



Ministry of  
Agriculture

## Animal Health Centre

AAVLD - Accredited Laboratory

Ministry of Agriculture  
1761 Angus Campbell Road  
Abbotsford BC V2G 2M3  
Telephone: (604) 855-3303  
Facsimile: (604) 855-3010  
Toll-Free: 1-800-661-9903

### Final Report AHC Case: 14-2693

Last Updated: 06/13/14 11:43 AM

Pathologist: Heindrich Snyman, BVSc, DVSc,  
DACVP

Received Date: 06/05/14

Collected Date: 06/05/14

Client Ref No:

Veterinarian: Dr. Mario Trillo

Clinic: Trillo, Dr. Mario

Phone: (604) 534-3299

Fax: (604) 534-3290

Submitter: Hastings Park

Phone:

Fax:

Owner: s.22

Phone:

Fax:

Animal Data

Species: Equine

Breed: Thoroughbred

Sex: G

Age: 4 Years

Premise ID:

#### Case History

Submitted one equine, TB for post mortem.

June 4, 2014 - started colic at 5:00pm. Given Banamine paste by groom. Responded for a few hours. 8:30 - call me, 9:30 arrived: physical exam - painful, trying to go down. P-40/min, RR-12/min, T-37 C, MM - pink, CRT - < 2 sec's. Skin turgor tent. NR: simultaneous auscult-percussion. G.I decreased. Borborygmi all 4 quadrants. Given 10cc Banamine IV (Xylazine, torb). Tranquilized to pass stomach tube - No reflux. Given 6 L warm water and MgSO4. Rectal exam 10:10pm Painful again, kept walking, P-40, RR12/min, given 6 L lactated ringers and amino acid solution IV and Gentocin- few several semidried fecal balls in rectum. Small colon was pushed into pelvic canal and inlet. Large viscous at pelvic inlet, unable to go deeper. Horse basically unresponsive to NSAID. 12 pm found stomach tube no reflux. 2:00am passed stomach tube obtained approximately 6 liters of brownish NR in color, odor and flavour gastric reflux. Horse stayed quiet for about 40 minutes. Needed to give Xylazine and Torb - stayed quiet to 4:30am when euthanized with owner (s.22) permission. Presenting complaint: Acute Abdomen. TDX: Partial obstruction small intestine and possible large colon displacement. Vaccinated Flu/Rhino/Strangles. Euthanized T61 on June 5, 2014. 1 sick, 1 dead. Racehorse. Ration: oats, hay.

LAB NOTE: History very difficult to read. Three people tried to read history. Please ensure histories are adequately typed/written (mm).

Animal ID: s.22

Tattoo: s.22

Email report to: michael.brown@gov.bc.ca and sheryl.bourque@gov.bc.ca

### Final Diagnosis

1. Stomach, non-glandular: Mucosal ulceration, multifocal to coalescing, acute, severe.
2. Small and large intestine: Enterocolitis, diffuse, catarrhal/mucoid, acute, mild with submucosal edema and multifocal serosal hemorrhage.
3. Large intestine: Pelvic flexure displacement, dorsal and cranial with segmental entrapment of the jejunum, acute, mild.
4. Lungs: Vascular congestion with pleural and interlobular edema, acute, diffuse, mild.
5. Liver: Reactive portal hepatitis, lymphoplasmacytic, diffuse, subacute, mild.
6. Adrenal glands: Cortical congestion, diffuse, acute, mild.
7. Kidney: Interstitial nephritis, lymphoplasmacytic, multifocal, chronic, mild.
8. Left and right fetlock joints: Osteoarthritis, chronic, moderate.

Comments: Unresponsive colic in this horse is likely multifactorial, having resulted from enteritis, gastric dilation, ulceration and reflux as well as pelvic flexure displacement and segmental entrapment of the small intestine. Although there are some entrapped segments of the small intestine, congestive changes within these segments are mild and there is no evidence of luminal obstruction. Gastric ulceration is extensive and represents the most significant gross and histological finding and therefore the most likely cause of colic in this horse. Ulceration is very acute with no evidence of granulation tissue formation suggesting a time span of less than 24 hours. 4 + *E. coli* were isolated from the small intestine and although *E. coli* associated enteritis is more common in younger individuals it should be considered as a contributing factor in this case. Interlobular and pleural edema as well as adrenocortical congestion suggests toxemia and sepsis while increased numbers of portal leukocytes is due to antigenic stimulation resulting from the loss of the normal mucosal barrier within the gastrointestinal tract. Further toxin typing of the *E. coli* isolate in this case is pending.

Addendum June 13 2014: PCR testing of the *E. coli* isolate from this case was negative for all tested toxins.

### Necropsy

One adult Thoroughbred gelding, weighing 526 kg, was received for post mortem evaluation. The gelding is in good body condition with adequate muscle mass and fat reserves. Dehydration is estimated at approximately 5 % with subcutaneous tissues being dry and tacky.

