

# WASHINGTON HORSE RACING COMMISSION EQUINE HEALTH AND SAFETY REPORT 2019

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## WHRC Racing Statistics

Washington had two race meets in 2019, a 67 day meet at Emerald Downs (EMD) from April 20 – September 22, 2019, and a 6 day meet at Sun Downs (SUN) from April 27- May 12, 2019. The meet at EMD was the same length as in 2018, which was a decrease from 2017 (72 days) and 2016 (70 days). **(figure 1)** Sun Downs (SUN) conducted a meet and will be described separately below.

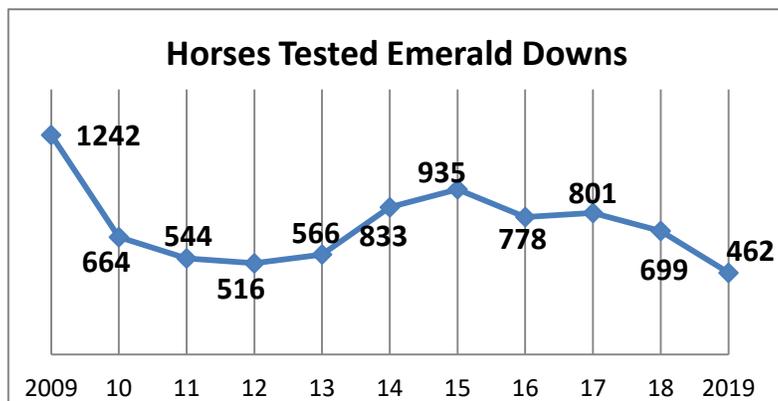
### Sample Collection, Emerald Downs

Post race samples were collected from seven hundred seventeen (717) horses. Samples were collected from all first place finishers, as well as other horses selected by the Board of Stewards for testing. Due to budgetary constraints, at the conclusion of each race day the Board of Stewards selected races which would be shipped for testing. Any race with horses selected by Stewards was tested. Horses in Stakes races finishing first, second, and third were all selected and tested. Truesdail Laboratories of Irvine, California the WHRC contract laboratory, analyzed samples from four hundred sixty two (462) horses, comprising 64% of horse samples collected. The number of horses tested in 2019 represented a 34% decline from the six hundred ninety nine (699) samples analyzed in 2018, and a 42% decline from 2017 with eight hundred one (801) samples tested. **(figure 2)** Fifty two (52) pre-race blood samples were collected from all horses of selected races at EMD for total carbon dioxide (TCO<sub>2</sub>) testing in 2019. This was a 24% reduction from the sixty eight (68) samples collected in 2018, and a 15% increase, from the forty four (44) samples submitted in 2017.

**Figure 1: Number of: Race Days, Training Days, Races, Starters 2007-2018**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
<b>Racing Days</b>	91	91	91	90	82	81	75	73	70	70	72	67	<b>67</b>
<b>Training Days</b>	241	240	238	221	208	187	218	215	215	202	210	210	<b>200</b>
<b>Races</b>	824	827	815	772	778	690	665	641	647	599	604	558	<b>547</b>
<b>Starters</b>	6252	6362	6058	5429	4898	4390	4427	4022	4438	4450	4223	3927	<b>3737</b>

**Figure 2: Blood Samples Submitted EMD 2009-19**



There were 3,737 total starts at EMD in 2019, a 4.8% decrease from the 3,927 in 2018. This continues a pattern, but of lower magnitude, in that 2018 had a 7% decrease from the 4,223 total starts in 2017. The decrease in 2018 is partially a reflection of the 5 fewer days of racing in 2018 compared to 2017, while the number of race days was the same in 2018 and 2019. **(figure 1)**

In 2019 there was an average of 6.83 starters per race, a 3% decrease from 2018 with 7.04 average

starters per race. There was an average of 8.16 races per day in 2019, a 5% decrease from 8.61 in 2018, and a 2.6% decrease from 2017 with an average of 8.38 races per day.

## Medication Threshold Violations, Emerald Downs

There were seventeen (17) medication overages, resulting in sixteen (16) violations reported at EMD in 2019, a 78% increase from the nine (9) violations reported in 2017 and 2018. One test sample had both an excess of phenylbutazone or (PBZ) ('bute') as well as a 'Stacking' of the NSAID flunixin (FLN) ('banamine'), and was ruled as one violation (Stacking of NSAID's) by the board of Stewards. Additionally, the following drugs had one (1) violation reported: dexamethasone, trichlormethiazide, methamphetamine, and cannabidiol. **(figures 3,4)**

Two medications were responsible for the entirety of the increase in violations: the NSAID PBZ with seven (7) violations, and the muscle relaxant methocarbamol (MCB) ('robaxin') with four (4). As in last year's PBZ overages most were due to oral administration of PBZ. An additional eight (8) PBZ overages resulting from oral administration were reported in horses working off the veterinarian's list and will be discussed in the Veterinarian's List section below.

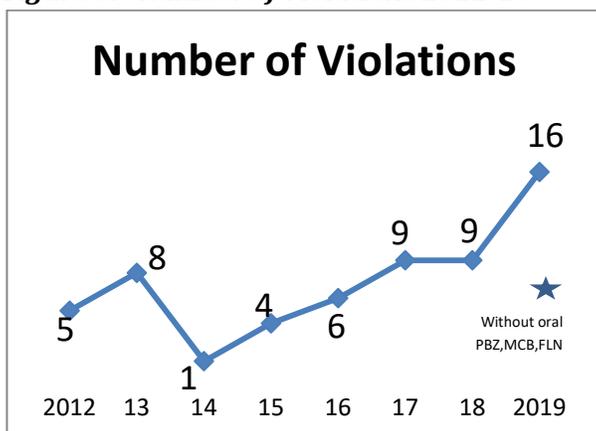
The impact of oral medication on violations cannot be overstated. No veterinary treatment reports were submitted listing veterinarian administered PBZ for five (5) out of the seven (7) PBZ violations, and three (3) out of the four (4) MCB violations; oral administrations was responsible for the violations. In the remaining two (2) PBZ and one (1) MCB violation, although veterinarian treatment reports for PBZ and MCB were submitted, in one of the PBZ violations the trainer subsequently reported an error in administration of oral PBZ had occurred. In the MCB violation not directly linked to oral administration, oral administration in the days leading up to the race is suspected of causing the violation. The one (1) 'Stacking NSAID' violation was attributed to oral administration of FLN, as no veterinary treatment report was submitted for FLN in this horse.

The WHRC Withdrawal Recommendations publication advises caution when administering oral forms of PBZ, MCB, FLN and other medications due to the slower and irregular absorption rates of these medications following any oral administration. It bears repeating that if PBZ or MCB are administered orally in the days leading up to a race, it is recommended that the final dose be administered no closer than 72 hours prior to the race. Similar recommendations are made for oral administration of other medications.

