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MEDICATION AND TRACK SAFETY COMMITTEE MEETING

of the **California Horse Racing Board** will be held on **Wednesday, February 20, 2013,** commencing at **2:00 p.m.,** in the **Baldwin Terrace Room** at the **Santa Anita Park Race Track, 285 West Huntington Drive, Arcadia,** California. Non-committee Board members attending the committee meeting may not participate in the public discussion, official committee vote or committee closed session.

AGENDA

1. Report and update by the University of California, Davis on the **CHRB/University of California, Davis Necropsy Program** for fiscal year 2011-2012.

2. Report and update regarding the **CHRB Track Safety Program, including a request for approval of a three-year contract with the University of California, Davis for continuation of the program.**

3. Report and update regarding the **CHRB/University of California, Davis (Maddy Equine Analytical Chemistry Laboratory) Drug Testing Program** for fiscal year 2011-2012.

4. Discussion and action regarding procedural options to implement proposed amendments to **CHRB Rule 1845, Authorized Bleeder Medication, which would limit bleeder medication to furosemide (Lasix) administered by non-practicing veterinarians.**

5. Discussion and action regarding **options to regulate intra-articular injections and corticosteroids.**

6. Discussion and action regarding the proposed addition of **CHRB Rule 1927.1, Tampering with Smoke Detectors Prohibited,** to include penalties relative to tampering with fire safety equipment, i.e. smoke detectors.

7. Discussion and action regarding **concussion protocol for jockeys.**

8. **General Business:** Communications, reports, requests for future actions of the Committee.

Additional information regarding this meeting may be obtained from Jacqueline Wagner at the CHRB Administrative Office, 1010 Hurley Way, Suite 300, Sacramento, CA 95825; telephone (916) 263-6000; fax (916) 263-6042. A copy of this notice can be located on the CHRB website at www.chrb.ca.gov. *Information for requesting disability related accommodation for persons with a disability who require aids or services in order to participate in this public meeting, should contact Jacqueline Wagner.

MEDICATION AND
TRACK SAFETY COMMITTEE
Commissioner Bo Derek, Chairman
Commissioner Chuck Winner, Member
Kirk E. Breed, Executive Director

STAFF ANALYSIS
REPORT AND UPDATE BY
THE UNIVERSITYOF CALIFORNIA, DAVIS
ON THE CHRB/UNIVERSITY OF CALIFORNIA, DAVIS
NECROPSY PROGRAM
FOR FISCAL YEAR 2011-2012

Medication and Track Safety Committee
February 20, 2013

BACKGROUND

Dr. Uzal from the University of California, Davis is prepared to give the annual update on the CHRB/University of California, Davis Necropsy Program for fiscal year 2011-2012.

RECOMMENDATION

This item is presented for Committee discussion.

UCDAVIS
VETERINARY MEDICINE
California Animal Health and Food Safety Laboratory System

California Animal Health and Food Safety Laboratory System

California Horse Racing Board Necropsy Program
Fiscal Year 2011-12

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INTRODUCTION

The Postmortem Examination Program has been in operation since February 1990 and has performed examinations on 5,917 horses, as of June 30, 2012. Initiated by the California Horse Racing Board (CHRB), the program is a partnership with the California Animal Health and Food Safety Laboratory System (CAHFS) to meet three primary objectives 1) to determine the nature of injuries occurring in racehorses, 2) to determine the reasons for these injuries, and 3) to develop injury prevention strategies. To accomplish this, a broad, cooperative approach was organized involving the development of a contract with the CAHFS to perform a necropsy on every horse that died spontaneously or was euthanized on racetracks or training facilities under the jurisdiction of the CHRB. This visionary partnership has become a national model for the racing industry in an effort to improve the safety and welfare of racehorses.

Pathologists at the CAHFS' Davis, Tulare and San Bernardino laboratories conduct postmortem examinations and compile detailed information on each horse, which is then reported to the CHRB. A broad range of specimens are collected and shared with veterinary scientists in the School of Veterinary Medicine (SVM) at the University of California, Davis (UCD). Starting in 2011, all musculoskeletal specimens from CHRB horses necropsied at CAHFS laboratories are being shipped to the Veterinary Orthopedic Laboratory at UC Davis for the newly developed Enhanced Examination Program.

In depth analyses of these specimens helps to more precisely determine the causes and risk factors that lead up to catastrophic injuries in racehorses resulting in their death or euthanasia. During the past years, funding for postmortem examinations and ancillary testing was provided by the CHRB. Racing associations provide transportation of the horses to the nearest laboratory facility and additional studies are funded by the Center for Equine Health at UCD and private sources.

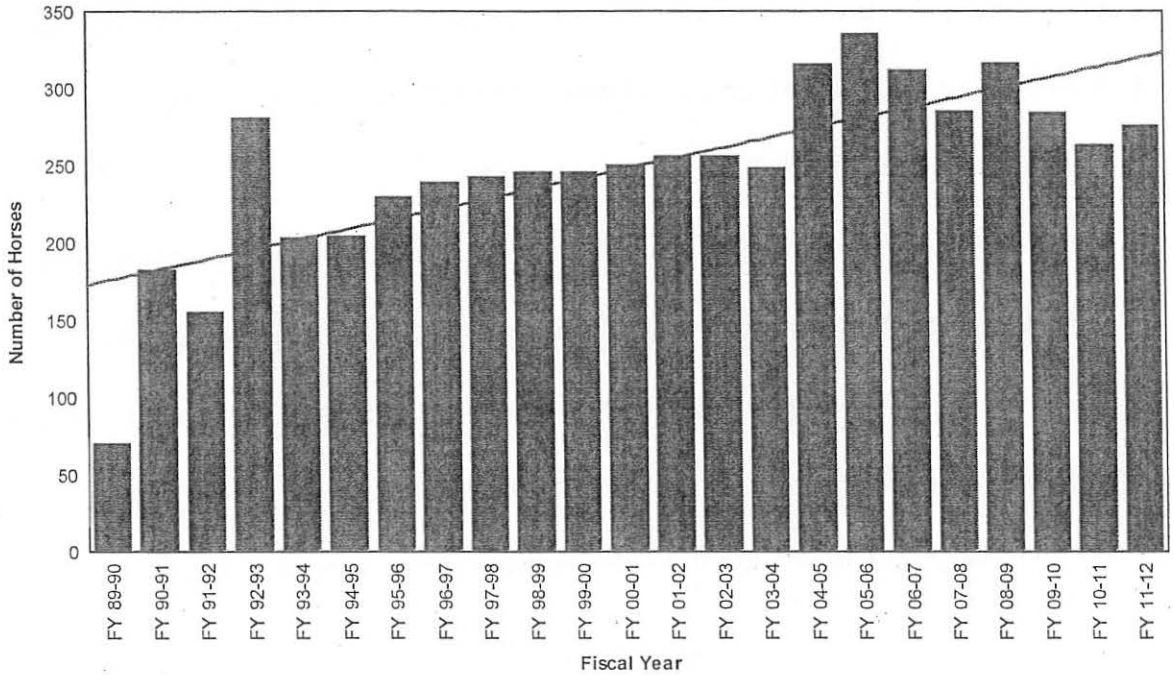
Information from the tests and data gathered from the postmortem examinations are analyzed in efforts to elucidate the specific cause of catastrophic injuries. An advisory board, composed of horse owners, trainers, veterinarians, track maintenance people and CHRB officials, gives insight into injury investigations as well as sharing program findings and prevention strategies with the horse racing industry.

GENERAL SUBMISSION INFORMATION

During the 2011-12 fiscal year, 278 horses were submitted to CAHFS as part of the CHRB Postmortem Program. This number is an increase of approximately 5 percent (13 horses) over the fiscal year 2010-11 count of 265 horses, but still a decrease of approximately 13 percent (42 horses) over the fiscal year 2008-2009 count of 320 horses. It is, however, higher than the average number of horses submitted per year since the program began. The graph below (Figure 1) shows the number of horses that have been submitted to the program since 1990 by fiscal year. The first year of the program (1990) began in February and does not represent a full fiscal year. The trend line shows that the number of horses submitted for the CHRB program have been

increasing slightly almost every year until 2005-06, after which a decline, interrupted temporarily in 2008-09, started. In 2011-12 there was a slight increase in the number of horses received as compared to the year before.

Figure 1. Number of Horses Submitted to the CHRB Postmortem Program by Fiscal Year



The CAHFS' Davis, Tulare and San Bernardino laboratories performed the necropsies, with horses being brought directly to the closest CAHFS facility. At the time of submission, the CHRB official at the track categorized the activity of the horse at the time of injury into one of three types: non-exercise, racing or training (Table 1).

The majority of catastrophic injuries, 39.6 percent, occurred during or immediately following a training session. A total of 34.6 percent of the fatal injuries occurred during a race or immediately following a race. This is a variation from previous years when most fatalities occurred during a race or immediately after a race. The third most

frequent category of fatalities, accounting for 25.6 percent of submissions, included horses in the non-exercise group. These were horses suffering primarily from medical conditions such as colic, infectious diseases or other conditions.

Table 1. Activity at Time of Injury/Fatality

Non-Exercise	71
Race	97
Training	110
Total	**278**

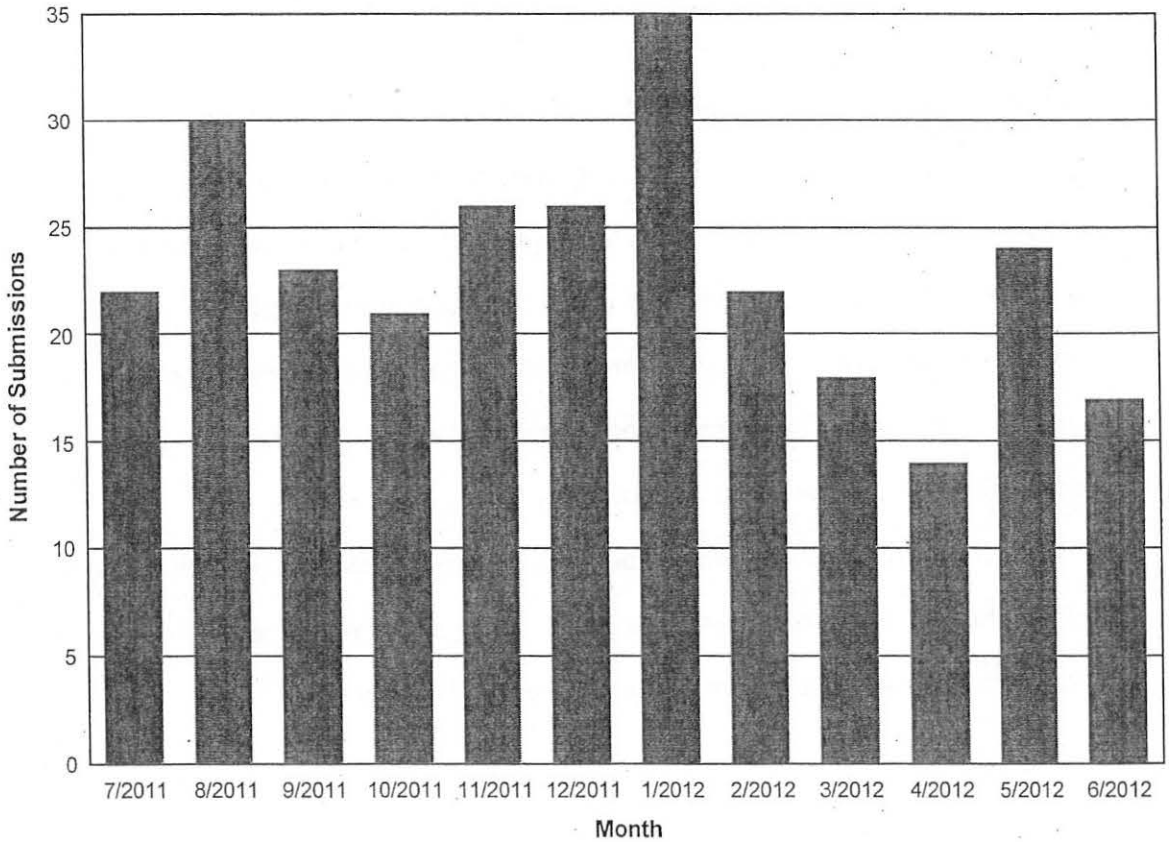
As in the past, the vast majority of submissions (80.2 percent) during FY 2011-12 were Thoroughbreds (Table 2). Forty six of the horses submitted in 2011-12 (15.6 percent) were Quarter Horses. This is a 4 percent decrease over the prior fiscal year and it constitutes the second year in which a reduction in the number of Quarter Horse submissions is observed. With very small numbers of the other breeds racing, not enough data exists to allow comparison of injury rates among breeds for any predisposition to any particular type of injury.

The number of horses submitted per month was variable, although there were not obvious clusters of submissions at any given month of the year (Table 2 and Figure 2). This is very similar to submission patterns over the last few years.

Table 2. Submissions by Breed and Month

Breed	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Total
Arabian	0	1	0	0	0	0	0	0	0	0	0	0	1
Quarter Horse	4	7	6	5	3	5	3	3	3	3	4	0	46
Standardbred	2	1	0	1	1	0	0	0	0	1	0	0	6
Thoroughbred	15	21	17	15	22	21	32	19	15	9	20	17	223
Undetermined	1	0	0	0	0	0	0	0	0	1	0	0	2
Grand Total	**22**	**30**	**23**	**21**	**26**	**26**	**35**	**22**	**18**	**14**	**24**	**17**	**278**

Figure 2. Horses Examined by Month

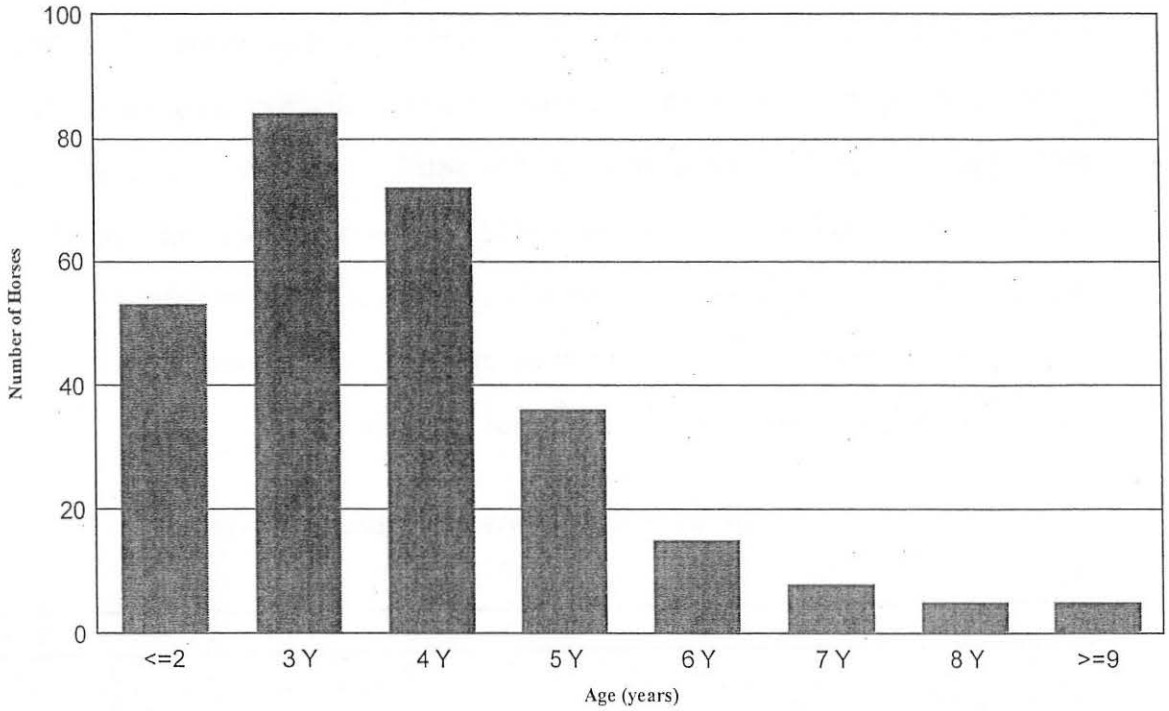


The largest proportion of submissions (>50.0 percent) were 3- or 4-year-old horses (Table 3). Only 19 percent of all racehorses submitted were 2-years-old or less. The number of horses submitted with catastrophic injuries or death drops dramatically after the fifth year of age (Table 3 and Figure 3). This distribution is consistent with the age distribution that has been seen in prior years of the program. We cannot conclude if horses 5 years of age and greater are much less susceptible to the athletic injuries of racing because the total number of horses in each age group that are racing and training on facilities controlled by CHRB are not known to us.

