



UC DAVIS VETERINARY MEDICINE

105 W. Central Avenue, San Bernardino,
CA 92408-2113
(909) 383-4287

www.cahfs.ucdavis.edu

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Addendum Version 1

Ref.#: [REDACTED]

Coordinator: Monika Samol, DVM, Resident
E-Signed and Authorized by: Samol, Monika on
3/19/2019 9:17:46AM

Email To:
ARTHUR, RICK
RMARTHUR@UCDAVIS.EDU

Incident Track:
SANTA ANITA RACETRACK
285 West Huntington Road,
Arcadia CA 91007
Los Angeles County

This report supersedes all previous reports for this case

Date Collected: 01/18/2019 **Date Received:** 01/20/2019

Comments: CHRB

Case Contacts

Submitter	GRANDE, TIM	[REDACTED]	[REDACTED]	Arcadia	CA	91007
Bill To	CALIFORNIA HORSE RACING BOARD	916-263-6000	1010 Hurley Way Suite 300	Sacramento	CA	95825
Owner	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Report To	UZAL, FRANCISCO	[REDACTED]	[REDACTED]	San Bernardino	CA	92408
Report To	ARTHUR, RICK	[REDACTED]	[REDACTED]	Sierra Madre	CA	91024
Attending Vet	McAfoos, Jessie	[REDACTED]	[REDACTED]	Sierra Madre	CA	91024
Trainer	MACHOWSKY, MICHAEL	[REDACTED]	[REDACTED]	Monrovia	CA	91016

CHRB - Related Information

Horse's Name:	[REDACTED]	Human Injury?	
Tattoo:	[REDACTED]	Death Related to:	Race
Age:	3.00 Years	Track Surface:	Dirt
Gender:	Female	Location on Track:	Past Wire
Taxonomy:	Thoroughbred Horse	Insured?	

Medications: Butazolidin (Phenylbutazone); Dormosedan (Detomidine); Lasix (Furosemide); Pentobarbital;

Laboratory Findings/Diagnosis

A 3 year old Thoroughbred ([REDACTED]) submitted with a history of right front biaxial proximal sesamoid bone fractures (mid-body configuration) with acute suspensory apparatus failure (closed injury).

Catastrophic breakdown of right front fetlock with

RIGHT FRONT

ACUTE CHANGES

1. Fracture of the proximal sesamoid bones
 - a) Closed, simple, articular, slightly oblique, displaced, mid body fracture of the lateral proximal sesamoid bone
 - b) Closed, articular, transverse, comminuted, displaced, basilar fracture of the medial proximal sesamoid bone with probable predisposing lesion
2. Full thickness, transverse rupture of the intersesamoidean ligament

3. Marked fraying of fibers of the deep digital flexor tendons
4. Severe fraying of fibers of the lateral and medial short and cruciate ligaments
5. Moderate fraying of fibers and incomplete transverse rupture of the lateral and medial collateral ligaments of proximal sesamoid bones
6. Severe, longitudinal, short, full-thickness split, fraying of fibers and hemorrhage of the straight distal sesamoidean ligament
7. Severe fraying of fibers and hemorrhage of the medial oblique distal sesamoidean ligament
8. Severe fraying of fibers and complete longitudinal tear of the lateral branch of the suspensory ligament
9. Moderate incomplete longitudinal tear, fraying of fibers and hemorrhage of body of the suspensory ligament

CHRONIC CHANGES:

1. Mild to moderate dorsal metacarpal disease with periosteum congestion, thickening and dark pink discoloration of the dorsal cortex
2. Moderate lipping of the dorsal and palmar margin of the proximal articular surface of P1
3. Mild to moderate, focal, biaxial thickening of the oblique distal sesamoidean ligaments (presumably chondroid metaplasia)

LEFT FORELIMB**CHRONIC CHANGES**

1. Mild dorsal metacarpal disease with periosteum congestion and thickening
2. Mild lipping of the dorsal margin of the proximal articular surface of P1
3. Mild to moderate, focal, biaxial thickening of the oblique distal sesamoidean ligaments (presumably chondroid metaplasia)

Case Summary

03/19/19: Case was re-opened due to minor corrections in CHRB Musculoskeletal field (typographical errors). Further testing is concluded.

01/25/19: The most important findings in the right forelimb are biaxial fractures of the proximal sesamoid bones. The injuries of the proximal sesamoid bones resulted in loss of support of the fetlock joint of the right forelimb. The aforementioned fractures may be related to the focal region of subtle discoloration and bone porosity/osteopenic focus associated with the fracture surfaces in the medial proximal sesamoid bone. Changes of similar nature could not be located in the proximal sesamoid bones of the contralateral limb.

Clinical History

Right Foreleg: biaxial proximal sesamoid bone fractures (mid-body configuration) with acute suspensory apparatus failure (closed injury). Broke down during gallop out.

