be an acceptable result. However, the use of the equipment, timing and set up is critical to successfully accommodating the weather. Risk to the horse is more likely to occur during periods of transition, so rather than a dry spell representing a unique risk, the ending of a period of heavy rainfall without a proper response with watering equipment is likely to be higher risk. From discussion with the maintenance team and leadership it is clear that the approach is thoroughly understood and that the maintenance personnel are both competent and professional. No records of the response and the timing of the use of tools like the back rake on the float and the transition from float to harrow can be made without either extensive records or separate observation. While weather data is currently available for real time decision making, sufficient data is not recorded in a readily available electronic form for analysis. In addition, the current weather station does not include all of the sensors needed for a complete analysis of the evaporation rate for the surface. However, the fact that much of the data are already available from an on-site weather station suggests that only modest improvements in data storage and sensing is needed for this analysis to be performed as a part of an ongoing effort with the NYRA tracks. All factors indicate that the NYRA practices are at or above the industry standards in the recording of all data. As with other data issues discussed above, no specific observations can be made based on the paper records available because of the short time period under consideration, the absence of electronic records and the incomplete nature of the data set. However, while the implementation is incomplete, the recognition of the need to document and measure the surface and weather leads the industry. The current level of openness and the existing data gathering process at NYRA leads industry practice. Future efforts to link epidemiological data to track data will make it possible to link risk of injury to weather and maintenance data.

### *Conclusions*

Throughout the review of NYRA's track maintenance operation, a consistent theme arises; NYRA is currently performing at or above industry standards. The absence of electronic records does not alter the evaluation of the current maintenance practices as meeting the most demanding standards of the industry. However, there is a need for increased accountability and an understanding of what can be done to make horse racing safer for both the equine and human athletes. Therefore NYRA needs to move forward with a modern record keeping system which can be used to set a new standard of practice in horse racing. Current data needs to be supplemented and expanded so that future studies can include the other factors which control track consistency and are thus most likely to influence the safety of the track. Therefore the following steps need to be taken by New York Racing Association:

- . 1) All current data must be stored in a readily available relational database so that the data can be retrieved selectively for any time period and for any data fields of interest
- . 2) Weather data should include all sensors associated with evaporation from the surface including solar, wind speed, wind direction, wind gusts, temperature and humidity.
- . 3) No currently existing model of evaporation from a harrowed surface is comparable to models of evaporation from turf of food crops is available and should be developed to support the decision making at the racetrack .
- . 4) Complete maintenance data should be taken for the amount of water added to the racing surface.
- . 5) Depth, speed and usage of harrows, floats and rollers should be documented. This can be integrated into tractor data acquisition systems or operated independently.
- . 6) Current temporal moisture content and composition data should be stored in a manner that facilitates comparison over time.
- . 7) Complete composition data should be sampled at predefined intervals based on understanding of the temporal changes in the composition of the track.
- . 8) Spatial variation of cushion depth, which is currently measured on a regular basis, should be stored in a readily available electronic form.
- . 9) Spatial variability of moisture content on the track should be measured on a regular basis in order to facilitate understanding of the key factor in track variability. Key locations can be identified which will form the basis of future decision making regarding water addition.
- . 10) Ultimately, to demonstrate the ability to use data from the weather conditions and composition to implement proper maintenance, including watering, to be used to create a more consistent racing surface.

No racing organization in the United States is better placed to implement process control for track maintenance than NYRA. This type of process control began to be common in manufacturing more than two decades ago. The culture of data and openness already exists at NYRA. What is currently lacking is the tracking and evaluation of the data which will be required in order to improve the decision making process. This approach will make continuous improvements to the racing surfaces possible. As these efforts are implemented, it will be critical to pay attention to the quality of the data acquired. However, simply measuring these surface parameters on a daily basis will constitute a key step toward creating a surface which will make the greatest contribution to improved consistency, and potentially safety, of the surface.

This is a promising outcome for the surface evaluation. While this evaluation is by necessity inconclusive, the NYRA surfaces are maintained in a manner that is both responsible and progressive. With the implementation of the proposed monitoring efforts the long-term potential exists to truly realize a surface which is engineered and maintained for safety.

Sincerely,

Michael "Mick" Peterson, Ph.D. Biologically Applied Engineering, LLC & Libra  
Foundation Professor Mechanical Engineering University of Maine Orono Maine

A handwritten signature in black ink, appearing to read "Mick Peterson", with a long horizontal flourish extending to the right.

MLPeterson 5/16/12

## Exhibit C:

### 2009 NTRA Safety & Integrity Alliance Accreditation Report



#### NTRA Safety & Integrity Alliance Accreditation Report

Date: November 23, 2009

Track Name: Aqueduct

Inspection Dates: November 11-12, 2009

Inspection Team: Dr. Ron Jensen  
Richard Lewis  
Michael Ziegler

#### 1. Injury Reporting and Prevention

- A. Reporting of Injuries and Fatalities – **More than Satisfactory** – Aqueduct has participated in the Equine Injury Database, consistent with the other NYRA tracks, since January, 2007. They also keep track of injuries as a function of the NYRA Annual Report, which keeps track of injuries at all NYRA tracks. At this point in time, only catastrophic injuries taking place outside of the race day are recorded.
  
- B. Pre-Race Veterinary Examinations – **Best Practice** – All horses entered to race are subjected to pre-race veterinary examinations. NYRA requires all horses racing at Aqueduct to report to a security barn 4 ½ hours prior to racing. The pre-race exams are conducted at the security barn. Front bandages, if present, are removed, the forelegs are palpated and flexed, and the horse is jogged in hand. The presence of bar shoes and aluminum pads are reported by the examining veterinarian. NYRA veterinarians also observe the horses in the paddock, during the post parade, and at the starting gate. Continuing records of these exams are entered into the InCompass pre-race exam module. The examining veterinarians make hand

written notes which are later entered into the InCompass system. It appears that they are no longer entering the pre race findings into their NYRA database as they were previously doing. Protocols utilized for pre-race veterinary exams as well as protocols for pre-race vet scratches were included with the accreditation application.

- C. Post-Race Veterinary Examinations – **More than Satisfactory** - Horses are observed while they are pulling up after the race and as they return to be unsaddled by the NYRA veterinarian stationed at the paddock. At Aqueduct, the horses return to the paddock to be unsaddled. If a horse returns lame or does not finish and does not have observable equipment problems, the horse is placed on the vet's list. If the soundness of a horse pulling up is questionable, the horse is re-examined the following day or the Veterinarian in Charge will contact trainer's practicing veterinarian concerning the horse's soundness. The Veterinarian in charge said that he always verbally notifies the trainer of the horse being placed on the vets list. Protocols for post-race observations were included in the application. Also included were protocols for following up on injured horses.
- D. Post-Mortem Veterinary Examinations – **Satisfactory** – Post mortem examinations at Aqueduct are limited by New York City law. This law prohibits post mortem exams of large animals to be conducted within the New York City limits. Therefore, horses that require a full post mortem are transported to Belmont where the post mortem exam takes place. A limited post mortem is done on the limb involved by dissection of the area involved if the nature of the injury is not a compound fracture or otherwise not apparent grossly. A death certificate is completed by the veterinarian in charge for every horse that dies at Aqueduct. Blood samples are collected from horses that are injured while racing and are removed in the horse ambulance or that sustain catastrophic racing injuries for drug testing. The samples are collected prior to euthanizing the horse if it is possible. Information concerning the injury is entered in the EID and the NYRA Horse Injury Database and some of this information is used in end-of-meet and end-of-year reports. Protocols for post mortem veterinary exams and a copy of the death certificate were provided with the application. A dead horse can be sent to the veterinary

school at Cornell University for post mortem examination by a veterinary pathologist. This action must be approved by the state, which I assume meant the NYSRWB. It does not appear that there is a standing procedure in place to quickly facilitate the transportation of a dead horse to Cornell.

- E. Veterinarians' List – **Satisfactory** – A Veterinarians' List is maintained by the NYRA veterinarians. Horses on the list are those determined to be lame or unsound, horses that bleed from the nostrils, and those that do not finish, unless an obvious equipment problem is noted. Also included are horses that are removed from the track in the horse ambulance. Horses on the veterinarians' list are not allowed to race until they are removed from the list by the NYRA veterinarians. The Aqueduct vet's list is entered into the InCompass system but is not available to other jurisdictions through InCompass. Their list is shared with other jurisdictions if the request to share comes from the veterinarian in charge of that jurisdiction. Blood samples are collected from horses working to be removed from the vet's list and submitted to the official laboratory. However, horses that work satisfactorily may be removed prior to receiving the results because of the sometimes long turn-around time in getting the results from the lab. Protocols for placing horses on and removing horses from the list were provided with the application.

During our inspection visit, the racing secretary told a member of our inspection team that when a horse is flagged by the InCompass system as being on the vet's list of another jurisdiction, that information is ignored. During a follow up phone conversation with the veterinarian in charge at Aqueduct it was learned that he is not notified of this practice and is not involved in the decision to ignore the vet's list of other jurisdictions.

## 2. Safety Equipment and Safer Racing Environment

- A. Shoes and Hoof Care – **More than Satisfactory** – A maximum 4 mm toe grab rule is in effect. The rule is in Condition Book and a board is posted in Racing Office with samples of shoes which can be worn. Horses are inspected at the Detention Barn well in advance of the race thus allowing time to make adjustments if needed. There is also a Shoer located in the Paddock for late repairs.



B. Riding Crop – **Satisfactory** – ARCI Model Rule 010-035(A)(1)(a-b), crop specification, has been adhered to since the start of the Aqueduct race meet. A press release announcing the use of the “padded” crop is part of the application. The Stewards indicated the guidelines for “Use” of the whip has been adopted and is enforced but there was nothing posted in the Jockey’s Room.

C. Safety Helmet and Safety Vest

1. Helmet – **More than Satisfactory** – There is a helmet rule adopted and enforced at Aqueduct. Through visual inspection, it was clear that the rule is being abided by, as no riders on the racetrack were observed without helmets. Further, at the ingress gap to the racetrack, there was signage clearly stating the helmet rule and gap attendants are present to make sure nobody enters the track without a helmet.

2. Vest – **More than Satisfactory** - There is a safety vest rule adopted and enforced at Aqueduct. Through visual inspection, it was clear that the rule is being abided by, as no riders on the racetrack were observed without vests. All assistant starters were also visually confirmed to be wearing vests. Further, at the ingress gap to the racetrack, there was signage clearly stating the safety vest rule and gap attendants are present to make sure nobody enters the track without a vest.

D. Safety Equipment

1. Padded Starting Gate – **Satisfactory** – The starting gates at Aqueduct are padded, albeit minimally. An upgrade of the padding to a product similar to Best Pad would help upgrade the track to a grade of More than Satisfactory or Best Practice.

2. Equine Ambulance – **More than Satisfactory** – Through interviews with the Aqueduct horsemen, it was evoked that the horse ambulance crew at Aqueduct is the “best” on the NYRA circuit, as they are a consistent crew year-round. Two equine ambulances are on site and manned during the races. One is positioned at the quarter pole and the second is located at a gap where the first turn meets the backside, 7/8 pole. Both are fully equipped with standard medical triage equipment for horses. During morning training one Equine Ambulance is manned and it is positioned at the 5/8 pole next to the

Human Ambulance. The ambulances are in radio contact during racing with the Stewards, Outriders and Vets. While the track is open for training the Outriders and Ambulance have radio communications.

- E. Safety Research – **Best Practice** – Glen Kozak, track man, is on the board of directors of the Racing Surfaces Testing Lab and participates regularly with Mick Peterson in measuring and sharing of track surface data. Further, Aqueduct (NYRA) helps fund independent research at RMTTC, Grayson, Zweick and Cornell.
- F. Safety Training and Continuing Education – **More than Satisfactory** – A program called Groom Development is the main basis for educating and training grooms to recognize problems with their horses. The curriculum for this program was included in the application for accreditation. Further, the track man, Glen Kozak, has participated in NTRA Track Superintendent seminars; the starter has participated and shared best practices with other head starters around the country. Finally, apprentice jockeys are required to learn what to do in case of emergency through a formal training process. Also, driver training classes are required for ambulance drivers, NYRA employees.
- G. Catastrophic Injury Planning and Procedures – **More than Satisfactory** – As stated above in section 2. D. 2, Equine Ambulance, the Aqueduct crew has the best reputation among the NYRA tracks. Ambulances were well positioned, had a dedicated staff and contain all necessary equipment. Two equine ambulances are on site and manned during the races. One is positioned at the quarter pole and the second is located at a gap where the first turn meets the backside, 7/8 pole. Both are fully equipped with standard medical triage equipment for horses. During morning training one Equine Ambulance is manned and it is positioned at the 5/8 pole next to the Human Ambulance. The ambulances are in radio contact during racing with the Stewards, Outriders and Vets. While the track is open for training the Outriders and Ambulance have radio communications.

The track has a communications plan in place to release information to the public and media.

### 3. Medication and Testing

A. Uniform Medication Rules and Penalties – **Satisfactory** – The NYSW&RB has not formally adopted the ARCI model medication rule. However the stewards at Aqueduct use the ARCI Drug Classification Guidelines and the ARCI Uniform Penalty Guidelines when ruling on drug and medication violations. The treatment records of practicing veterinarians are not required to be turned in to regulators on a daily basis. Rather, they are required to provide their records when requested by an official of the board. RMTTC has indicated that the guidelines used in New York are consistent with the Model Rules and Penalties.

B. Alkalinizing Substances – **Less than Satisfactory** - Currently at Aqueduct, only Graded Stakes Races are being subjected to TCO<sub>2</sub> testing because of a lack of NYRA veterinarians at Aqueduct. Two NYRA veterinarians are apparently absent due to injuries. Supposedly, at the beginning of the week of November 15 a newly hired veterinarian would be available and then two randomly selected races each day would be subjected to TCO<sub>2</sub> testing. Blood samples for TCO<sub>2</sub> testing are collected by a NYRA veterinarian while the horses are in the security barn. Protocol for the TCO<sub>2</sub> testing as well as the notice concerning TCO<sub>2</sub> testing contained in the condition book was provided with the application. NYRA has a provision to quarantine a horse whose connections feel has a normally high TCO<sub>2</sub> level. It should be noted that the NYSR&WB has two regulatory levels for TCO<sub>2</sub>; 37 millimoles /liter for non furosemide treated horses and 39 millimoles/liter for furosemide treated horses. However, because all samples are being collected in the security barn before furosemide is administered all horses tested are non furosemide horses. No mention is made concerning split samples for TCO<sub>2</sub> testing.

C. Exogenous Steroids – **More than Satisfactory** – Anabolic steroid testing at Aqueduct is done as suggested by the ARCI Model Rules. A copy of the rule in effect at Aqueduct was included.

D. Shock Wave Therapy – **Best Practice** – The use of shock wave therapy at Aqueduct appears to be regulated by rules on the order of the stewards and is based on ARCI Model Rules. An additional rule regarding shock wave therapy has been added. Horses now can only receive shock wave treatments on Monday, Wednesday, and Friday and must be observed by a security officer. The regulations are listed in the condition book, a copy of which as well as a copy of the form for practicing veterinarians who use shock wave therapy in their practice were included with the application.

E. Out-of-Competition Testing – **Satisfactory** – A regulation allowing the NYSG&WB to conduct out-of-competition testing is in the rule making phase. NYRA has formally advocated its support of this regulation, satisfying the standard.