Table 3. Submissions by Breed and Age

	<=2	3	4	5	6	7	8	>=9	Total
Arabian	0	0	1	0	0	0	0	0	1
Undetermined	0	0	0	0	1	0	0	0	1
Quarter Horse	17	14	9	3	1	1	0	1	46
Standardbred	2	1	1	0	1	0	2	0	7
Thoroughbred	34	69	61	33	12	7	3	4	223
Total	**53**	**84**	**72**	**36**	**15**	**8**	**5**	**5**	**278**

Figure 3. Number of Horses Examined by Age



SUBMISSIONS BY GENDER

The gender distribution of the horses submitted during 2011-12 is shown in Table 4 below. Males represented 65.1 percent of the total group with 29.8 percent of males being intact (stallions) and 70.2 percent geldings. Females comprised 34.8 percent of the group. The amount of injures during training increased comparatively to racing when compared to the year before.

Table 4. Distribution of Horses by Gender and Category

Gender	Non-Exercise	Race	Training	Total
Female	24	29	44	97
Male	13	16	25	54
Neutered Males	34	52	41	127
Total	**71**	**97**	**110**	**278**

INJURIES

As mentioned earlier, the categories of injury represent the activity of the horse or circumstances at the time of the fatal or catastrophic injury. The largest cluster of fatal injuries, 75.2 percent, occurred during racing and training in 2-, 3- and 4-year-old racehorses (Table 5). The age of the horses submitted for non-exercise related fatalities was concentrated between 2 and 4 years of age.

Table 5. Category of Injury/Fatality by Age

Category	<=2	3	4	5	6	7	8	>=9	Total
Non-Exercise	21	18	11	7	6	2	3	3	71
Race	8	26	34	17	6	3	2	1	97
Training	24	40	27	12	3	3	0	1	110
Total	**53**	**84**	**72**	**36**	**15**	**8**	**5**	**5**	**278**

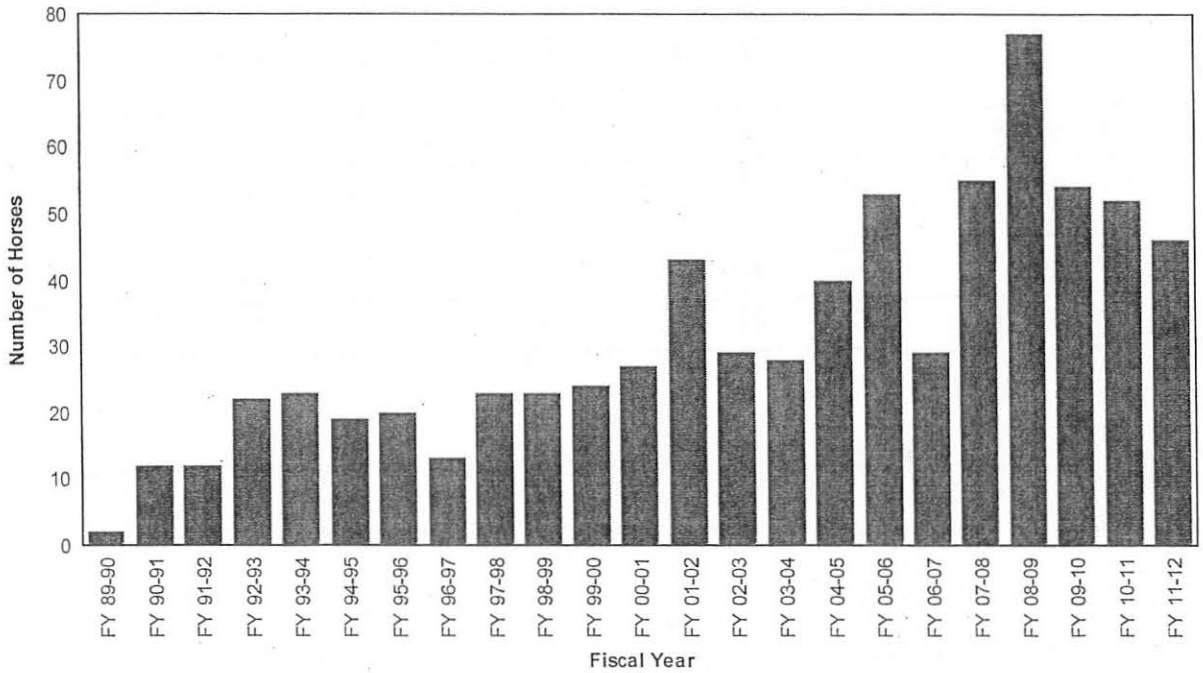
During this fiscal year Thoroughbred horses suffered many more training (47 percent) than racing (33.2 percent) catastrophic injuries (Table 6). This is a variation from the year before when nearly equal proportions of racing and training catastrophic injuries were observed. Typical of previous years, Quarter Horses infrequently suffered a catastrophic injury during a training session. Quarter Horse submissions during 2011-

12 were lower than the previous year, but they were still higher than the historical average submission for this breed. Figure 4 shows the historical number of Quarter Horses submitted to the program since its inception.

Table 6. Category of Injury/Fatality by Breed

Breed	Non-Exercise	Race	Training	Total
Arab	0	1	0	1
Undetermined	2	0	0	2
Quarter Horse	19	22	5	46
Standardbred	6	0	0	6
Thoroughbred	44	74	105	223
Total	**71**	**97**	**110**	**278**

Figure 4. Number of Quarter Horses Submitted to the CHRB Postmortem Program by Fiscal Year



In 2011-12, 74.1 percent of the total primary injuries or conditions in all breeds were due to musculoskeletal problems (Table 7). Of this group, 74.5 percent of injuries affected the front or rear legs (Table 8). The injuries listed in these tables represent the primary injury to the horse.

For this report, several primary findings for each horse submitted were recorded. Thus, the total number of reported injury types exceeds the total number of horses submitted. This is especially true in severe injuries involving multiple bones in the fore- or hind-limbs. In these cases, multiple related injuries, such as tendon and ligament ruptures are identified concomitantly.

Musculoskeletal injuries are most likely to occur during racing or training. Because these injuries are by far the most common, most of the investigative efforts at the University of California, Davis, have focused on causes and prevention of limb injuries.

Table 7. Organ Systems Affected

	CV	GI	MS	Nerv	Resp	Skin	Uro	WB	Total
Arabian	0	0	1	0	0	0	0	0	1
Undetermined	0	1	0	0	0	0	0	0	1
Quarter Horse	2	4	31	0	4	0	0	5	46
Standardbred	1	1	2	2	0	1	0	0	7
Thoroughbred	12	10	170	5	8	3	1	14	223
Total	**15**	**16**	**204**	**7**	**12**	**4**	**1**	**19**	**278**

(CV = Cardiovascular; GI= Gastrointestinal system; MS= Musculoskeletal; Nerv= Nervous system; Resp= Respiratory system; Skin = Integumentary system; Uro=Urogenital/Reproductive system; WB= Whole body).

Table 8 compares limb specific catastrophic injuries. The number of front limb injuries sustained during racing was very similar to those injuries sustained during training. There were nearly equal numbers of right and left front limb injuries as well as similar numbers of right and left rear limb injuries.

Table 8. Musculoskeletal area affected

Limb Affected	Non-Exercise	Race	Training	Total
Left front	0	47	45	92
Left rear	1	3	10	14
Right front	1	46	44	91
Right Rear	0	8	2	10
Pelvis	1	4	5	10
Skull	6	0	1	7
Vertebra	0	8	1	9
Other structures	16	5	5	26
Total	**25**	**121**	**113**	**259**

Table 9 lists the specific type of musculoskeletal injuries by breed.

Table 9. Musculoskeletal injury type by breed

Finding	Arabian	Quarter Horse	Standardbred	Thoroughbred	Total
Arthritis	0	8	0	0	8
Carpal Fracture - Left	0	0	0	5	5
Carpal Fracture - Right	0	1	0	6	7
Cervical Vertebra Fracture	0	0	0	1	1
Degenrative Joint Disease	0	0	0	1	1
Diaphragmatic Hernia	0	0	0	1	1
Distal Sesamoidean Ligament Rupture	0	0	0	1	1
Fetlock Joint Luxation - Left Front	0	1	0	3	4
Fetlock Joint Luxation - Right Front	0	0	0	3	3
Fibula Fracture Left	0	0	0	1	1
Fibula Fracture Right	0	0	0	1	1
Humerus Fracture – Left	0	0	0	9	9
Humerus Fracture – Right	0	2	0	11	13
Joint Disarticulation	0	1	0	1	2
Laminitis	0	4	0	4	8
Lateral Proximal Sesamoid Fracture - Left Front	0	0	0	1	1
Lateral Proximal Sesamoid Fracture - Left Rear	0	0	0	1	1
Lateral Proximal Sesamoid Fracture - Right Front	0	0	0	3	3
Lateral Proximal Sesamoid Fracture - Right Rear	0	0	0	1	1
Medial Proximal Sesamoid Fracture - Left Front	0	0	0	6	6
Medial Proximal Sesamoid Fracture - Right Front	0	2	0	9	11
Medial Proximal Sesamoid Fracture - Left Rear	0	0	0	3	3
Metacarpus II Fracture - Left	0	0	0	2	2
Metacarpus II Fracture - Right	0	0	0	1	1
Metacarpus III Fracture - Left	0	0	0	16	16

Metacarpus III Fracture - Right	0	2	0	16	18
Metacarpus IV Fracture – Left	0	0	0	1	1
Metatarsus III Fracture - Left	0	0	0	3	3
Metatarsus III Fracture - Right	0	0	0	2	2
P1 Fracture - Left Front	0	0	0	7	7
P1 Fracture - Left Rear	0	0	0	5	5
P1 Fracture - Right Front	0	0	0	4	4
P1 Fracture - Right Rear	0	0	0	2	2
Pastern Joint Luxation - Right Front	0	2	0	0	2
Pelvis Fracture	0	1	1	8	10
Radius Fracture – Left	0	1	0	1	2
Radius Fracture – Right	0	1	0	0	1
Scapula Fracture – Left	0	0	0	2	2
Scapula Fracture – Right	0	1	0	4	5
Sesamoid Fracture, Biaxial - Left Front	0	5	0	28	33
Sesamoid Fracture, Biaxial - Right Front	1	1	0	19	21
Skull Fracture	0	1	0	6	7
Suspensory Apparatus Failure - Left Front	0	0	0	3	3
Suspensory Apparatus Failure – Right Front	0	0	0	1	1
Suspensory Desmitis	0	0	0	1	1
Suspensory Ligament Rupture	0	0	0	2	2
Tarsus Fracture – Right	0	2	0	0	2
Tendon Injury	0	1	0	1	1
Tibia Fracture – Left	0	0	1	1	2
Tibia Fracture – Right	0	0	0	3	3
Vertebra Fracture	0	3	0	5	8
Total	**1**	**40**	**2**	**216**	**259**

TRACK SURFACE AND MUSCULOSKELETAL INJURIES IN THOROUGHBREDS

The distribution of musculoskeletal injuries in Thoroughbreds was evaluated when comparing the three types of track surfaces in which these horses performed. Table 10 shows the limb distribution of injuries. The data shows that for the current fiscal year

the absolute number of injuries on dirt surfaces was slightly higher than on other surfaces. Because the total number of horses racing on each surface is not known to CAHFS, it cannot be determined from this data whether the injury rates differ by track surface.

Table 10. Musculoskeletal Injury: Affected Limb by Track Type

Limb	Dirt	N/A	Synthetic	Turf	Total
Left Front	49	0	32	11	92
Left Rear	1	1	11	1	14
Right Front	50	0	31	10	91
Right Rear	6	0	4	0	10
Pelvis	5	1	2	2	10
Skull	1	6	0	0	7
Vertebra	5	0	2	2	9
Other structures	8	15	3	0	26
Total	**125**	**23**	**85**	**26**	**259**

HUMAN INJURY

During the fiscal year 2011-2012, there were 21 human injuries related to catastrophic horse breakdowns. This represents 7.6 percent of the 278 horses submitted to the CAHFS lab during this year. Although human injuries have been reported to CAHFS over the past few years, these numbers have not been analyzed before.

OTHER ORGAN SYSTEMS AFFECTED BY INJURIES

Cardiovascular:

Diagnosis	Total
Cardiac failure	11
Cecal infarction	2
Major vessel rupture	2
Exsanguination	1
Total	**16**

In this period there were 11 cases of sudden death due to cardiac failure. This represents an increase from four horses with this diagnosis during 2008-2009 and six with the same diagnosis in 2010-2011.

Integumentary (Skin):

Diagnosis	Total
Cellulitis	3
Subcutaneous hemorrhage	1
Total	**4**

Only four diagnosis of diseases of the skin were made on horses submitted to CAHFS during 2011-2012. This is consistent with the reduced number of horses with diseases of the skin submitted regularly to CAHFS as part of the CHRB necropsy program.

Gastrointestinal:

Diagnosis	Total
Enterocolitis	12
Intestinal displacement	5
Intestinal hernia	1
Perforated ulcer	1
Upper digestive disease	1
Total	**20**

Of the digestive system diagnoses, colitis and intestinal displacements were the most frequently observed findings. Most cases of enterocolitis were due to infection with *Clostridium difficile* or *Clostridium perfringens*.

Respiratory:

Diagnosis	Total
Pleuropneumonia	13
Pleuritis	4
Exercise induced pulmonary hemorrhage	2
Pulmonary edema	2
Total	**21**

There were slightly more cases of respiratory diseases identified in 2011-2012 than had been seen in previous years. By far the main cause for pleuropneumonia was bacterial and within this, *Streptococcus zooepidemicus* was the most prevalent etiology. Other less represented etiologies included *Actinobacillus equuli and Actinomyces pyogenes*.

Nervous System:

Diagnosis	Total
Equine degenerative myelopathy	2
Equine Protozoal Myelitis	2
Head injury	2
Spinal cord injury	1
Total	**7**

Horses with neurological disorders were identified infrequently during 2011-2012. There were two cases of Equine degenerative myelopathy and two cases of Equine Protozoal Myelitis, caused by the protozoal parasite *Sarcocystis neurona* (same number of the year before). Head and spinal cord injury were also diagnosed.

Whole body:

Diagnosis	Total
Unexplained sudden death	12
Septicemia	5
Anaphylaxis	2
Endotoxemia	2
Metastatic neoplasm	1
Total	**22**

The number of unexplained sudden deaths in horses was higher during this reporting period than the previous year. In none of these cases a definite cause of death could be determined. Five horses succumbed to systemic bacterial or fungal infections and a small number of horses had miscellaneous diagnoses.