### Oral medications impact

To summarize, in 2019 the oral administration of PBZ, MCB, and FLN were known to be responsible for ten (10) of the sixteen (16) violations resulting in penalties totaling \$1,700. Additionally, eight (8) horses required additional attempts to work off the veterinarian's list because of PBZ and FLN overages totaling an additional 96 days on the list (discussed below). Similar findings were seen last year. It is advisable to reconsider the necessity, timing, and frequency when administering oral PBZ, MCB, and FLN and other oral medications in the days leading up to a race or to work off the veterinarian's list. Without the violations arising from oral PBZ, MCB, and FLN six (6) medication violations would have occurred as noted in the figure below. **(figure 3)**

**Figure 3: Number of Violations 2012-19**



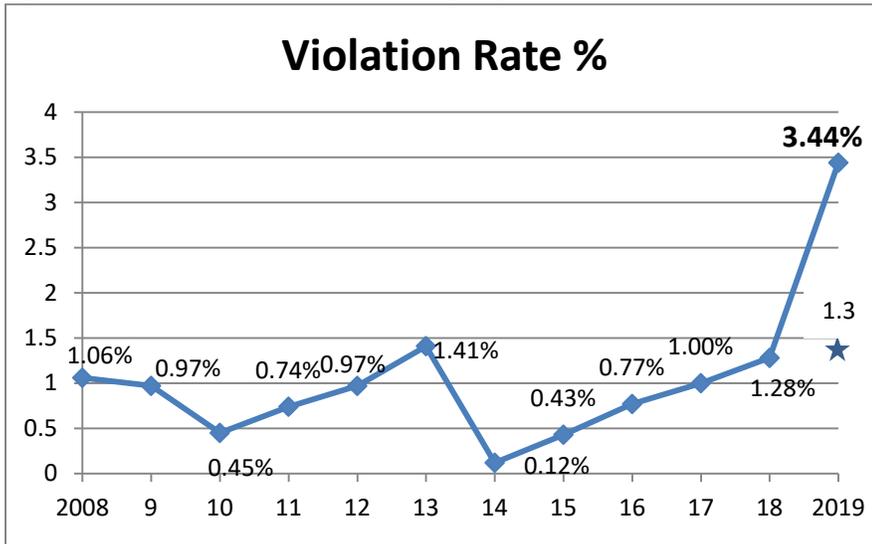
**figure 4: Emerald Downs Threshold Violations 2019**

Medication	Family	2019
Phenylbutazone (PBZ)	NSAID	7
Methocarbamol	Muscle relaxant	4
Stacking PBZ/FLN	NSAID	1
Dexamethasone	Corticosteroid	1
Methamphetamine	Stimulant	1
Trichlormethiazide	Diuretic	1
Cannabidiol	Cannabinoid	1

## Violation Percentage of Submissions

When the increased incidence of violations is viewed in relation to the decreased numbers of lab submissions, 2019 had a significant increase in violations as a percent of total submissions with 3.45% of submissions resulting in violation. With nearly a one third reduction of test samples submissions, it can be projected that a greater number of violations would have been detected if more samples would have been tested. To fully appreciate the impact of oral administration of medication, had the oral administration of PBZ, MCB, and FLN not been involved, there would have been 6 violations, with a violation rate of 1.3%.★ (figure 3,5)

**Figure 5: Violations as a Percentage of Submissions 2009-19**



## Violations by RCI Class

As RCI Penalty Class increases, the potential for altering a horse’s performance decreases and as such penalties decrease. Therefore RCI Class 4 violations are less severe than RCI Class 3. Of the sixteen (16) violations reported in 2019 there was one (1) Class 1 violation that the Stewards determined was an environmental contaminant from an identified human transfer. There was one (1) Class 2, and fourteen (14) Class 4 violations. With the exception of 2014 and 2017, the predominant violations reported to the WHRC have been RCI Class 4. In 2019, ten (10) being NSAID’s. This continues the trend seen in 2018 in which seven (7) of the nine (9) violations were also RCI Class 4 medications, four (4) involving NSAID’s. In comparison, the majority of violations of 2017 were from Class 3 medications. (figure 6)

**Figure 6: Violation by RCI Class**

Medication	Family	RCI Class	2019	2018	2017
Betamethasone	Corticosteroid	Class 4		2	
Dexamethasone	Corticosteroid	Class 4	<b>1</b>		
Phenylbutazone	NSAID	Class 4	<b>7</b>		
Flunixin	NSAID	Class 4		1	1
‘Stacking’ NSAIDS	NSAID	Class 4	<b>1</b>	3	
Furosemide	Diuretic	Class 4		1	
Methocarbamol	Muscle relaxant	Class 4	<b>4</b>		
Trichlormethiazide	Diuretic	Class 4	<b>4</b>		
Xylazine	Sedative	Class 3		2	0
Clenbuterol	Bronchodilator	Class 3			6
Stanozolol	Anabolic steroid	Class 3			2
Cannabidiol	Anti-epileptic, analgesic	Class 2	<b>1</b>		
Methamphetamine	Stimulant	Class 1	<b>1</b>		

# Health and Safety Statistics

## Status at Time of Fatality

All fatalities underwent complete post mortem exams by the Washington Animal Disease Diagnostic Laboratory (WADDL) Necropsy and Pathology section which included x-rays, CT scan, and microscopic investigation as needed. Blood samples were sent to Truesdail Laboratories which reported no medication violations.

Seven (7) fatalities were from conditions unrelated to racing or training, seven (7) fatalities were associated with racing, two (2) fatalities were from musculoskeletal injuries sustained during a race euthanized more than 72 hours after racing. Three (3) fatalities were associated with training for a total of nineteen (19) fatalities in 2019. **(figures 7, 8)**

Of the seven (7) fatalities associated with racing, WHRC veterinarians euthanized four (4) horses on track, attending private veterinarians euthanized three (3) horses within 24 hours of the race. Two (2) horses were euthanized more than 72 hours after the race\*\* (after 72 hour criteria of the Jockey Club Equine Injury Data base for inclusion as racing fatalities). Three (3) horses died without euthanasia,

## Racing associated fatalities

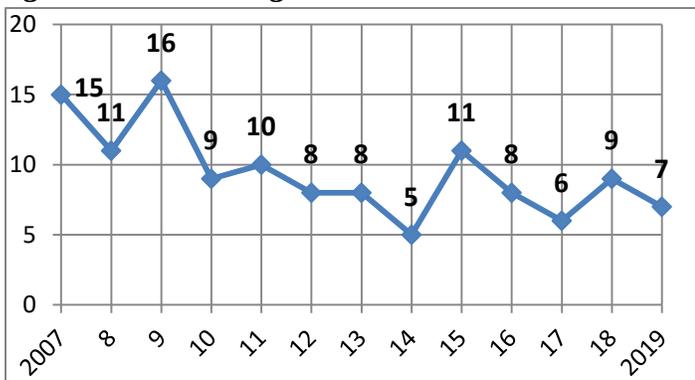
Seven (7) fatalities occurred as a result of musculoskeletal injuries sustained during a race and were due to the following causes: four (4) with fractures of the sesamoid bones, two of which also had an open severe fetlock luxation, two (2) sustained carpal bone fractures, and one (1) with an open severe fetlock luxation.

With 3,737 total starts in 2019 there were 1.87 fatalities per 1000 starts, a decrease from the nine (9) fatalities of 2018 and the 2.29 fatalities per 1000 starts of 2018 (numbers from 2018 were amended as they included a horses without a musculoskeletal injury fatality, or fatality occurred after 72 hours (see\* 2018 in **(figure 7)**). The 2019 fatality/1000 starts rate of 1.87 at EMD does not differ statistically from the national rate of 2018 (1.86) **(figures 10)**, but is below the average at EMD from the years 2007-19 of  $1.93 \pm 0.39$ . Since 2007 the trend of fatalities/1000 starts at EMD has been a statistically decreasing linear slope depicted by the red line **(figure 9)**, which is similar to that of the national rate from 2009-18. **(figure 11)**