Gross Observations

Necropsy of a 406 kg [REDACTED] Thoroughbred [REDACTED] with a [REDACTED] and [REDACTED] [REDACTED] began at 12.05 pm on January 20, 2019.

The carcass was in good nutritional condition, with adequate amount of fat reserves, well fleshed and in moderate state of post-mortem decomposition. No significant gross abnormalities were observed in visceral organs. In particular, no gastric ulcers or laryngeal lesions were seen.

CHRB Musculoskeletal

Both front limbs were examined distally from the chestnut. Following changes were seen:

RIGHT FRONT**A- PROXIMAL SESAMOID BONES**

1. Fracture of the proximal sesamoid bones
 - a) Closed, simple, articular, slightly oblique, displaced, mid body fracture of the lateral proximal sesamoid bone
 - b) Closed, articular, transverse, comminuted, displaced, basilar fracture of the medial proximal sesamoid bone with probable predisposing lesion – the distal basilar fragment is divided into two roughly equal fragments in sagittal plane.

A region of increased porosity is present at the abaxial aspect of the articular surface on both opposing fracture surfaces of the medial proximal sesamoid bone. The fracture line propagates through subchondral focus of very subtle brown discoloration surrounded by highly compacted trabecular bone (sclerosis) and adjacent to the cartilage of the articular surface of medial proximal sesamoid bone. The subchondral bone of the lateral proximal sesamoid bone and the trabecular bone adjacent to the abaxial surface/lateral suspensory branch insertion appear to be highly compacted (sclerotic) on both opposing surfaces of the fracture.

For better visualization of described fractures, please see attached pictures and drawings.

2. Severe scoring of the articular surfaces of the proximal sesamoid bones
3. Severe, full thickness cartilage loss along the fracture line on the medial proximal sesamoid bones

B- SOFT TISSUES

1. Full thickness, transverse intersesamoidean ligament- the tear is following the fracture lines of the proximal sesamoid bones
2. Severe fraying of fibers and complete longitudinal split of the lateral branch of the suspensory ligament- the longitudinal rupture is a continuation of the fracture line propagating through the proximal sesamoid bones. The complete split propagates about 3 cm proximally and then turns into incomplete split and progresses all the way up to the mid-body of the suspensory ligament. The body of the suspensory ligament lateral from the tear is hemorrhagic.
3. Marked fraying of fibers on the dorsal surface of the deep digital flexor tendon at the level of the fetlock
4. Moderate fraying of fibers of the lateral and medial short and cruciate ligaments
5. Moderate fraying of fibers and incomplete longitudinal rupture of the collateral ligaments of the proximal sesamoid bones
6. Severe, biaxial fraying and hemorrhage of the medial distal oblique sesamoidean ligaments
7. Mild to moderate, focal, biaxial thickening of the oblique distal sesamoidean ligaments (presumably chondroid metaplasia) in the proximal third

C- MCIII

1. Moderate, full thickness cartilage loss (semicircular, app. 1 cm in diameter) of the palmar margin of the medial condyle of the distal articular surface of MCIII
2. Mild to moderate dorsal metacarpal disease with marked periosteum thickening and congestion. The periosteum is strongly adhered to the cortical bone. There is also longitudinal focus (ca. 4 cm long) of dark pink discoloration of the cortical bone at the level of dorsal mid-shaft (presumably woven bone formation)
3. Mild scoring of the medial condyle of the distal articular surface of MCIII
4. Mild to moderate hemorrhage accompanied by soft tissue hypertrophy at the palmar aspect of the supracondylar region of MCIII
5. Mild hemorrhage with soft tissue erosion at the dorsal aspect of the supracondylar region of MCIII

D- P1

1. Moderate lipping of the dorsal and palmar margin of the proximal articular surface of P1
2. Mild, focal, subtle cartilage ulceration along the dorsomedial margin of the proximal articular surface of P1

LEFT FRONT

A- MCIII

1. Mild thickening and congestion of the dorsal periosteum, especially at the level of the mid MCIII. The periosteum is severely adhered to the cortical bone, making it exceptionally difficult to separate.

B- SOFT TISSUE

1. Mild to moderate, focal, biaxial, rounded thickening of the oblique distal sesamoidean ligaments (presumably chondroid metaplasia) in the mid-length