Urogenital:

Diagnosis	Total
Urolithiasis	1
Total	**1**

Only one diagnosis of urinary disease (urolithiasis) was made.

SPONSORS:

- Center for Equine Health, with funds provided by:
  - State of California Satellite Wagering Fund
  - Southern California Equine Foundation
  - Private Donors
- Dolly Green Foundation
- Grayson-Jockey Club Research Foundation, Inc.
- Pacific Coast Quarter Horse Racing Association

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STAFF ANALYSIS
REPORT AND UPDATE REGARDING THE CHRB RACING SAFETY PROGRAM, INCLUDING A REQUEST FOR APPROVAL OF A THREE-YEAR CONTRACT WITH THE UNIVERSITY OF CALIFORNIA, DAVIS FOR CONTINUATION OF THE PROGRAM

Medication and Track Safety Committee Meeting
February 20, 2012

BACKGROUND

California Business and Professions Code section 19481 requires the California Horse Racing Board to establish safety standards to improve the safety of horses, riders, and workers at the racetrack. Business and Professions Code section 19481.3 requires the stewards to prepare a report that identifies the circumstances and likely causes of all on-track accidents. In addition, the Business and Professions Code establishes the qualifications for licensing, and the duties of, trainers and veterinarians.

The CHRB's Racing Safety Program was initiated in early 2010 to directly address the requirements of the Business and Professions Code and to reduce the incidence of debilitating and fatal injuries at California racetracks and training facilities. There are four major elements of the CHRB Racing Safety Program:
1) Fatality Investigations
2) The Track Safety Standards Program
3) The UC Davis California Animal Health and Food Safety (CAHFS) Laboratory System Necropsy Program
4) The UC Davis J.D. Wheat Orthopedic Research Laboratory Racing Injury Prevention Program.

This agenda item includes three parts: 1) The Cost of Equine Racing and Training Injuries, 2) Opportunities for Racehorse Injury Prevention, and 3) CHRB Racing Safety Program 3 Year Plan. Part 1 estimates the costs to the California racing industry associated with attrition due to injury, fatalities, human injury and the cost of injuries and fatalities on the perception of the sport to the public. Part 2 describes the initial results from the UC Davis Racing Injury Prevention Program and provides detail on educational modules that are being developed to provide learning material for trainers and veterinarians. Part 3 describes the recommended three year program to extend the current UC Davis contract and to implement a Continuing Education program for California's trainers based on these educational modules.

RECOMMENDATION

This item is presented for Committee discussion.

Part One

The Cost

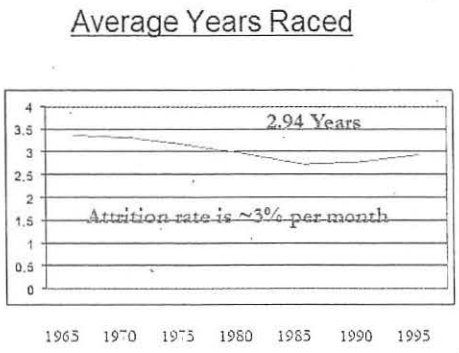
Of

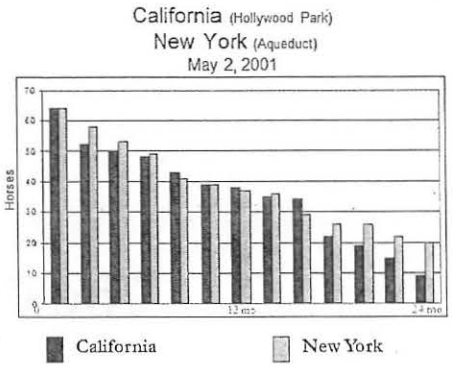
Equine Racing and Training Injuries

The Cost Equine Racing and Training Injuries

Rick M. Arthur, DVM Equine Medical Director

There are a number of ways to estimate attrition rates in thoroughbred race horses from racing. The estimated rate is a fairly steady 3% of the population per month. Attrition from racing does not necessarily mean injury or fatality, but in this discussion, attrition means permanently retired from racing inventory and never racing again. Horses are retired for numerous reasons such as breeding or lack of ability, but injuries are the most common reason horses are retired.





The attrition rate is remarkably steady over time at around 3 %/month. The cost of the attrition from racing is astounding just in the capital cost of horse replacement.

Thoroughbred Racehorse Attrition

Overall loss in all Thoroughbred racing is ~ 3% of its Horses are lost per month

6537 Thoroughbred Starters in California 2011

- **3% X 6537 @ $15,000[a]/ horse is $2,941,650/month**
- **3% X 6537 @ $47,863[b]/ horse is $9,386,413/month**

a.) Median price of a horse at auction in 2011

b.) Average yearling price at auction in 2011

Source: The Jockey Club 2012 Online State Fact Book (www.jockeyclub.com/factbook/StateFactBook/California.pdf)

As astronomical as these number look, they just represent horse replacement costs. The actual cost to owners of purchasing or breeding a horse, getting that horse ready to race and maintaining that horse in race training would be considerably higher.

Rick M Arthur, DVM Equine Medical Director

Thoroughbred Racehorse Attrition

Overall loss in all Thoroughbred racing is ~ 3% of its Horses are lost per month

There are roughly 3100 horses currently stabled at Hollywood Park and Santa Anita

3% X 3100 @ $15,000[a]/ horse is $1,395,000/month

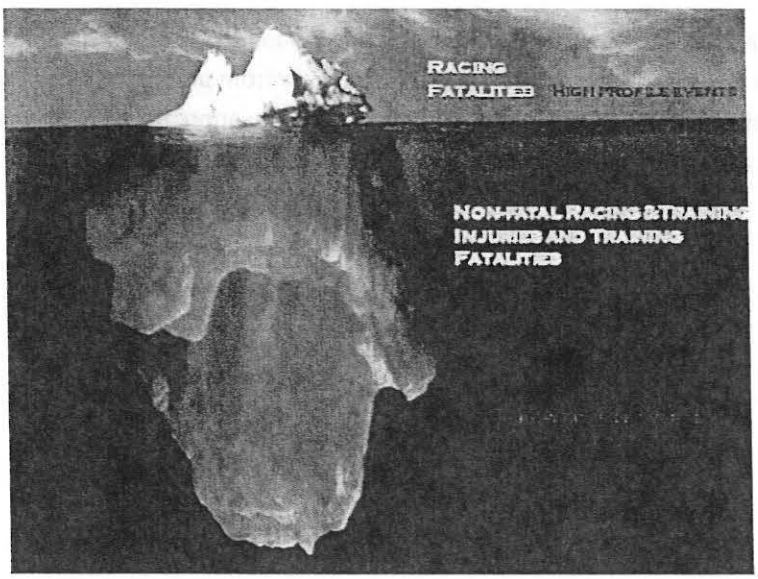
3% X 3100 @ $47,863[b]/ horse is $ 4,451,259 /month

a.) Median price of a horse at auction in 2011

b.) Average yearling price at auction in 2011

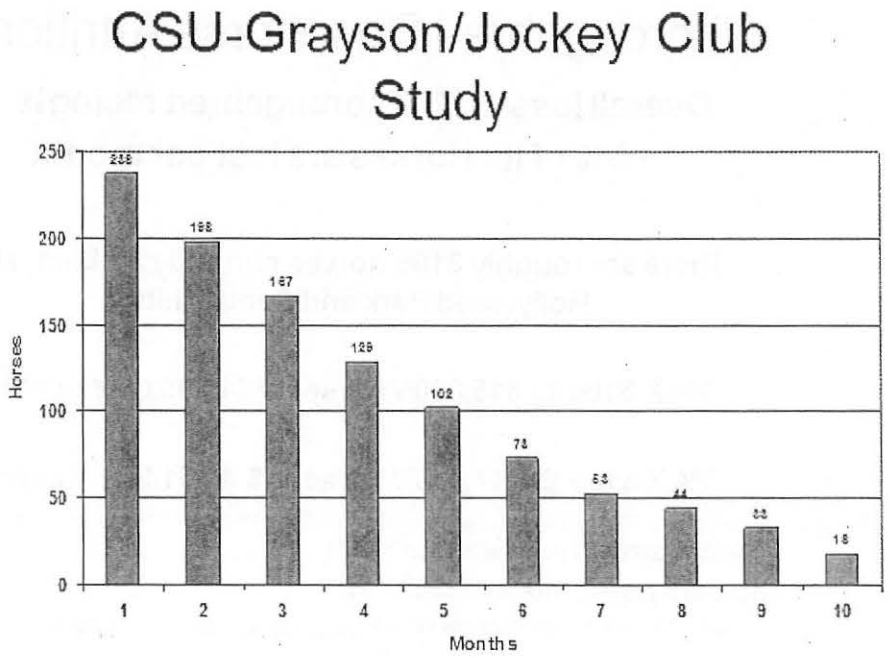
Source: The Jockey Club 2012 Online State Fact Book (www.jockeyclub.com/factbook/StateFactBook/California.pdf)

Just to maintain the current SoCal TB inventory the cost to owners is $1.3-4.4M/month in horse replacement costs.



Racing fatalities are a serious problem and can never be ignored, but they constitute a relatively small portion of the overall attrition and loss of productivity from racing and training injuries.

Rick M Arthur, DVM Equine Medical Director



The above graph shows the attrition rate during a serum biomarker study done at SoCal TB tracks to try to see if biomarkers predict impending injury. To stay enrolled in the study a horse could not be out of training for more than 30 days. 238 horses started the project; at 10 months only 18 were still enrolled. Note: Many of the horses in this study did return to racing at some later date

The data from a second Grayson-Jockey Club Research Foundation study of non-fatal injuries on the SoCal TB circuit is just being analyzed. That study collected data from practicing veterinarians over a 12 month period. A preliminary analysis indicates there is one fatality approximately 16.6 diagnosed injuries that requires at least 1 week out of training. This is most likely a low estimate.

CHRB Thoroughbred Fatality Rates vs National EID

	California FY 2011-12	EID (National) 2011
Dirt	3.18/1000 Starts*	2.07/100 Starts
Turf	2.19/1000 Starts	1.53/1000 Starts
Synthetic	1.89/ 1000 Starts	1.09/1000 Starts

* 2.09/1000 Starts w/o Los Al

California has never compared well in regards to racing fatality data even though the comparisons narrowed once a systematic national racing fatality program was instituted.

2011 in California

Thoroughbred Starters = 6537 Individual Starters

Thoroughbred Starts = 31,272 Starts

Thoroughbred Starts/Starter =
4.78/ starts /starter
(Nat' l Average. = 6.20)

Source: The Jockey Club 2012 Online State Fact Book (www.jockeyclub.com/factbook/StateFactBook-California.pdf)

Nor does California compare well in regards to "starts/starter." California is more than 20% below the national average with this metric.

Rick M Arthur, DVM Equine Medical Director

2011

½ more start per starter

– is the equivalent of adding 684 horses to the inventory

- @ $15,000[a]/ horse is the equivalent **$10,260,000**
- @ $47,863[b]/ horse is the equivalent of **$32,738, 292**

– would have increased field size from 7.5 starters/race to 8.26 starters /race

a.) Median yearling price in US 2011
b.) Average yearling price in US 2011
Source: The Jockey Club 2012 Online Fact Book (www.jockeyclub.com/factbook.asp)

Improving starts /starter can have an enormous economic impact. The calculations above demonstrate the value of improving the starts/starter by ½ start/year/horse. That increase would be the equivalent of adding 684 horses to the California TB inventory worth an estimated $10-32M /year. 1/20th increase in start /horse/ year justifies the Racing Safety Program just on an economic basis.

Human injury cost is always difficult to quantify and in some instances can never be fairly calculated, but there are direct costs that can be put into dollars and cents. From analysis of California jockey injuries we know the following*:

In TB races:

- 29% of jockey falls are associated with of the horse catastrophic injury or sudden death of the horse
- for falls associated with catastrophic injury or sudden death, there were 0.58 falls per 1,000 race rides, with 64% resulting in substantive injury

In QH races:

- 44% of jockey falls associated with catastrophic injury or sudden death of the horse
- for falls associated with catastrophic injury or sudden death of horse, 1.39 falls per 1,000 race rides, with 61% resulting in substantive injury

The Racing Safety Program found 34 jockey falls per year resulting from a TB or QH racehorse that experienced a catastrophic injury or sudden death in California.

Rick M Arthur, DVM Equine Medical Director

* From data obtained from international studies # we can estimate that:

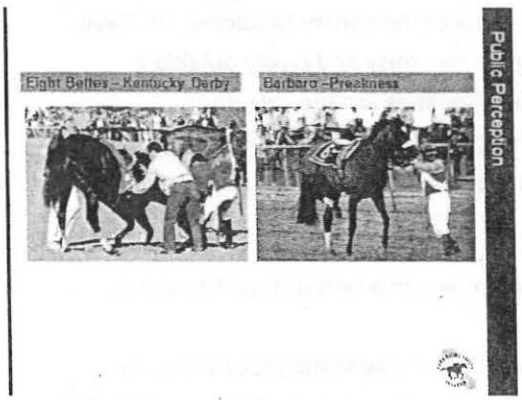
- ~30% of during race falls result in an insurance claim
- Thus, we could expect about 10 (34 jockey falls/year in California X 30%) jockey insurance claims resulting from such falls in California each year

We can then estimate the cost:

- The average claim cost for race-day falls in Australia in 2007 was ~$US 45,000.
- Total annual cost of **$ 450,000** attributed to jockey falls caused by catastrophic injury or sudden death of the horse during races.
- Likely an underestimate, as catastrophic injury or sudden death falls are generally more severe than other falls and US and California insurance claims are likely to be significantly higher.
- This cost does not include claims resulting from incidents during morning workouts

*Provided by Peta Hitchens, post-doctoral fellow, Racing Safety Program, VORL, School of Veterinary Medicine, UC Davis

"Injuries in the Victorian thoroughbred racing industry," *British Journal of Sports Medicine* 2007 Oct;41(10):639-43;



The final consideration is the cost of equine racing injuries and fatalities on the perception of the sport to the public. There have been enormous societal changes in regards to animal welfare over the last 30 years that many in racing have been slow to recognize. Racing must be able to demonstrate it is doing all it can to minimize racing injuries and fatalities. Simply saying they are "part of the game" is a strategic disaster. Recent marketing data indicated 78% of our core fans would no longer attend races if they believed the horses were not being treated properly and humanely.

Rick M Arthur, DVM Equine Medical Director

Fortunately the CHRB has a long history of addressing equine safety and even more so over the last half dozen or so years. In 2012 in response to a rash of fatal injuries at Aqueduct Governor Andrew Cuomo established the New York Task Force of Racehorse Health and Safety. Among the task force's recommendations are many that are already in place at CHRB tracks:

- Necropsy Program (CHRB1990)
- Voiding of Claims (CHRB 2011)
- Drug testing lab ALAA accredited to ISO17025 (Maddy lab since 2005)
- Veterinary treatment reporting (CHRB since pre-80's)
- Out of Competition testing (CHRB since 2006)
- Regulation of Shockwave therapy treatments (CHRB since 2006)
- Equine Medical Director (CHRB since early 90's)
- Weather and racing surface monitoring (CHRB since 2011)
- Synthetic surface for Aqueduct inner track (CHRB began consideration of synthetic surfaces in 2006)

The CHRB & CHRB commissioners have been seriously addressed the equine injury and fatality issues for longer than any other US racing regulatory jurisdiction. The experience, infrastructure and institutions available to the CHRB will allow the CHRB to take the next steps in improving racehorse and jockey health and welfare.