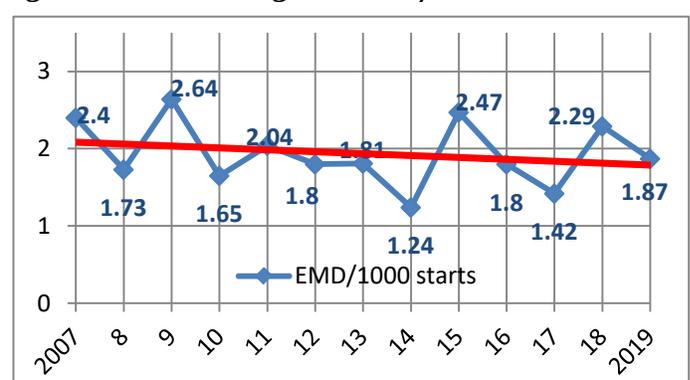
**Figure 7: Fatalities: Total, Per 1000 Starts, Location 2007-19**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Racing Days	91	91	91	90	82	81	75	73	70	70	72	67	<b>67</b>
Starters	6252	6362	6058	5429	4898	4390	4427	4022	4438	4450	4223	3927	<b>3737</b>
Racing fatalities	15	11	16	9	10	8	8	5	11	8	6	9*	<b>7</b>
Fatalities/1000 starts	2.40	1.73	2.64	1.65	2.04	1.80	1.81	1.24	2.47	1.80	1.42	2.29*	<b>1.87</b>
Training	12	11	8	12	5	4	4	8	4	4	4	2	<b>3</b>
Non racing	8	14	10	10	9	8	4	4	5	3	8	7	<b>6</b>
<b>TOTAL</b>	<b>35</b>	<b>36</b>	<b>35</b>	<b>31</b>	<b>25</b>	<b>20</b>	<b>16</b>	<b>17</b>	<b>20</b>	<b>15</b>	<b>18</b>	<b>19</b>	<b>19</b>

**Figure 8: EMD Racing Fatalities 2007-19**

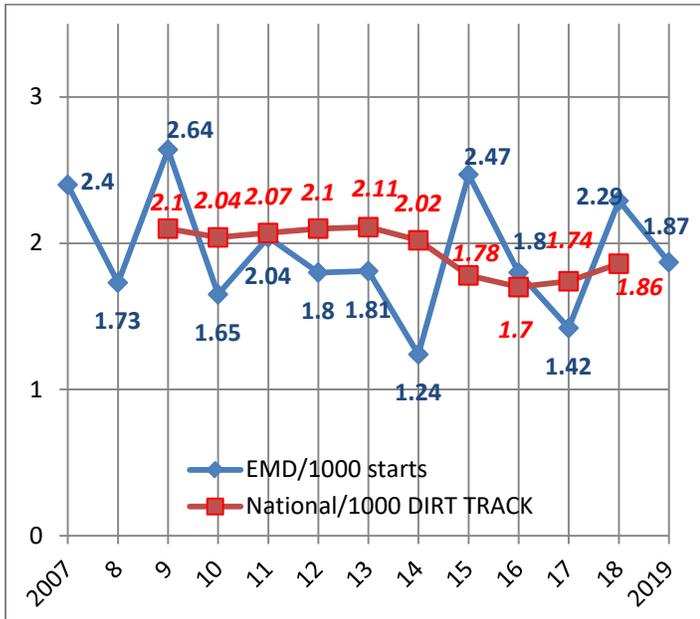


**Figure 9: EMD Racing Fatalities/1000 Starts 2007-19**

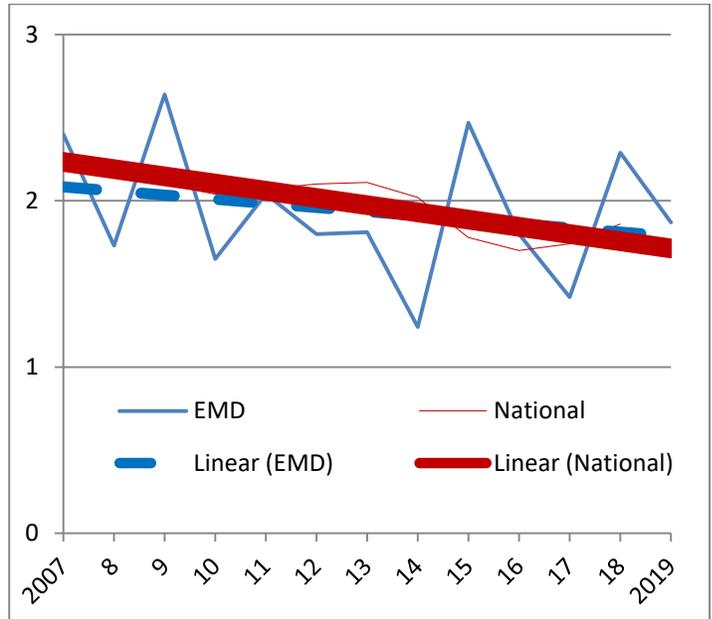


During the years 2009-2018 (years available nationally) the average fatalities/1000 starts at EMD was  $1.92 \pm .42$ , statistically lower than the national average for dirt tracks of  $1.95 \pm 0.16$ . **(figure 10)** The fatality rates at EMD as well as nationally show similar statistically significant decreasing trends during this time period. **(figure 11)** ([http://jockeyclub.com/pdfs/eid\\_10\\_year\\_tables.pdf](http://jockeyclub.com/pdfs/eid_10_year_tables.pdf))

**Figure 10: Fatalities: EMD/1000 starts; National/1000 starts on dirt tracks 2007-19**



**Fig 11: EMD & National/1000 starts dirt tracks linear trend 2007-19**



## Fatalities after 72 hours

Two (2) musculoskeletal fatalities, resulted from racing were euthanized more than 72 hrs after racing. Both horses sustained carpal bone fractures. These fatalities are not used in calculations for ‘per 1000 starts’, as the Jockey Club Equine Injury Database stipulates fatalities occur within 72 hours of the race, however they are included in the section below on Racing Fatalities by Month and elsewhere.

## Training fatalities

Three (3) horses sustained fatal musculoskeletal injuries during training. One horse sustained a fracture of the right humerus, one ruptured the distal sesmoidean ligament of its right pastern, and one fractured its left cannon bone (third metacarpal).

## Pre-existing injuries and fatalities

Correlation and direct links between racing fatalities and factors potentially contributing to the fatalities are occasionally difficult to make. However there is a very strong statistical correlation between catastrophic injuries and pre-existing injury, both in national statistics and in Washington. Although the presence of a pre-existing injury does not necessarily indicate that it was a contributing factor to a fatal injury, they often do. Of the twelve (12) fatalities resulting from traumatic injuries in racing and training, eleven (11) were found to have pre-existing injuries ranging from osteoarthritis to healed fractures. Of these eleven (11) horses with pre-existing injuries, four (4) pre-existing injuries contributed to the fatal musculoskeletal failure. In light of these associations, fatalities are not the only parameter of consequence requiring close examination. Detection of active or chronic pre-existing injuries are crucial in addressing not only fatalities, but career ending - or career delaying injuries as well, and will be discussed below in the section of the Veterinarian’s List.