C- P1

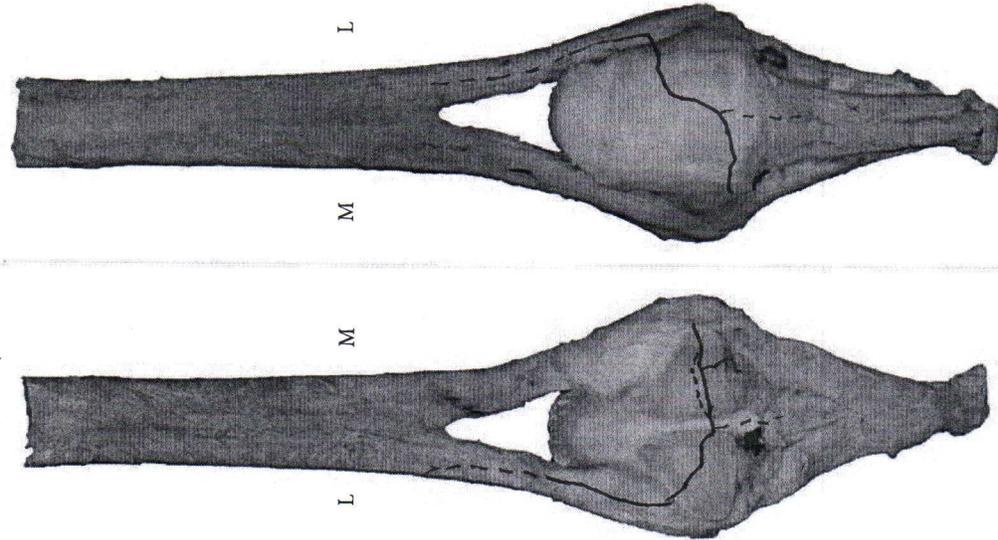
1. Mild lipping of the dorsal aspect of the proximal articular surface of P1

No gross lesions/ abnormalities were identified in other structures of both distal front limbs examined from the chestnut to the hoof.

Accession #
 CC: MAS
 Date: 01/24/19

Right Fetlock

Please circle affected leg
 foreleg
 hindleg



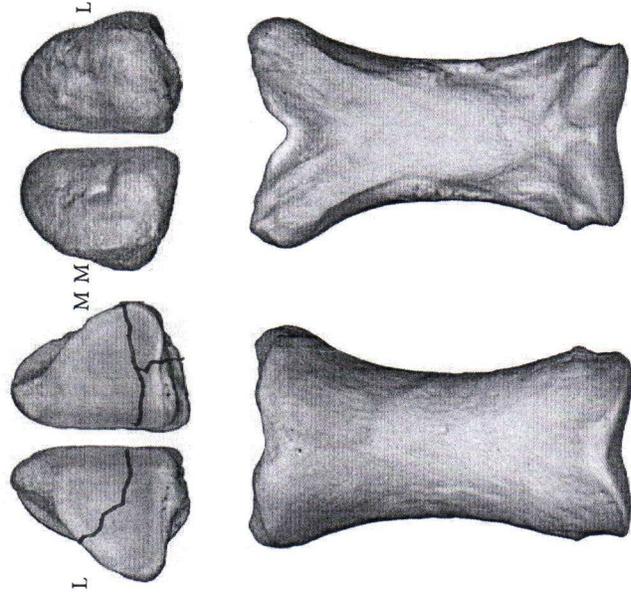
Susp. App. (dorsal)

Susp. App. (palmar/plantar)

Open wound? Yes No

Joint capsule intact? Yes No

Joint luxated? Yes No



Involved Structures

SDF tendon: Yes No DDF tendon: Yes No

Suspensory ligament: Yes No

SL Medial branch SL Lateral branch SL Body

Intersesamoid ligament: Yes No

Longitudinal Transverse

Distal Sesamoid ligaments (straight and/or oblique): Yes No

Collateral ligaments: Yes No

Collateral Sesamoid Ligaments: Yes No

Cruciate and/or Short Sesamoid Ligaments: Yes No

Exercise History Report (Full)



UCDAVIS

VETERINARY MEDICINE

*J.D. Wheat Veterinary Orthopedic
Research Laboratory*

Mar-11-2019

Exercise History Report (Full)

J.D. Wheat Veterinary Orthopedic Research Laboratory

This report summarizes the high speed exercise history for Case Horse. There are four parts to this report:

Part 1 is a graph that depicts the races and officially recorded high speed workouts for Case Horse over the horse's career. The graph is useful for visually assessing features of a horse's career like: career length, periods of layup, and exercise consistency. If Case Horse had zero recorded high-speed exercise events, this graph is not produced. Event histories for three breed, sex, age, and event-matched control horses are also plotted.

Part 2 includes graphs which illustrate Case Horse's exercise history alongside that of Control Horses. These graphs are useful for visually comparing periods of layup and specific rates of exercise in the horses' exercise histories.

Part 3 is a chronological listing of races and officially timed works beginning with the most recent event (race or work).

Part 4 is a chart that allows comparison of exercise variables between Case Horse and other racehorses of similar age, sex, and breed that did not die at the same time from an injury. Similar to comparing the results of a blood test to a range of normal values, the values for Case Horse can be assessed in the context of a normal range for 95% of a sample of similar racehorses that did not die during the same time as Case Horse.