F. Frozen Sample Testing – **Satisfactory** – Frozen samples are kept and stored at the New York Lab at Cornell.

H. Security Assessment and Training

1. Independent Assessment – **Satisfactory** – The TRPB conducted an independent security assessment at Aqueduct on November 18 and 19.
2. Security Plan – **Best Practice** – The security plan in place, provided and visually observed was very professional. Secure areas are extremely well kept. There was a substantive presence of uniformed officers throughout the barn area and within the secure areas of the detention barn and the testing facility.
3. Security Training – **Best Practice** – A majority of NYRA security personnel and licensed peace officers and therefore have received an otherwise unprecedented amount of security training.
4. Random Inspection of Test Barn - NA

4. Safety and Health of Jockeys

A. Jockey Weights – **More than Satisfactory** – Jockeys are weighed out without safety equipment. The top four (top five in cases of Superfecta races) are weighed back in. The scale is digital and located in the paddock area. Like Belmont and Saratoga, the readings from the scales are recorded automatically however, unlike Belmont and Saratoga, the stewards do not have a scale reading in their stand.

B. Jockey Health Information – **Best Practice** – Aqueduct’s jockeys have their information inputted in the Jockey Health Information System. NYRA has instituted a “Jockey-advocate” program whereby a RN is on-call in order to meet injured riders at hospital to expedite admissions. This person is also the contact person between hospital staff, track and family.

C. Ambulance Support – **Best Practice** - Two (2) fully equipped ambulances are present during racing hours, one follows the field while the other is stationed at the quarter pole. The “chase” ambulance is additionally equipped with real-time live race video

allowing the driver and attendant full view of race. The drivers are NYRA trained employees while the medical support staff is ambulance company employees. The medical response staff members are trained paramedics and are considered EMTP, Emergency medical tech paramedics. Hospital is located about 2 miles from the track. The ambulances are approved to transport a jockey should require immediate transportation to the hospital is required. If an incident requires an ambulance to transport off ground there is a third ambulance on site and the on-site supervisor will man that ambulance. A medical doctor and nurse staff is also on site at the track.

5. Aftercare and Transition of Retired Racehorses – **More than Satisfactory** – NYRA has a relationship with the Thoroughbred Retirement Foundation and contributes substantially to their cause – a press release announcing this relationship was included in the application for accreditation. Further, there is a mechanism through the paymaster of purses where participants can contribute to the Ferdinand Fund and have deductions automatically withheld through their horsemen’s account. Advertisements promoting both of these funds were found in the condition book.

6. Adherence and Enforcement

A. Compliance Program – **Satisfactory** – The outline of a compliance program has been provided. As the outline is expanded to include more detail, this grade will improve.

## Exhibit D

### 2011 NTRA Safety & Integrity Alliance Accreditation Report



#### NTRA Safety & Integrity Alliance Accreditation Report

Date: December 14, 2011

Track Name: Aqueduct Racecourse

Application Received: November 3, 2011

Inspection: November 16-17, 2011

Inspection Team: Dr. Ron Jensen  
Mike Kilpack  
Richard Lewis  
Mike Ziegler

- I. Grading
  - 3. Injury Reporting and Prevention
    - G. Reporting of Injuries and Fatalities – **More than Satisfactory** – NYRA veterinarians enter racing injuries and fatalities into the Equine Injury Database (EID). In addition, these injuries are also entered in a database developed by NYRA veterinarians which predates the EID. Fatal training injuries are also recorded and a procedure for reporting non fatal training injuries is in place, however cooperation from trainers and practicing veterinarians is not very forthcoming. Information regarding all scratches is now entered in the EID.
    - H. Pre-Race Veterinary Examinations – **Best Practice** – All horses entered to race are subjected to pre-race veterinary examination. The pre-race exams are now conducted at the trainer’s barn. Front bandages, if present, are removed, the forelegs are palpated and flexed, and the horse is jogged in hand. The presence of bar shoes and aluminum pads are reported by the examining veterinarian. NYRA veterinarians

also observe the horses in the paddock, during the post parade, and at the starting gate. Continuing records of these exams are entered into both the InCompass pre-race exam module and into their own NYRA system. A printout on each individual horse is obtained through the InCompass system, the examining veterinarian notes their observations made during this day's exam on that printout, and those observations are later entered into the InCompass system. Protocols utilized for pre-race veterinary exams as well as protocols for pre-race vet scratches were included with the accreditation application.

- I. **Post-Race Veterinary Examinations – Best Practice** – Horses are observed while they are pulling up after the race and as they return to be unsaddled by the NYRA veterinarian stationed at the paddock. If a horse returns lame or does not finish and does not have observable equipment problems, the horse is placed on the vet's list. If the soundness of a horse pulling up is questionable, the horse is re-examined the following day or the Veterinarian in Charge will contact trainer's practicing veterinarian concerning the horse's soundness. The Veterinarian in charge said that he always verbally notifies the trainer of the horse being placed on the vets list. Protocols for post-race observations were included in the application. Also included were protocols for following up on injured horses.
  
- J. **Post-Mortem Veterinary Examinations – More than Satisfactory** – All horses that suffer catastrophic injuries during racing or training are subjected to a post mortem examination of the limb involved. Horses must be moved from Aqueduct to Belmont Park prior to examination due to a regulation in the City of New York which prohibits animal autopsy within city limits. A death certificate is completed by the veterinarian in charge for every horse that dies at Aqueduct. Blood samples are collected from horses that sustain catastrophic racing injuries for drug testing. The samples are collected prior to euthanizing the horse if it is possible. Information concerning the injury is entered in the EID and the NYRA Horse Injury Database and some of this information is used in end-of-meet and end-of-year reports. Protocols for post mortem veterinary exams and a copy of the death certificate were provided with the original application. A horse can be sent to the veterinary school at Morrisville University for post mortem examination by a veterinary pathologist. This action must be approved by the NYSRWB. It does not appear that there is a standing procedure in place to

quickly facilitate the transportation of a dead horse to Morrisville.

The NYSR&WB has the authority to send any horse to the Morrisville Veterinary Diagnostic Lab and has an agreement with Morrisville to do a thorough post mortem examination.

- K. Veterinarians' List – **More than Satisfactory** – A Veterinarians' List is maintained by the NYRA veterinarians. Horses on the list are those determined to be lame or unsound, horses that bleed from the nostrils, and those that do not finish, unless an obvious equipment problem is noted. Also included are horses that are removed from the track in the horse ambulance. Horses on the veterinarians' list are not allowed to race until they are removed from the list by the NYRA veterinarians. The Aqueduct vet's list is entered into the InCompass system and is shared with other jurisdictions through InCompass. Blood samples are collected from horses working to be removed from the vet's list and submitted to the official laboratory for testing and are not allowed to enter until a negative concerning the sample is received. Protocols for placing horses on and removing horses from the list were provided with the original application.

#### 4. Safety Equipment and Safer Racing Environment

- I. Shoes and Hoof Care – **More than Satisfactory** – 4mm rule is in place and printed in the Condition Book. The shoe inspector is located in the paddock. If an unapproved shoe is found, the horse will be automatically scratched (there is not an option to have the shoe changed). Typically, there is no penalty meted in such a situation.
- J. Riding Crop – **Best Practice** – – All riders use the “cushion” crop. The NYSRWB adopted the RMTC Model Rule in October of 2010. The Assistant Clerk of Scales observes riders as they leave room to ensure they have a proper crop. And there is a supply of extra approved riding crops in the Jocks Room in case an out-of-town jockey doesn't bring an approved crop with them.
- K. Safety Helmet and Safety Vest – **Satisfactory** – Although the NYSRWB rule on safety helmets/vests does not cover trainers and it doesn't require the helmets to conform to a certain testing standard, Aqueduct has adopted a house rule that



rectifies this situation. We noted no instances of people mounted on horseback not conforming to these rules.

L. Safety Equipment

3. Padded Starting Gate – **More than Satisfactory** – All Aqueduct’s gates, both training and racing, have sufficient padding to exceed minimum standards.
  
4. Equine Ambulance – **Best Practice** – Two state of the art equine ambulances (Kimsey Equine Ambulances) are available during racing and training. The primary ambulance is positioned at the gap at the top of the stretch and the other one is positioned midway on the back stretch. During big race days three ambulances are available. When the race in on the turf, the ambulances are positioned near the gaps to the turf course to provide a quicker response should an injury occur. The ambulances are manned at all times and contain euthanasia solution, medications, syringes, needles, splints and supplies needed to attend to an injured horse. A copy of the ambulance manufacturer’s specifications and a list of the medical equipment contained in the ambulances were provided in the original application.

M. Substance Abuse and Addiction – **Best Practice** – Drug testing policy is in place for assistant starters. A program called BEST, Backstretch Employee Service Team, is excellent. This program offers health and social services, including substance counseling, health benefits, on-site clinic and recreational activities. Stewards first reaction to a report of a substance problem is to recommend treatment through the BEST counselors, which is staffed by Licensed Social Workers.

N. Safety Research – **Best Practice** – NYRA continues to contribute to and actively participate in the Racing Surfaces Testing Lab as well as work with an in-house soil testing lab.

Also, NYRA contributes to Grayson, RMTTC, and participates in the Welfare and Safety Summit.

O. Safety Training and Continuing Education – **Best Practice** – Stewards are ROAP certified. Assistant starters have gone through the training program developed by former NYRA starter Bob Duncan. Security supervisors attend a training seminar. Director of Racing Surfaces is involved with Jockey

Club Welfare and Safety Summit and participates in NTRA Field Day. The Head Starter attends seminars and has worked with InCompass to share best practices concerning starter module. Apprentice riders attend a mandatory orientation on emergency procedures. Representatives of NYRA attended and participated in NTRA Professional Education Seminar in October, 2010.

- P. Uniform National Trainers Test – **Satisfactory** – The State Steward has received the new test. NYRA should encourage its adoption as a guide for future trainer’s tests.
- Q. Catastrophic Injury Planning and Procedures – **Best Practice** – Aqueduct is well prepared to handle catastrophic injuries. As mentioned above, two or three state of the art, properly manned and equipped ambulances are available during the races and two are available during training. The NYRA veterinarians are experienced and very capable to handle all injuries whether the injury is catastrophic or more routine. The gate veterinarian follows the race in the chase vehicle and arrives quickly to attend an injured horse. The paddock veterinarian responds to injuries occurring in the stretch as well as the veterinarian in the chase vehicle. Starting gate personnel assist in handling the horse. A protocol for dealing with racing catastrophic injuries was included with the accreditation application. Practicing veterinarians are always present during racing and training.
- R. Infectious Disease Management – **More than Satisfactory** – A good plan for dealing with an outbreak of an infectious disease is in place at Aqueduct. If a horse is diagnosed with or suspected of being infected with a reportable of communicable disease, the entire barn where that horse is stabled is quarantined and horses from that barn are not allowed to train until all other horses have finished training. Aqueduct has designated one half of as a quarantine barn to be used if an infectious disease is suspected or diagnosed. Protocols for dealing with an infectious disease are provided in the application.
- S. Fire Safety Planning and Procedures – **Best Practice** – All of the existing barns have an air charged fire suppression system. The individual barns and stalls have heat sensors that when activated by a heat source, the water pipes displace air which is then followed by a water source generated by the assigned pump houses for each barn. This system is in place due to the

weather (freezing) conditions at Aqueduct race course. Once the fire has been suppressed, the individual water lines via the pump houses are discharged of the existing water and the track plumbers are responsible to drain all the water lines and replace them with pressurized air. All of the control valves in the pump houses are monitored 9 times a day by security personnel.

All of the barns have fire pull stations that are routed to both the fire control panel inside the main security office and the Fire Department. Fire hydrants are accessible and visible. Several of the barns had dry fire extinguishers.

During live racing, there is one fire engine with 1 engineer and 3 firefighters located on the front side of the race course. All of the 16 fire marshals that are assigned to the front side are either retired or off duty fire fighters.

- T. Paddock Safety Protocols and Procedures – **Best Practice** – Aqueduct has a guard at each paddock entrance. At times the entrance standards seemed a bit loose, but overall paddock security and safety was fine. In addition, an EMT is present at all times when riders are in the paddock.
- U. Safety Committee – **Satisfactory** – Plans to conduct regular safety meetings with necessary personnel have been provided.
- V. Veterinary Care – **Satisfactory** – We were told that practicing veterinarians are always available to deal with injuries to horses whenever horses are training or racing.

### 3. Medication and Testing

- A. Uniform Medication Rules and Penalties – **More than Satisfactory** – It is unclear if the ARCI Model rules have been adopted by the NYSR&WB. The rules provided list times at which medications are allowed to be administered – although, it has been communicated that the withdrawal times correspond with the Model Rules.

It does appear that ARCI Penalty guidelines have been adopted and have been told by the state steward that they use the ARCI Uniform Penalty Guidelines when ruling on drug and medication violations.

All furosemide administrations are done by NYRA veterinarians while horses are in their home stalls. The furosemide regulations

in place are based on the ARCI Model Rule. However, it is not clear if the laboratory measures urine specific gravity and then quantifies furosemide levels in the corresponding blood sample.

Specific levels for phenylbutazone, flunixin, and ketoprofen are not mentioned in the NSW&RB board rules provided. However, the state steward told me during our initial inspection visit that the stewards use the ARCI Model Rules when the lab reports high levels of phenylbutazone and flunixin. Specific levels for these violations are not provided to the stewards.

B. Alkalinizing Substances – **Best Practice** – Four races daily, selected at random by the state steward, as well as all graded stakes races are subjected to TCO<sub>2</sub> testing. All horses in the selected races are tested. Blood samples for TCO<sub>2</sub> testing are collected by a NYRA veterinarian while the horses are in their home stall. Protocol for the TCO<sub>2</sub> testing as well as the notice concerning TCO<sub>2</sub> testing contained in the condition book was provided with the original application. NYRA has a provision to quarantine a horse whose connections feel has a normally high TCO<sub>2</sub> level. It should be noted that the NYSR&WB has two regulatory levels for TCO<sub>2</sub>; 37 millimoles /liter for non furosemide treated horses and 39 millimoles/liter for furosemide treated horses. Also, no mention is made concerning split samples for TCO<sub>2</sub> testing.

C. Exogenous Anabolic Steroids – **Satisfactory** – Anabolic steroid regulation and testing at Aqueduct is done by NYSR&WB rule similar to the ARCI Model Rules. A copy of the rule in effect at Belmont was included

D. Shock Wave Therapy – **Best Practice** – The use of shock wave therapy (SWT) at Aqueduct appears to be regulated by rules on the order of the stewards and is based on ARCI Model Rules. There is an additional requirement that trainers wishing to have a SWT for one of their horses notify the NYRA steward. The NYRA steward then informs security of the request. Security arranges a time for the treatment and observes the treatment. The regulations are listed in the condition book, a copy of which as well as a copy of the form for practicing veterinarians who use shock wave therapy in their practice were included with the application.

E. Out-of-Competition Testing – **Best Practice** – Out of competition testing is done at Aqueduct by house rule on horses that are stabled at NYRA tracks. Claimed horses and horses

selected at random by the NYRA steward are tested. Blood samples for testing are collected by NYRA veterinarians.

L. Frozen Sample Testing – **Satisfactory** – The Aqueduct application stated that they have not yet had a response from the lab concerning frozen samples.

M. Laboratory Quality Assurance Program – **Satisfactory** – The New York Laboratory is working on RMTCLab Accreditation, which includes participation in an External Quality Assurance Program in order to receive accreditation.

N. Security Assessment and Training

5. Independent Assessment – **Satisfactory** – Representatives of the Organization of Racing Investigators conducted a security assessment in conjunction with the NTRA inspection.
6. Security Plan – **More than Satisfactory** - Aqueduct has a very large contingency of security personnel assigned to the barn area. This allows for a strong enforcement presence and quick response to any type of emergency. In addition, there are two (2) NYRA investigators and one (1) fire inspector assigned to the stable area on a full time basis.
7. Security Training – **More than Satisfactory** - The security department employs both security officers and sworn peace officers. The peace officer positions are under the authority of New York State Executive Law 845-a and are mandated to attend a 40 hour Basic Course for Full Time Peace Officers. The courses consist of basic law enforcement, criminal procedures, constitutional law, search and seizure, rules of evidence, civil law, report writing, firearms training and overview of race track crimes. This curriculum is monitored by the New York State Division of Criminal Justice Services.