## Racing Fatalities Risk Factors

Factors known to increase the risk of fatal musculoskeletal injuries have been researched and published. Some are well known ones include previous history on VL. One not so well known is the accumulation of excessive high speed furlongs in which a horse that has 35 furlongs raced or had high speed works during its last 2 months has a 3.9 fold risk of fatal injury than a horse accumulating 25 furlongs. Additionally a horse accumulating 0.6F/day of racing or high speed works during last 2 months has a 1.8 greater risk than a horse with 0.5 F/day.<sup>1</sup> Following a safety meeting in April at EMD attended by WHRC personnel and Stakeholders, EMD initiated a project to assist official veterinarians in identifying a few risk factors from the past performances of horses entered. This was a valuable project worthy of expansion, and will be discussed below in the recommendations section. As a response to the increase in fatalities at Santa Anita racetrack in 2018-19, the California Horse Racing Board instituted an aggressive time consuming team process to assess every entered horse for the presence of the following recognized risk factors:

LAYOFF - > 45 days	1ST RACE OFF THE VET'S LIST – as	TRAINER W/ MULTIPLE
LAYOFF - > 90 days	unsound	INJURIES/FATALITIES IN PAST 12
4yo or older 1st TIME STARTER	NO WORKS SINCE LAST RACE	MONTHS
1ST TIME FOR NEW TRAINER	NO WORKS SINCE LAST RACE – >14	HORSE RUNNING BACK ON SHORT
DROP IN CLASS	days	REST (<10 days)
DROP IN CLASS - > 1 level	LESS THAN 2 WORKS/RACES IN PAST	POSSIBLE PROGRAM TRAINER (paper
DROP IN CLASS – off good	30 DAYS	trainer)
performance	POOR PERFORMANCE LAST START	OVER-RACED (e.g., multiple starts in
DROP IN CLASS – off of claim	(beaten >25 lengths, eased, etc)	close timeframe or no layoffs in past 2
HISTORY OF BEING ON VET'S LIST	NEW HORSE TO JURISDICTION	years
1st RACE OFF THE VET'S LIST		

## Factors increasing risk of fatal musculoskeletal injury- EMD

In 2019 at EMD risk factors were found in five (5) of the seven (7) race fatalities (Horse 1,2,3,4,5), all three (3) of the training fatalities (Horse A,B,C) and one (1) of the fatalities greater than 72 hours after the race (Horse D): **(figure 12)**.

**Fig 12: Risk factors of fatalities**

	RACING FATALITIES					TRAINING			> 72 hours
	Horse 1	Horse 2	Horse 3	Horse 4	Horse 5	Horse A	Horse B	Horse C	Horse D
Excess Accumulation of high speed work	X							X	X
New Trainer						X	X	X	
Layoff > 90 days	X						X		
Drop in Class			X	X	X		X		X
Previous VL history	X	X							
Fail attempt to work off VL	X	X							
Intra articular injection close to work								X	

## Racing Fatalities- medications

In addition to the risk factors above, intra articular (IA) corticosteroid (CS) injection in close proximity (less than 14 days) to a race are known risk factors for fatal musculoskeletal injury.<sup>2</sup> No race fatalities were reported with medication violations or IA CS administered in close proximity to race day.

<sup>1</sup> High-speed exercise history and catastrophic racing fracture of Thoroughbreds. Estberg L, et al. Am J Vet Res 1996;57(11):1549-55

<sup>2</sup> Musculoskeletal injury rates in Thoroughbred racehorses following local corticosteroid injection. Whitton et al Vet J 2014;200(01): 71-16

## Racing fatalities unassociated with musculoskeletal failure

Three (3) fatalities were not associated with musculoskeletal failures. Two horses collapsed after a race, post mortem examination could not determine a cause on one, on the other postmortem results identified severe exercise induced pulmonary hemorrhage as the cause. One horse clipped heels, fell and sustained fatal cervical spinal injury.

## Non racing fatalities

Four (4) horses were euthanized in the barns for conditions unassociated with racing consisting of: three (3) horses with gastro intestinal conditions (colic), and one (1) horse with a post surgical infection. With a population of 1016 horses at EMD in 2019, the incidence of colic induced death at EMD is potentially lower than the national population of horses of 4.6 per 1000 horses.<sup>3</sup> (Traub-Dargatz JL et. al. 2001). This is an expected finding as larger more extensively managed facilities have lower incidence of colic mortality, and the experience level of horsemen at EMD is greater than the average public. Few cases of colic related mortality in the general public receive post mortem necropsy examination, all racehorse deaths at EMD undergo a full necropsy at WSU's diagnostic lab as previously mentioned.

## Racing Fatalities by Month

In 2019 there were two (2) musculoskeletal failures resulting in fatality originating in June, one of which was euthanized more than 72 hours after the race (fatalities after 72 hours are not included on Jockey Club Equine Injury Database). Four (4) fatalities occurred in July. Three (3) fatalities occurred in September, one of which was euthanized more than 72 hours after the race. (figure 13) When correlated by month in conjunction with number of starts, the calculated fatalities per 1000 starts (no month had 1000 starts) in 2019 were: June: 2.55, July: 5.56, and September: 5.29. The incidence for 2019 is lower than 2018, however a similar pattern was seen with a greater frequency of racing fatalities as the race meet progresses, particularly in July and September. (figure 13,14)

Figure 13: Racing fatalities by month 2017-19

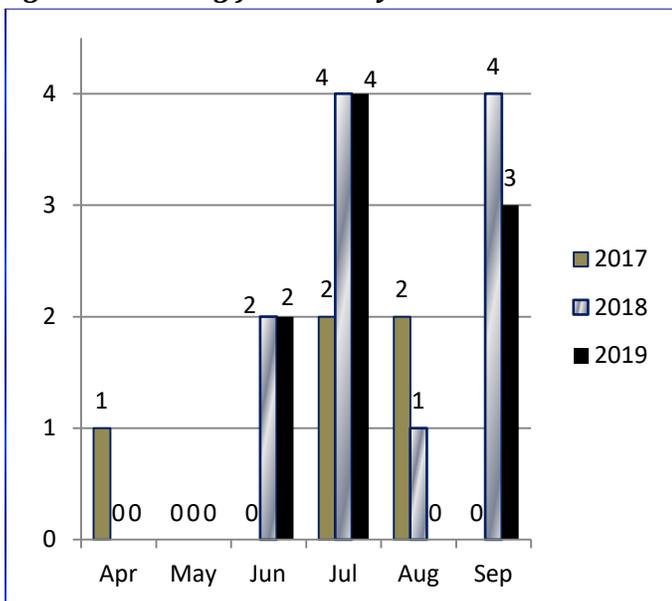
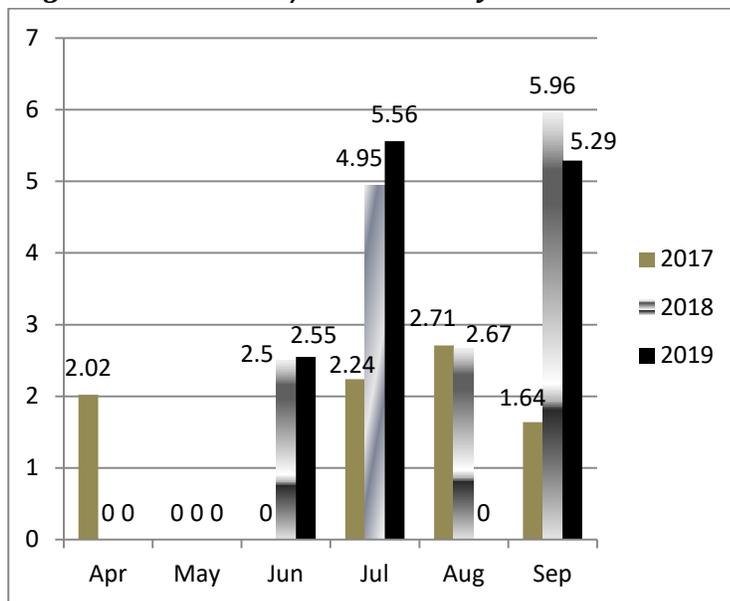


Figure 14: Fatalities/1000 starts by month 2017-19



<sup>3</sup> Estimate of the national incidence of and operation-level risk factors for colic among horses in the United States, spring 1998 to spring 1999. Traub-dargatz JL et. al. Jour Am Vet Med Assoc 2001, 219:67-71

## Veterinarian's List

Although every racing fatality is a tragedy, their relative scarcity (viz. less than 2 horses per 1000 horse starts) makes it difficult to find conclusive links to factors contributing to them. The veterinarian's list (VL) provides a strong association between the incidence of racing related injuries and their impact on the racing career of a horse. Numerous studies have reported inclusion on the VL significantly increases the risk for fatal injury, as well as non fatal injury, which in turn lead to interruptions in the racing career of a horse. Horses with a history of being on the VL had a significantly longer interval to their next race, more will not race in 6 months or 12 months, and they have a 2-3 times greater interval to their next race compared to horses who have not appeared on the VL.