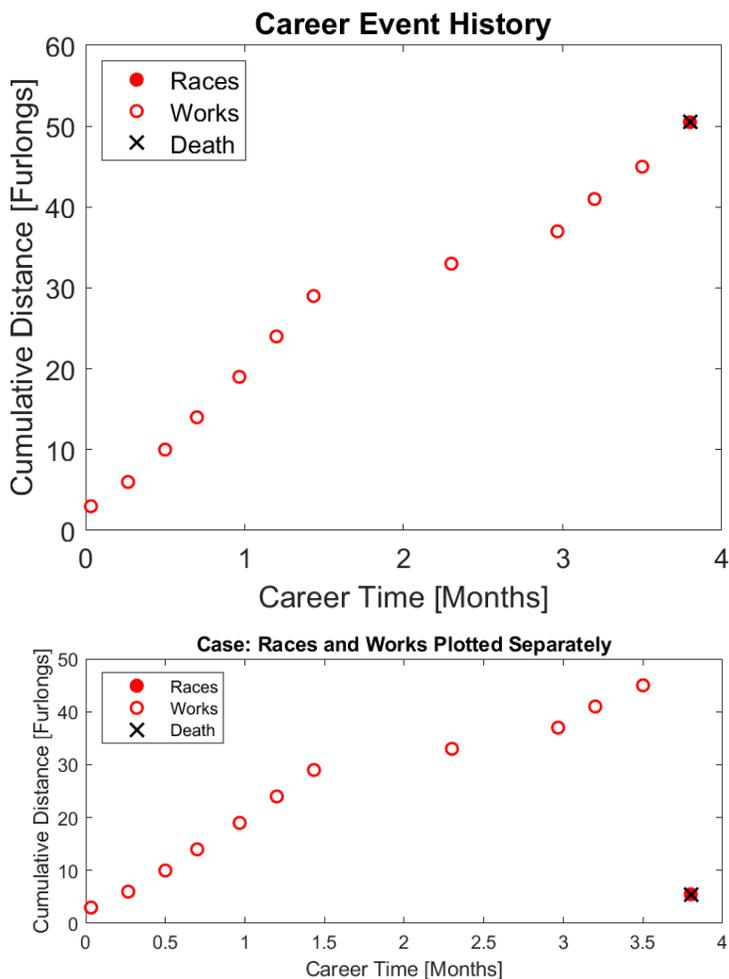
Table of Contents

Part 1: Graphical Representation of Individual High-Speed Exercise Histories	1
Case Horse High Speed Exercise History	1
Control 1 High Speed Exercise History	2
Control 2 High Speed Exercise History	2
Control 3 High Speed Exercise History	3
Part 2: Case and Control Horses Plotted Together	4
Part 3: Case Horse's Event History	7
Part 4: Comparison of Exercise Variables between Case Horse and 63 Control Horses (3 year old, female, Thoroughbred)	8

Part 1: Graphical Representation of Individual High-Speed Exercise Histories

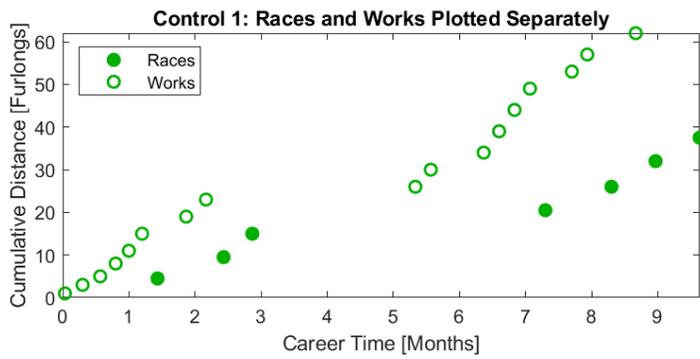
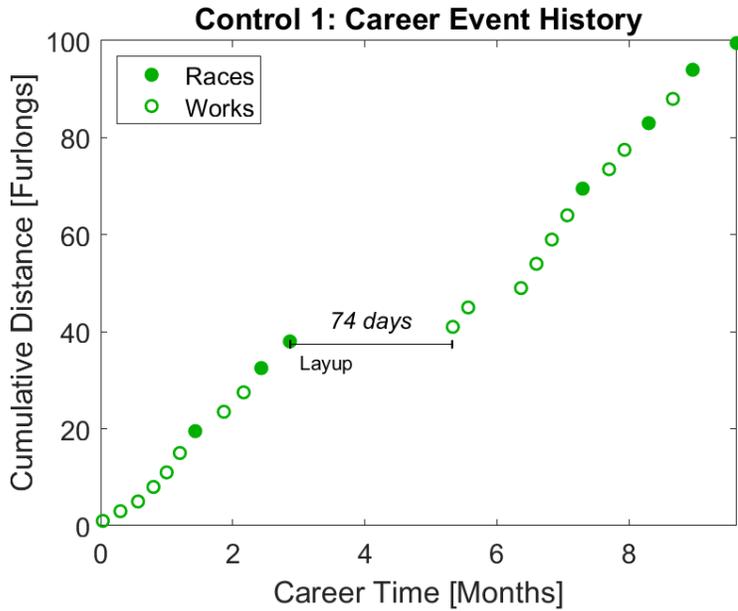
Races (filled circles), officially timed high-speed works (open circles), layups (line with endcaps, periods of time greater than 60 days in length without a race or timed work), and time of death (X) are illustrated over time (Career Time in months). With each event (race or work), the number of furlongs the horse exercised in that event is added to the number of furlongs exercised in all previous events.