Security officers (non-peace officer) are subject to 8 hours of formal training and annual training of 16 hours. The security peace officer positions do not have any formal training after the initial 40 hours of training.

The security peace officer position can carry a firearm once he/she has completed the mandated basic firearms training that is conducted annually and

monitored by the New York State Division of Criminal Justice Services. Per security, only 25% of the security officers carry firearms. The firearms are the property of NYRA and do not leave the licensed premises.

All newly hired security officers and peace officers are required to review the NYRA Employee Handbook, the Accountability for Adherence to the Code of Ethics and NYRA Policies and Procedures to Combat Money Laundering and Terrorist Activity. In addition, all security officers are issued a security force regulations, regulations for stable area personnel and a security fire safety response procedures handbooks.

Even with an initial mandated state peace officer training of 40 hours, there should be additional annual training for all stable security peace officers. In addition, the security peace officers should receive basic first aid and CPR training.

8. Random Inspection of Test Barn – **More than Satisfactory** – The test barn at Aqueduct is in good condition, of adequate size and is well staffed. All of the staff including the veterinarian in charge are employees of the NYSR&WB. The winner and two other horses from every race, as well as the first four finishers in graded stakes are sent to the test barn where blood and urine samples are collected for testing. They are averaging around 35 to 40 horses per day. The blood and urine samples are sealed and witnessed at the stall. In addition, all claimed horses are tested. If a claimed horse tests positive, the horse may be returned to the original owner.

Two tubes of blood are collected. One tube is the split sample, but both are sent to the official lab. The urine sample collected is not divided at the test barn and the entire sample is sent to the lab where I was told a portion of the sample is kept as the split sample. The horses are kept at the test barn for a maximum of one hour and if a urine sample is not provided by the horse it is excused with a blood sample only. The chain of custody appears to be good.

- O. Medication and Testing Education Committee – **Satisfactory** – Changes to regulations and testing protocols for therapeutic

medications are communicated to the horsemen via the THA, which regularly communicates with the testing laboratory.

4. Safety and Health of Jockeys

A. Jockey Weights – **Satisfactory** – Jockeys weigh out with safety vest but are given two (2) pound allowance. The Model Rule recommendation for the Scale of weights is adhered to as closely as possible with the main exception early in a calendar year when three year olds are running with older horses.

B. Jockey Health Information – **More Than Satisfactory** – It is not mandatory for all riders to participate in JHIS at Aqueduct but all riders do participate. A Nurse Advocate program exists, which aids in transferring riders to the hospital and deliver the JHIS report. There is a computer in Jockeys' Room for riders to use to input and update their information.

C. Jockey Qualifications (Including Physicals) – **More than Satisfactory** – Those wishing to become a jockey must be at least 16 years old, have been approved from the gate by the Head Starter and Outriders. Riders also need a physical and after 3-4 races can receive a license. This is in-line with recommendations of the Model Rules.

D. Ambulance Support/Medical Care – **Best Practice** – Two Ambulances are on-sight at all times horses are on track. During training hours one is on the main track with 2 attendants and one is at the training track with a NYRA driver and an EMT.

During live racing one follows the field, track condition permitting, and one is stationed at the head of the stretch. The chase vehicle is equipped with a TV showing the live video feed.

A third ambulance is at the paddock area to respond to Grandstand or Paddock emergencies.

E. Insurance – **Satisfactory** – National Union Fire Insurance Company provides coverage for jockeys who suffer “catastrophic” injuries.

F. Jockey Disability Support – **More Than Satisfactory** – NYRA has been involved with fund raising activities for the McBeth Fund and PDJF. NYRA also makes regular contributions to the PDJF.

5. Aftercare and Transition of Retired Racehorses – **More Than Satisfactory** – NYRA is committed to the protection of racehorses and

supports several organizations. TRF, Old Friends, Exceller Fund are just some of them. Anti-Slaughter language is in the condition book. NYRA has established an on-track liaison position in conjunction with the NY THA.

## 6. Wagering Security

### A. Wagering Incident Prevention Protocols

1. Stop Wagering Device Protocols – **Best Practice** – The Stewards have the initial stop wagering button in their stand. There are three separate back-up mechanisms in place to ensure pools are closed in a timely manner.
2. Simulcast Sales Contract Language – **Satisfactory** – NYRA enlists the standard language from TRA for their simulcast contracts, which enables the track to request and receive tote data from guest sites, when necessary.
3. SAS-70 Audit or Equipment Testing – **More than Satisfactory** – NYRA works with United Tote, which has provided the track with the SAS-70 audit report. United Tote has also had its equipment tested in the state of Texas.
4. Cancel Delays – **NA** – There are no longer any cancel delays in action.
5. Double Hops – **Satisfactory** – The only remaining double hops are those statutorily required in Florida and Arizona.
6. Exclusion of Pools when non-verifiable – **Best Practice** – When pool funding is not verifiable, NYRA as a practice performs a “clear and close” and excludes the guest site. In cases when there is a communication failure, NYRA uses its best efforts to give the guest site time to reconnect.
7. Policy as a Guest when excluded – **Best Practice** – NYRA pays track odds to all ticket holders.
8. Timing Display and Synchronization on Video Broadcast and Totalisator – **Best Practice** – Daily synchronization to the naval clock takes place.



9. Use of Latest Version of ITSP – **Satisfactory** – ITSP 5.18 is utilized.

B. Wagering Incident Investigation Protocols

1. Adoption of protocols: **More than Satisfactory** – The track contacts the Stewards, TRPB, and the NY SRWB in situations where there is a potential wagering incident. Data is collected when necessary and shared with the investigating authorities. The Board communicates as it sees fit with the racing public. NYRA has an email address which allows track patrons to communicate any potential incidents.

- C. Wagering Pool Due Diligence – **Best Practice** – The New York State Racing and Wagering Board conducts an independent audit of all entities wishing access to the New York pools. NYRA also has an Integrity Counsel that is involved with the process.

7. Adherence and Enforcement

- A. Compliance Program – **Satisfactory** – NYRA's Compliance Officer, Bruce Johnstone, has provided a written compliance program.

**Exhibit E**

**AAEP White Paper on Thoroughbred Racing**

**WHITE PAPER**

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# **Putting the Horse First:**

**Veterinary Recommendations for the Safety  
and Welfare of the Thoroughbred Racehorse**

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**American Association of Equine Practitioners  
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The American Association of Equine Practitioners was founded in 1954 by 11 racetrack veterinarians. While the association has grown to serve nearly 10,000 members worldwide who work with all equine breeds and disciplines, the AAEP's horse racing origin brings a unique understanding of the health and welfare needs of the racehorse.

It is with this perspective and commitment to equine safety and welfare that the AAEP formed its Racing Task Force in July 2008 to evaluate the safety and welfare issues affecting Thoroughbred horse racing. Catastrophic injuries, medication usage and a changing societal view of the appropriate use of horses in competition present formidable challenges to those entrusted with the care of the racehorse and the structure of the industry.

The AAEP Racing Task Force developed this white paper with the intent of recommending practices that place the welfare and safety of the horse first while supporting those who seek to make meaningful change. As equine veterinarians, we are committed to working with the Thoroughbred racing industry to implement procedures that protect the horse. In addition, the AAEP expects its veterinary members to abide by the rules of all jurisdictions where they practice.

### **General Principles**

The AAEP has long held position statements that address many aspects of racehorse health and safety. We encourage the Thoroughbred racing industry to support the following essential elements of an overall industry structure that promotes horse safety:

- The adoption of uniform rules of medication usage, testing, security and enforcement by all industry participants.
- Increased funding for regulatory functions, including state-of-the-art testing and racetrack security.
- Continued identification and implementation of procedures and strategies that will significantly reduce the injury rate of horses, such as the recent recommendations to eliminate the use of toe grabs other than wear plates with a height no greater than 2 millimeters.

The AAEP makes the following recommendations for the Thoroughbred racing industry in four key areas: societal change and the public perception of horse racing, the racing business model, the veterinarian-owner-trainer relationship, and medication.

## **Societal Change and the Public Perception of Racing**

Since the turn of the century, American society has drifted far from its agrarian roots to the point that only 15 percent of Americans today are involved with agriculture of any form. The horse, which was once a staple of American agriculture and general transportation, has become less of a beast of burden and is now viewed by many in the public to be a companion animal, much the same as a dog or cat. In this societal context, welfare issues affecting the horse resonate with the public like never before.

In order to address the impact of societal change upon the Thoroughbred racing industry, the AAEP recommends:

- Racing industry support for a strategic plan that places the safety and welfare of the horse among its highest priorities. It is imperative that the industry urgently demonstrate an ability to affect sweeping change without government intervention. The AAEP recognizes and supports efforts by the National Thoroughbred Racing Association (NTRA) to accomplish this goal.
- The continued collaboration of multiple racing organizations (NTRA, TOBA, HBPA, ARCI, The Jockey Club, AAEP, racetracks and sales companies and others) to address the challenges affecting racing. An excellent opportunity for a cooperative industry-wide effort is the NTRA Safety and Integrity Alliance, and the AAEP enthusiastically supports this effort.
- When the substantive issues of race horse welfare have been addressed by the industry, an aggressive public relations effort must be mounted to educate the public about what is being done to protect the welfare and safety of the horse (e.g.: racetrack injury reporting program, racetrack surface testing and medication studies).

## **The Business Model of Racing**

Thoroughbred racing is a \$15 billion industry in the United States, and the business model has evolved over the years to favor training and racing of two-year-old horses that compete for championship purses late in their two-year-old year. Their peak earning potential is in the three-year-old year, with a gradually diminishing emphasis on continued racing into the four-year-old year and later.

Thoroughbred racing operates on a year-round schedule in 38 separate racing jurisdictions. Because a larger field of horses promotes more wagering, which in turn increases purse size, small field sizes have caused racing secretaries in some instances to apply pressure to trainers to enter horses who might not otherwise be suitable for racing. This practice must be eliminated, as it encourages entry of

horses at shorter intervals that may place them at increased risk of injury due to increased frequency of high-speed cyclic loading. Another concerning trend is an increasing number of racino executives that do not have experience in horse racing or horse care. We believe it is imperative that senior racetrack management become knowledgeable about the issues and business practices that directly affect the welfare and safety of the horses that race at their tracks.

As noted, two-year-old racing is an important aspect of the industry business model. Some degree of training and racing of two year olds is not harmful to the welfare and safety of the horse. In fact, a review of Jockey Club information indicates that horses that race as two year olds are more successful and race longer than horses that do not race at the age of two. However, not all horses are able to sustain the same level of training without significant stress or injury. There is a need for continued investigation of the welfare and safety implications of current policies and procedures employed to sell, condition and race two-year-olds.

Other practices that will improve the safety of the racehorse include the development of a consistent protocol for pre-race examinations by regulatory veterinarians as well as uniform criteria for scratching horses. Currently there is variation in these procedures among the 38 racing jurisdictions. There also is lack of uniformity in reporting racehorse injuries, particularly those that occur during morning workouts. Judicious application of a standardized reporting system will increase the racing industry's ability to monitor and address racing and training injuries.

In most racing jurisdictions there is no institutional program to care for horses that can no longer race. The view of most racing facilities is that the responsibility for the care of horses rests entirely with the owner. This view is entirely appropriate. However, if a horse owner does not provide responsible care for retired racehorses, the industry becomes vulnerable to attack for apparent lack of concern for equine welfare. The resulting negative impact on horse racing's image can contribute to disenfranchisement of racing fans.

The AAEP acknowledges that the following recommendations for modification of the business model of racing will have significant economic implications (some positive, some negative) for racing managers. We do not make these recommendations lightly. Further, we emphasize that one of our highest priorities as an industry must be to reduce equine injuries. The greatest potential for decreasing injury exists in making procedural and policy changes within the business model of racing, particularly in the claiming arena.

In order to put the safety and welfare of the horse first in the business model of racing, the AAEP recommends:

- A critical analysis by the racing industry of the safety and welfare implications of the current schedules, procedures and policies surrounding the conditioning, sale and racing of two-year-old horses.
- A period of rest for all horses to provide an opportunity to refresh and diminish the volume of persistent cyclic loading that occurs in the absence of rest.
- No horse shall be permitted to race within 10 days of its last start.
- Every horse entered to race shall be on association grounds in sufficient time to have a pre-race veterinary inspection for racing soundness by the regulatory veterinarian.
- Standardization and enhancement of pre-race and post-race veterinary examinations with mandatory cross-jurisdictional sharing of information.
- In those jurisdictions that practice it, racetrack management must discontinue the coercion of trainers to enter horses according to stall allotment.
- Uniform participation by all jurisdictions in injury reporting for both racing and training injuries.
- Investment by all racing venues in capital improvements of the racing oval that will enhance horse, rider and personnel safety, such as safety rails, padded starting gates, and helmets and vests for starting gate personnel.
- Immediate adoption of ARCI riding crop and shoeing standards in all racing jurisdictions and at in-training sales.
- The development in all racing jurisdictions of a program for rehabilitation, retraining and adoption for horses whose racing careers have ended. These programs should reinforce owner responsibility and support a secondary market for racehorses. The Finger Lakes Thoroughbred Adoption Program in Farmington, N.Y., is an example of successful collaboration between racetrack management and horsemen. Any new programs can be linked nationally with the Unwanted Horse Coalition, currently operated by the American Horse Council.
- The generation of funds by the industry to assist in the transition of horses from racing into second careers.
- Governance change within the horse racing industry to establish uniform regulatory authority to accomplish widespread and consistent compliance throughout the industry.
- Development of continuing education and accreditation programs for owners, trainers, stewards, jockeys, grooms, starters, farriers, veterinarians and security personnel.

### **Claiming Races**

There are essentially two groups of horses that compete at the racetrack. The sport's top level competitors, representing approximately 30 percent of the total racing population, compete in stakes and allowance races, while the majority of horses compete in condition or claiming races. Because the schedules and physical demands on these two groups of horses are unique and quite disparate, the AAEP

recommends the following changes to the structure of claiming races in order to protect the welfare and safety of claiming-level horses:

- Claimed horses must be tested post-race, as is currently the rule in New York. Horses that test positive shall have the claim rescinded at the discretion of the buyer.
- No claiming race should have a purse that exceeds the claiming price by more than 50 percent.
- If a horse is claimed, it shall not start in a claiming race for a period of 30 days since the date of claim for less than 25% more than the amount for which it was claimed.
- When appropriate, horses must demonstrate a work between races that displays fitness and soundness.
- Horses that do not finish the race or those that sustain a catastrophic injury during the race remain the property of the original owner.

## **Veterinarian-Owner-Trainer Relationship**

Open and consistent communication between the owner, the trainer and the veterinarian will develop a relationship built on trust and shared philosophies. The result will be decisions that are made in the best interest of the horse. The current reality of racetrack operations is that the owner is often excluded from the communication chain, and we as veterinarians would like to change that. Veterinarians also are sensitive to the costs of services that are provided. It is important for owners to know that veterinary care is not given to any racehorse without the trainer's direct or implicit approval and that their trainer is acting as their legal agent when requesting veterinary services for their horses. Without open communication, differing management philosophies often result in confusion and dissatisfaction.

In order to provide complete transparency for the veterinary-owner-trainer relationship, the AAEP recommends the following:

- Trainers should include horse owners in all aspects of health care decisions.
- Owners should have a thorough understanding of the medication and training philosophy of their trainer with particular emphasis upon the level of medical care provided to their horses.
- Veterinarians should provide unfettered access to owners and trainers for consultation and discussion of medical treatments.