Because the occurrence of a horse being placed on the VL occurs in significantly greater numbers than fatalities, examining the circumstances of horses on the VL may provide information on factors responsible for an injury to develop into one which contributes to a musculoskeletal fatality at a future date. As such injuries with or without placement on the VL warrant close scrutiny. WHRC rules have placed rules upon private veterinarians, trainers, and official veterinarians on the accumulation of information impacting horse health and safety and will be discussed in greater detail below.

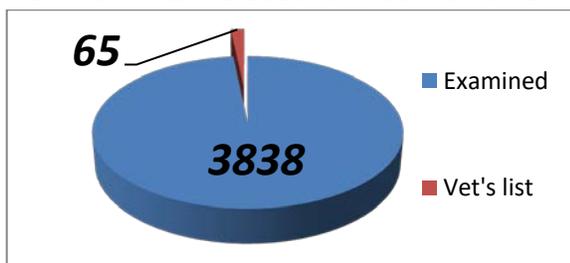
## Circumstances when Placed on Veterinarian's List

The figures reported here only include horses placed on the EMD VL in 2019 for musculoskeletal conditions of unsoundness. These do not include trainer scratches, which are put on the list but not required to work off, or starting gate scratches (unless accompanied by injury), which are not placed on the VL, or required to work off. In 2019 sixty five (65) horses were placed on the VL as unsound for racing, an increase from the fifty five (55) horses in 2018. **(figure 15)**

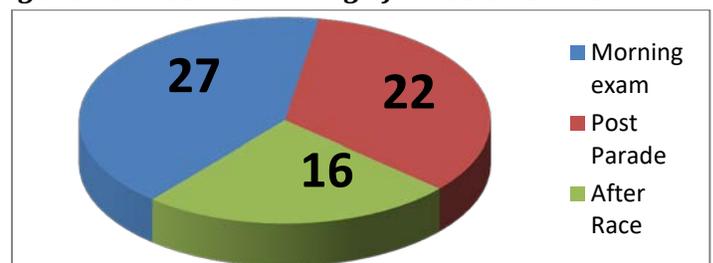
The time of placement onto the list has a significant impact upon the horse's subsequent return to racing, and as such is highlighted here. **(figure 16)** With few exceptions, all horses were examined on the morning of their races.

- **Morning exam:** Three thousand eight hundred thirty eight (3,838) horses were examined during morning pre race inspections. Twenty seven (27) or 42% of all horses placed on list were during morning exams. One (1) horse was placed on the list due to observations following training and was counted in this group.
- **Post Parade (receiving barn to starting gate):** Twenty two (22) or 34% of all horses placed on the list were scratched and placed on the VL from observations during the Post Parade.
- **After Race:** Sixteen (16) horses or 24% were placed on the VL after the race, eleven (11) or 17% of horses placed on the VL were removed by van.

**Figure 15: Examined Horses and Veterinarian's List**



**Figure 16: Vet's List- Timing of inclusion on List**



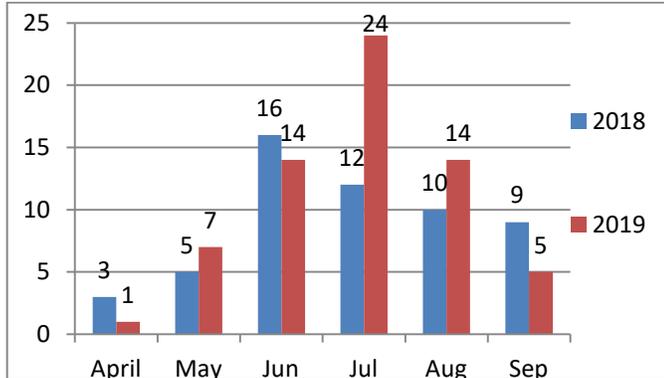
## Veterinarian's List by month

The time during the meet a horse is placed on the VL occurs in a predictable manner from year to year, as does placement during morning exam, post parade, and after the race, and warrants closer scrutiny. **(figures 17, 18)**

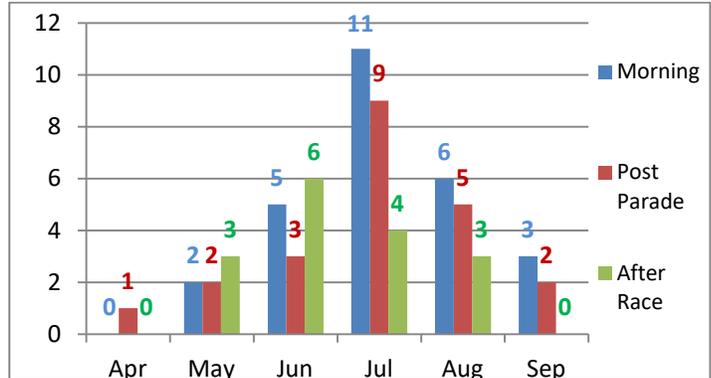
- **April-** One (1) horse was scratched from the Post Parade and placed on the VL.

- May- Seven (7) put on VL: two (2) from morning exam, two (2) from Post Parade, and three (3) after the race.
- June- Fourteen (14): five (5) from morning exams, three (3) during Post Parade, and six (6) after the race.
- July- Twenty four (24): eleven (11) during morning exams, nine (9) from Post Parade, four (4) after the race.
- August- Fourteen (14): six (6) morning exams, five (5) during Post Parade, three (3) after the race.
- September- Five (5): three (3) morning exams, two (2) during Post Parade.

**Figure 17: Veterinarian's List by Month**



**Figure 18: Veterinarians List by Month, time of inclusion**



## Working off the VL

Horses placed on the VL for lameness, 'soreness', or certain injuries must work off the list and may do so no sooner than seven days after being placed on the list. The work must be a minimum distance to be determined by an official veterinarian in a time comparable for the track condition that day. The horses undergo a physical exam by the official veterinarian after the work and occasionally before the work. Blood is tested and may not exceed WHRC medication racing thresholds.

### Working off Veterinarian's List on first attempt- delays in racing career

The figures in this report reflect only horses put on WHRC list for issues of musculoskeletal unsoundness. Of the sixty five horses placed on the VL at EMD in 2019, forty one (41) horses worked sixty three (63) high speed timed works to be removed from the VL. Twenty five (25) or 38% of the sixty three (63) works were successful on their first attempt. For those successfully working off on their first attempt, the average time between being placed on the list to working off was seventeen (17) days and ranged from seven (7) to fifty (50) days.

The twenty five (25) horses working off the list on their first attempt were placed on the list mostly from morning exams and post parade with twelve (12) horses each; one (1) horse, of the sixteen (16) placed on the list after the race, working off on first attempt.

### Horses with multiple attempts to work off veterinarian's list-

Factors contributing to horses requiring multiple works included being placed on the VL on more than one occasion, examined to be unsound after the work, or exceeding WHRC medication thresholds.

### Failure to work off first attempt- lameness, NSAID overage

Four (4) horses were placed on the list twice in 2019. Eight (8) horses failed to work off on their first attempt because they were unsound or lame after the work. Another eight (8) horses required multiple works because blood tests revealed excessive NSAID levels. Seven (7) of these originated from oral administration of PBZ. One (1) horse had excessive flunixin (Banamine®) levels, and although it had received a veterinarian administered treatment, oral administration leading up to the work is suspected of contributing to this overage. The cumulative additional time these horses remained on the VL due to oral administered PBZ and FLN totaled ninety six (96) days.