The key step going forward is to improve the ability of trainers practicing veterinarians and examining veterinarians to recognize horses at risk for injury or fatality. The necropsy program looks at fatal injuries. Over the last year and a half, the CHRB has been supporting an enhanced necropsy program at the Veterinary Orthopedic research Laboratory (VORL) at the School of Veterinary Medicine, UC Davis. The VORL has advanced imaging capabilities unavailable at regular necropsy and rarely outside a research laboratory. The enhanced necropsies show all but a few fatalities are the extreme manifestation of lesser injuries. Over 85% of all racing and training fatalities show pre-existing injury associated with their fatal injury. This fact tells us there is an opportunity to reduce injuries and fatalities:

- Since fatalities are the extreme manifestation of lesser injuries, this tells us fatalities are a window into lesser, more common injuries
- Some pre-existing injuries may not be identifiable using current diagnostic procedures. By studying these injuries there are opportunities to develop new diagnostic techniques. (The Dolly Green Nuclear Imaging facility at Santa Anita was installed after information from the CHRB-CAHFS necropsy program became available. Over 10,000 nuclear scintigraphies have been performed since it was installed.)
- Many pre-existing injuries can be readily detected using available diagnostic techniques. A continuing education program will better educate trainers, practicing veterinarians, and examining veterinarians to identify horses at risk.

Dr. Stover's presentation will discuss the details of the Racing Safety Program's enhanced necropsy and continuing educations program.

Rick M Arthur, DVM Equine Medical Director

Part Two

Opportunities
For
Racehorse Injury Prevention

Opportunities for Racehorse Injury Prevention

Susan M. Stover, DVM, PhD, Dipl ACVS
Professor and Director, JD Wheat Veterinary Orthopedic Research Laboratory (VORL)
University of California, Davis (UC Davis)

California has been the most pro-active state in examining racehorse health, and currently sets the bar nationally and internationally (currently evidenced by New York State's recent adoption of many of California's policies).

Partnering with the California Animal Health and Food Safety Laboratory System, the Equine Postmortem (Necropsy) Program, has been in place since 1990. A tremendous amount of information has been generated from the over 6,000 racehorse necropsies that have been performed. Isolated research projects funded by the Center for Equine Health (UC Davis) and other sources (Grayson-Jockey Club Foundation, United States Department of Agriculture) provided the realization that some catastrophic injuries could be prevented if a programmatic effort was instituted to further enhance knowledge using interdisciplinary approaches and directing efforts toward injury prevention.

Institution of the Racing Safety Program by the California Horse Racing Board in 2010, followed by a new partnership with the VORL for initiation of the Racing Injury Prevention Program in 2011 provides a huge opportunity to realize a positive impact on racehorse and industry welfare through prevention of musculoskeletal injuries and racehorse attrition.

Several milestones have been achieved in the first 16 months of the Racing Injury Prevention Program, despite the large effort that had to be applied for initiation of the interdisciplinary program.

- Enhanced Orthopedic Examination, using research techniques, was developed to:
    - identify the reason for the cause of death – that is, not only the problem that the horse died from, but the reason the problem occurred
    - convey the findings in easily understandable format (images and radiographs), including reason for the death, to the people that were involved in managing the horse – useful for trainers and veterinarians to detect similar pending injuries in other horses
    - provide graphical information on the racehorse's exercise history to horsemen, that is useful for trainers to manage other horses to avoid catastrophic injury
    - provide standardized data in a comprehensive database that combines injury and other examination findings with exercise histories - useful for studies of ways to detect pending catastrophic injuries and design strategies for injury prevention in other racehorses
- Discoveries
    - In over 85% of horses with a catastrophic musculoskeletal injury, the reason for the catastrophic, fatal injury was identified – this discovery makes it possible to realize positive outcomes from an injury prevention program – *because there*

are events leading up to catastrophic injury that allow for detection of affected horses, and racehorse rehabilitation, and injury prevention
    - A reason was discovered for the most common cause of fatality, fetlock breakdown
    - A reason was discovered for the lower back spinal fractures
    - A reason was discovered for cannon bone fractures
- Development of clinical techniques to detect mild injuries before they become catastrophic
    - Palpation and ultrasound for scapular stress fractures
    - Investigation of ultrasound for detection of injuries that predispose to lower back fractures
    - Investigation of radiography, computed tomography, bone scan, and MRI imaging for detection of fetlock proximal sesamoid bone fractures
    - Education of horsemen about the usefulness of current radiographic techniques for detection of cannon bone stress fractures
- Research
    - Design of race surfaces for injury prevention
    - Components of exercise history that can be used to identify horses at high risk of severe injury
- Recognition that education of horsemen to the findings can result in detection of affected horses before catastrophic injury
    - Case example of detection of stress fracture and appropriate rehabilitation
- Development of educational materials for horsemen
    - Internet resources
    - TechNotes for download and distribution
    - Series of educational modules designed and under development to enable distribution of information through continuing education program for trainers and horsemen

In the last 2 years, the California Horse Racing Board's Racing Safety Program has set a solid foundation to realize a positive impact for racehorses and the racehorse industry. Benefits that have already been realized are huge (for example, explanation for the reason for over 50% of racehorse musculoskeletal fatalities). T***he benefits from setting such a solid foundation will be reaped in the coming years from education of our horsemen and horsewomen about the nature of injuries and factors that horsemen and women can manage for the prevention of injuries and enhancement of the lives of all participants in the racing industry.***

Part Three

The

CHRB Racing Safety

Program

Three Year Plan

CHRB RACING SAFETY PROGRAM 3 YEAR PLAN

FEBRUARY 2013

PRIMARY PROGRAM GOALS

- CRITICAL INFORMATION TRANSFER
- APPLICATION IN THE FIELD
- CONTINUOUS EDUCATION AND VERIFICATION

Educational Module Business Plan

- TEAM -UC Davis, UCD-E, CHRB
- BUSINESS PLAN
- COST
- RETURN ON INVESTMENT

Trainer Continuing Education (CE)

- CE for Licensed Trainers
- ARCI Model Rule
- Proposed CA Rule
- California Leadership

PROPOSED CA CONTINUING EDUCATION RULE 1503.5

"As of January 1, 2014, in order to maintain a current license, trainers and assistant trainers must complete at least four (4) hours per calendar year of continuing education courses approved by the board. Trainers who are not domiciled in California and have a limited number of starters in California may request, in writing, a waiver from the stewards."

Rationale for 3 Year Funding Commitment Request

- Three Year Module Development Schedule
- Commitment to Other Jurisdictions
- Sponsor Risk Reduction
- Maximum Utilization of Qualified and Trained UC Davis Staff

Recommended Committee Action

- 3 Year Program Funding Commitment
- Support for CE Regulation

STAFF ANALYSIS
REPORT AND UPDATE REGARDING THE CHRB/UNIVERSITY OF CALIFORNIA, DAVIS (MADDY EQUINE ANALYTICAL CHEMISTRY LABORATORY) DRUG TESTING PROGRAM FOR FISCAL YEAR 2011-2012

Medication and Track Safety Committee
February 20, 2013

BACKGROUND

California Horse Racing Board (CHRB) Equine Medical Director, Dr. Rick Arthur and Dr. Sue Stover from the University of California, Davis are prepared to give the annual update on the CHRB/University of California, Davis (Maddy Equine Analytical Chemistry Laboratory) drug testing program for fiscal year 2011-2012.

RECOMMENDATION

This item is presented for Committee discussion.

Class 1, 2 or 3 Violations FY 11-12

Drug	SoCal TB's	Norcal TB's	Fairs	Cal Expo	Los Al	Total
Hydroxyzine			1 (SAC)			1
Acepromazine		1				1
Clenbuterol			1(FPX)		3	4
Zilpaterol		1			6	7
Methamphetamine					1	1
Phentermine					1	1
Tramadol					1	1
Total	0	2	2	0	12	**16**

Class IV & V Violations FY 11-12

Cyclobenzaprine	**1**
Dantrolene	**1**
DMSO	**1**
Dexamethasone	**5**
Flunixin	**15**
Ketoprofen	**1**
Methocarbamol	**8**
Phenylbutazone	**32**
Phenylbutazone & Flunixin	**1**
Phenylbutazone & Ketoprofen	**1**

There were 66 Class IV or V violations from 58 trainers and 66 different horses. 57 of the violations were during racing; 9 violations were working for removal from the Veterinarian's List under 1866 . 14 of the phenylbutazone violations were Category C penalty (>5ug/ml) and 18 were Category D penalty(>2ug ≤ 5ug/ml).

Class 1, 2 or 3 Violations FY 10-11

Drug	SoCal TB's	Norcal TB's	Fairs	Cal Expo	Los Al	Total
TCO2	2					2
Etodolac	1					1
Trenbolone		1				1
Clenbuterol	1	1			12	14
Pyrilamine		1				1
Albuterol		1			2	3
Indomethacin			1			1
Propanolol			1			1
Pentazocine					1	1
Total	4	4	2	0	15	**25**

3

Class IV & V Violations FY 10-11

Benzocaine	**1**
Cetirizine	**1**
DMSO	**2**
Dexamethasone	**3**
Flunixin	**11**
Ketoprofen	**1**
Methocarbamol	**18**
Phenylbutazone	**44**
Phenylbutazone & Flunixin	**6**
Phenylbutazone & Ketoprofen	**1**

There were 88 Class IV or V violations from 72 trainers and 85 different horses. 72 of the violations were during racing; 16 violations were working for removal from the Veterinarian's List under 1866 (15 phenylbutazone overages and 1 phenylbutazone and flunixin.

4

Class 1, 2 or 3 Violations FY 09-10

Drug	SoCal TB's	Norcal TB's	Fairs	Cal Expo	Los Al	Total
TCO2				3		3
Gabapentin			1		1	2
Trenbolone	1					1
Clenbuterol	2		1		4	7
Ractopamine			1		2	3
Acepromazine					1	1
Indomethacin	1					1
Lidocaine					1	1
Total	4	0	3	3	9	**19**

5

Class IV & V Violations FY 09-10

Dexamethasone	2
Cetirizine	1
Flunixin	16
Ketoprofen	2
Methocarbamol	17
Benzocaine	1
Phenylbutazone	45

80 horses total including 6 horses with 2 Class IV drugs, all NSAID's.
There were 65 different trainers for the 80 violations.

6

STAFF ANALYSIS
DISCUSSION AND ACTION REGARDING PROCEDURAL OPTIONS TO IMPLEMENT PROPOSED AMENDMENTS TO CHRB RULE 1845, AUTHORIZED BLEEDER MEDICATION, WHICH WOULD LIMIT BLEEDER MEDICATION TO FUROSEMIDE (LASIX) ADMINISTERED BY NON-PRACTICING VETERINARIANS

Medication and Track Safety Committee Meeting
February 20, 2013

BACKGROUND

Business and Professions Code section 19440 states the Board has all powers necessary and proper to enable it to carry out fully and effectually the purposes of this chapter. Responsibilities of the Board include adopting rules and regulations for the protection of the public and the control of horse racing and pari-mutuel wagering. Business and Professions Code section 19562 provides that the Board may prescribe rules, regulations, and conditions under which all horse races with wagering on their results shall be conducted in California. Business and Professions Code section 19580 requires the Board to adopt regulations to establish policies, guidelines, and penalties relating to equine medication to preserve and enhance the integrity of horse racing in California. Business and Professions Code section 19581 states that no substance of any kind shall be administered by any means to a horse after it has been entered to race, unless the Board has, by regulation, specifically authorized the use of the substance and the quantity and composition thereof.

Board Rule 1845, Authorized Bleeder Medication, provides that authorized bleeder medication for the control of exercised induced pulmonary hemorrhage (EIPH) may be administered to a horse on the authorized bleeder medication list. A horse is eligible to race with authorized bleeder medication if the licensed trainer and/or veterinarian determine it is in the horse's best interest. If a horse will race with authorized bleeder medication, the official veterinarian must be informed prior to entry, as specified.

At its October 2012 Regular Meeting, the Board directed staff to initiate a 45-day public notice period for the proposed amendment of Rule 1845. The proposed amendment would change how authorized bleeder medication is administered on the grounds of racing associations. The amendment was based on proposed changes to the Association of Racing Commissioners International (ARCI) Model Rule for race day medications. At that time, then CHRB Chairman Brackpool directed the Board's Equine Medical Director to explain to the Board exactly how the program would be implemented.

RECOMMENDATION

This item is presented for Committee discussion and action.

Re: Pending CHRB 1845 Amendments

Proposed amendments to CHRB 1845 to implement changes to the ARCI model rules are currently under consideration by the CHRB. The rule calls for administration of Lasix by veterinarians or registered veterinary technicians who are not "working as private veterinarians or registered veterinary technicians at the race track or with participating licensees." When the amendments were approved by the Board to be noticed to the public, then CHRB chairman Keith Brackpool instructed the equine medical director to explain to the Board exactly how this program would be implemented.

There are currently at least four different ways this program is being administered in North America: racing commissions veterinarians; association veterinarians, commissions contracting with outside professional veterinary service providers and associations contracting with outside veterinary service providers. The proposed CHRB amendment does not restrict how the provisions are accomplished and allows the official veterinarian or racing (track/association) veterinarian to designate other veterinarians or registered veterinary assistants under the supervision of a veterinarian to administered bleeder medication.

- Racing commissions veterinarians administer Lasix for the KHRC. This is accomplished with 3 veterinarians assigned to Lasix administration duties with 2 other veterinarians available if necessary. In Kentucky the test barn, pre-race examining veterinarians and on-track veterinarians are KHRC veterinarians. They all rotate through the various positions. The cost is $20 for each treatment through the paymaster/horseman's bookkeeper.

- Association veterinarians administer Lasix at NYRA tracks. Usually 3 but sometimes 4 veterinarians are assigned to Lasix administration. The veterinarians are paid by NYRA on either an hourly or per diem basis. There is a veterinary assistant to assist with the coordination of the program. The cost is $20 for each treatment through the paymaster/horseman's bookkeeper.

- Commission contracting with outside professional veterinary service providers is how Lasix is administered at Woodbine . The program has been in place since the early 90's through a federal contract. An outside service provider contracts with the Canadian government to provide a number of services including Lasix administration by veterinary technicians who are under the supervision of the Ontario Racing Commission (ORC) veterinarians at Woodbine. The cost is $60-80 (Canadian) but includes additional drug testing services so it is difficult to determine the cost of the program. The fees are charged through the paymaster/horseman's bookkeeper.

- Association contracting with outside veterinary service providers is how Lasix was administered for this year's Breeder's Cup races. The costs and staffing would not be representative of a regular program. Similar programs are in place at Penn National and a number of harness tracks in the mid-Atlantic area.

All of these programs have protocols for the Lasix administration program appropriate to their unique situations. They were all willing to share their experience to facilitate setting up the California program.

While the CHRB needs to maintain oversight of any program, the CHRB does not need to be directly involved in the Lasix administration. There are a number of complications for the CHRB administering Lasix including reimbursement procedures, inadequate veterinarian staffing and CHRB hiring difficulties. While there may be ways to overcome these problems, doing so would take a major restructuring of current CHRB veterinary services. The ideal arrangement would appear to be for the horsemen's organizations(PCQHRA,CTT, TOC, etc.) and associations to partner and to contract for Lasix services either through outside veterinary practices or through hiring individual veterinarians or veterinary technicians. In this way, horsemen and associations would have control over management of the program including cost, staffing and the professional experience and qualifications of individuals administering Lasix. Whatever arrangement relative to Lasix administration would be included in the association's meet application as part of the horsemen's agreement and approved by the Board. Once approved, the specific professional would be designated by the official veterinarian or the racing veterinarian to administer Lasix on race day.