## **Medication**

While much progress toward uniformity has been made by industry stakeholders such as the Racing Medication and Testing Consortium in recent years, medication remains the flash point for much of the public's scrutiny of horse racing today. U.S. racing jurisdictions impose medication regulations that vary from one jurisdiction to the next. This disparity in medication rules presents significant challenges to owners and trainers who race horses in more than one jurisdiction, and often leads to confusion about how to best implement appropriate therapeutic regimens. In addition, many racing jurisdictions have their own testing laboratory, which currently do not operate by a uniform accreditation standard.

Horse racing in most other jurisdictions throughout the world operates under the medication rules of the International Federation of Horseracing Associations (IFHA). The principle difference in the medication regulations of the United States and the IFHA is the permitted use of anti-bleeder medication furosemide (Salix® and adjunctive anti-bleeder medications in some racing jurisdictions) and permitted levels of non-steroidal anti-inflammatory drugs (NSAIDs). With anabolic steroid regulation now in place in the United States, most other differences are largely semantic and are primarily a function of the state regulatory structure of U.S. racing.

All medication treatment programs should be based upon the safety and welfare of the horse. While the veterinarian is ultimately the provider of medical care for the horse, treatment philosophies should be determined in conjunction with input from the owner and trainer.

With regard to medication policy in the United States, the AAEP recommends the following:

- Universal adoption in all racing jurisdictions of the Association of Racing Commissioners International (ARCI) model rules, as proposed by the Racing Medication and Testing Consortium (RMTC), including no race-day medication except furosemide (Salix®). The industry should work with the RMTC, where advisable, to make progress toward uniform medication rules that are in the best interest of the horse.
- Continued research, with industry support, to determine the causes and appropriate treatment of exercise-induced pulmonary hemorrhage (EIPH) in the race horse.
- Collaboration between the RMTC and the IFHA to create an international model rule of racing that can be uniformly administered worldwide.
- Establishment of a limited number of regional confirmation/reference laboratories that are adequately funded to meet the current challenges of drug testing.
- Establishment of minimal requirements, accreditation and monitoring of all testing laboratories.
- Development of uniform testing protocols for accredited laboratories.



- Adoption of uniform out-of-competition testing protocols by all racing jurisdictions.
- Adoption of uniform TCO2 testing protocols by all racing jurisdictions.
- Universal adoption of the penalty structures recommended in ARCI model rules and proposed by the RMTC.
- Adoption of uniform reporting practices for medication violations by all racing jurisdictions.
- Management of medication violations by racing jurisdictions with three objectives in mind: (1) to discover how the medication entered the system of the horse in order to prevent future positive tests; (2) to manage and report sub-therapeutic levels of therapeutic medication overages in a way that does not further degrade the public image of racing; and (3) to sufficiently penalize the violators and discourage further attempts to violate the rules
- The key to successful implementation of these medication recommendations is **increased racetrack security** to promote enforcement and achieve uniform compliance.

### **Horses Intended for Sale at Public Auction**

The treatment of horses intended for sale at public auction should be regulated in a similar way as for horses that are racing. The adoption of similar regulations will protect the horse and ensure the integrity of the sales process, recognizing that the sales process is a unique experience for immature horses.

The AAEP recommends the following actions in regards to medication usage in race horses intended for sale:

- Yearling and 2-year-old in training sales should institute stringent medication rules that are similar to RMTC guidelines.
- Yearling and 2-year-old in training sales should institute random testing of horses consistent with RMTC testing protocol recommendations.
- Any health problems that require medical treatment on the sales grounds must be announced in a timely manner, giving the buyer time to consult with a veterinarian prior to purchase.
- A list of all medications administered to a horse while the horse is on the sales grounds and being displayed to potential purchasers should be submitted to the sales company. If testing results vary from this list, the sale may be voided at the buyer's discretion.
- Penalties for medication violations at auctions must be significant to deter consignors from medication practices that may place the horse at increased risk of injury and/or compromise the integrity of the sales process.

The AAEP's mission is to promote the health and welfare of the horse. Although the focus of the AAEP Racing Task Force has primarily been the Thoroughbred racing industry, nearly all of the recommendations put forth are relevant to other racing

breeds in the United States. To this end the AAEP is eager to assist the racing industry in reforming policies and practices in order to enhance the safety and welfare of the horse by putting the horse first. We believe that this effort, based upon what's best for the horse, will also be the key to restoring public confidence in the racing industry. Simply put, what is good for the horse is good for racing.

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*Approved by AAEP Board of Directors, January 2009.*

## **Exhibit F:**

### **Clinical Guidelines for Veterinarians Practicing in a Pari-mutual Environment**



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## **Introduction**

The American Association of Equine Practitioners was founded in 1954 by 11 racetrack practitioners. The mission of the AAEP is to improve the health and welfare of the horse, to further the professional development of its members, and to provide resources and leadership for the benefit of the equine industry. This long history of commitment to the racing industry makes the AAEP uniquely qualified to speak to the issues of health and welfare of the racing horse and the professional conduct of veterinarians who care for them.

In August 2008, the AAEP convened a group of veterinarians from across the country to help address a number of important issues in pari-mutuel racing. The impetus for this meeting was a series of recent catastrophic injuries in high-profile Thoroughbred races. The AAEP Racing Committee has worked during the last two years to “put the horse first” in what has become an industry-wide effort to reform Thoroughbred racing in the United States. The AAEP Racing Committee issued white papers in 2009 with recommendations for protecting the safety and welfare of Thoroughbred and Quarter Horse racehorses. A white paper specific to Standardbred racing was developed in 2010.

From the beginning of our work, we have understood the need and the expectation for veterinarians to examine their role in medication usage in a pari-mutuel environment. The result of our efforts is this document, “Clinical Guidelines for Veterinarians Practicing in a Pari-Mutuel Racing Environment.”

What is a “clinical practice” document? First, this document is **not** intended to be a generic standard of practice. This document is intended to provide guidelines for practitioners who practice on racehorses and to recognize and promote practices that many veterinarians currently use to place the health, safety and welfare uppermost in their daily work. The AAEP recognizes that the practice of equine veterinary medicine can vary significantly from state to state, due in part to the variance that exists among applicable state laws (including a given state’s veterinary practice act or its racing laws) and the various diagnostic and therapeutic options available to veterinarians in any given location.

As a result, this document should not be interpreted as an attempt to establish a particular standard of care for veterinary practice in a particular racetrack or training center setting, nor should it be used in legal or regulatory proceedings. Instead, it should be viewed for what it is: a collection of practices that the AAEP believes places an appropriate emphasis on the health, safety and welfare of the racehorse and should serve as a model for the entire racing industry. We also expect this document to evolve with review over time.

Throughout the document you will find references to the Racing Medication and Testing Consortium (RMTTC) guidelines. The AAEP strongly supports the efforts by the RMTTC and the Association of Racing Commissioners International (ARCI) to promote responsible use of medication in racing and to establish uniform medication rules and meaningful penalty structures throughout all the racing jurisdictions in North America. You can view the RMTTC medication guidelines on-line at [www.rmtcnet.com](http://www.rmtcnet.com).

## Executive Summary

To a very large extent, the use of medication in the current business model of racing is driven by entry date. The entry date is the date when a horse is entered into a race, and this date varies between racing jurisdictions. The AAEP believes that making health care decisions based on the entry date is not fundamentally in the best interest of the horse. Repeated references throughout the document follow an underlying affirmation that all medical treatments of the racehorse should be based upon a veterinary diagnosis with appropriate time allowed following the treatment of an injury to assure that the horse is recovered prior to racing. This is an unqualified departure from the current status quo.

Additional core recommendations are as follows:

- All therapeutic treatments for a horse involved in racing or race training should be based upon a specific diagnosis and administered in the context of a valid and transparent owner-trainer-veterinarian relationship.
- No medication should be administered to a horse on the day of the race, except furosemide, the administration of which is outlined specifically in the guidelines created by the Racing Medication and Testing Consortium (RMTTC).
- Furosemide should be administered in a controlled environment that meets the criteria for stringent security protocol to ensure the integrity of racing and the safety of each individual horse.
- Any medication administration prior to race day should be administered in accordance with RMTTC guidelines with specific adherence to published withdrawal times, where provided ([www.rmtcnet.com](http://www.rmtcnet.com))
- The RMTTC recommends a 10-day withdrawal period after shockwave treatment, but conflicting evidence indicates the need for more research to determine the time frame for safe use of shockwave therapy prior to racing.
- There is no evidence showing that the use of hyperbaric oxygen therapy prior to exercise affects the performance of the equine athlete. However, until appropriate withdrawal times can be established for the use of hyperbaric oxygen therapy in horses, it should not be performed after the entry date.
- Caution in the selection, timing and frequency of use of any intra-articular corticosteroids in high-motion joints is prudent practice.
- Scientific research has demonstrated that most of the commonly used intra-articular corticosteroids produce prolonged periods of therapeutic effect, measured in weeks.<sup>3</sup> Nevertheless, it is known that these products are being used very close to race day in some cases. The lack of control of such practices is not in the best interest of the horse.
- Intra-articular use of local anesthetics is indicated for diagnostic procedures only.
- Under no circumstances should local anesthetics, anti-nociceptive agents nor neurotoxic agents be used intra-articularly, intratheacally or peri-articularly prior to competition.
- Under no circumstances should perineural treatments be used to desensitize a portion of the body prior to competition.

- The AAEP recommends that integrative therapies be based upon a valid medical diagnosis, be administered by or under the direct supervision of a licensed veterinarian and be documented in the horse's medical record.
- All medical treatments and diagnostic procedures performed on horses in a racetrack or training center setting should be documented in a medical record.
- A timely, complete and readily accessible medical record should be presented to regulatory authorities as necessary to document significant examination findings and treatments administered to all horses in training at race tracks and training facilities.
- The AAEP recommends that practitioners should not reuse needles, syringes or any equipment that might be contaminated with blood or other body fluids.
- In consideration of the limitations of rescue and rehabilitation resources, it is critical that the racetrack practitioner realistically triage individual horses in order to provide the best opportunity for horses that are most suitable for riding, driving or showing activities.
- All communication with owners and trainers should be consistent with a transparent owner-trainer-veterinarian relationship.
- Practice vehicles should only contain medications that are legal for veterinary use under FDA guidelines, with appropriate compliance to labeling, refrigeration instructions, and expiration dates. Additionally, certain other products approved by racing regulatory authorities, such as homeopathic remedies may be included.
- The veterinarian should limit the use of compounded drugs to unique needs in specific patients and limit the use of compounded drugs to those uses for which a physiological response to therapy or systemic drug concentrations can be monitored, or those for which no other method or route of drug delivery is practical.

### **Clinical Guidelines: Medication Philosophies and Recommendations**

All therapeutic treatments for a horse involved in racing or race training should be based upon a specific diagnosis and administered in the context of a valid and transparent owner-trainer-veterinarian relationship. These treatments should be scheduled and administered with an underlying recognition that the health and safety of the horse is the ultimate objective. All therapeutic procedures should be performed with a sufficient interval provided to evaluate the response to treatment prior to racing. Medical treatment of a horse that is entered to race is subject to regulation by racing authorities and should be conducted as below:

- I. **Race-Day Medication Administration:** No medication should be administered to a horse on the day of the race, except furosemide, the administration of which is outlined specifically in the guidelines created by the Racing Medication and Testing Consortium (RMTC). Furosemide should be administered in a controlled environment that meets the criteria for stringent security protocol to ensure the integrity of racing and the safety of each individual horse.

**II. Medication Administration Prior to Race Day:** Any medication administration prior to race day should be administered in accordance with RMTC guidelines with specific adherence to published withdrawal times, where provided ([www.rmtcnet.com](http://www.rmtcnet.com)), subject to state medication rules to the contrary, in which case the state's medication rules for the administration of the particular medication apply.

**III. Intra-articular and Intrathecal Medications:** Treatment of joints and other synovial structures for inflammation is a medically sound practice. In general, treatment programs for joint inflammation in the horse should strive to include both symptom modifying and disease-modifying medications. In the past, intra-articular (IA) corticosteroids were the principal product available to the practitioner for treatment of inflamed joints, but this has changed in recent years with the introduction of medications such as sodium hyaluronate (HA), polysulfated glycosaminoglycans (PSGAG), and biologic treatments such as IRAP.<sup>1,2</sup> Even with new therapies on the horizon, corticosteroids still play a valuable and necessary role in the management of equine joint inflammation.

Controversy exists surrounding the potential for damage to equine joints by IA corticosteroids. More recently, research has refuted many of the perceived harmful effects.<sup>3,4</sup> While methylprednisolone has been shown to have degradative effects on articular cartilage, other corticosteroids such as betamethasone and triamcinolone acetonide have been proven to have no adverse effects on cartilage.<sup>5,6</sup> In fact, triamcinolone acetonide has been shown to be protective for cartilage in the inflamed joint.<sup>5</sup> Caution in the selection, timing and frequency of use of any of these products in high-motion joints is prudent practice.

Scientific research has demonstrated that most of the commonly used IA corticosteroids produce prolonged periods of therapeutic effect, measured in weeks.<sup>3</sup> Nevertheless, it is known that these products are being used very close to race day in some cases. The lack of control of such practices is not in the best interest of the horse. Research in the form of administration studies must be completed on the various IA corticosteroids to create effective and reliable regulation of these products with post-race testing.

The AAEP recognizes that the practice of veterinary medicine, particularly in a pari-mutuel environment, does not take place in a vacuum devoid of economic considerations. However, from a medical standpoint, the AAEP believes that entry-driven procedures are generally not in the best interest of the horse. It is with this goal in mind, that clinicians in a pari-mutuel environment are encouraged to make sound treatment decisions particularly with reference to the use of IA corticosteroids that allow for adequate time to properly diagnose, treat, and evaluate the horse's response to intra-articular therapy prior to racing. Additionally, until such time as security and testing technology can insure proper adherence to scientifically validated withdrawal times, practitioners in a pari-mutuel environment should make these

treatment decisions with the health and welfare of the horse as the uppermost concern.

Intra-articular use of local anesthetics is indicated for diagnostic procedures only. Under no circumstances should local anesthetics, anti-nociceptive agents nor neurotoxic agents be used intra-articularly, intrathecally or peri-articularly prior to competition.

- IV. Perineural Injections:** Perineural injections involve the placement of local anesthetics, anti-nociceptive or neurotoxic agents adjacent to nerves in order to desensitize a portion of the body and should be limited to diagnostic use or to enable standing surgical or medical procedures. Under no circumstances should perineural treatments be used to desensitize a portion of the body prior to competition.
- V. Subcutaneous & Intramuscular Therapies:** These treatments include subcutaneous or intra-muscular injection of corticosteroids, pitcher plant extract or internal blisters to treat painful conditions. They should be used in conjunction with a specific diagnosis, and the timing of these therapies should provide an adequate opportunity to evaluate treatment results prior to racing.

The AAEP strongly supports current efforts to increase uniformity among the state rules on the use of medication in racehorses. The AAEP recognizes, however, that the efforts to achieve this uniformity are still ongoing, and there may be situations where the recommendations contained in this document conflict with existing medication rules in a given jurisdiction. When this conflict occurs, veterinarians are urged to follow the regulations that exist in their states.

## **Adjunctive Therapeutic Treatments**

- i. Extracorporeal Shockwave Therapy:** The extent and duration of the analgesic effect of ESWT is a matter of great interest and some controversy. One scientific investigation of the analgesic effect of non-focused ESWT found no cutaneous analgesia.<sup>7</sup> Two studies investigating the analgesic effect of focused extracorporeal shock wave therapy similarly found no significant analgesic effect.<sup>8,9</sup> Other studies have demonstrated an analgesic effect with focused ESWT and radial pressure wave therapy that persisted for 2 or 3 days.<sup>10-12</sup> This analgesic effect is likely related to decreased sensory nerve conduction velocity.<sup>13</sup>

The RMTC currently recommends that ESWT not be administered within 10 days of racing. Unless there are compelling reasons to the contrary, in circumstances where medication/treatment regulations require additional withdrawal time than that supported by scientific data, the AAEP encourages regulatory agencies to re-examine their position in light of current information. In the meantime, veterinarians must practice in accordance with existing regulations.