Case Horse High Speed Exercise History

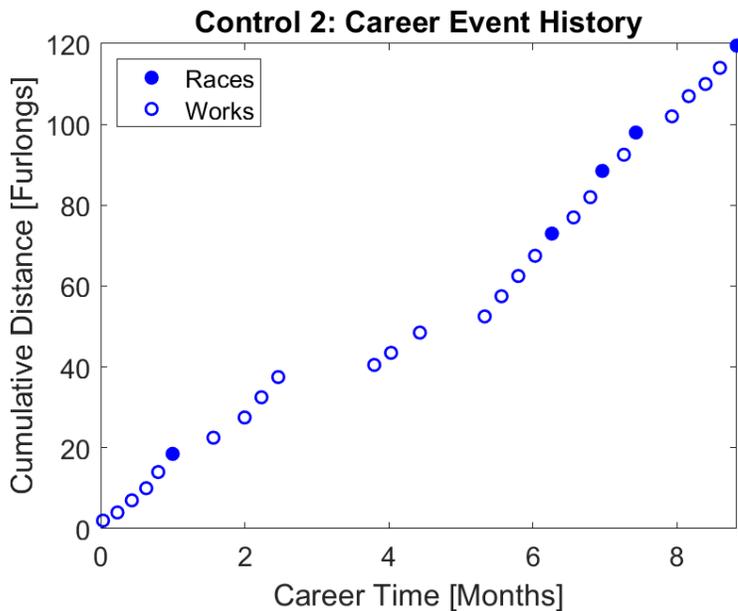


Part 1: Graphical Representation of Individual High-Speed Exercise Histories

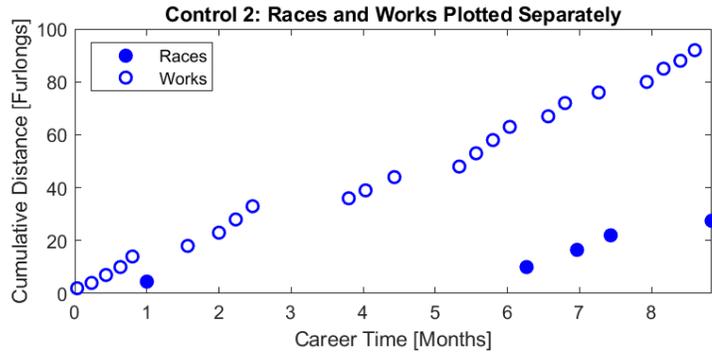
Control 1 High Speed Exercise History



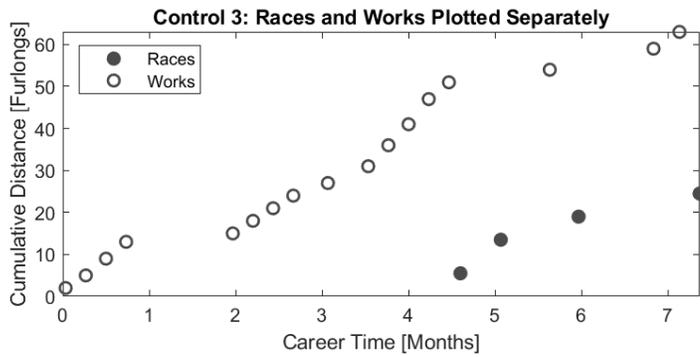
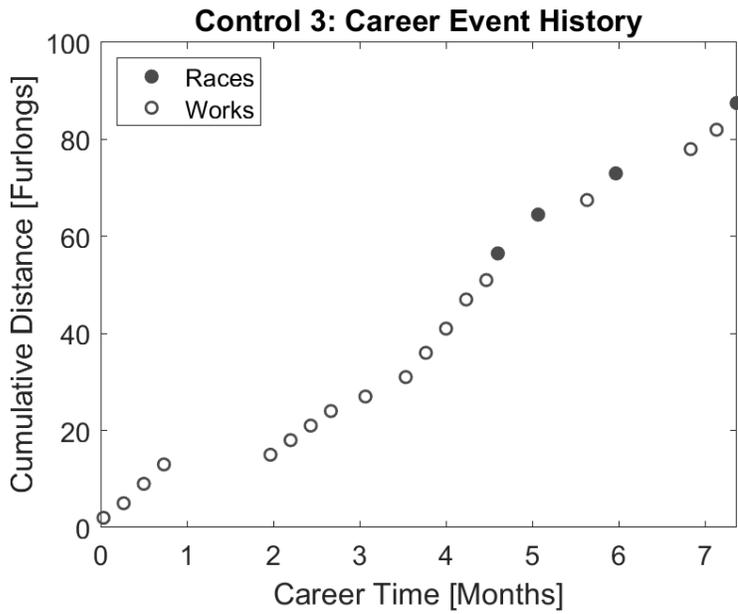
Control 2 High Speed Exercise History