Rick M. Arthur, DVM

Equine Medical Director

CALIFORNIA HORSE RACING BOARD
TITLE 4. CALIFORNIA CODE OF REGULATIONS
ARTICLE 15. VETERINARY PRACTICES
RULE 1845. AUTHORIZED BLEEDER
MEDICATION

Medication and Track Safety Committee Meeting
February 20, 2013

1845. Authorized Bleeder Medication.

Authorized bleeder medication for the control of exercised induced pulmonary hemorrhage (EIPH) may be administered to a horse on the authorized bleeder medication list.

(a) A horse is eligible to race with authorized bleeder medication if the licensed trainer and/or veterinarian determines it is in the horse's best interest. If a horse will race with authorized bleeder medication, form CHRB 194 (New 08/04), Authorized Bleeder Medication Request, which is hereby incorporated by reference, shall be used to notify the official veterinarian prior to entry.

(b) The official laboratory shall measure the specific gravity of post-race urine samples to ensure samples are sufficiently concentrated for proper chemical analysis. The specific gravity of such samples shall not be below 1.010.

(c) If the specific gravity of the post-race urine sample is determined to be below 1.010, or if a urine sample is not available for testing, quantitation of furosemide in serum or plasma shall then be performed. Concentrations may not exceed 100 nanograms of furosemide per milliliter of serum or plasma.

(d) A horse qualified to race with authorized bleeder medication shall be assigned to a pre-race security stall prior to the scheduled post time for the race in which it is entered, and shall remain there until it is taken to the receiving barn or the paddock to be saddled or harnessed for the race. While in the security stall, the horse shall be in the care, custody, control and

constant view of the trainer, or a licensed person assigned by the trainer. The trainer shall be responsible for the condition, care and handling of the horse while it remains in the security stall. The official veterinarian may permit a horse to leave the security stall to engage in track warm-up heats prior to a race.

(e) A horse qualified for administration of authorized bleeder medication must be treated on the grounds of the racetrack where the horse will race no later than four hours prior to post time of the race for which the horse is entered.

(1) The only authorized bleeder medication, ~~furosemide~~, shall be furosemide administered by a single intravenous injection only, in a dosage of not less than 150 mg. or not more than 500 mg.

(2) Furosemide shall be administered by the official veterinarian, the racing veterinarian or a veterinarian designated by the official veterinarian. Registered veterinary technicians under the supervision of the official veterinarian, racing veterinarian or a designee of the official veterinarian may administer authorized bleeder medication.

(a) Any veterinarian or registered veterinary technician designated to administer authorized bleeder medication shall be prohibited from working as a private veterinarian or registered veterinary technician at the race track or with participating licensees.

(b) The licensed owners of horses administered furosemide in the manner prescribed in this section shall pay the costs associated with such administration.

(3) A horse racing with furosemide must show a detectable concentration of the drug in the post-race serum, plasma or urine sample.

(4) The veterinarian administering the bleeder medication shall notify the official veterinarian of the treatment of the horse. Such Notification shall be made using CHRB form-36

(New 08/04), Bleeder Treatment Report, which is hereby incorporated by reference, not later than two hours prior to post time of the race for which the horse is entered.

(5) Upon the request of a Board representative, the veterinarian administering the authorized bleeder medication shall surrender the syringe used to administer such medication, which may then be submitted for testing.

(f) A horse placed on the official authorized bleeder medication list must remain on the list unless the licensed trainer and/or veterinarian requests that the horse be removed. The request must be made using CHRB form 194 (New 08/04), and must be submitted to the official veterinarian prior to the time of entry. A horse removed from the authorized bleeder medication list may not be placed back on the list for a period of 60 calendar days unless the official veterinarian determines it is detrimental to the welfare of the horse. If a horse is removed from the authorized bleeder medication list a second time in a 365-day period, the horse may not be placed back on the list for a period of 90 calendar days.

(g) If the official veterinarian observes a horse bleeding externally from one or both nostrils during or after a race or workout, and determines such bleeding is a direct result of EIPH, the horse shall be ineligible to race for the following periods:

- First incident—14 days;
- Second incident within 365-day period—30 days;
- Third incident within 365-day period—180 days;
- Fourth incident within 365-day period—barred for racing lifetime.

For the purposes of counting the number of days a horse is ineligible to run, the day after the horse bled externally is the first day of such period. The voluntary administration of

authorized bleeder medication without an external bleeding incident shall not subject a horse to the initial period of ineligibility as defined under this subsection.

Authority: Sections 19440 and 19562, Business and Professions Code.

Reference: Sections 19580 and 19581, Business and Professions Code.

DISCUSSION AND ACTION REGARDING OPTIONS TO REGULATE INTRA-ARTICULAR INJECTIONS AND CORTICOSTERIODS

Medication and Track Safety Committee Meeting
February 20, 2013

While there is no regulatory change proposed at this time, it appears there is a national movement towards regulating corticosteroid use and particularly, intra-articular corticosteroid use. The Racing Medication and Testing Consortium (RMTC) recommended a 7 day prohibition of intra-articular injections prior to racing. New York already had an unforced 5 day prohibition for intra-articular injections. Governor Cuomo's Racing Task Force recommended a 14 day prohibition for methyl prednisolone acetate (Depo-Medrol®) and a 7 day prohibition for all others. Currently, most corticosteroids are Class 4 drugs with Category C penalties.

The RMTC recently approved minimum withdrawal time recommendations for corticosteroids. These recommendations were based on recently completed work funded in-part by RMTC and conducted at the University of Pennsylvania, University of California-Davis Kenneth L. Maddy Laboratory and HFL Laboratory-Kentucky and other corticosteroid research conducted both in the U.S. and abroad.

The recommendations were developed during an RMTC hosted Corticosteroid Experts Conference in Anaheim, California on November 30. The meeting brought together qualified individuals with professional expertise in key areas with the goal of providing a comprehensive plan for regulating corticosteroid use in horse racing to protect equine health and welfare. Participants included analytical chemists, veterinary pharmacologists, veterinary surgeons, racing regulatory veterinarians, and practicing racetrack veterinarians.

The Racing Medication and Testing Consortium determined thresholds for 3 additional corticosteroids based upon the recommendations that were made at the Corticosteroid Expert Conference in Anaheim. The RMTC defines threshold as the maximum concentration of a therapeutic substance that, when detected in a post-race sample, does not constitute a violation. Concentrations above this level will be treated as a violation. These thresholds were approved by the RMTC Executive Committee pursuant to the board's action at the November 2012 meeting.

The following recommendations were sent to the ARCI:

The Corticosteroid Expert Conference participants recommended a blanket 7 day withdrawal time on all intra-articular corticosteroids. For all corticosteroids, 7 days is the minimum time period that must elapse between any intra-articular corticosteroid treatment and the time of racing. In addition, the participants recommended thresholds based upon completed research where it exists. The recommended thresholds for each corticosteroid are on the following chart and are as follows:

- Betamethasone – the recommended regulatory threshold for betamethasone is 10 picogram (pg) per mL of plasma. This is based upon a single 9 mg intra-articular administration of betamethasone in a mixture of betamethasone sodium phosphate and betamethasone acetate. This combination is the common formulation for clinical use. For plasma concentrations to be below the plasma threshold following a single intra-articular administration of this dose of betamethasone, the injection must be completed at least 7 days prior to racing. Intramuscular administration, administration exceeding this dose, repeated doses by any route or combination of routes, or doses into more than one articular space will probably require additional time for betamethasone concentrations to fall below the recommended regulatory threshold.

- Triamcinolone acetonide – the recommended regulatory threshold for triamcinolone acetonide is 100 pg/mL of plasma. This is based upon a single 9 mg intra-articular administration of triamcinolone acetonide. For plasma concentrations to be below the plasma threshold following a single intra-articular administration of this dose of triamcinolone acetonide, the injection must be completed at least 7 days prior to racing. Intramuscular administration, administration exceeding this dose, repeated doses by any route or combination of routes, or doses into more than one articular space will probably require additional time to fall below the recommended regulatory threshold.

- Methylprednisolone – the recommended regulatory threshold for methylprednisolone is 100 pg/mL of plasma. This is based upon a single 100 mg intra-articular administration of methylprednisolone acetate. For plasma concentrations to be below the plasma threshold following a single intra-articular administration of this dose of methylprednisolone acetate, the injection should be completed not less than 21 days prior to racing. Intramuscular administration, administration exceeding this dose, repeated doses or doses into more than one articular space will require additional time to fall below the recommended regulatory threshold. Intra-articular administrations at a dose smaller than this may require less than 21 days for plasma concentrations to fall below the recommended regulatory threshold. However, the 7 day overall ban on intra-articular administration should remain as a floor for this medication regardless of the size of dose administered intra-articularly,

Please note – these withdrawal times are based solely on intra-articular injection. The experimental data from intramuscular administration shows that the corticosteroids are readily detectable for extended periods of time after administration of the long-acting corticosteroid formulations such as the suspensions and acetate ester formulations. In the completed studies, intra-muscular administration significantly extended the time required for the drug concentration to fall below the laboratory threshold. For example, betamethasone concentrations did not fall below the 10 pg/mL threshold for 33 days after intramuscular administration. Similarly, in an Australian study, a higher dose of methylprednisolone (200 mg) given intra-muscularly as methylprednisolone acetate was still detectable 99 days after administration.

Because practitioners vary in the amount and way that they utilize these long-acting corticosteroids, we cannot provide definitive withdrawal guidance for every dosage, every articular space, and every protocol. Therefore, we are also recommending that the model rule

include a grace period until January 1, 2014 to allow the racing industry to move forward uniformly. Until such time, we recommend notification of trainers and veterinarians of corticosteroid concentrations above applicable thresholds but that they not be penalized absent violation of a rule already in existence in the respective jurisdiction.

At this point the prudent position would be to wait and see whether a national consensus on the best approach to regulate corticosteroids is adopted by the ARCI and subsequently steps are in place for adoption by major racing states. In the interim, the CHRB should evaluate corticosteroid use in California and assist trainers and veterinarians in complying with future proposed regulations. This can be accomplished in a number of ways that will be discussed at the meeting.

Corticosteroid Threshold Chart					
Medication	**Threshold**	**Minimum Withdrawal Time***	**Route of Administration****	**Experimental Administration Dosage*****	**Withdrawal time for 95/95 Tolerance Interval at experimental dose and route of administration**
Betamethasone	10 pg/mL of plasma or serum	7 days	Intra-articular	Total of 9 mg of betamethasone (as a mixture of betamethasone sodium phosphate and betamethasone acetate) in one joint	7 days
Dexamethasone	5 pg/mL of plasma or serum	3 days	Intravenous, intramuscular, and oral	0.05 mg/kg of dexamethasone (as dexamethasone sodium phosphate)	3 days
Isofluprodone	TBD	TBD	Intra-articular	20 mg total dose of isoflupredone (as isoflupredone acetate - Predef 2x) in one joint	Pending
Methylprednisolone	100 pg/mL of plasma or serum	7 days	Intra-articular	Total of 100 mg of methylprednisolone (as methylprednisolone acetate) in one joint****	21 days
Prednisolone	TBD	TBD	Intravenous and Oral		Pending
Triamcinolone acetonide	100 pg/mL of plasma or serum	7 days	Intra-articular	Total of 9 mg triamcinolone acetonide in one joint	7 Days

*The RMTC has recommended a 7 day regulatory withdrawal time for all intra-articular use of corticosteroids recognizing that the clearance times for some will be longer than 7 days. Furthermore, this regulation is not in conflict with the withdrawal time for dexamethasone listed here because the use of dexamethasone intra-articularly is inappropriate as it would be considered off-label and a violation of the provisions of the Animal Medicinal Drug Use and Clarification Act (AMDUCA).

** Route of administration – administration of these corticosteroids by other routes of administration may affect the length of time it takes before the medication is below the regulatory threshold (*e.g.*, betamethasone injected intramuscularly takes approximately 33 days for its plasma concentration to fall

below the regulatory threshold). The withdrawal times for betamethasone, methylprednisolone, and triamcinolone acetonide apply to the intra-articular route of administration only and should not be interpreted as guidance for withdrawal of these substances after other routes of administration.

*** Administration dosage and related 95/95 withdrawal times– this is provided as guidance and does not constitute a guarantee. It does not account for repeat dosage, multiple articular site dosage, the effects of combining other medications with these corticosteroids, or different dosages from those listed here. A risk assessment must be done by the veterinarian and trainer to determine protocol that complies with the prohibition against administration of an intra-articular dose within 7 days of racing.

**** Please note that for this dose of methylprednisolone acetate, a 21 day period from administration to racing is recommended to ensure that the medication is below the regulatory threshold. The minimum withdrawal time in this case anticipates the possibility of lower doses being used and assumes that these lower doses may decrease the length of time required for the concentration of the medication to fall be below the regulatory threshold.

STAFF ANALYSIS
DISCUSSION AND ACTION REGARDING THE PROPOSED ADDITION OF CHRB RULE 1927.1, TAMPERING WITH SMOKE DETECTORS PROHIBITED TO INCLUDE PENALTIES RELATIVE TO TAMPERING WITH FIRE SAFETY EQUIPMENT I.E. SMOKE DETECTORS

Medication and Track Safety Committee Meeting
February 20, 2013

BACKGROUND

Business and Professions Code section 19420 provides that jurisdiction and supervision over meetings in this State where horse races with wagering on their results are held or conducted, and over all persons or things having to do with the operation of such meetings, is vested in the California Horse Racing Board. Business and Professions Code section 19440 states that the Board shall have all powers necessary and proper to enable it to carry out fully and effectually the purposes of this chapter. Responsibilities of the Board include adopting rules and regulations for the protection of the public and the control of horse racing and pari-mutuel wagering, and administration and enforcement of all laws, rules and regulations affecting horse racing and pari-mutuel wagering. Business and Professions Code section 19460 provides that all licenses granted under this chapter are subject to all rules, regulations and conditions from time to time prescribed by the Board. Business and Professions Code section 19481 states that in performing its duties the Board shall establish safety standards governing track facilities in order to improve the safety of horses, riders and workers at the racetrack. Board Rule 1927, Fire Prevention, states association shall make adequate provision for fire prevention, protection against fire, and fire suppression within the inclosure. A reasonable standard of fire safety shall require that each building, barn or structure which is used by an association for the stabling of horses or human habitation, be equipped with an automatic sprinkler system and an automatic fire alarm system.

Fire safety is a continuing issue within the inclosure. To protect humans and equines the Board requires that racing associations install and maintain sprinkler systems and fire alarms. Racing associations are also required to undergo annual fire inspections, and periodic safety inspections. The disabling of smoke detectors is a problem that occurs especially in habitable rooms used for sleeping. Under Rule 2103, Habitable Rooms, such rooms are required to be provided with battery operated smoke detectors that are maintained in working order, or any other approved fire alarm system. Occupants may wish to smoke where it is otherwise prohibited, or to cook on portable hot plates. To enable such activities, the smoke detectors may be disabled. If a licensee is found to have disabled a smoke detector, the average fine is around $25.

At the April 2011 Medication and Track Safety Committee Meeting, the issue of prohibiting the tampering with smoke detectors was discussed. The Committee wanted to find a way to prevent the smoke detectors from being disabled. It was agreed that the horsemen, Thoroughbred Owners of California, and California Thoroughbred Trainers needed to meet with the horse racing associations to work jointly to resolve the issue. For the period of February 13, 2012

through February 12, 2013, there have been 21 violations state wide of Rule 1928, Fire Regulations, for "tampering with smoke detector."