**II. Hyperbaric Oxygen Therapy:** The primary benefit of hyperbaric oxygen therapy is in the enhancement of healing of difficult medical conditions. A recent position statement issued by the Veterinary Hyperbaric Medicine Society (August 2009) on the use of hyperbaric oxygen therapy in performance horses included the following points:

- The use of hyperbaric oxygen therapy has the potential to accelerate the normal healing process and thus the potential to enhance the health and welfare of the horse.
- There is no evidence that the use of hyperbaric oxygen therapy prior to exercise affects the performance of the equine athlete. Furthermore, research in human hyperbaric medicine indicates that there is no performance enhancement, even when hyperbaric therapy is administered immediately prior to exercise.
- Oxygen administered by hyperbaric means or by nasal cannula is not any different from oxygen obtained from breathing air at normal atmospheric pressure, other than there is just more of it. The increase in blood and tissue oxygen concentration following hyperbaric therapy is extremely short lived and may be as short as sixty minutes in most tissues and even as short as five minutes in the blood.

In a double-blind randomized controlled study performed at the University of California, investigators found that hyperbaric oxygen therapy administered to human athletes before exercise did not enhance performance or alter post-exercise blood lactate concentrations, peak heart rate or perceived exertion when compared with control subjects.<sup>14</sup> In another study performed at the University of Tokyo, investigators similarly found that hyperbaric oxygen therapy prior to exercise did not enhance high-intensity exercise performance of human athletes and there was no difference in muscle fatigue index, serum lactate concentration, heart rate or systemic blood pressure when compared with untreated control subjects.<sup>15</sup> Similar studies should be conducted in the horse in order to provide a scientific basis for appropriate withdrawal times for hyperbaric therapy. Until such scientific information is available, hyperbaric oxygen therapy should not be performed after the entry date.

**III. Acupuncture & Chiropractic Therapy:** Various forms of integrative therapies are being utilized at racetracks in North America, including but not limited to, acupuncture and chiropractic therapy. Further, it is recognized that these practices are being performed by lay people as well as licensed veterinarians. Efficacy of such treatments is generally a subject of some debate. The AAEP recommends that integrative therapies be based upon a valid medical diagnosis, be administered by or under the direct supervision of a licensed veterinarian and be documented in the horse's medical record. The AAEP is not expressing any opinion on the efficacy of these treatments, or the lack thereof. Any administration of medications associated with the use of these therapies must be conducted within guidelines recommended by RMTTC.

## **Documentation of Veterinary Procedures**

All medical treatments and procedures performed on horses in a racetrack or training center setting should be documented. A medical records-based billing software which includes, at a minimum, the standards imposed by state veterinary practice acts for individual animals should be used by veterinarians to create and maintain a timely, complete and readily accessible medical record that can be presented to regulatory authorities as necessary to document treatments administered to all horses in training at race tracks and training facilities. Documentation of the use of all prescription drugs should conform to the requirements of the applicable state's veterinary practice act. The significant findings of diagnostic examinations performed on horses in a racetrack or training center environment should be documented in the horse's medical record. Health certificates must be signed by the USDA:APHIS:VS accredited veterinarian who performed the examination in order to satisfy the animal health requirements inherent in such veterinary procedures.

## **Infectious Disease Control**

Management of infectious disease at the racetrack and training center is a high priority for the general health of the horses stabled there. Practicing veterinarians and regulatory veterinarians should work together with track management to identify index cases of infectious disease and have a plan in place for containing an outbreak and treating affected horses in order to protect the population at large. The AAEP guidelines for management of infectious disease may serve as a model for this program ([http://www.aaep.org/infectious\\_control.htm](http://www.aaep.org/infectious_control.htm)).

In consideration of the potential for transmission of infectious disease (e.g. Piroplasmosis or Equine Infectious Anemia) by contaminated needles and syringes, the AAEP recommends that practitioners should not reuse needles, syringes or any equipment that might be contaminated with blood or other body fluids.

## **Alternative Careers for Racehorses**

Veterinarians working at the racetrack on a daily basis have a good understanding of the physical condition and musculoskeletal status of racehorses in their care. When the racing careers of these horses are finished, veterinarians play an important role in guiding their transition to an alternative career. One of the most critical roles a veterinarian can play in this process is to properly assess the potential for use as a riding horse. In consideration of the limitations of rescue and rehabilitation resources, it is critical that the racetrack practitioner realistically triage individual horses in order to provide the best opportunity for horses that are most suitable for riding, driving or showing activities. Horses with fractures or chronic conditions that require extensive rehabilitation may be suitable for breeding, pasture turnout potentially as an equine companion or limited work in correctional facility rehabilitation program, but are generally unsuitable for adoption and deplete the resources of rehabilitation/rescue agencies.

## **Business Model Recommendations**

Veterinary fee structures should place emphasis upon the value of professional services in addition to the administration and dispensing of medication. In addition, practitioners are

encouraged to make themselves readily accessible to owners and trainers for consultation regarding diagnostic and therapeutic strategies or questions regarding the invoice. Invoices should accurately indicate all examinations, treatments and procedures performed on individual horses. Both the invoice and the medical history should avoid colloquial terminology and be in common medical terminology. It is recommended that the invoice with payment history be delivered directly to the owner or owner's agent with a copy to the trainer at least monthly. All communication with owners and trainers should be consistent with a transparent owner-trainer-veterinarian relationship.

### **Practice Vehicle Inventory**

Practice vehicles should only contain medications that are legal for veterinary use under FDA guidelines, with appropriate compliance to labeling, refrigeration instructions, and expiration dates. Additionally, certain other products approved by racing regulatory authorities, such as homeopathic remedies may be included. Controlled substances are to be stored and administered in accordance with state and Federal DEA requirements. All drugs, supplies and equipment should be maintained in a clean and useable condition in accordance with individual states' veterinary practice acts.

### **Drug Compounding**

Legal drug compounding requires a valid veterinarian-client-patient relationship. The veterinarian should limit the use of compounded drugs to unique needs in specific patients and limit the use of compounded drugs to those uses for which a physiological response to therapy or systemic drug concentrations can be monitored, or those for which no other method or route of drug delivery is practical.

Further, medication withdrawal times are calculated only for FDA-labeled medication. For this reason, use of compounded medications in a racing environment is accompanied by an increased risk for a drug overage.

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*Approved August 2010 by the AAEP Board of Directors.*

## **Glossary**

For the purposes of this document, the following definitions apply:

**clinical or practice guidelines:** Clinical or practice guidelines are defined by the [National Library of Medicine](#) as works consisting of a set of directions or principles to assist the health care practitioner with patient care decisions about appropriate diagnostic, therapeutic, or other clinical procedures for specific clinical circumstances. Practice guidelines may be developed by government agencies at any level, institutions, organizations such as professional societies or governing boards, or by the convening of expert panels. They can provide a foundation for assessing and evaluating the quality and effectiveness of health care in terms of measuring improved health, reduction of variation in services or procedures performed, and reduction of variation in outcomes of health care delivered. Clinical practice guidelines are guides only and may not apply to all clinical situations. Thus they are not intended to arbitrarily override clinicians' judgment.

**extracorporeal shockwave therapy (ESWT):** The application of acoustical shocks to bone or soft tissue to reduce inflammation, reduce pain and promote healing.

**high-motion joints:** Distal interphalangeal, metacarpophalangeal and metatarsophalangeal, radiocarpal and intercarpal, scapulohumeral, cubital, coxofemoral, femoropatellar, femorotibial and tarsocrural joints.

**hyperbaric oxygen therapy:** Administration of oxygen under pressure to provide increased oxygen levels to diseased tissues of the body in order to reduce inflammation and promote healing.

**integrative therapies:** Acupuncture and Chiropractic therapy which may be used alone or in conjunction with other medical therapies deemed in general to be more traditional or conventional.

**Interleukin-1 Receptor Antagonist Protein (IRAP) therapy:** Intra-articular injection of autologous plasma containing increased levels of an antagonist protein that prevents Interleukin-1 from binding to receptors on tissues within the joint, diminishing the inflammatory process.

**intra-articular (IA) injection:** An injection intended to deposit medication into a joint space, such as the carpus, tarsus or fetlock.

**intramuscular (IM) injection:** An injection intended to deposit medication in the horse's muscle, such as the muscles of the neck or hindquarters.

**intra-thecal (IT) injection:** An injection intended to deposit medication into a synovial structure other than a joint, such as a tendon sheath.

**intravenous (IV) injection:** An injection intended to deposit medication in the horse's blood by way of a vein.

**medication:** Substances administered to horses for the purpose of preventing, treating or alleviating the clinical signs of disease or injury.

**perineural therapy:** The placement of a local anesthetic or other chemical agent adjacent to a nerve for the purpose of desensitizing a portion of the body, such as a joint, muscle or limb.

**subcutaneous (SQ) injection:** An injection intended to deposit medication just under the horse's skin.

**therapeutic procedure:** A veterinary activity intended to treat disease or injury of a horse.

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## Exhibit G

### KHRC Identification of Horses of Interest

#### Identification of horses of interest

*Review of past performances, criteria including, but not limited to:*

- Recent layoff (1<sup>st</sup> or 2<sup>nd</sup> start after 60 or more day layoff) (Parkin)
- Illogical change in class (Scollay)
- Frequent rider changes OR change from journeyman to apprentice (Scollay)
- Multiple claims in previous 60 days (Scollay)
- 1<sup>st</sup> start made after mid-3 year old season (Parkin)
- Claiming (**not** restricted to lowest level, but <\$25,000)
- Deviations from known trainer patterns (i.e. Jon Court **not** named on horse for Jinks Fires)
- Intelligence (Confidential informants, trainers w/elevated injury occurrence)

*Review of race replays (daily)* Note: MCS continues to pursue request made to Equibase through Matt Iuliano/Jamie Haydon.

*Review of pre-race exam findings, targeting:*

- Change (deterioration OR **abrupt, dramatic improvement OR improvement to a degree inconsistent with interval of rest**)
- Soft tissue pathology (Susp or SDF)
- Horses with distinct gait abnormalities but not clearly lame ('poor movers')

*Previous Vets' List history*

*Review of drug testing results*

*Observation of general population at exercise during training hours*

#### Protocols for addressing horses identified as 'of interest'

*Strategic examinations (in addition to pre-race exam)*

- Post entry
- Post-race (same day or next) Inclusive of horses that perform poorly (DNF or eased), horses that demonstrate subtle gait abnormalities immediately post-race, horses that experience post-exertional distress.
- Unannounced inspections between races (for horses of high interest)

*Testing*

- Post-race (specials—particularly useful when paired with OOCT following entry)
- Horses scratched in the PP or at the gate for unsoundness (blood only)
- Out of competition (with full screen for intelligence purposes)
- Post (non-fatal) injury

- Post fatality (include urine collection in general necropsy protocol)

### **Nonfatal Injury Response**

- Team review of information and events associated with horses that sustain racing injuries
- Interview of jockey
- Case follow up with trainer and/or veterinarian

#### Limitations:

Accessibility of horses. KHRC vets note that horses of greatest interest are typically housed off-site (often at undeclared locations) and inaccessible other than on race day. Potential resolution: ?



## **Exhibit H**

### **Procedures & Practices for Kentucky Horse Racing Commission Veterinarians**

#### **Procedures and Practices for Kentucky Horse Racing Commission Veterinarians**

(updated 3/20/12)

##### General Conduct

The Kentucky Horse Racing (KHRC) veterinarian is an unconditional advocate for the health, safety and welfare of horses at sites under the jurisdiction of the KHRC. Opinions rendered, decisions made, and actions taken by the KHRC veterinarian shall reflect this philosophy.

KHRC veterinarians shall bring to the attention of the Stewards and the Equine Medical Director any condition, situation, or event they believe to be detrimental or potentially injurious to the health, safety, and welfare of horses under their jurisdiction.

KHRC veterinarians shall maintain current veterinary licensure in the Commonwealth of Kentucky for the duration of their employment. In providing veterinary service they are expected to know and comply with all Commonwealth, KHRC, FDA, and DEA rules and regulations governing the practice of veterinary medicine. If, in the course of performing his duties, a KHRC veterinarian who observes a violation of a state or federal law, rule, or regulation he will promptly notify the Stewards and the Chief Racing Veterinarian.

KHRC veterinarians are encouraged to fulfill continuing education requirements through materials, meetings, seminars, etc. that have relevance to the duties and responsibilities described below.

KHRC veterinarians may not engage in the veterinary care of racehorses, horses in training, or any horses owned by individuals licensed by the KHRC beyond the scope of their responsibilities to the KHRC. KHRC veterinarians may not serve as consultants or advisors in the purchase, sale, or breeding of horses owned by individuals licensed by and under the jurisdiction of the KHRC. This prohibition exists independent of compensation or other considerations.

All communications pertaining to KHRC activities and information or data collected and/or managed on behalf of the KHRC is confidential and may not be distributed,

published, or in any way conveyed to any individual or association without prior consent of the Executive Director.

### Pre-Race Exam

Pre-race exams are performed *without exception* on every in-today Thoroughbred and Quarter horse. The exams are performed in the barn area by KHRC veterinarians. Pre-race exam records are medical records, the contents of which are confidential. The KHRC veterinarian will neither disclose to nor discuss the results of a pre-race exam nor the contents of a horse's medical record with anyone other than 1) the current owner or trainer of the horse; 2) other KHRC veterinarians; 3) the Stewards; 4) the Equine Medical Director; 5) the Executive Director of the KHRC; and, 4) any other individual upon directive of the Stewards or the Executive Director of the KHRC.

After performing a pre-race inspection, the KHRC veterinarian may elect to consult with other KHRC veterinarians, private practicing veterinarians, or other qualified individuals who may have information pertinent to the condition of the horse in making a determination of a horse's racing soundness and fitness for racing. The KHRC veterinarian shall afford a trainer a reasonable opportunity to remediate a health or soundness issue prior to finalizing a recommendation to the Stewards. It is the KHRC veterinarian's responsibility to communicate clearly, directly, and effectively with the trainer or his designated representative regarding the condition of any horse recommended to be excused by the KHRC veterinarian. It is preferable that this communication occurs prior to the KHRC veterinarian making his recommendation to the Stewards. In the event that the trainer or his designee is not physically present, the KHRC veterinarian will make a good faith effort to contact the trainer before recommending to the Stewards that the horse be scratched. Inability to initiate contact with a trainer does not negate the veterinarian's authority to recommend a horse's excusal.

The determination of racing soundness remains the sole responsibility of the KHRC veterinarian who may **not** defer this responsibility to any other veterinarian, racing official, or any other individual, agency, or association. It is the KHRC veterinarian's responsibility to advise the Stewards of any horse he/she determines to be unsound, injured, or otherwise unfit to participate in a race. The communication should take place expediently so that the Stewards may make the necessary notifications regarding the withdrawal of the horse. The decision to scratch the horse rests with the Stewards; the KHRC veterinarian serves as an advisor to the Stewards on all matters related to horse health, safety, and soundness.

Horses are not to be placed in ice prior to the KHRC veterinarian's pre-race exam. The horse's bandages are to be removed, and its legs are to be clean and free of poultice, liniment, ointment or any other topical preparation. It may be appropriate

at the beginning of each race meeting to remind horsemen of this requirement through the HBPA and publication in the daily overnight sheet. The KHRC veterinarian will refer to the Stewards any individuals failing to comply with these pre-race exam requirements.