### Longer delays in racing career

Horses working off the WHRC list from previous years, from VL of other jurisdictions, or requiring multiple attempts to work off, had extended interruptions of their racing careers and were on the list an average of 227 days, ranging from 21 to 637 days. Of horses required to work multiple times to be removed from the list, five (5) horses or 8% of horses failed on their first attempt because they were unsound after the work, but were successful on their second work.

### Horses not working off veterinarian's list

As of the writing of this report at the beginning of November 2019, twenty eight (28) or 43% of all the sixty five (65) horses placed on the list in 2019 have not attempted to work off the list. An additional four (4) horses attempted to work off one or more times and were unsuccessful, one of which on its second attempt sustained an unreported serious injury and was removed from the track. In total, thirty two (32) or 49% of all the horses added to the list in 2019 either failed to work off or did not attempt to work off. All these horses have been removed from racing, some permanently and others where no information was reported. An additional eight (8) horses that were not put on the VL have been retired from racing due to injury; the specifics of their injuries were not reported as required per WAC 260-28-295 and noted below in the recommendations section.

### Timing of placement on VL and withdrawal from racing (figure 19)

As mentioned above, the time during a race-day a horse was placed on the VL had a significant impact on its career.

- **Morning exams:** twenty seven (27) horses were placed on the list during morning pre-race exams, comprising 42% of all horses placed on the list.
  - Of these twenty seven (27) horses, twelve (12) or **44% did not return to racing.**
  - three (3) failed works and nine (9) never attempted to worked

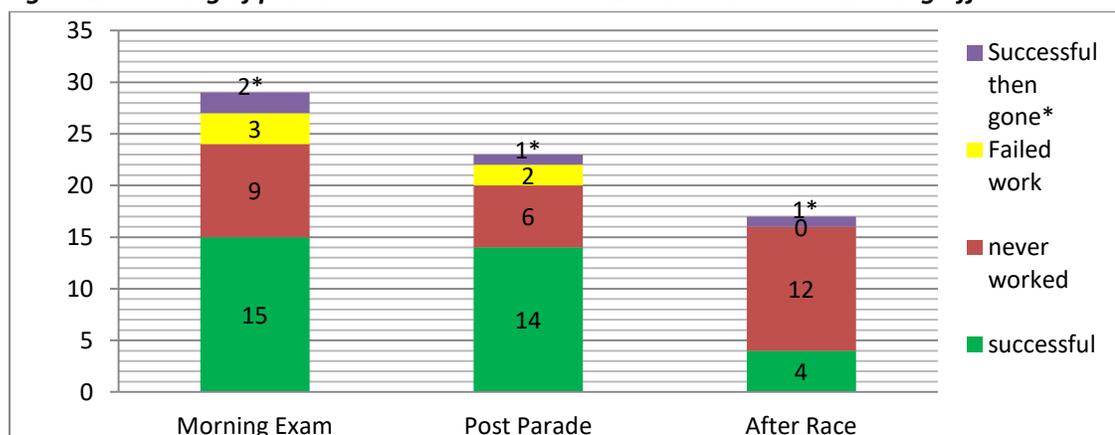
*Two (2) additional horses successfully worked off and were withdrawn from racing at a later date*
- **Post Parade:** twenty two (22) horses were placed on the list during the Post Parade, comprising 34% of all horses place on the list.
  - Of these twenty two (22) horses, eight (8) or **36% did not return to racing**
  - two (2) failed works and six (6) never attempted to worked

*One (1) additional horse successfully worked off and was withdrawn from racing at a later date*
- **After the race:** Sixteen (16) horses were placed on the list after the race, comprising 24% of all the sixty five (65) horses placed on the list.
  - Of these sixteen (16) horses, twelve (12) or **75% did not attempt to work and did not return to racing**

*One (1) additional horse successfully worked off and was withdrawn from racing at a later date.*

Of the horses successfully working off the list and subsequently withdrawn from racing at a later date, some had reported injuries, some sustained injuries which were not reported, while others left for unknown reasons.

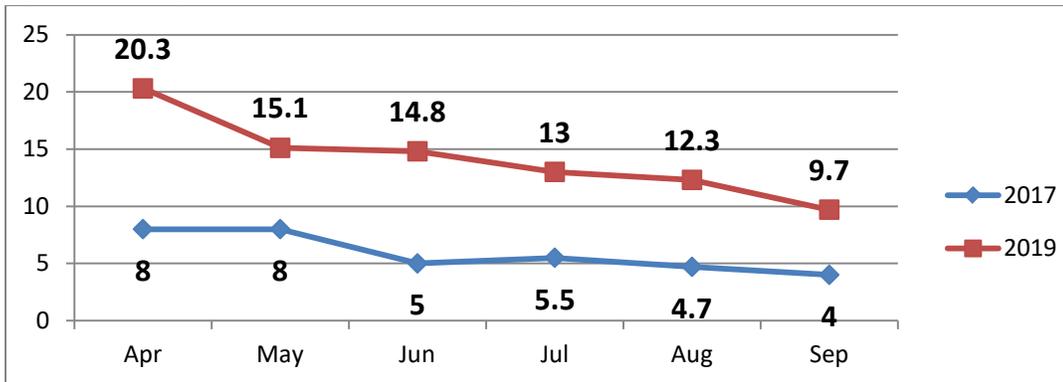
**Figure 19: Timing of placement on Veterinarian's List and success at working off**



## Veterinarian’s List – corticosteroid anti inflammatory medications

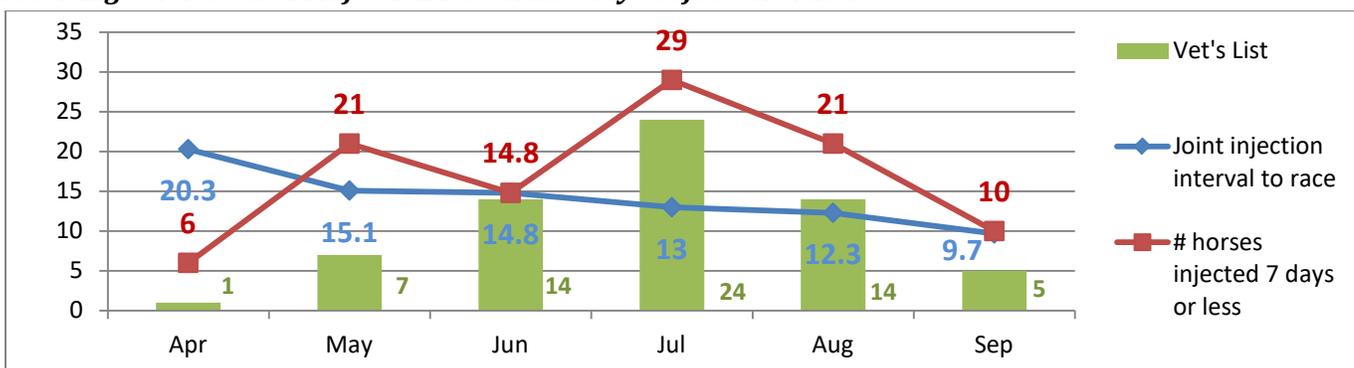
As with competitive athletes of any species, as the competitive season progresses the incidence of sports injuries increases. As a consequence therapeutic medication is administered to treat inflammatory conditions. One example is the use of intra articular (IA) corticosteroid (CS) injections, which both increase in frequency and are administered closer to race day. In 2019 the interval between IA CS injection and race day averaged 20.3 days in April, and steadily decreased each month to 9.7 days in September. Although a significant improvement from 2017 where the interval decreased from 8 days in April, to 4 days in September, there were numerous horses in 2019 who received IA CS in as little as 4 days before the race, subsequently placed on the VL, and withdrawn from racing. **(figure 20)**

**Figure 20: Days between corticosteroid joint injection and race**



It can be seen that as the incidence of injuries increase which VL inclusion is an indication of, the average interval between IA CS injection and race day decreases. The primary factor causing this decrease are injections administered at 7 or fewer days before racing. It is apparent that as the meet progressed, the frequency of IA CS injections before 7 days also increased, and reached it maximum in July, as did the numbers of horses added to the vets list, and number of fatal musculoskeletal failures. **(figure 13,21)** Numerous horses on the VL had up to 4 and 5 IA CS injections during the race meet, one horse received six (6) IA CS in 144 days. Intervals between injections decreased to as little as 3 days apart and as close as 3 days before the race. This was seen more frequently in horses placed on the VL and subsequently withdrawn from racing than in horses on the VL which returned to racing.