At the May 2012 Medication Advisory Committee Meeting, the concern regarding prohibiting the tampering of smoke detectors was again discussed. The Committee agreed to recommend to the Board a fine of no less than $25 for the offender and no less than $100 for the trainer whose employee is found to have violated the regulation. The proposal to add Rule 1927.1, Tampering With Smoke Detectors Prohibited, was subsequently noticed for a 45-day public comment period. The Board adopted the proposal at its October 2012 Regular Meeting. The rulemaking file was completed and submitted to Office of Administrative Law (OAL) for review.

In January 2013 OAL notified staff that it had substantive issues with the proposed regulation. Although the proposed Rule 1927.1 provided for minimum fines, the submitted text was unclear on imposed fine maximums, who could receive the $100 fine, and extent of the trainer's culpability. OAL also determined that State Fire Marshal approval was needed as the proposed rule falls within the scope of Government Code 11359, requiring State Fire Marshal approval on any fire safety related regulation. The proposed regulation was returned so staff could make modifications in line with OAL's comments.

ANALYSIS

Rule 1927.1 has been rewritten to address the concerns expressed by OAL. The modified text clarifies the fine maximums and extent of the trainer's culpability. Rule 1927.1 provides that no licensee shall tamper with, dismantle, or disable any automatic fire alarm system or smoke detector that is located on the grounds of a facility under the jurisdiction of the Board. If licensees are found to have violated the proposed regulation, they shall be subject to a hearing before the stewards, and a fine of at least $25, but not more than $100. The fine, while not excessive, is meant to prevent future incidents. In addition, the proposed regulation states that the stewards may find a trainer culpable if an employee of that trainer disables a fire alarm in that trainer's assigned area more than once in a 365 day period. The trainer may be fined a minimum of $100, but not more than $500. This is designed to encourage trainers to pay attention to what their employees may be doing with fire safety equipment. It should be noted that the proposed maximum fines have not been discussed by the Committee, and may be modified.

If the Board approves the proposed revisions of Rule 1927.1 it will then be sent to the State Fire Marshal for approval before resubmission to OAL.

RECOMMENDATION

This item is presented for Medication and Track Safety Committee discussion and action.

CALIFORNIA HORSE RACING BOARD
TITLE 4, CALIFORNIA CODE OF REGULATIONS
ARTICLE 17. FIRE PREVENTION AND SECURITY
PROPOSED ADDITION OF
RULE 1927.1 TAMPERING WITH SMOKE DETECTORS PROHIBITED

1927.1. Tampering With Smoke Detectors Prohibited.

(a) No licensee shall willfully tamper with, dismantle, or disable any automatic fire alarm system or smoke detector that is located on the grounds of a facility under the jurisdiction of the Board.

(b) A violation of this regulation shall result in a hearing before the stewards who may impose a minimum fine of $25 up to a maximum fine of $100.

(~~b~~c) A licensed trainer who is assigned stalls, tack rooms or other areas within the inclosure may, after a hearing before the stewards, be held culpable for an employee's violation of this rule if the employee of the trainer ~~if an employee of that trainer is found to have violated this regulation~~ has within such assigned areas~~.~~ committed a second or subsequent violation of this regulation within a 365 day period.

(1) The stewards may impose a fine of $100 up to a maximum fine of $500 on the trainer found culpable under subsection (c) of this regulation.

~~(c) A violation of this regulation shall result in a hearing before the stewards who may impose a fine of not less than $25.~~

~~(1) The stewards may impose a fine of $100 on the trainer whose employee is found to have violated this regulation.~~

Authority: Sections 19420, 19440, ~~and~~ 19460~~,~~ and 19661, Business and Professions Code.

Reference: Sections 19440 and 19481, Business and Professions Code.

STAFF ANALYSIS

DISCUSSION AND ACTION REGARDING CONCUSSION PROTOCOL FOR JOCKEYS

Medication and Track Safety Committee Meeting
February 20, 2013

BACKGROUND

Documents submitted for discussion and review are:

1. The gold standard for evaluation of concussions- Dr. David Seftel M.D. Track Physician at Golden Gate Fields
2. Emergency Medical Procedures for on track injuries to riders/jockeys at Golden Gate Fields
3. Statement from Dr. Tri Vo, Track Physician at Santa Anita
4. Medical Control Guidelines: Altered Level of Consciousness from the Department of Health Services County of Los Angeles
5. Treatment Protocol: General Trauma from the Department of Health Services County of Los Angeles
6. Medical Control Guidelines: Spinal Immobilization from the Department of Health Services County of Los Angeles
7. Concussion Quality Standards from the American Academy of Neurology
8. Concussion Protocol from the National Football League – San Diego Chargers
9. Statement from Barry Broad concerning concussions, releasing the rider
10. Comments from the ARCI Survey concerning Concussion protocol in other jurisdictions

ANALYSIS

Currently the CHRB has no standard concussion protocol in place for jockeys/riders/drivers. Staff requested documentation regarding concussion protocol from the various California racetracks and received documentation noted above from Golden Gate Fields and Santa Anita. Other entities such as the American Academy of Neurology and the National Football League also provided information. Staff requested the Association of Racing Commissioners International (ARCI) conduct a survey of other racing jurisdictions regarding concussion protocol for jockeys. Twelve responses were received (see item 10).

RECOMMENDATION

This item is presented for Committee discussion and action.

Item 1

David Seftel M.D. Track Physician at Golden Gate Fields

We follow the gold standard for the evaluation of head injury with a special emphasis on concussion since it is the commonest injury seen in jockeys:

The procedure includes performing a mini–mental state examination (MMSE) or Folstein test:
http://en.wikipedia.org/wiki/Mini%E2%80%93mental_state_examination

Concussion Evaluation

The evaluation of a concussion begins with a history and physical exam.
Physical findings in someone with a concussion may include:
Blood behind the eardrum:
May be a sign of basilar skull fracture
Bruising behind the ear or around both eyes:
May be a sign of basilar skull fracture
Clear fluid leaking from the nose:
A sign of basilar skull fracture
Large scalp contusion
Neck tenderness
Skull deformity:
A depressed area on the skull
Visible skull fracture through a scalp wound
Physical findings on a neurologic exam may include:
Abnormal eye muscle exam
Abnormal eye pupil exam
Amnesia
Arm numbness (unilateral)
Arm weakness (unilateral)
Confusion
Difficulty speaking
Difficulty walking
Leg numbness (unilateral)
Leg weakness (unilateral)
Weakness on one side of the body
Numbness on one side of the body
Loss of consciousness
Papilledema:
Evidence of increased brain pressure on eye exam
Seizure
Testing may be necessary to determine the extent of the brain injury.
Tests that may be used to evaluate concussion include:
Skull x-rays
CT scan of the brain
MRI scan of the brain
X-rays of the neck:
Normal cervical spine
Torn ligaments

Fracture of the odontoid process of the second vertebra
Fracture of a vertebral body
Fracture of a spinous process in the back of a neck vertebra

Definition: Concussion
Acute trauma-induced mental function alteration
Duration under 24 hours
Loss of consciousness may be present

Pathophysiology: Second Impact Syndrome
Repeated Concussions over short period of time
Results in progressive cerebral edema

Epidemiology: Incidence Concussion in football per year
High School athletes: 20%
College athletes: 10%

Symptoms
Headache
Dizziness
Nausea or Vomiting
Slurred speech
Imbalance
Incoordination

Signs
Amnesia
Disorientation
Confusion
Vacant stare
Disorientation
Delayed answers to questions
Poor concentration
Inattention

Grading

Grade 1 Concussion ("Ding" Concussion)
Confusion
Concussion symptoms resolve within 15 minutes
No Loss of Consciousness

Grade 2 Concussion
Confusion
Concussion symptoms persist beyond 15 minutes
No Loss of Consciousness

Grade 3 Concussion
Confusion
Concussion symptoms persist beyond 15 minutes
Any Loss of Consciousness

Evaluation: Stabilization
See Primary Survey
See Secondary Trauma Survey
See Head Injury
See Cervical Spine Injury

Evaluation: Sideline Evaluation for return to riding
Orientation and memory
References
Maddocks (1995) Clin J Sports Med 5:32-5
Evaluate for postural instability
See Balance Error Scoring System
Management: Gerenal Guidelines
See Management of Mild Head Injury
Based on three separate and conflicting guidelines
Cantu Guidelines (1986)
Colorado Medical Society (1991)
American Academy of Neurology (1997)
Definition of Asymptomatic (guidelines below)
No somatic symptoms
No behavioral symptoms
No cognitive symptoms

Management: Guidelines for Grade 1 Concussion

Background
Grade 1 Concussion memory deficits persist 1-6 days
Return to play in 15 minutes may be too soon
Lovell (2004) Am J Sports Med 32:47-54

First Grade 1 Concussion
Return to play if asymptomatic for 15-20 minutes

Second Grade 1 Concussion
Requires formal examination by physician
Return to play if asymptomatic for 1 week

Third Grade I Concussion
Terminate season
Requires formal examination by physician

Management: Guidelines for Grade 2 Concussion

First Grade 2 Concussion
Requires formal examination by physician
Return to play if asymptomatic for 1 week

Second Grade 2 Concussion
Return to riding if asymptomatic for 1 month

Third Grade 2 Concussion
Off riding for 6 weeks and asymptomatic

Management: Guidelines for Grade 3 Concussion

First Grade 3 Concussion
Urgent Neurologic Exam at hospital ER
Consider Head CT
Return to riding guidelines
No participation for one month minimum
May return to riding if asymptomatic for 1-2 weeks

Second Grade 3 Concussion
Depends on CT/MRI

Third Grade 3 Concussion
Terminate riding

Complications
Cerebral edema (Second Impact Syndrome)
Cumulative neuropsychologic deficits
Intracranial bleeding
Postconcussion Syndrome

Reference
(1997) Neurology 48:581-5
(1999) Pediatrics 104:1407-15
Cantu (1986) Phys Sportsmed 14(10):75-83
Kushner (2001) Am Fam Physician 64:1007-14
Whiteside (2006) Am Fam Physician 74(8):1357-62

Item 2

GOLDEN GATE FIELDS

EMERGENCY MEDICAL PROCEDURES
-MORNING TRAINING-

FOR ON-TRACK INJURY TO JOCKEYS OR EXERCISE RIDERS

"FIRST RESPONSE"

- In the event of an accident, the Outriders shall immediately contact the on-track GGF Human Ambulance using Radio Channel #1 ("Rider Down"); *(or the accident may very well be witnessed directly by the Ambulance Crew)*;
- The on-track GGF Human Ambulance (manned by GGF-contracted medical personnel) shall respond immediately to the site of the accident;
- The attending contracted medical personnel shall arrive equipped with advanced cardiac life support (ACLS) and other necessary acute medical treatment equipment & supplies;
- An "on-site evaluation" of injuries to the jockey(s) or exercise rider(s) shall be made by the attending contracted medical personnel.

"ON-SITE EVALUATION"

- Based on the attending contracted medical personnel "on-site evaluation" of injuries, a decision shall be made to either treat the injured jockey(s) or exercise rider(s) on-site or to request emergency medical transport for off-site treatment at a hospital trauma center;
  - If on-site treatment is deemed sufficient, the GGF Human Ambulance shall provide the injured jockey(s) or exercise rider(s) with appropriate medical treatment; or,
  - If off-site treatment is deemed necessary, "911" shall be used to summon a City of Albany Fire Dept. ambulance *(a Fire Dept. truck shall also respond)*.

"INJURY TREATMENT"

- If an injured jockey(s) is treated on-site:
  - the attending contracted medical personnel shall provide medical treatment until surrendering custody of the patient based on his/her medical judgment;
  - the Track Physician of the GGF Medical Clinic shall likewise be notified either via telephone or when arriving on-site (live race days only).
- If an exercise rider(s) is treated on-site:
  - the attending contracted medical personnel shall provide medical treatment until surrendering custody of the patient based on his/her medical judgment;
- If the City of Albany Fire Dept. ambulance is summoned to respond, the injured jockey(s) or exercise rider(s) shall be transferred to this ambulance at either of the two following locations for transport to a local hospital;
  - If the injuries are deemed less severe, the jockey(s) or exercise rider(s) will be transported by the GGF Human Ambulance to an off-track location for pick-up by the City of Albany Fire Dept. ambulance; or,
  - If the injuries are deemed severe and the jockey(s) or exercise rider(s) cannot be moved, the City of Albany Fire Dept. ambulance will be escorted by GGF security personnel directly onto the track for patient pickup.

"POST INJURY ACTIVITIES"

- The incident must be reported immediately to the appropriate CHSA representative;
- In consultation with the attending contracted medical personnel, an "Accident/Injury Investigation Report" must be completed by track management following completion of the above-noted procedures.

Should the GGF Human Ambulance need to leave the track premises, for whatever reason(s), all morning training must be delayed until a city-chartered or other substitute ambulance is on-site and available for on-track medical service.

GOLDEN GATE FIELDS

EMERGENCY MEDICAL PROCEDURES
-LIVE RACING-
FOR ON-TRACK INJURY TO JOCKEYS

"FIRST RESPONSE"

- In the event of an accident, the Stewards and/or Outriders shall immediately contact the Track Physician ("Jockey Down") using Radio Channel #7 *(or the accident may very well be witnessed directly by the Track Physician)*;
- The on-track GGF Human Ambulance (manned by GGF-contracted contracted medical personnel) and the Track Physician (transported via the GGF "chase" or "Vet" truck) shall respond immediately to the site of the accident;
- The attending medical professionals shall arrive equipped with advanced cardiac life support (ACLS) and other necessary acute medical treatment equipment & supplies;
- An "on-site evaluation" of injuries to the jockey(s) shall be made by the Track Physician.

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"ON-SITE EVALUATION"

- Based on the Track Physician's "on-site evaluation" of injuries, a decision shall be made to either treat the injured jockey(s) on-site or to request emergency medical transport for off-site treatment at a hospital trauma center;
  - If on-site treatment is deemed sufficient, the GGF Human Ambulance shall transport the injured jockey(s) directly to the GGF Medical Clinic; or,
  - If off-site treatment is deemed necessary, "911" shall be used to summon a City of Albany Fire Dept. ambulance *(a Fire Dept. truck shall also respond)*.

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"INJURY TREATMENT"

- If the injured jockey(s) is treated at the GGF Medical Clinic, the Track Physician shall be the primary care provider unless (or until) the Track Physician surrenders custody of the patient based on his/her medical judgment;
- If the City of Albany Fire Dept. ambulance is summoned to respond, the injured jockey(s) shall be transferred to this ambulance *(accompanied by the Track Physician)* at either of the two following locations for transport to a local hospital;
  - If the injuries are deemed less severe, the jockey will be transported by the GGF Human Ambulance to an off-track location for pick-up by the City of Albany Fire Dept. ambulance; or,
  - If the injuries are deemed severe and the jockey(s) cannot be moved, the City of Albany Fire Dept. ambulance will be escorted by GGF security personnel directly onto the track for patient pickup.

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"POST INJURY ACTIVITIES"

- The incident must be reported immediately to the appropriate CHSA representative;
- In consultation with the Track Physician, an "Accident/Injury Investigation Report" must be completed by track management following completion of the above-noted procedures.

Should the GGF Human Ambulance need to leave the track premises, for whatever reason(s), racing must be delayed until a city-chartered or other substitute ambulance is on-site and available for on-track medical service.

Item 3

Statement from Dr. Tri Vo M.D. Track Physician at Santa Anita

Dr.Vo stated that he does not have a written Policy in place for concussions. He stated that he uses his medical experiences to treat jockeys brought to the first aid room. Dr. Vo stated jockeys that fall on the track are first treated by the track paramedics. They are evaluated and transported to either first aid room or a local hospital. If the jockey is sent to First Aid room, Dr. Vo conducts a complete physical evaluation and determines if the jockey needs to be treated further or can be released. The Doctor completes a medical report, which stays with the track physician. He then notifies the Stewards of the condition of the jockey. Dr. Vo also stated that if he determines the jockey needs further medical attention the Arcadia Fire Department is called for transportation.