#### Pre-race exam procedure

1. Observation of horse in the stall—i.e. demeanor, behavior, posture
2. Proper identification of the horse by tattoo, microchip, or Jockey Club official markings and physical description. (Note: The KHRC veterinarian, should avoid contact with the horse's nose and mouth as a standard infection control practice. The horse's attendant should be requested to lift the horse's lip to reveal the tattoo. Should the KHRC veterinarian contact the nasal or oral mucous membranes of a horse, he should wash his hands with soap and water or use an alcohol based hand sanitizer before contact with another horse.)
3. Palpation and passive manipulation of both forelimbs with notation of acute, chronic, or pre-existing but stable, conditions.
4. Observation of the horse jogging in-hand. This shall be performed in a location mutually acceptable to the KHRC veterinarian and the trainer of the horse.  
*Note: This observation may be deferred to the post parade only if, in the opinion of the KHRC veterinarian, human or equine safety will be jeopardized as a result of the demeanor or behavior of the horse at the time of the morning inspection.*
5. Overall assessment of general health and condition
6. Overall assessment of maintenance and management practices

Pre-race exam findings are contemporaneously recorded by the KHRC veterinarian into the InCompass System pre-race exam module through PC tablet computers having wireless internet connectivity. Any additional information collected prior to a race and relevant to a horse's fitness to race must be recorded in the InCompass pre-race exam module.

Following the completion of pre-race examinations and prior to the start of the day's racing, the KHRC veterinarians will meet, discuss observations made, and identify any horse(s) warranting additional scrutiny during the post parade. For horses so identified, the results of the additional veterinary scrutiny are to be entered into the InCompass System as soon as is reasonably possible.

The KHRC veterinarian will report to the Chief Racing Veterinarian and the Chief Steward/Judge any unsafe management practices or mistreatment, whether willful or unintended, of any horse.

#### Paddock

The pre-race monitoring of horses for injury or unsoundness resumes upon the horses' arrival in the paddock area and is ongoing by KHRC veterinarians until each horse has exited the track after unsaddling following the completion of the race.

A KHRC veterinarian is stationed in the paddock during all times when horses are present, and is available to assess the condition of a horse that flips, falls, is kicked by another horse, evades its handler or whose condition comes into question for any other reason. For the horse that flips or sustains head trauma, the veterinarian should be prepared to perform a neurologic assessment to include cranial nerves, CNS, and PNS. The veterinarian will carry emergency medications to be used in the event an injured horse requires treatment, sedation, or euthanasia.

In the event the equine ambulance must be deployed to the paddock, the KHRC veterinarian will initiate and maintain radio communication with the Stewards and the Outriders to safely manage traffic flow and avoid injury to other horses or their handlers.

The paddock veterinarian will proceed to the track with the field of horses and may be required to attend the starting gate for races starting on the front side and will monitor racing from the vicinity of the finish line. This veterinarian will be first responder for incidents that occur on the front stretch, in the winner's circle, at unsaddling, or after unsaddling but prior to exiting the racetrack. Response to racing incidents is described under section heading Running of the race.

#### Post-Parade / Starting Gate

A KHRC veterinarian is present at the starting gate for all races having a stationary gate. This veterinarian observes all horses in the post parade, and is present starting gate to assist with equine injuries or incidents occurring during the loading of the gate or at the start of the race. This veterinarian—depending on gate location--may also be required to monitor horses pulling up after finishing the race.

During the post parade, the KHRC veterinarian monitors horses warming up at a range of gaits. It is preferable that the observation includes evaluation of each horse at a trot (jog) and canter (gallop), and both while traveling in a straight line and while turning. The veterinarian will be stationed at a location where he has an unobstructed view of the field and is readily accessible to jockeys for consultation.

If a jockey questions the condition of his mount, he/she is expected to communicate those concerns to the KHRC veterinarian. This may involve verbal and/or non-verbal communication and the KHRC veterinarian is reminded to be alert to jockeys' body language as well as direct and indirect remarks. If the jockey appears to be deliberately warming up the horse near the veterinarian or otherwise demonstrates concern about the condition of his mount, the KHRC veterinarian shall ask the rider if he is requesting an evaluation.

The KHRC veterinarian may also initiate the assessment process in the absence of a jockey's request. KHRC veterinarians should be particularly attentive to horses ridden by apprentice jockeys as these riders may not yet have developed proficiency in detecting unsoundness in a mount.

If the KHRC veterinarian observes in the horse any symptom consistent with unsoundness, a condition unsafe for racing, or that the horse is unfit to race, the veterinarian will notify the Stewards by radio and recommend the horse be scratched. Once the Stewards have authorized a scratch, the jockey will dismount and the horse will then either be restrained behind the starting gate until the race has run or be returned to the paddock prior to the start. The horse will be placed on the Veterinarians' List.

If the veterinarian is unable to ascertain the condition of the horse, the veterinarian will advise the Stewards and recommend the horse be scratched pending a more thorough evaluation. Horses so scratched will be placed on the Veterinarians' List.

The KHRC veterinarian shall provide the trainer of any Vet Listed horse the conditions required for the horse's release from the Vets' List as soon as is reasonably possible after the horse is scratched. The KHRC veterinarian shall make reasonable effort to promptly communicate directly with the trainer of the scratched horse after the remainder of the field has successfully negotiated the course and returned to be unsaddled.

If a jockey presents his mount to a KHRC veterinarian: 1) requesting an evaluation of his mount; 2) having a question regarding the condition of his mount OR; 3) expressing reservations about the horse's fitness to race the KHRC veterinarian shall:

- 1) Perform an assessment, including but not limited to, jogging in a straight line (independent of escort pony) away from and back to the veterinarian, and turning or circling in one or both directions. The KHRC veterinarian will promptly notify the Stewards if the jockey refuses to comply. (810 KAR 1:012 Section 9).
- 2) If the KHRC veterinarian observes lameness or a condition that indicates a horse is not in serviceable, sound racing condition or is otherwise unfit to race, he will promptly notify the Stewards and recommend the horse be scratched. (810 KAR 1:012 Section 9). Any horse so scratched will be placed on the InCompass Veterinarians' List and ineligible to enter until released by a KHRC veterinarian or his designee (i.e. regulatory veterinarian in another racing jurisdiction). (810 KAR 1:018 Section 18). The KHRC veterinarian shall provide the trainer of any Vet Listed horse the conditions required for the horse's release from the Vets' List as soon as is reasonably possible after the horse is scratched.
- 3) If the KHRC veterinarian does not observe lameness or condition that indicates a horse is not in serviceable, sound racing condition, he will provide his observations to the jockey who will then declare whether or not he will ride the horse in the race.
- 4) If the jockey declines to ride the horse, the KHRC veterinarian will recommend to the Stewards that the horse be scratched. Any horse so scratched may be placed on the

InCompass Veterinarians' List and ineligible to enter until released by a KHRC veterinarian or his designee (i.e. regulatory veterinarian in another racing jurisdiction). The KHRC veterinarian shall provide the trainer of any Vet Listed horse the conditions required for the horse's release from the Vets' List as soon as is reasonably possible after the horse is scratched

- 5) If a jockey declines to ride a horse due to his own illness or injury AND the KHRC veterinarian observes the horse to exhibit neither lameness nor any condition inconsistent with fitness to race, the horse may be, at the discretion of the Stewards, returned to the paddock for a replacement jockey.

Prior to the loading of the horses into the starting gate, the KHRC veterinarian should be alert to, and initiate appropriate response for the following:

- Epistaxis (bleeding from one or both nostrils)
- Bleeding from mouth
- Bandages loose or slipping
- Loose or missing horse shoe(s); shoes impacted with snow
- Loose or incorrectly applied equipment\*
- Injury
- Lameness
- Significantly aberrant behavior (such as, but not limited to, somnolence, stupor, aggression, agitation)
- Neurologic signs
- Physical distress
- Inappropriate sweating pattern relevant to existing weather conditions
- Inappropriate urging (with crop by jockey or buggy whip by gate crew)

\* The veterinarian is not to adjust a horse's tongue tie without the prior consent of the Stewards. The veterinarian will not perform any equipment adjustment that requires contact with the horse's mucous membranes. All other tack/equipment adjustment requests (i.e. saddle resets, girth tightening, blinker adjustments) are referred to the Starter.

During the loading of the race into the starting gate, incidents may occur that require the KHRC veterinarian to rapidly determine whether a horse should be recommended for withdrawal or permitted to race. These incidents include, but are not limited to a horse that: 1) flips and gets one or more legs over a partition; 2) flips and is lodged in or under the gate; 3) sustains head trauma, or 4) sustains an open wound. The veterinarian should notify the starter and the Stewards that the horse must be evaluated, and an assistant starter will back the horse out of the gate for the veterinarian to assess. This assessment must be performed efficiently as other horses remain standing in the gate and opportunity exists for other incidents to occur. Should a scratch be recommended, it may be appropriate for the equine ambulance to be summoned to return the horse to its barn. Sedation may be administered at the discretion of the KHRC veterinarian. The KHRC veterinarian

should contact the practicing veterinarian and provide an assessment of the horse and an inventory of treatments administered.

### Running of the race

The KHRC veterinarian is responsible for monitoring the field during the running of the race and responding to incidents in his/her proximity. Response to incidents may include injury triage (including euthanasia of an irredeemably injured horse), directing the activities of lay persons assisting at the scene, establishing a security perimeter, and communicating with Stewards, track maintenance personnel, the trainer and/or veterinarian of the affected horse. Each incident is unique and the veterinarian must demonstrate proficiency in rapidly adapting to the situation presented. It is preferable, whenever possible, that two KHRC veterinarians attend an injured horse, and that one remain with the horse until the case is effectively transferred to the regular attending veterinarian. Veterinarians are to be alert to incidents that occur outside their assigned coverage area. Once having determined that his assigned area is clear, a KHRC veterinarian should promptly respond as back-up to the KHRC veterinarian managing an incident.

Management of a horse determined to be injured requires that the KHRC veterinarian:

1) Establish control of the horse via physical and/or chemical restraint

Adequate restraint should be established before any other event occurs. It is not recommended to use a twitch for restraint of an injured horse in full view of the public.

As the unexpected released of a long-handled twitch presents a significant safety risk to individuals present, the use of the twitch within the confines of the equine ambulance is also not recommended.

2) Rapidly assess the injury by identifying the affected limb(s) and/or body system

Hyperextension of a joint, or instability of the boney column of support; neurologic signs of ataxia, paralysis, stupor or dementia; or evidence of hemorrhage/blood loss (external or internal) should initiate a prompt veterinary response.

In some situations, the results of this assessment are inconclusive. The KHRC veterinarian should not formulate a diagnosis that exceeds the scope of examination that he able to perform. The KHRC veterinarian should be mindful that even a preliminary diagnosis may not be possible at the time he attends the horse.

3) Initiate limb stabilization where relevant

The Kimzey Leg Saver Splint© (Kimzey Welding Works, Inc. 164 Kentucky Avenue, Woodland, CA) should be applied for instability in one plane of the fetlock, pastern or coffin joint and may be used for suspected lateral condylar fractures.

The Kimzey Leg Saver Splint© is not appropriate for application to limbs demonstrating instability in 2 or more planes.

The compression boot may be applied for suspected condylar fractures or indeterminate lameness isolated to the distal forelimb.

The extended Kimzey splint should be applied for carpal joint instability. It is not appropriate for suspected humeral, radial or ulnar fractures.

A modified Robert Jones bandage is appropriate for radial, ulnar, or tibial fractures. The incorporation of a rigid pole (i.e. broom handle) into the lateral aspect of the bandage may offer additional support and prevent adduction of the limb.

When applying any external stabilization device, the KHRC veterinarian should direct the horse's handler to stand to the side (and not directly in front) of the horse. This will avoid the handler being struck by the device should the horse reflexively jerk the leg away from the veterinarian. For a forelimb injury it is recommended that the handler stand on the side of the uninjured limb. For a hind limb injury it is recommended that the handler stand on the side of the injured limb.

In the absence of clear clinical indication for the application of a specific stabilizing device, it is appropriate to transport the horse without external stabilization.

Emergency medications, consistent with the urgent medical needs of a patient and for establishing humane management of the horse's condition pending further evaluation, may be administered at the discretion of the KHRC veterinarian until such time as a practicing veterinarian is able to attend. At that time, the KHRC veterinarian will transfer the case to the practicing veterinarian and provide information related to patient presentation, clinical assessment, and medications (if any) administered. All medication administrations must be promptly and accurately recorded in the relevant Medication Log kept in the Test Barn.

#### 4) Transport of patient

Patients should be afforded additional stability by proper placement of the hydraulic center partition in the equine ambulance.

The attendant accompanying the injured horse should stand in front of the transverse partition and not in the stall with the horse.

The ambulance driver should be mindful of the instability of the patient and avoid abrupt starts, stops, or turns.

#### 5) Transfer the case to the attending veterinarian.



The test barn supervisor will contact the attending veterinarian and advise him of the location and status of the horse—as reported by the KHRC veterinarian.

The behavior of an injured horse can be unpredictable, and the KHRC veterinarian must be mindful of human safety issues when personally handling such horses or directing the activity of laypersons assisting the injured horse.

In certain circumstances, it may be advisable to request assistance from racetrack security in establishing a secure perimeter for the safe management of an injured horse.

The KHRC veterinarian will collect blood from any injured horse that requires transport via equine ambulance. If emergency medications were administered prior to blood sampling, the medication, dose, and route of administration will be noted and included with the sample.

The KHRC veterinarian summons the equine ambulance by radio and should concisely report the saddle towel number of the affected horse, location of the horse (surface and pole), and its status (ambulatory, non-ambulatory, or recumbent). The KHRC veterinarian should be mindful that this transmission may be heard at a number of locations, and should refrain from graphic descriptions of an injury, or speculation about the cause of the injury, or its potential outcome. More detailed information should only be transmitted by cell phone. The KHRC veterinarian will not communicate information regarding an injured horse to any person not determined to be directly associated with the horse.

If other horses are on the track while the ambulance is being deployed, the KHRC veterinarian should be alert to their locations and any potential safety issues associated with their presence. The equine ambulance should travel along the outside rail and leave the rail only on the direction of the Steward, Outrider, or KHRC veterinarian. The ambulance should not be deployed toward oncoming horses traveling at high speeds but rather wait until the horses have passed. The ambulance should not be deployed if there is a loose horse on the track.

### Catastrophic Injury

The KHRC veterinarian should be prepared to respond to a horse determined to be injured to such an extent that prompt euthanasia is indicated. Syringes pre-loaded with euthanasia solution should be carried in the medical kit on the horse ambulance. The KHRC veterinarian should make every effort to load the injured horse into the equine ambulance before performing euthanasia. A recumbent horse may be administered general anesthesia, placed on a mat and the mat winched into the ambulance. (Hubbell, JA, Hinchcliff, KW, Schmall, ML, et al. Sedative Administration to Horses Immediately After Maximal Exercise: Determination of Drug and Dose, in Proceedings, 43<sup>rd</sup> Annual Conv Am Assoc Equine Practnr 1997;

279-282.) A recumbent but conscious horse should not be loaded into the ambulance.

If the horse cannot be loaded into the ambulance, a portable screen or visual barrier should be deployed and the horse euthanized beyond the scope of public view. In the absence of extenuating circumstances, it is recommended that euthanasia not be performed unless two or more KHRC veterinarians are present and are unanimous in the decision to euthanize. Blood (and urine, where possible) samples should be collected prior to, or immediately after, euthanasia and managed in accordance with chain of custody procedures. The KHRC veterinarian will insure that horseshoes and bandages are not removed prior to necropsy and that the carcass is not altered post-mortem.

KHRC veterinarians will compile information related to a catastrophic injury including past performance data; pre-race examination findings history; and interviews with trainer, jockey, and any other relevant individuals.