**Figure 21: Days between corticosteroid joint injection and race, inclusion onto vets list, number of horses receiving corticosteroid injection less than 7 days before the race.**



The association between IA CS injection and fatal musculoskeletal injury has been documented as previously cited **(Whitton RC et al 2014)**. It has been also been documented that bone microdamage occurs early in the career of an

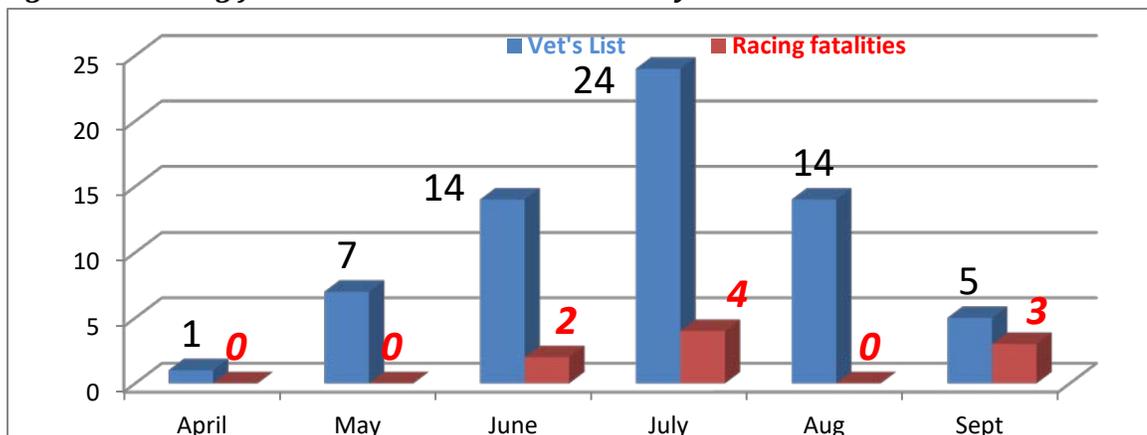
athletic horse and that this damage can contribute to musculoskeletal fatalities.<sup>(Kawcak et al 200)<sup>4</sup> (Norrdin et al 1998)<sup>5</sup> As such it is not surprising that an association exists between IA CS as a treatment for injury. To be clear, these treatments are not the cause of injury, they are a therapeutic attempt to ameliorate the pathology. However, IA CS treatments less than 14 race days to racing, contribute to the progression of the pathology by their ability to allow for continued work and exclusion of an adequate period of rest.</sup>

As such the International Federation of Horse Racing Academies (IFHRA), numerous racetracks with adoption of house rules, along with the Kentucky Drug Research Council’s recent recommendations to the KHRC, the Maryland Racing Commission adoption of, and the New York State Gaming Commission submitting a proposal for, have all proposed a 14 day stand down period for these medications.

### Racing fatalities and veterinarian’s list combined

When we examine the numbers of both racing fatalities and horses on the VL for musculoskeletal conditions, it is evident that as the race meet progresses more issues of concern appear from June onward. This should not be viewed as a surprise because athletes of any species and athletic competition will experience more incidents of injury at the end of a rigorously competitive season than at the beginning. All these horses are clearly “at risk” individuals, and all the tools at our disposal should be directed to detecting them earlier and decreasing both their numbers and the severity of their outcomes. **(figure 22)**

**Figure 22: Racing fatalities and veterinarian’s list by month**

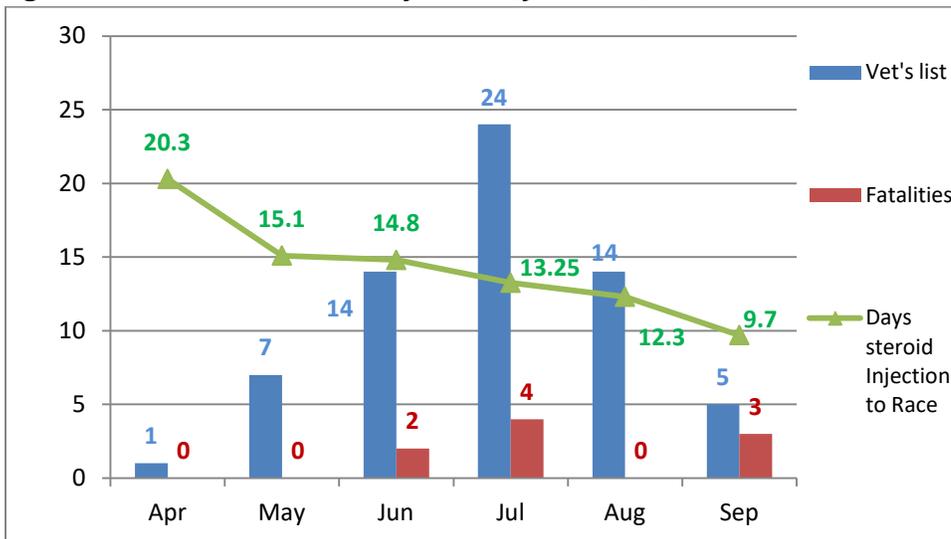


When examining the number of days between IA CS injection in conjunction with racing fatalities and VL by month, it is readily apparent that as the meet progresses and VL horses increase, the time between IA CS injection and race day decrease in an analogous fashion. **(figure 23)**

<sup>4</sup> *Clinical effects of exercise on subchondral bone of carpal and metacarpophalangeal joints in horses. Kawcak et al 2000;61(10):1252-1258*

<sup>5</sup> *Subchondral bone failure in an equine model of overload arthrosis. Norrdin et al, 1998;22(02):133-139*

**Figure 23: Veterinarian's list by month, fatalities, and Intra articular steroid to race interval**



### Conclusions:

Horses put on list following a race more frequently sustained injuries which resulted in greater delays, or an end to their race careers than horses placed on the list from morning exams or post parade. This is illustrated by only 25% (4 out of 16) being able to work off, one of which worked off but subsequently suffered a fatal injury. Significantly, 75% of horses placed on the VL after the race were apparently insufficiently sound to even attempt a work.

If entry into a race is an indication of trainer's opinion that a horse is sound for racing, horses put on the list from morning exams and the post parade, sustained injuries that were either undetected or previously believed to be minor. The fact that 41% of these horses were subsequently withdrawn from racing is an indication that although their degree of unsoundness was subtle and elusive, they proved to be sufficiently serious to warrant either extensive layoff or retirement.

Horses scratched during the post parade were more successful at returning to racing (64%) than were horses scratched during the morning (56%) of morning and after race placement (25%). Although a significant percentage of horses put on the list from morning exams and post parade have potentially career ending or delaying injuries, this scenario is preferable to having them race and sustain an injury during or after the race. Early detection and inclusion onto the vets list in that way can be viewed as a measure of success.

The ease with which a horse works off the VL may potentially be seen as an indication as to the severity of the problem contributing to its placement on the list. For example, horses able to work off at the earliest opportunity would seem to have a less impactful injury, compared to a horse either requiring multiple works, or having a layoff extending into months, or of a horse never working off.