Paramedic Matt Schafer of Ambuserve Ambulance said the paramedics who follow the jockeys during the race are trained to handle head injuries. They follow the strict LA County Paramedic treatment guidelines. I have attached their protocols for head injuries. Once a jockey falls in a race, the paramedics determine the extent of the injury. Based on the above protocols they determine whether the jockey should be transported to the First Aid Station or to a local hospital. The First Aid station would be for minor injuries and Huntington Memorial Hospital Trauma Center would be for severe injuries.

Once the jockey is released by any medical facility he/she must report to the first aid doctor to be released to return to ride. The track physician will then notify the Stewards. All medical records are kept at the individual track and medical information is not shared between tracks.

Item 4

MEDICAL CONTROL GUIDELINE: ALTERED LEVEL OF CONSCIOUSNESS

PRINCIPLES:

1. Evaluation and documentation of the patient's level of consciousness are key components of a thorough patient assessment.

2. Signs and symptoms of altered level of consciousness (ALOC) may present as disorientation to person, place or time; confusion; lethargy; impaired cognition; coma; inappropriate aggressiveness; or hostility. These findings should alert EMS personnel to the possibility that the patient may have a serious underlying medical condition.

3. The patient's baseline level of consciousness should be taken into consideration when evaluating whether the ALOC finding represents an acute change or is normal for the patient.

GUIDELINES:

1. Assess orientation by asking the patient the following:
   a. Name
   b. Where they live/where they are
   c. Day of week/year/time of day

   Patients unable to reasonably answer one or more of the above shall be considered to have ALOC.

2. Utilize the appropriate Glasgow Coma Scale (GCS) to assess the neurological status of all patients. Report and document the GCS in the following order: eye opening, motor response, and verbal response.

	Adult	Child (1-4 yrs.)	Infant
EYE OPENING			
4	Spontaneous	Spontaneous	Spontaneous
3	To voice	To voice	To voice
2	To pain	To pain	To pain
1	None	None	None
MOTOR RESPONSE			
6	Obedient	Obedient	Spontaneous
5	Purposeful	Localized	Localized
4	Withdrawal	Withdrawal	Withdrawal
3	Flexion	Flexion	Flexion
2	Extension	Extension	Extension
1	None	None	None
VERBAL RESPONSE			
5	Oriented	Oriented	Smiles and coos appropriately
4	Confused	Confused	Cries and consolable
3	Inappropriate	Inappropriate	Persistent inappropriate crying and/or screaming
2	Incomprehensible	Incomprehensible	Grunts or is agitated or is restless
1	None	None	None

NOTE: For patients unable to communicate or patients with a language barrier, estimate appropriateness of motor response, obedience, and verbal response by consulting with the family and/or primary caregiver(s), if applicable.

Item 5

TREATMENT PROTOCOL: GENERAL TRAUMA *

1. Basic airway
2. Spinal immobilization prn: do not delay transport of hypotensive patients with penetrating torso trauma in order to apply spinal immobilization.
3. Control bleeding
4. Oxygen/pulse oximetry
5. Advanced airway prn
6. Apply 3-sided dressing to sucking chest wounds if indicated
7. If tension pneumothorax suspected and systolic blood pressure less than 80mmHg, remove dressing and consider needle thoracostomy ❶
8. Venous access en route
9. Blood glucose prn
10. Cardiac monitor prn: document rhythm and attach ECG strip if dysrhythmia identified, treat dysthythmias by the appropriate protocol
11. Splints/dressings prn, treatment for specific extremity injuries:
    - Poor neurovascular status – realign and stabilize long bones
    - Joint injury – splint as lies
    - Midshaft femur – splint with traction
12. Consider other protocols for altered level of consciousness with possible medical origin: Ref. No. 1243, Altered Level of Consciousness; Ref. No. 1247, Overdose/Poisoning (Suspected)
13. If evisceration of organs is present, apply moist saline and non-adhering dressing, do not attempt to return to body cavity
14. For pain management of isolated extremity injury:
    Morphine ❷❸❻
    2-4mg slow IV push, titrated to pain relief
    May repeat one time
    Pediatric: 0.1mg/kg slow IV push
    See Color Code Drug Doses/L.A. County Kids
    Do not repeat pediatric dose, maximum pediatric dose 4mg
    Poor perfusion:
    Normal Saline Fluid Challenge
    10ml/kg IV
    Pediatric: 20ml/kg IV
    See Color Code Drug Doses/L.A. County Kids
14. **CONTINUE SFTP or BASE CONTACT ❹❺**
15. If pain unrelieved,
    Morphine ❷❸
    2-12mg slow IV push, titrate to pain relief
    May repeat every 5min, maximum total adult dose 20mg
16. If continued poor perfusion:
    Normal Saline Fluid resuscitate
    Wide open IV fluid administration until SBP is equal to or greater than 90mmHg or signs of improved perfusion
    Pediatric: 20ml/kg IV
    See Color Code Drug Doses/L.A. County Kids

SPECIAL CONSIDERATIONS

❶ Indications for needle thoracostomy include unilateral breath sounds and profound hypotension (SBP equal to or less than 80mmHg) with one or more of the following:
- Altered mental status

- Severe respiratory distress
- Cyanosis
- Shock
- Cool, pale, moist skin

❷ Use with caution: in elderly; if SBP less than 100mmHg; sudden onset acute headache; suspected drug/alcohol intoxication; suspected active labor; nausea/vomiting; respiratory failure or worsening respiratory status

❸ Absolute contraindications: Altered LOC, respiratory rate less than 12 breaths/min, hypersensitivity or allergy

❹ Base hospital contact must be established for all patients who meet trauma criteria and/or guidelines; generally, this is the designated trauma center. SFTP providers may call the trauma center directly or establish base contact if transporting the patient to a non-trauma hospital.

❺ Receiving Hospital Report
Provider Code/Unit #
Sequence Number
Age/Gender
Level of distress
Mechanism of Injury/Chief Complaint
Location of injuries
Destination/ETA
<u>If patient meets trauma criteria/guidelines/judgment:</u>
Regions of the body affected
Complete vital signs/Glasgow Coma Scale (GCS)
Airway adjuncts utilized
Pertinent information (flail segment, rigid abdomen, evisceration)

❻ Ondansetron 4mg IV, IM or ODT may be administered prior to morphine administration to reduce potential for nausea/vomiting

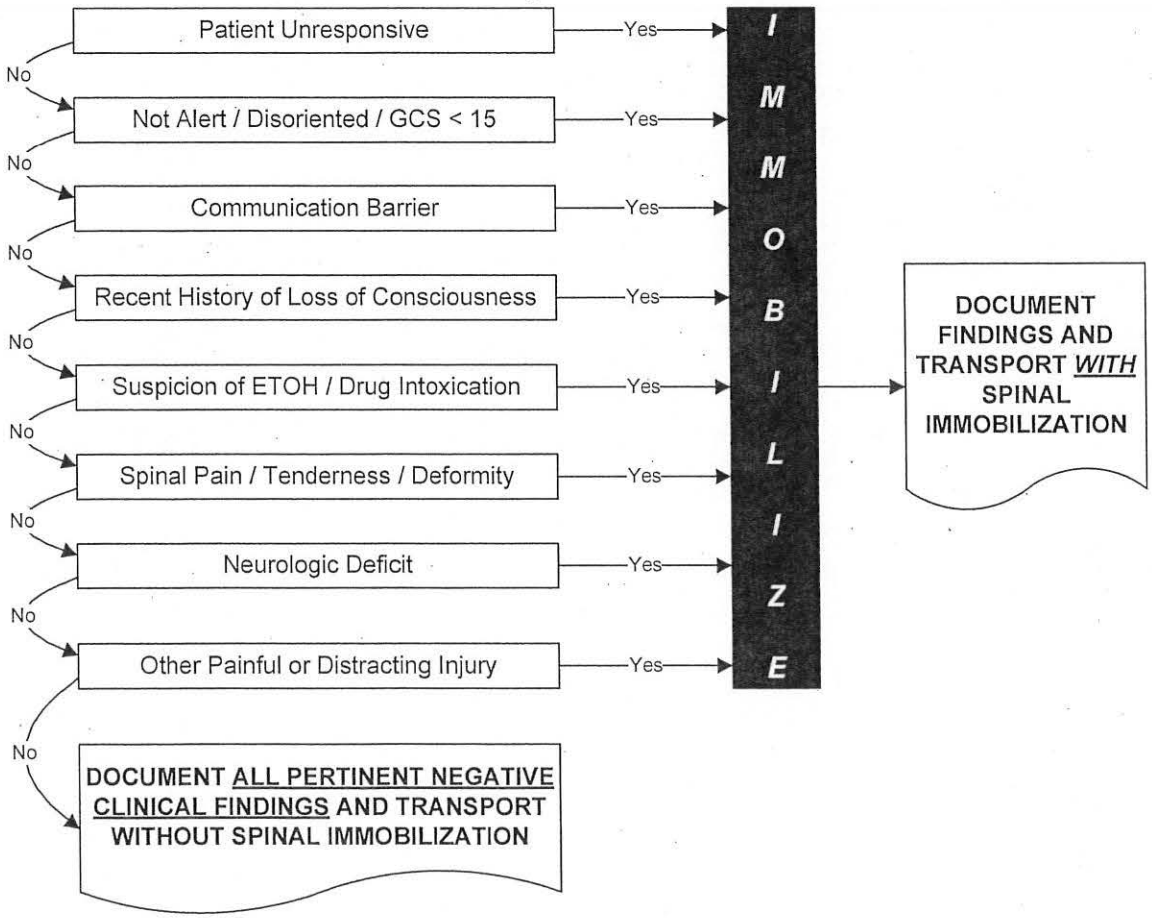
Item 6

MEDICAL CONTROL GUIDELINE: SPINAL IMMOBILIZATION

PRINCIPLES:

1. EMTs shall implement spinal immobilization on patients with suspected spinal trauma based on mechanism of injury.
2. Paramedics shall evaluate all patients with potential spinal cord injury based on mechanism of injury, clinical judgment, and the Spinal Immobilization Algorithm.
3. Spinal immobilization requires the patient's head, neck and torso to be appropriately stabilized.
4. Special consideration should be given to patients aged 65 years or older due to increased risk of spinal injury.
5. Do not delay transport of hypotensive patients with life-threatening penetrating torso injuries to apply spinal immobilization.
6. Once a patient has been placed in spinal immobilization, only hospital personnel should permanently remove the immobilization devices.

ALGORITHM:



Item 7

PRACTICE PARAMETER: THE MANAGEMENT OF CONCUSSION IN SPORTS

(Summary Statement)

Quality Standards Subcommittee of the American Academy of Neurology

Overview

The Quality Standards Subcommittee of the American Academy of Neurology is charged with developing guidelines for neurologists for diagnostic procedures, treatment modalities, and clinical disorders. The selection of topics for which practice parameters are developed is based on the prevalence, frequency of use, economic impact, membership need, controversy, urgency, external constraints, and resources required. Based upon the quality of the evidence, the Quality Standards Subcommittee determines whether the parameter is a standard, guideline, or option.

By training and knowledge, neurologists and neurosurgeons are qualified to develop and disseminate guidelines for managing the athlete who suffers a concussion in sports. Questions addressed during neurologic or neurosurgical consultation for sports-related concussion require advice to the patient that is guided by neuroscience and the consensus of experts, rather than local lore and individual opinion. Most importantly, consultation to prevent catastrophic outcome and cumulative neurobehavioral deficits from repeated concussions can best be provided by the well-informed physician. This practice parameter is based on a background paper[1] written by James P. Kelly, MD, and Jay H. Rosenberg, MD, and on sports concussion guidelines published by the Colorado Medical Society.[2] This practice parameter for the management of concussion in sports is not intended to justify boxing as a legitimate sport, nor should it be construed to conflict with the official stance of the American Academy of Neurology, which has called for a ban on boxing.

Justification

Concussion, a common consequence of trauma to the head in contact sports, can also occur from collisions or falls in all forms of athletic activity. Close observation and assessment of the injured athlete could be critical to the prevention of catastrophic brain injury[3-5] and cumulative neuropsychological deficits. [6-8] Repeated concussions can cause cumulative brain injury in an individual injured over months or years. The problem faced by the medical community has been developing a consensus on managing athletes with these injuries.

Any sport has an inherent risk of injury. A balance must be reached between maintaining a competitive edge in a sport and ensuring participant safety. Frequently, the loss of objectivity on the part of the athlete, coaches, sports media, and spectators is an unfortunate and potentially harmful bias. In that setting, the health professional's role is to provide an objective assessment of the injured athlete and guidance about the safety of an athlete's return to competition.

Process

A MEDLINE search for the years 1966-1996 was carried out with the following key terms: *brain concussion* and *athletic injuries.* This resulted in 10,980 articles cited on MEDLINE that were then narrowed to 71 articles through the intersection of *brain concussion* and *athletic injuries.* The articles that specifically dealt with concussion and sports were retrieved. The evidence was divided into Classes I, II, and III, using the definitions found at the end of this article.

Because of the nature of this topic, no Class I studies exist. Over several years, the available evidence was evaluated and consensus was reached among the Sports Medicine Committee from the Colorado Medical Society, sports-related concussion symposia faculty, and meetings with physicians and non-physician expert groups concerned with this problem. The task undertaken by these groups was to develop the best method to prevent catastrophic outcomes of acute structural brain injury, second impact syndrome, and cumulative brain

injury due to repetitive trauma. Neurologists, neurosurgeons, sports medicine physicians, physiatrists, neuropsychologists, athletic trainers, players, and others reached the consensus presented here. Drafts of this practice parameter were reviewed by the above-mentioned groups, and a grading scale was created based on the scientific evidence as well as consensus.

Definitions

Concussion is a trauma-induced alteration in mental status that may or may not involve loss of consciousness. Confusion and amnesia are the hallmarks of concussion. The confusional episode and amnesia may occur immediately after the blow to the head[9] or several minutes later. [10] Close observation and assessment of the athlete over some period of time is necessary to determine whether evolving neuropathologic change associated with concussion will lead to a confusional state or to the development of memory dysfunction. A history of recent head trauma outside the sports setting, such as a motor vehicle accident, should be considered in the evaluation of an athlete with concussion. Frequently observed features of concussion are listed in table 1.

Table 1: Features of concussion frequently observed

- Vacant stare (befuddled facial expression)
- Delayed verbal and motor responses (slow to answer questions or follow instructions)
- Confusion and inability to focus attention (easily distracted and unable to follow through with normal activities)
- Disorientation (walking in the wrong direction, unaware of time, date. and place)
- Slurred or incoherent speech (making disjointed or incomprehensible statements)
- Gross observable incoordination (stumbling, inability to walk tandem/straight line)
- Emotions out of proportion to circumstances (distraught, crying for no apparent reason)
- Memory deficits (exhibited by the athlete repeatedly asking the same question that has already been answered, or inability to memorize and recall 3 of 3 words or 3 of 3 objects in 5 minutes)
- Any period of loss of consciousness (paralytic coma, unresponsiveness to arousal)

Symptoms that the athlete may experience can be divided into "early" and "late" categories, although times may vary case by case. Symptoms are listed in table 2.