### Necropsy

All horses that die or are euthanized as a result of a race-related incident will be submitted to the University of Kentucky Veterinary Diagnostic Laboratory (VDL) or the Breathitt Laboratory for necropsy. The KHRC veterinarian is responsible for timely completion and submission of accession forms either electronically, by fax, or to accompany the carcass. The exercise-related equine fatality accession sheet is as follows:

**KHRC Necropsy Accession Form**


DATE OF DEATH: \_\_\_\_\_, 2009                      TIME OF DEATH: \_\_\_\_:\_\_\_\_ am pm  
 EUTHANIZED: Y                      N

**KHRC Submitting Veterinarian:**                      **Attending Veterinarian:**  
 Peckham, Bryce                      (785) 817-2067                      Name: \_\_\_\_\_  
 Farmer, Will                      (859) 967-8894                      Phone: \_\_\_\_\_  
 Koval, Nate                      (859) 967-7020  
 Hardy, Mike                      (317) 407-9752

**TRACK:** CD   ELP   KD   KEE   TP   RDM   ThR   BG  
**Race:** 1 2 3 4 5 6 7 8 9 10 11 12 13                      **Condition:** Clm   Alw   Stk  
**BREED:** TB   STD   Other \_\_\_\_\_

HORSE	TATTOO	COLOR	SEX	AGE
<input type="text"/>	<input type="text"/>	bay dk b or br ches grey/roan	Filly / Mare Colt / Horse Gelding Ridgling	<input type="text"/>

**CASE INFORMATION**

<p><b>RACING                      TRAINING</b></p> <p>Location Injury observed on track:</p>  <p>Distance of race/work: _____</p> <p>Surface: Dirt   Synthetic   Turf</p> <p>Condition: Fast   Good   Muddy   Sloppy   Wet Fast                  Firm   Good   Yielding   Soft</p> <p>Furosemide: Y   N   Adjunct bleeder meds: Y   N</p> <p>Medications administered: (circle all that apply)                  Euthanasia Sol'n (CIII)                  Succinylcholine</p> <p>Acepromazine                  Butorphanol (Torbugesic)                  Detomidine (Dormosedan)                  Flunixin (Banamine)                  Phenylbutazone                  Pred sodium succinate (Solu Delta Cortef)                  Tiletamine/zolazepam (Telazol)                  Xylazine (Rompun)                  Other _____</p>	<p><b>OTHER</b> _____                  (barn, paddock, road, loading chute, etc.)</p> <p>Injury / Trauma                  Non-infectious dz                      Colic   Laminitis   Pleuropneumonia                      Other _____</p> <p>Infectious Dz                      EPM   EHV-1   Colitis/Diarrhea                      Viral encephalitides                      <b>Rabies suspect</b>                      Other _____</p> <p>Sudden Death / Unknown                  Other _____</p> <p>Shoeing</p> <p>RF _____                      LF _____                  RH _____                      LH _____</p> <p>Injury management: (circle all that apply)                  Ambulance                  Kimzey splint                  Compression Boot                  Robert Jones Bdg                  Other _____</p> <p>Antemortem diagnostics performed:</p> <p>Radiology                  Ultrasound                  Imaging, other _____</p> <p>CBC   Chemistry   Serology   Virus Isolation                  Bacteriology</p>
<p>Clinical observations, comments:</p> <div style="border: 1px solid black; height: 150px; width: 100%;"></div>	

Non-race-related fatalities may be submitted for necropsy at the discretion of the Stewards or the Chief Racing Veterinarian.

The VDL has a dedicated racing necropsy group for the examination of musculoskeletal injuries. If the Breathitt Laboratory is the most proximate facility and the case horse sustained a fatal musculoskeletal injury, the KHRC veterinarian will remove the affected limb and the contralateral, unaffected limb for transport to the VDL while the remainder of the carcass is submitted to the Breathitt laboratory.

The KHRC veterinarian will coordinate with the trainer and/or owner to determine and address any equine mortality insurance requirements.

In the event of a suspicious death, or high-profile fatality, the KHRC Chief Racing Veterinarian will contact racetrack security to provide security personnel to remain

with, and secure the carcass for chain of custody purposes until it is transported to the VDL.

Following the race and until the horses have exited the racing surface

The KHRC veterinarian continues to observe the horses until they have exited the track following completion of the race and unsaddling. During this time, the veterinarian will monitor horses for signs of:

- Lameness
- Exhaustion / distress
- Epistaxis
- Evidence of misuse of the whip\* (i.e. welts, wounds, hematomas, hemorrhage)
- Wounds
- Metabolic disorders (i.e. tying-up, synchronous diaphragmatic flutter ["thumps"])
- Neurologic signs/ataxia
- Any evidence of injury/unsoundness/ or onset of race-related health conditions

\*To be documented by photography and made available to the Stewards upon request

At the discretion of the KHRC veterinarian, the equine ambulance may be utilized to transport an affected horse to its barn.

At all times, but particularly during periods of high environmental heat and humidity, the KHRC veterinarian must be prepared to rapidly intervene and provide assisted cooling to horses demonstrating signs of heat exhaustion. An assessment of racetrack facilities (i.e. hoses/water supply, safe areas off track for managing patients) should be performed prior to need, with any deficiencies identified and remedied.

It is important that horses demonstrating clinical signs associated with heat exhaustion be promptly identified and rapidly addressed. When possible, it is preferable to remove the affected horse from the racetrack for treatment. This may be most effectively achieved by having the outrider pony the horse to a location where the horse can be safely managed—typically a soft sandy area or unencumbered grassy area.

Treatment includes facilitated cooling through the application of cold water, cooling blankets, or in the absence of a water source, copious topical application of rubbing alcohol. The intravenous administration of prednisolone sodium succinate (Soludelta Cortef®, Pfizer) is warranted in all but the mildest cases. For horses demonstrating more severe clinical signs—especially neurologic signs—the

administration of a sedative may be indicated. Xylazine is not recommended for this application as it provides unreliable control of the horse's hindquarters.

Affected horses can be very dangerous as neurologic signs can range from stupor to seizure with little warning. Many severely affected horses appear to be insensate and unresponsive to their handlers and environment. Such horses must be kept well clear of buildings, trees, or other unyielding structures. Management of these cases should be restricted to a small number of qualified personnel, with observers relegated to a safe distance. It may be appropriate to enlist the assistance of security personnel to establish a perimeter during the management of these cases.

## Supplies and Equipment

### *Equine Ambulance*

The equine ambulance should be staffed by a driver and helper at all times when horses are on the race track. The driver should be proficient in maneuvering the ambulance forwards, backwards, and in restricted spaces. It is recommended to assess driver competency prior to actual deployment in response to an injured horse. The driver's helper should be well experienced in applying appropriate physical restraint. Safe handling of an injured horse, which can demonstrate unpredictable behavior, is critical to human safety and optimizing case outcome.

When responding to an emergency the driver should position the ambulance between the horse and the viewing public, acting as a visual barrier.

Each equine ambulance should be stocked with the following items:

1. Medication bag
2. Kimzey Legsaver® splints  
Distal limb (short)  
Carpal (extended)
3. Compression boot(s)
4. Bandage material (elastic support wraps, disposable leg cottons and sterile non-adhesive pads)
5. Ice, water, buckets and sponges
6. Rubbing Alcohol
7. Halters and lead shanks
8. Biologic sample collection supplies (blood collection tubes, needles, needle sleeves, urine cups, official laboratory bar codes and labels)
9. Curtain/ screen/ or portable barrier
10. Mat or rescue sled for transport of recumbent horses

Medication bags should contain the following:

Sedatives (xylazine, detomidine)

Short acting corticosteroids (prednisolone sodium succinate)

Euthanasia solutions (pentobarbital/phenytoin and succinylcholine)

Needles and syringes of size and gauge relevant to the administration of the above medications

Euthanasia solutions should be segregated and distinctly marked (without obscuring the manufacturers' labels) making them readily distinguished from all other medications. A color-coded labeling system may afford additional insurance that the appropriate medications are being delivered.

A single-horse dose of euthanasia solution may be stored pre-loaded in 60 cc syringes to avoid unnecessary delay at the time it is required for administration.

The medication bag contains DEA scheduled substances. The KHRC veterinarian is responsible for properly securing controlled substances at all times and accurately logging the use of any scheduled substance in the Log Books maintained in the Test Barn. The KHRC Veterinarian must immediately report any broken vials or unintended discharge of loaded syringes to the Chief Racing Veterinarian.

A reconciliation of recorded use of scheduled substances, invoices and inventory shall be performed annually. Any discrepancies must be promptly reported to the Equine Medical Director.

KHRC veterinarians must know conventional doses and routes of administration for all emergency drugs carried in the medication bag.

#### The Veterinarians' List

Horses determined to be unsound, injured or otherwise unfit for competition, will be placed on the Official Veterinarians' List. The KHRC veterinarian will notify the Test Barn supervisor who will enter the horse on the Vets' List in the InCompass Racetrack Operations system. The trainer will be notified verbally by a KHRC veterinarian, with written notification (including conditions of release from the Veterinarians' List) provided on the next live racing day. For trainers stabled off site, KHRC veterinarians will make every reasonable effort to provide electronic notification if a fax number or e-mail is registered in the KHRC Licensing Department. Inability of the KHRC to provide oral or written notification does not negate the ineligibility status of the horse.

Written trainer notification will be provided on the following form:

Date: \_\_\_\_\_ Trainer: \_\_\_\_\_  
Horse: \_\_\_\_\_ Tattoo: \_\_\_\_\_

**Vets' List; work not required.** Eligible to start on \_\_\_\_\_  
Ineligibility period minimum 7 days; longer at discretion of KHRC Veterinarian(s).

**Vets' List; SEE VET.**  
Ineligibility period minimum 7 days; longer at discretion of KHRC Veterinarian(s).  
Attending Veterinarian must examine horse and provide written report of racing soundness to KHRC Veterinarians prior to release from Vets' List.

**Vets' List; SEE STATE VET.**  
Ineligibility period minimum 7 days; longer at discretion of KHRC Veterinarian(s).  
Trainer must contact the KHRC Veterinarians to schedule observed work and/or physical examination. Appointments are to be made no less than 24 hours in advance and are not available on dark days.  
\*\*Post-work blood samples will be collected and submitted to the official laboratory for horses working to be excused from the Vets' List.

**Vets' List; OTHER.**  
Contact KHRC Veterinarian(s) for conditions of release from Vets' List.

COMMENTS:

KHRC veterinary staff will update the Veterinarians' List as needed and perform a performance history review of horses listed as ineligible a minimum of twice yearly. The Veterinarians' List will be published every 2 weeks on the KHRC website and displayed by the Association in the racing office at tracks where live racing is being conducted.

KHRC veterinarians are encouraged to utilize an electronic notification service (i.e. Equibase Virtual Stable) as a tool in monitoring horses having been placed on the Veterinarians' List and to facilitate communication between regulatory jurisdictions on matters of equine health and safety.

#### Release from the Veterinarians' List

Trainers are required to schedule an appointment for horses requiring works observed by the KHRC veterinarian. At the time of notification of a horse's placement on the Veterinarians' List, the trainer will be provided with current contact information for KHRC veterinarians for the purpose of scheduling a work appointment. KHRC observed works shall be scheduled at the location where, and on a day when live racing is being conducted. Trainers seeking modification of the scheduling procedure must contact the Chief Racing Veterinarian with their request and justification. Modification in the time or location of a work may be made at the sole discretion of the Chief Racing Veterinarian.

The KHRC veterinarian will 1) perform a standard pre-race exam on the horse prior to its leaving the barn; 2) monitor the horse warming up prior to breezing; 3) observe the horse on the track after completing the breeze; 4) and back at the barn where the horse again undergoes a standard pre-race exam.

The KHRC veterinarian may collect a blood sample from the horse and, following standard chain of custody practices, submit it to the official laboratory for quantification of non-steroidal anti-inflammatory medications. The horse will not be released from the Veterinarians' List unless the horse's physical condition is acceptable at all points of contact and until negative test results are received from the official laboratory.

If the post-work sample contains NSAIDs in excess of regulatory thresholds, the horse will be denied release from the Veterinarians' List regardless of its observed physical condition. If the horse is determined to be unsound, the KHRC veterinarian will notify the trainer and the horse will remain on the Veterinarians' List.

### Equine Injury Database

Data from horses requiring KHRC veterinarian intervention on raceday (pre-race exam scratch; post-parade scratch; injured or lame during or immediately after the running of a race) will be entered into the Jockey Club Equine Injury Database. The KHRC veterinarian is responsible for updating case information in the EID as it becomes available through practicing veterinarians or necropsy results.

### Communication

#### *General considerations*

While a racing injury is a public event, the specific medical information associated with the injured horse is privileged information. The KHRC veterinarian may convey this information to the trainer and/or owner. The KHRC veterinarian may not make any public notification regarding the condition of an injured horse without prior consent of the owner or his agent. The KHRC veterinarian should be wary of phone calls in which an individual identifies himself as the owner. In the absence of verified identify of the caller, the KHRC veterinarian will not divulge information relevant to the horse, but advise the individual to directly contact his trainer.

In the event that the KHRC is authorized to release information about an injured horse, one KHRC veterinarian should be designated for all media/public contact. Other KHRC veterinarians should direct all requests for information to the designated KHRC contact. Any KHRC veterinarian having contact with the media should notify the Chief Racing Veterinarian and Dick Brown (PPC).

#### *Media / Public*

For televised races, an AAEP media-trained "On Call" veterinarian will be present. This individual communicates with KHRC veterinarians via 2-way radio



and provides general medical information and case-specific details to the media. This veterinary intermediary allows the KHRC veterinarians to focus on the care of the injured horse, and provides clear, objective information to the media.

The KHRC veterinarian on scene will provide the AAEP "On Call" veterinarian with an initial assessment of the case. This assessment will not speculate about any aspect of the horse's condition nor offer diagnosis beyond the scope of the on-track exam.

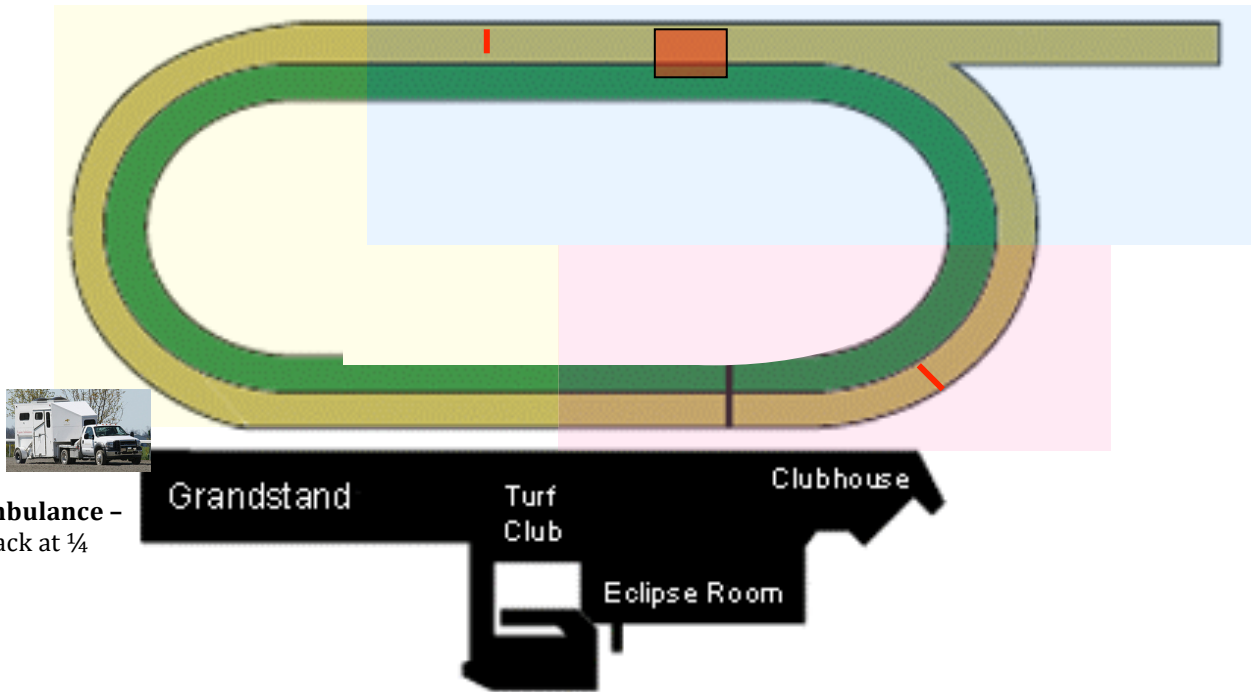
### Racetrack Specific protocols

#### *Churchill Downs*

**Secondary Ambulance** – staged off track at ¾ gap



Relocate to on-track mile chute for KY Oaks, Derby, and Breeders' Cup races



**Primary Ambulance** – staged on track at ¼ pole

Veterinarian response primary coverage zones:

- Paddock / finish line veterinarian
- Backside / test barn veterinarian
- Primary ambulance veterinarian

The primary ambulance is staffed by a KHRC veterinarian when horses are on the track and will be the first responder to any on-track or in paddock emergency. The veterinarian in closest proximity to the injured horse initiates radio communications and summons the equine ambulance.