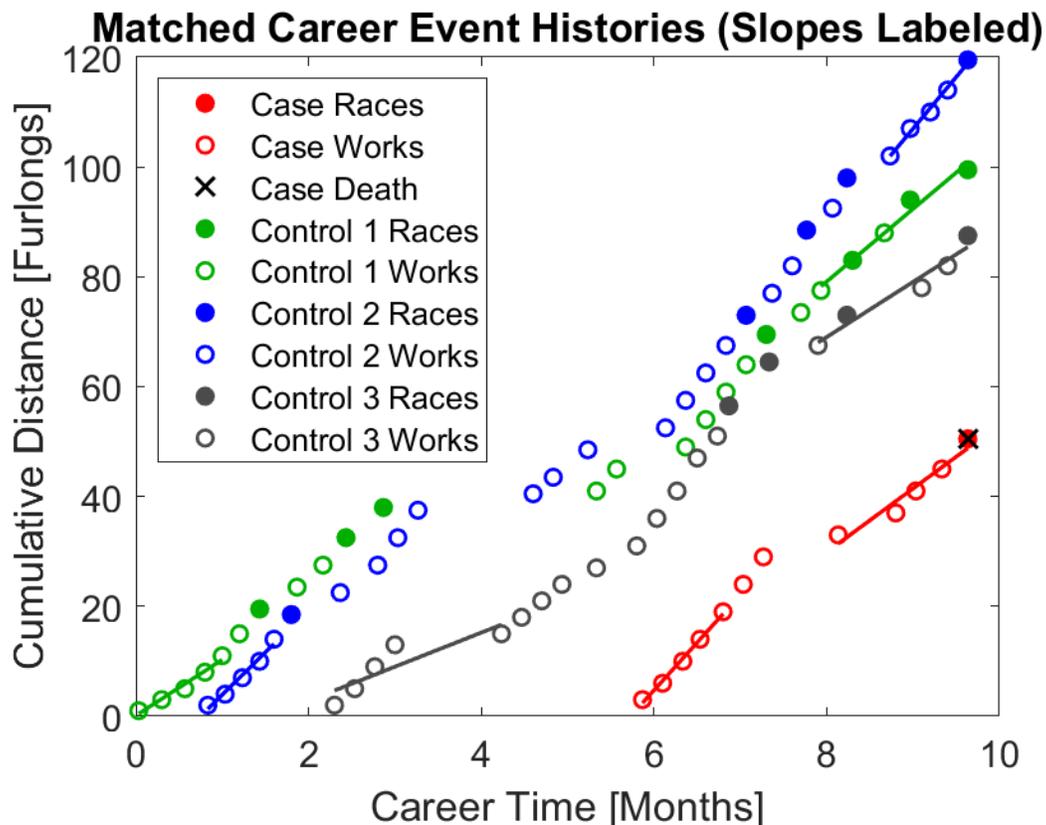
Part 1: Graphical Representation of Individual High-Speed Exercise Histories