Table 2: Symptoms of concussion

- Early (minutes and hours)
  - Headache
  - Dizziness or vertigo
  - Lack of awareness of surroundings
  - Nausea or vomiting
- Late (days to weeks):
  - Persistent low grade headache
  - Light-headedness
  - Poor attention and concentration
  - Memory dysfunction
  - Easy fatigability
  - Irritability and low frustration tolerance
  - Intolerance of bright lights or difficulty focusing vision
  - Intolerance of loud noises, sometimes ringing in the ears
  - Anxiety and/or depressed mood
  - Sleep disturbance

The usefulness of a grading scale has been well established in sports medicine to determine the severity of a concussion. [11] This practice parameter presents the following grading scale arrived at by a consensus of experts who reviewed all existing scales, including the recommendations in the Colorado Medical Society Guidelines. [2]

Grade 1

1. Transient confusion

2. No loss of consciousness
3. Concussion symptoms or mental status abnormalities on examination **resolve in *less* than 15 minutes.**

Grade 1 concussion is the most common yet the most difficult form to recognize. The athlete is *not* rendered unconscious and suffers only momentary confusion (e.g., inattention, poor concentration, inability to process information or sequence tasks) or mental status alterations. Players commonly refer to this state as having been "dinged" or having their "bell rung."

Grade 2

1. Transient confusion
2. No loss of consciousness
3. Concussion symptoms or mental status abnormalities on examination **last *more* than 15 minutes**

With Grade 2 concussion, the athlete is not rendered unconscious but experiences symptoms or exhibits signs of concussion or mental status abnormalities on examination that last longer than 15 minutes (e.g., poor concentration or post-traumatic amnesia). Any persistent Grade 2 symptoms (greater than 1 hour) warrant medical observation.

Grade 3

1. Any loss of consciousness, either brief (seconds) or prolonged (minutes)

Grade 3 concussion is usually easy to recognize—the athlete is unconscious for any period of time.

Refer to table 1 for details about behavioral features of concussion. A sideline evaluation to assess the status of the athlete suspected of having a concussion appears in table 3. This evaluation should be performed by individuals properly trained in the administration of the examination. Timing of initial management and return to play are outlined in tables 4 and 5.

Table 3: Sideline Evaluation

Mental status testing	
Orientation	Time, place, person, and situation (circumstances of injury)
Concentration	Digits backward (e.g., 3-1-7, 4-6-8-2, 5-3-0-7-4); Months of the year in reverse order
Memory	Names of teams in prior contest; Recall of 3 words and 3 objects at 0 and 5 minutes; Recent newsworthy events; Details of the contest (plays, moves, strategies, etc.)
External provocative	
tests	40-yard sprint; 5 push ups; 5 sit ups; 5 knee bends; (any appearance of associated symptoms is abnormal, e.g. headaches, dizziness, nausea, unsteadiness, photophobia, blurred or double vision, emotional lability, or mental status changes)
Neurologic tests	
Pupils	Symmetry and reaction
Coordination	Finger-nose-finger, tandem gait
Sensation	Finger-nose (eyes closed) and Romberg

Table 4: Initial management following first event

Grade	On-site evaluation	Neurologic evacuation	Same day return to play
Grade 1	Yes	Not required, but may be pursued depending on clinical evaluation	Yes if normal sideline assessment while at rest and with exertion, including detailed mental status examination
Grade 2	Yes	Yes	No
Grade 3	Yes	Yes	No

Table 5: When to return to play after removal from contest

Grade of concussion	Time until return to play*
Multiple Grade 1 concussion	1 week
Grade 2 concussion	1 week
Multiple Grade 2 concussions	2 weeks
Grade 3—brief loss of consciousness (seconds)	1 week
Grade 3—prolonged loss of consciousness (minutes)	2 weeks
Multiple Grade 3 concussions	1 month or longer, based on clinical decision of evaluating physician

*Only after being asymptomatic with normal neurologic assessment at rest and with exercise.

Recommendations

Based on the literature review and expert consensus, the following recommendations for return to competition after concussion should be considered practice **options.**

Grade 1

If the injured athlete's condition fits the description of a Grade 1 injury as described previously:

1. Remove from contest.
2. Examine immediately and at 5 minute intervals for the development of mental status abnormalities or post-concussive symptoms at rest and with exertion.
3. May return to contest if mental status abnormalities or post-concussive symptoms clear within 15 minutes.
4. A second Grade 1 concussion in the same contest eliminates the player from competition that day, with the player returning only if asymptomatic for one week at rest and with exercise.

Grade 2

If the injured athlete's condition fits the description of a Grade 2 injury as described previously:

1. Remove from contest and disallow return that day.
2. Examine on-site frequently for signs of evolving intracranial pathology.
3. A trained person should reexamine the athlete the following day.
4. A physician should perform a neurologic examination to clear the athlete for return to play after 1 full asymptomatic week at rest and with exertion.
5. CT or MRI scanning is recommended in all instances where headache or other associated symptoms worsen or persist longer than one week.
6. Following a second Grade 2 concussion, return to play should be deferred until the athlete has had at least two weeks symptom-free at rest and with exertion.
7. Terminating the season for that player is mandated by any abnormality on CT or MRI scan consistent with brain swelling, contusion, or other intracranial pathology.

Grade 3

If the injured athlete's condition fits the description of a Grade 3 injury as described previously:

1. Transport the athlete from the field to the nearest emergency department by ambulance if still unconscious or if worrisome signs are detected (with cervical spine immobilization, if indicated).

2. A thorough neurologic evaluation should be performed emergently, including appropriate neuroimaging procedures when indicated.
3. Hospital admission is indicated if any signs of pathology are detected, or if the mental status of the athlete remains abnormal.
4. If findings are normal at the time of the initial medical evaluation, the athlete may be sent home. Explicit written instructions will help the family or responsible party observe the athlete over a period of time.
5. Neurologic status should be assessed daily thereafter until all symptoms have stabilized or resolved.
6. Prolonged unconsciousness, persistent mental status alterations, worsening postconcussion symptoms, or abnormalities on neurologic examination require urgent neurosurgical evaluation or transfer to a trauma center.
7. After a brief (seconds) Grade 3 concussion, the athlete should be withheld from play until asymptomatic for 1 week at rest and with exertion.
8. After a prolonged (minutes) Grade 3 concussion, the athlete should be withheld from play for 2 weeks at rest and with exertion.
9. Following a second Grade 3 concussion, the athlete should be withheld from play for a minimum of 1 asymptomatic month. The evaluating physician may elect to extend that period beyond 1 month, depending on clinical evaluation and other circumstances.
10. CT or MRI scanning is recommended for athletes whose headache or other associated symptoms worsen or persist longer than 1 week.
11. Any abnormality on CT or MRI consistent with brain swelling, contusion, or other intracranial pathology should result in termination of the season for that athlete and return to play in the future should be seriously discouraged in discussions with the athlete.

Recommendations for future research

1. Development of a valid, standardized, systematic sideline evaluation designed for the immediate assessment of concussion in athletes.
2. Development of a standardized, neuropsychological test battery designed to detect impairment associated with concussion.
3. Multicenter prospective studies documenting baseline physical, neurologic, and neuropsychological data in athletes and changes in these measurements following concussion.
4. Multicenter prospective studies to determine the physical, neurologic, and neuropsychological outcomes of multiple concussions.

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Quality Standards Subcommittee Members: Michael K. Greenberg, MD, Chair; Milton Alter, MD, PhD; Stephen Ashwal, MD; Thomas N. Byrne, MD; John Calverley, MD; Jasper R. Daube, MD; Gary Franklin, MD, MPH; Jacqueline French, MD; Benjamin M. Frishberg, MD; Douglas J. Lanska, MD; Robert G. Miller, MD; Shrikant Mishra, MD, MBA; Germaine L. Odenheimer, MD; George Paulson, MD; Richard A. Pearl, MD; James C. Stevens, MD; Catherine A. Zahn, MD; Jay H. Rosenberg, MD; Michael L. Goldstein MD.

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March 22, 1996, Pittsburgh Meeting: James P. Kelly, MD; Jay H. Rosenberg, MD; Joseph Maroon, MD; Julian Bailes, MD; Jack Wilberger, MD; Mark Lovell, PhD; John Powell, PhD, ATC; Thomas Gennerelli, MD; Mark Hadley, MD; Jeffrey T. Barth, PhD; Merrill Hoge, retired NFL player; Barry D. Jordan, MD; John Norwig, ATC; Mike Tomczak, current NFL player.

April 28, 1996, Minneapolis Meeting: James P. Kelly, MD; Jay H. Rosenberg, MD; Joseph Maroon, MD; Julian Bailes, MD; Robert Cantu, MD; Jack Wilberger, MD; James Malec, PhD.

Disclaimer

This statement is provided as an educational service of the American Academy of Neurology. It is based on an assessment of current scientific and clinical information. It is not intended to include all possible proper methods of care for choosing to use a specific procedure. Neither is it intended to exclude any reasonable

alternative methodologies. The AAN recognizes that specific patient care decisions are the prerogative of the patient and the physician caring for the patient, based on all of the circumstances involved.

Reviewers of this practice parameter

American Association of Neurological Surgeons; American College of Emergency Physicians; American Academy of Pediatrics; American Academy of Family Physicians; National Athletic Trainers Association; and American Academy of Neurology Member Reviewer Network.

Definitions for classification of evidence

Class I

Evidence provided by one or more well-designed randomized controlled clinical trials.

Class II

Evidence provided by one or more well-designed clinical studies.

Class III

Evidence provided by expert opinion, nonrandomized historical controls, or case reports.

Definitions for strength of recommendations

Standards

Generally accepted principles for patient management that reflect a high degree of certainty based on Class I evidence; or, when circumstances preclude randomized clinical trials, overwhelming evidence of Class II studies that directly address the question.

Guidelines

Recommendations for patient management that identify a particular strategy or strategies that reflect moderate clinical certainty based on Class II evidence or consensus of Class III evidence.

Options

Other strategies for patient management for which there is unclear clinical certainty based on inconclusive or conflicting evidence or opinion.

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Item 8

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Here's the basic outline of our protocol, but the finer points should be communicated between the medical experts.

NFL SIDELINE EXAM: We previously sent you the NFL Sideline Concussion Assessment Tool, which was introduced this year at February's Combine. This tool was developed through a collaborative effort of NFL team physicians, ATCs and the Head, Neck and Spine Committee and reviewed by numerous medical experts with decades of experience diagnosing and managing concussions. It is intended to be used as a guide for your medical assessment of NFL players suspected of having a concussion. It includes, in the red box, the 6 obvious signs of disqualification that are a "NO GO" (meaning that the player should not be allowed to return to play). Any player suspected of having a concussion is a "NO GO" and does not return to play in the same game or practice, and cannot return to play at all until he is cleared by both his team physician and an independent neurologist.

THE MADDEN RULE: Named for John Madden who suggested it, this rules states that, if a player is diagnosed with a concussion and removed from a game, he must leave the field and be immediately escorted to the locker/training room, and a member of the medical staff (e.g., an ATC, MD, fellow, or resident capable of medical intervention) must remain with the player to observe him if his injury does not require immediate hospitalization. There are no exceptions to this rule and the player is NOT to return to the field under any circumstances. The Madden Rule is intended to protect the players. It provides a quiet environment to permit the player time to recover without distraction. This rule has been endorsed by the NFL Competition Committee and approved by the Commissioner.

WHEN IN DOUBT LEAVE THEM OUT: If you have any suspicion about a player being concussed, remove him from the game. Always err on the side of caution.

Item 9

Statement from Barry Broad

Broad & Gusman LLP
1127 11th Street, Suite 512
Sacramento, CA 95814

For a concussion, a doctor should have to release the rider. No rider should be permitted to ride with a concussion. If the rider has a concussion, even where he or she has not lost consciousness, and they take another fall before the swelling has subsided, they can suffer an extreme injury from even a minor fall.

Item 10

ARCI Survey

Q.) What is your jurisdiction's policy regarding the return to race/training participation for jockeys and/or drivers that have sustained a head injury? Specifically, does your jurisdiction require that a licensee obtain a medical release prior to returning to competition after sustaining a head injury?

1. bwalsh.az January 28th, 2013 at 12:45 | #1

   We don't specifically address head injuries but do require that those who are injured and unable to ride because of that injury obtain a medical release before returning. But the rule needs to be quite a bit stronger as it seems that some can find a doctor to provide that release quicker than others.

2. John Wayne January 28th, 2013 at 12:50 | #2

   Delaware Thoroughbred Racing Commission

   Any head injuries require an examination, evaluation, and medical clearance/release before any rider can return to racing activities.

3. Larry Eliason January 28th, 2013 at 12:56 | #3

   Our policy is the same as Arizona if a rider is excused because of an injry he or she msut have a medical release to resume riding but we do not make a distiction for head injuries.
   We don't have the same problem of "doctor shopping" as Arizona has but we have a lot fewer doctors.

4. dmoore.wa January 28th, 2013 at 13:54 | #4

   Washington allows the board of stewards to require a physician release to ensure the participants safety, not head injury specific.

   WAC 260-36-062 Fitness to participate.
   (1) All applicants for a jockey, apprentice jockey, exercise rider, pony rider or outrider license must certify on their application that they are physically fit to ride.

   (2) During the conduct of a race meet, if the board of stewards finds that a threat to the public health, safety or welfare requires emergency action, the board of stewards may require a jockey, apprentice jockey, exercise rider, pony rider or outrider to provide a physician's written statement verifying fitness to ride before being allowed to ride in a race or on the grounds of the racing association.

5. jillb.florida January 28th, 2013 at 15:10 | #5

   Florida

   There is nothing in our laws or rules that require a jockey who sustained a head injury to provide a medical release to the Division. This requirement may be addressed in the permitholder's house rules.

6. randye.oregon January 28th, 2013 at 17:12 | #6

Following is Oregon's general rule. The last provision allows the stewards broad discretion.

Types of Licenses

(h) All jockeys must pass physical examinations once a year. A physical examination must include but is not limited to a vision test and urine and/or blood tests. The stewards may require that any jockey be reexamined and may refuse to allow any jockey to ride until he/she successfully completes such examination. A physical card or physician's release will be seen as initial proof of such examination; however, the stewards may require additional information on the examination.

7. bmcintosh.nv January 29th, 2013 at 11:43 | #7

In Nevada, we have nothing that pertains exclusively to head injuries. However, in the case of an accident resulting in any injury we would rely on the following regulation to require a medical release.

Nevada Gaming Control Board Regulation 30.303(2) states:

A jockey may be required to pass a physical examination given within the previous 12 months by a licensed physician affirming fitness to participate as a jockey. The board of stewards may require that any jockey be re-examined and may refuse to allow any jockey to ride pending completion of such examination.

8. Mickey Ezzo January 30th, 2013 at 14:01 | #8

In Illinois, jockeys and drivers that are returning from an injury must obtain a medical release before being allowed to resume riding or driving.

9. admin January 30th, 2013 at 14:06 | #9

Response from Marco Antonio Rojas, Mexico Racing Commission...

1) Yes we need the medical opinion with a head letter and his signature.

10. Larry Munster, Louisiana State Racing Commission January 31st, 2013 at 12:19 | #10

In Louisiana all injured jockeys, regardless of type of injury, are required to have a doctor's release to return to duty following an injury. This is as per stewards policy and interpretation of our rule that states in part "certifying such person is physically and mentally capable of performing the activities and duties of a licensed jockey ."

11. mhopkins.md February 1st, 2013 at 05:12 | #11

doctors release is required in Maryland

12. ALightbownMA February 1st, 2013 at 14:21 | #12

In Massachusetts if a rider is excused because of injury, they must have a medical release to resume riding. 4.15(15) All jockeys must pass a physical examination once a year, before the commencement of a meeting, by a doctor approved by the Commission. The Stewards may require that any jockey be re-examined and may refuse to allow any jockey to ride until he successfully passes such examination.