If the primary ambulance is unable to return to its staging area prior to the post parade of the next race, the secondary ambulance will be relocated to the primary ambulance site to await deployment.


Secondary ambulance is deployed when:


More than one emergency occurs in the same race.

An injury occurs after the finish of a race between the finish wire and the 5 furlong marker.

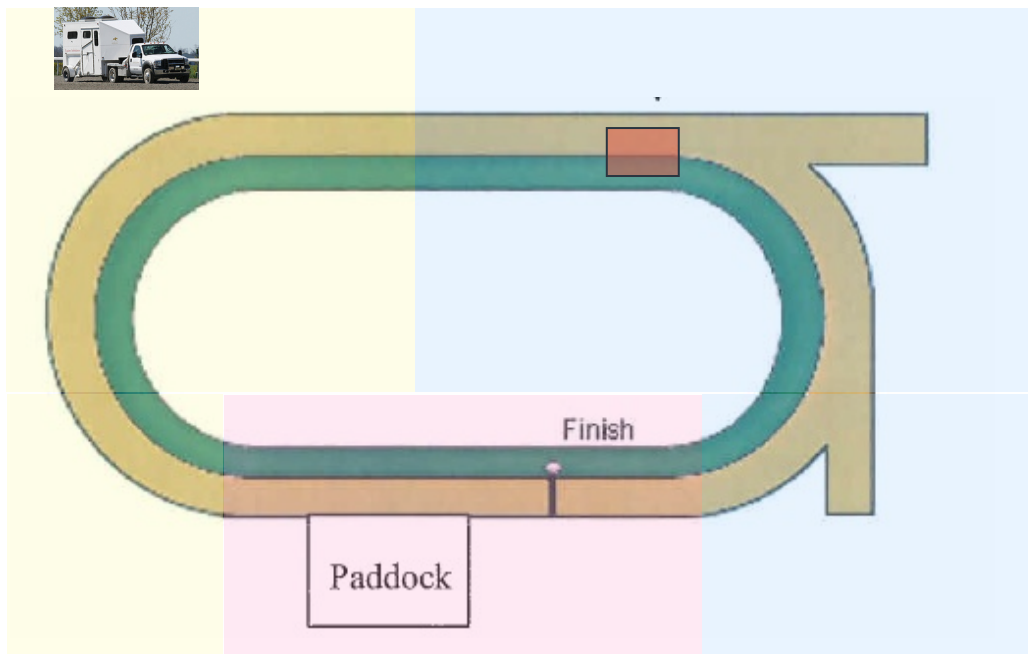
Turf course access by equine ambulance


There are two entrances onto the turf course with the ambulance:

 5 furlong gap to access horses on the south side of the track between the 7/8 mile pole and the 1/2 mile pole.

 1/4 mile gap to access to horses on the north side of the track between the 1/2 mile pole and the 7/8 mile pole

**Ellis Park**



 All turf course access via 5 1/2 furlong marker gap. Ambulance staged adjacent to gap for all turf races.

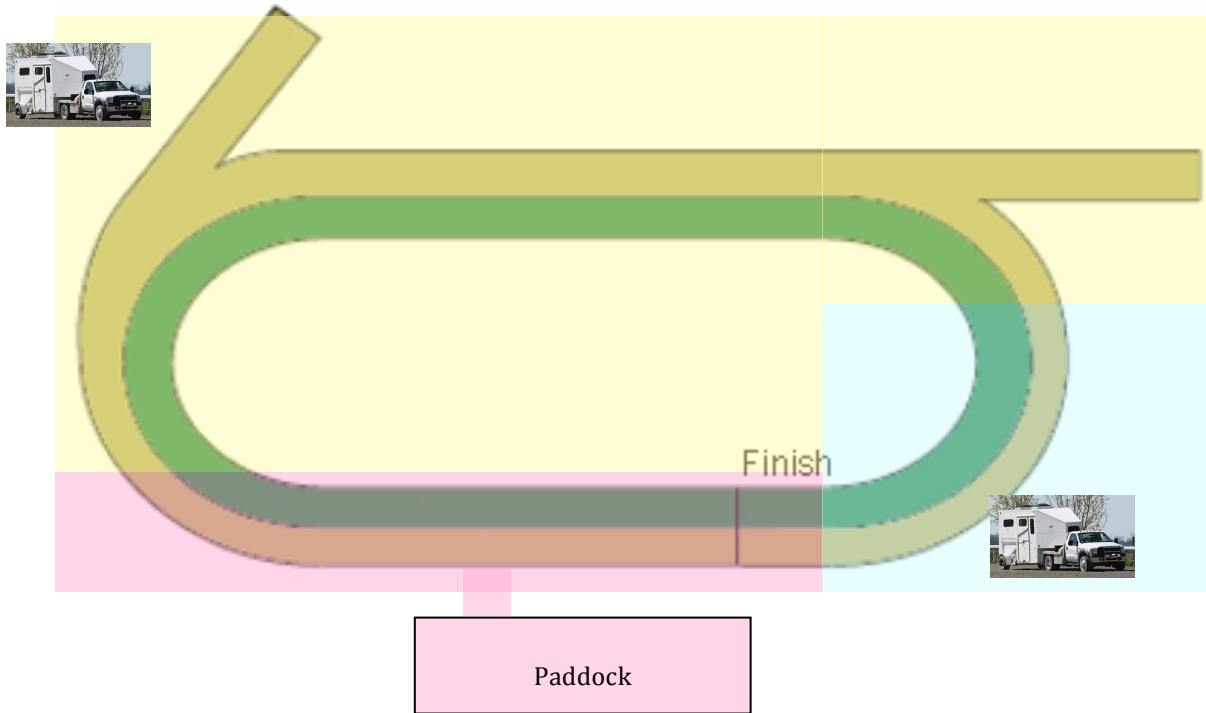
Veterinarian response primary coverage zones:

 Paddock / front stretch/ finish line




 Starting gate / clubhouse turn

 Primary ambulance / test barn

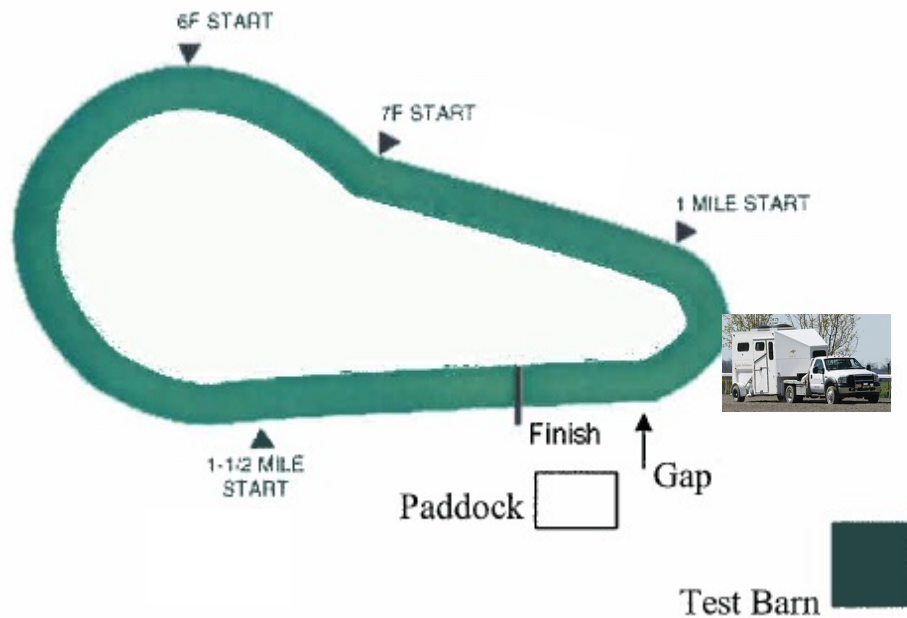
***Keeneland***



Veterinarian response primary coverage zones:

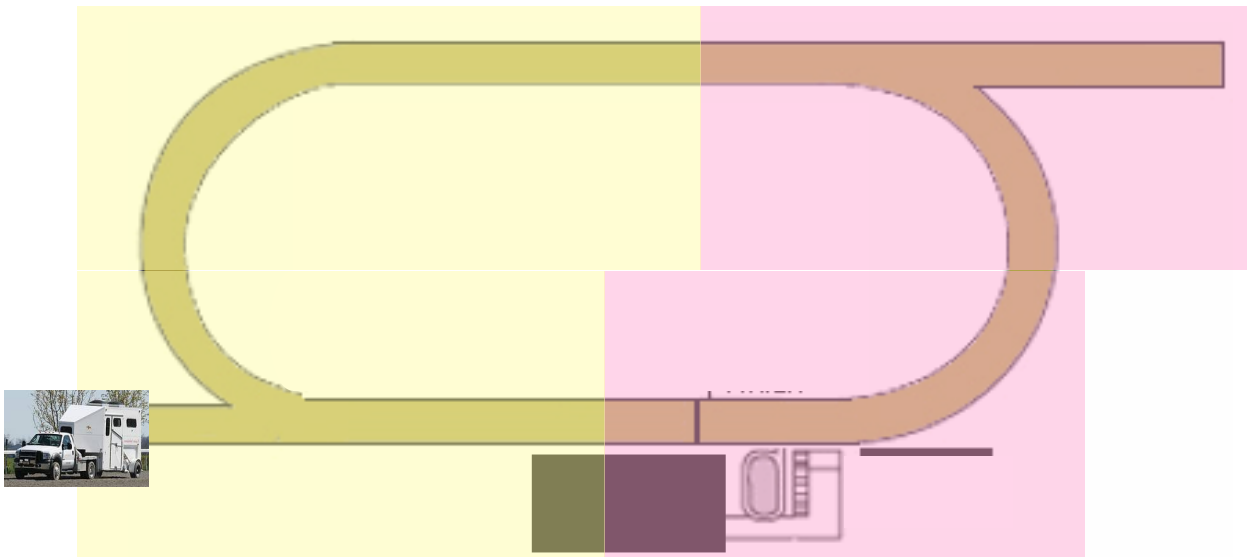
-  Paddock / finish line veterinarian
-  Primary ambulance veterinarian
-  Backside/starting gate veterinarian (equipped with gator, uses infield to access any site on track)

## *Kentucky Downs*



One veterinarian is located in the paddock when horses are present, and at the finish line when horses are on the track. A second veterinarian is located at the equine ambulance. Either veterinarian may provide service at the test barn. In the event of a racing incident, the veterinarian nearest to the affected horse will be the primary responder, with the second veterinarian deploying after having determined that no horses in his medicate vicinity require emergency care.

## Turfway Park



One KHRC veterinarian attends the paddock when horses are present and then proceeds to the starting gate as the field enters the racetrack. A second KHRC veterinarian is positioned at the equine ambulance. This veterinarian may also attend the test barn if necessary.

If a third veterinarian is available, that individual will monitor by vehicle the backstretch between the clubhouse turn and the stretch turn.

## Harness Racetracks

For Players Bluegrass Downs Thunder Ridge Raceway, and The Red Mile (other than for Grand Circuit Racing) one KHRC veterinarian is present. It is preferable, when possible, that the KHRC veterinarian be present trackside during warm ups and when races are running. Given the Test Barn, TCO<sub>2</sub> and furosemide administration responsibilities and the infrequency with which Standardbred racehorses sustain major injuries, it is not mandatory that the KHRC veterinarian directly observe each live race.

For The Red Mile Grand Circuit racing, two KHRC veterinarians are on site to perform furosemide administrations, TCO<sub>2</sub> testing, direct Test Barn activities, and monitor the condition of horses racing.

## **Exhibit I**

### **Recommended Protocol for Mortality Review Board Proceedings**

#### **Recommended Protocol for Mortality Review Board Proceedings**

Recommended Meeting Personnel should include:

- The NYRA VP-Director of Racing (Chair)
- NYSRWB Steward
- Chief Examining Veterinarian
- NYTHA Representative
- Jockey's Guild Representative
- Trainer & Assistant Trainer (if applicable) of the fatally-injured horse
- Jockey of the fatally-injured horse
- Attending veterinarian (s) of the fatally-injured horse
- Track superintendent

Prior to the interview, the following procedures should be performed:

- Review race replays.
- Review NYSRWB Veterinary Record Form VR1a from the veterinarian (s) who attended/treated the fatally-injured horse for 30 days leading up to the race.
- Review PP's of the fatally-injured horse to determine if exercise history warranted increased pre-race scrutiny.
- Check Incompass to see if the horse had ever been on the starter's or vet's list.
- Review pre-race examination findings for the fatally-injured horse.
- Review risk factors that may apply to the fatally-injured horse.
- Review NYRA Death Certificate and preliminary NYSRWB Investigative Report findings.
- Review NYSRWB blood and urine test results.
- Review trainer's treatment log

The following questions are recommended to be asked of the trainer of the fatally-injured horse. Additional questions may be warranted based on case-specific information, or answers provided by interviewees:

1. When did you obtain this horse?
2. What physical conditions were present at that time?
3. Was he lame at that time? If so, what was the cause of the lameness?

4. Has he been lame, or missed training due to 'soreness' during the time you have had him?
5. To your knowledge, has this horse ever had surgery for an orthopedic condition?
6. Who was responsible for daily monitoring of this horse?
7. Was this horse examined by a veterinarian? If so, why was the exam initiated?
8. Were any diagnostic tests, including x-rays or ultrasound examinations performed by your veterinarian? If so, what were the findings?
9. What medical treatments were administered to this horse within 30 days of the race?
10. What was the pre-race medication regimen for this horse?
11. What was the training schedule for this horse?
12. Did the exercise rider or jockey advise you of any concerns regarding soundness of this horse?
13. Was this horse treated with Extracorporeal Shock Wave Therapy? If so, for what condition and when was the treatment administered?
14. Did you saddle this horse, and if so was there a change of attitude in the paddock?
15. Have any joints been injected on this horse? If so, when were the injections performed?
16. Has this horse ever left the grounds while under your care?
17. Are there any special circumstances regarding this horse that you believe may have contributed to this injury?
18. What is your impression of the track condition?
19. What do you think caused this horse's injury?
20. Knowing what you know now, would you have done anything differently with respect to the management of this horse?

The Mortality Review Board Proceedings should be an educational process. Emphasis should be placed on the responsibility of all concerned to protect the horse and jockey. The information obtained during the interview should be recorded and included in the final NYSRWB investigative report:

This program is modeled after the program that is currently being used at Penn National Race Course.