Control 3 High Speed Exercise History

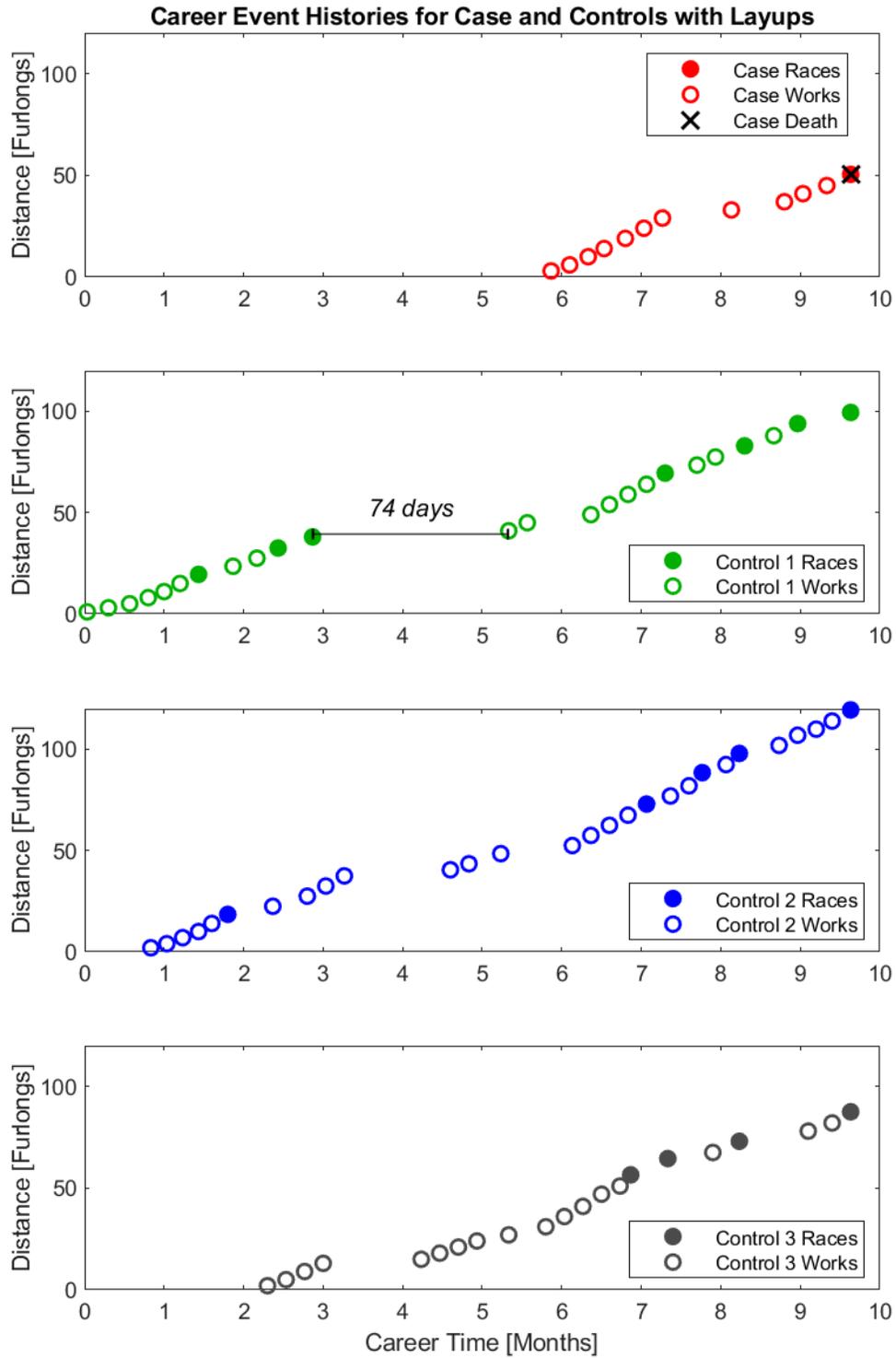


Part 2: Case and Control Horses Plotted Together



Case and Control Horses' exercise event histories are plotted on the same axes. The plots are aligned by the match date (equal to the date of death of Case Horse). Lines segments indicate specific rates of exercise at the start of career, end of career (for Case Horse), and match date (for Control Horses). Event rates are calculated as the slopes of the plots over 2 to 5 events not spanning a layup period, in units of furlongs per month.

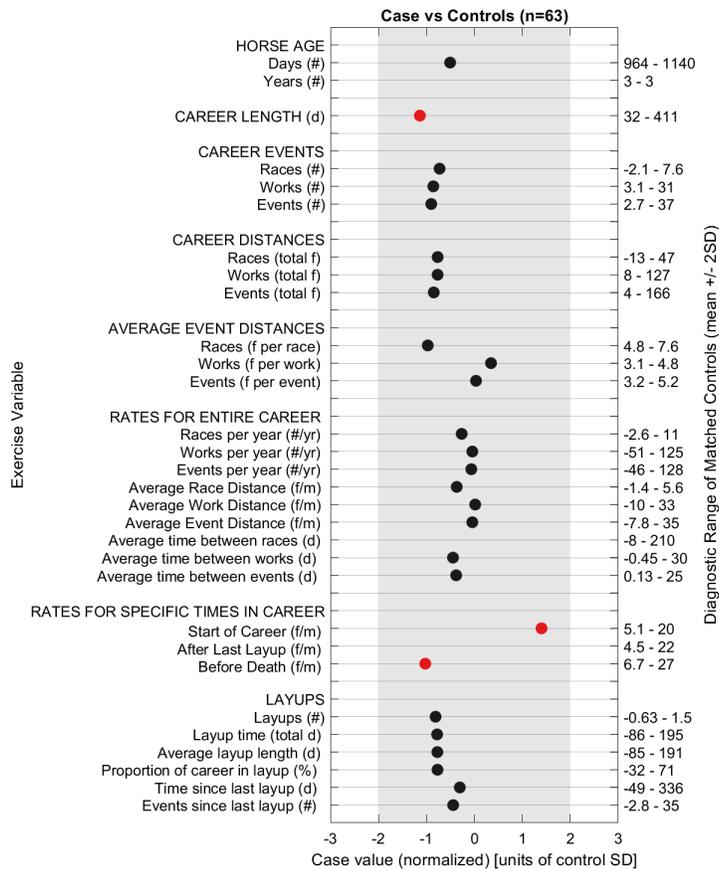
Part 2: Case and Control Horses Plotted Together