Lastly as the race meet progresses it is apparent that injuries increase and as would be expected, IA CS injections are administered more frequently, in shorter intervals between repeated injections in a given horse, as well as decreasing interval between injection and race day. The influence of IA CS injection on risk to a horse is not only from proximity to race day but also in allowing the horse to maintain high intensity workload without the adequate time to heal. These factors, when viewed together graphically demonstrate why jurisdictions around the US and internationally (IFHRA) are moving towards a 14 day stand-down for IA CS injection along with a 48 hour stand-down for NSAID administration.

## **Sun Downs Racing Statistics**

During Sundown's (SUN) 6 day meet post race blood and urine samples were collected from fifty (50) horses, a 17% decline from the sixty (60) samples of 2018. Six (6) post race hair samples were also collected from Quarter Horses. Samples were collected from all first place finishers, as well as other horses selected by the Board of Stewards for testing with Truesdail Laboratories of Irvine California, the WHRC contract laboratory

There was one (1) medication overage in 2019, the same as during 2018. The violation was for dexamethasone a Class 4 corticosteroid anti-inflammatory. With the fifty six (56) total submitted samples the violation rate was 1.8%, a marked reduction from the eight (7) violations in 2017 resulting in a 7% rate of violation.

There was one fatality at SUN in which a Quarter Horse clipped heels, tripped and sustained a fatal fractured cervical spinal injury.

Horses at SUN do not undergo morning examination, and no horse was placed on the VL from observation of horses before and after races. One (1) horse worked off the Arizona Department of Gaming veterinarian's list

## **Equine Medical Director Concerns and Recommendations**

### **Concerns:**

- **The incidence of horses being placed on the Veterinarian's List is an indication of the increase in the injuries as the meet progresses, with greatest frequency in June and July. The manner in which horses are managed by trainers, as well as private and official veterinarians should reflect that.**
- **The occurrence of horses requiring multiple joint injections subsequently being placed on the Veterinarian's List is an indication that repeated administrations of joint injections and analgesic to a horse should be viewed and addressed as an unresolved problem, not as an indication that treatment isn't powerful enough. .**
- **There are strong correlations between injury and inclusion on the veterinarian's list.**
- **Horses on the veterinarian's list are at higher risk of extended delays in their racing careers, career ending injuries, and fatalities.**
- **Horses sustaining injuries during training were with one exception, not placed on the Veterinarian's List or required to be examined by an official veterinarian and work off the list.**
- **Most horses with race related fatalities have pre-existing injuries; often a contributing factor to the fatality.**
- **Sharing of medical information by private veterinarians and the great majority of trainers was strongly embraced in 2019. In a few instances requests by the official veterinarian for information regarding musculoskeletal injuries serious enough to withdraw a horse from racing were not returned. It is believed that veterinarians were compromised in their ability to share medical information due to Washington Board**

of Veterinary Governors rules on client confidentiality and a very few trainers or owners unwilling to share such information.

- ✓ Trainers and practicing veterinarians have a day to day understanding of which injuries require further intervention with examination, diagnostics, treatment, and rest. This informational resource should be utilized to its maximum advantage as stipulated in WHRC Rule WAC 260-70-540.
- ✓ The WHRC leads the nation with rules focusing on meaningful health and safety measures for the horse. At its core, the WHRC rules require that the official veterinarian maintain a health record of each horse inspected. Additional rules specify the measures available to the official veterinarian as well as specific instructions to trainers and private veterinarians as to how to contribute to this end. The Commission's intent is best described by the language of the rules themselves:
  - **WAC 260-70-540 Equine Medication Program - Veterinarian's reports**
    - (1) Every veterinarian who treats or administers a procedure... must report all treatments and procedures to the official veterinarian, and must include:
      - (b) Name of medication, drug, or substance administered or prescribed
      - (c) the procedure administered
      - ***(f) Any other information required by the official veterinarian***
    - (2) 'filed' within 48 hours of treatment. If race is with 48 hours post treatment, filed by 10 AM the morning of the race.
  - **WAC 260-70-570 Equine Medication Program- All horses are subject to inspection**
    - ***(2)(e) Any other inspection deemed necessary by official veterinarian***
    - (3) the official veterinarian will maintain a continuing health and racing soundness record of each horse inspected.
  - WAC 260-28-280 Trainer- Reporting sickness of horse
    - A trainer must immediately report any sickness or illness of any of his or her horses to an official veterinarian
  - WAC 260-28-295 Trainer Responsibility
    - ***(7)(h) Promptly reporting the serious injury and/or death of any horse at locations under the jurisdiction of the commission to the stewards and the official veterinarian.***
    - (7)(i) Maintaining knowledge of the medication record and medication status of horses.

## **Recommendations:**

- ✓ Because of the significant numbers of horses on the veterinarian's list having a delay in their racing career, increased in-depth examinations and imaging by private veterinarians of horses on the VL are warranted. Increasing this vigilance from mid June onward may significantly impact the health, safety, and racing careers of horses.
- ✓ In consideration of the strong association linking fatal musculoskeletal injury with pre existing injuries, identification of horses sustaining injuries is of vital concern. As resources may not currently exist, a novel joint program between the WHRC and Emerald Downs is recommended to acquire and allocate resources for veterinarian observation of horses during training. Horses identified as unsound or injured during training should be placed on the VL and undergo the same level of scrutiny as any horse on the list prior to being allowed entry to race

- ✓ **Other associations exist between fatal musculoskeletal injuries and specific factors increasing the risk of these injuries. Emerald Downs' staff have contributed to accumulation of some risk factors but this is a considerable time consuming process. And again, as resources may not currently exist, in continuation of the joint program above, it is recommended that resources be acquired and allocated to provide for an extensive and thorough accumulation of risk factors as previously described above in the section 'Racing Fatalities Risk Factors.**
- ✓ **Evaluating a horse's pre-race soundness is essential, as is the detection and assessment of any clinical signs of an existing injury. The value of 'cold therapy' in reducing heat, pain, and swelling is uncontested. Because of these reasons, the current WHRC Rule (WAC 260-70-570 (e), prohibiting "freezing, icing, or prolonged hosing with cold water, or any other means of reducing the temperature of the legs within one hour of the inspection", should be amended to prohibit this practice "until the inspection has been completed". It should be noted that the practice of 'icing' a horse's leg is not performed to hide any findings from the official veterinarian, as its routine administration both during race and non race days demonstrates.**
- ✓ **Adoption of a 14 day stand down between intra articular corticosteroid injection and racing is recommended.**
- ✓ **Adoption of a 48 hr stand down between NSAID administration and racing is recommended**
- ✓ **Adoption of the requirement that all ship in or newly arrived horses provide a 14 day medical record at entry time or rarrival, whichever is first, is recommended.**
- ✓ **The access to information in medical records by WHRC official veterinarians has been an essential component of the health and safety of horses. The emphasis by the WHRC placed upon the free access of medical information to the official veterinarian as described above is also straightforward and clear. Although private veterinarians have readily participated, in some instances their efforts have been blocked as they face a jurisdictional conflict. On one hand the WHRC rule WAC 260-70-570 (2)(e) requires veterinarians to supply "*any information required by the official veterinarian*", while Washington Veterinary Medicine Rules stipulate that veterinarians may not release records without the permission of the client. It is recommended that the WHRC officially request that the Washington Veterinary Board of Governors establish an exemption to records confidentiality limited to requests of information by the WHRC official veterinarian on horses under WHRC jurisdiction permitting the exchange of pertinent medical information between private and official veterinarians. The rules regarding trainer reporting of injury, illness and other any information- as stipulated in WHRC rules, which contribute to the WHRC official veterinarian's maintenance of a horse's health record will be utilized to their greatest advantage.**