Part 3: Case Horse's Event History

Date	Race/ Work	Fur- longs	Track	Surface	Track Cond.	Time	Age/ Sex	Race Class	Earn- ings	Finish
1/18/2019	R	5.5	SA	Dirt	Good		3/F	Mcl20000	351	7
1/9/2019	W	4.0	SA	Dirt	Fast	:48.20				
12/31/2018	W	4.0	SA	Dirt	Fast	:48.40				
12/24/2018	W	4.0	SA	Dirt	Fast	:49.00				
12/4/2018	W	4.0	SA	Dirt	Fast	:51.80				
11/8/2018	W	5.0	SA	Dirt	Fast	01:04.6				
11/1/2018	W	5.0	SA	Dirt	Fast	01:05.0				
10/25/2018	W	5.0	SA	Dirt	Fast	01:05.2				
10/17/2018	W	4.0	SA	Dirt	Fast	:51.20				
10/11/2018	W	4.0	SA	Dirt	Fast	:51.40				
10/4/2018	W	3.0	SA	Dirt	Fast	:37.80				
9/27/2018	W	3.0	SA	Dirt	Fast	:38.60				

Part 4: Comparison of Exercise Variables between Case Horse and 63 Control Horses (3 year old, female, Thoroughbred)

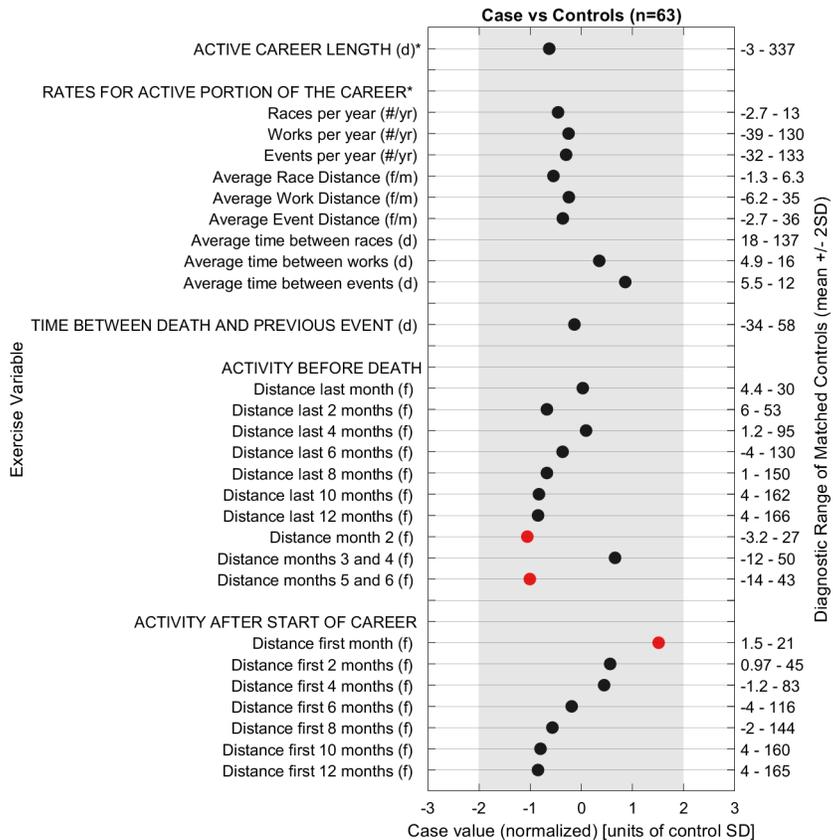


Case Horse values are indicated by black or red symbols: circles indicate values considered normal for 95% of 3 year old, female, Thoroughbreds (n=63) (gray region) (black and red indicate within 1 and 2 SD, respectively, of mean value of controls), X's indicate values outside of the normal range. Two and 3 year old case horses are also matched to control horses by the quarter in which the case horse died (Jan-Mar, Apr-Jun, Jul-Sep, Oct-Dec). Variables that are not calculable are not plotted (e.g. time between races for a horse with zero events). f=furlongs; yr=year; m=month; d=days.

^Rates are calculated over 2 to 5 events.

*Active Career Length is the career length excluding the time during layups.

Part 4: Comparison of Exercise Variables between Case Horse and 63 Control Horses (3 year old, female, Thoroughbred)



Case Horse values are indicated by black or red symbols: circles indicate values considered normal for 95% of 3 year old, female, Thoroughbreds (n=63) (gray region) (black and red indicate within 1 and 2 SD, respectively, of mean value of controls), X's indicate values outside of the normal range. Two and 3 year old case horses are also matched to control horses by the quarter in which the case horse died (Jan-Mar, Apr-Jun, Jul-Sep, Oct-Dec). Variables that are not calculable are not plotted (e.g. time between races for a horse with zero events). f=furlongs; yr=year; m=month; d=days.

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