Multifocally the jejunum and distal duodenum is segmentally dilated by gas and large amounts of tan yellow to pink brown, turbid, thick, mucous that is often loosely adhered to underlying mucosa. The intestinal wall within these segments is thickened up to three times normal by edema and the mucosal surface is mottled dark red to purple, dull and granular. Often the serosal surface of these segments contains large 20 to 90 mm, confluent foci of hemorrhage. The stomach is dilated to approximately two fold normal and is filled with gas, large amounts of turbid, dark yellow to brown fluid and small amounts of admixed fibrous ingesta and oat grains with a distinct sweet odour. Scattered throughout the mucosal surface of the non-glandular stomach and affecting approximately 70 % of the total surface are numerous 1 to 6 mm, coalescing foci of erosion and ulceration some of which contain small amounts of hemorrhage and adherent necrotic debris. The same turbid fluid as described in the stomach is present throughout the proximal duodenum.

The tip of the pelvic flexure, distal 30 cm of the left ventral colon and proximal 30 cm of the left dorsal colon is folded 180 degrees cranially and dorsally back onto itself. Three separate 50 to 70 cm segments of the mid jejunum are entrapped in the centre of this fold and are diffusely light pink to dark red. Serosal and mesenteric vessels within these segments are prominent and mildly congested. The entire large colon is distended by gas and contains small amounts of fibrous ingesta with small amounts of undigested oat grains. The terminal colon and rectum contains small numbers of dry fibrous fecal balls.

Joints were evaluated and photographed as per the racchorse protocol. There was severe palmar arthrosis and focal cartilage erosion of the mid-articular surface of both the medial and lateral condyles of both the left and right third metacarpal. Changes are most marked within the lateral condyle of the left forelimb. Similar but milder changes are also observed within the third metatarsal bones of both hind limbs. Joints were scored as follows:

Joint	WL	CE	PA
RF	2	2	2
LF	2	3	3
RH	2	2	2
LH	1	2	2

WL = wear lines

CE = cartilage erosion

PA = palmar arthrosis

Gross diagnosis:

1. Small intestine: Enteritis, segmental, catarrhal/mucoid, acute, moderate with mural edema and multifocal serosal hemorrhage.
2. Stomach, non-glandular: Mucosal ulceration, multifocal to coalescing, acute, severe.
3. Large intestine: Pelvic flexure displacement, dorsal and cranial with segmental entrapment of the jejunum, acute, mild.
4. Left and right fetlock joints: Osteoarthritis, chronic, moderate.

### Histopathology

Formalized tissues were routinely processed.

Slide 1 - lung

Slide 2 - lung, spleen, liver

Slide 3 - heart

Slide 4 - heart, thyroid

Slide 5 - kidney

Slide 6 - adrenal glands

Slide 7 - thyroid, small intestine

Slide 8 - small intestine, stomach

Slide 9 - Small intestine, large intestine

Slide 10 - cervical spinal cord, obex.

All organs on each slide were examined. Those not listed elsewhere have no significant lesions.

Quality control: Tissue preservation is good. There are no acid hematin deposits within tissues and no postfixation dehydration.

Stomach (slide 8): The gastric mucosa contains, multiple, large, coalescing foci of full thickness, squamous epithelial ulceration. The resulting defects are filled with small amounts of necrotic debris, fibrin, plant material and degenerate neutrophils and macrophages. The underlying submucosa is expanded by edema, hemorrhage and small numbers of neutrophils, macrophages and lymphocytes.



Small and large intestine (slides 7, 8 and 9): Diffusely villar tips are blunted and shortened with prominent congested proprial blood vessels. The lamina propria and submucosa of both the small and large intestine is expanded by small amounts of edema, rare foci of hemorrhage with increased numbers of lymphocytes, plasma cells eosinophils and rare neutrophils. Rare, 20 to 40 µm, foci of hemorrhage are scattered throughout the serosal surface.

Lungs (slides 1 and 2): Diffusely blood vessels throughout the lung as well as alveolar septa are congested. The visceral pleura and interlobular septa are expanded by small amounts of edema and rare 30 to 50 µm foci of hemorrhage.

Liver (slide 2): Portal triads contain mildly increased numbers of lymphocytes and plasma cells with rare scattered individual neutrophils.

Adrenal glands (slide 6): Sinusoids throughout the adrenal cortex are congested.

Kidney (slide 5): Rare clusters of lymphocytes and plasma cells are scattered throughout the cortical interstitium, affecting < 1 % of the total renal parenchyma within the section.

### Parasitology

Fecal Flotation Resulted by: Kristen Younie Verified by: Heindrich Snyman on 06/06/14 @ 4:17 PM

Specimen	ID	Isolate	Result	Level
Feces			Negative	

### Bacteriology

Clostridium difficile Resulted by: Hughes, Giselle Verified by: Erin Zabek on 06/10/14 @ 10:33 AM

Specimen	ID	Isolate	Result	Level
Small Intestine			No Clos.difficile isolate	

Aerobic Culture - Comp Resulted by: Erin Zabek Verified by: Hughes, Giselle on 06/09/14 @ 8:41 AM

Specimen	ID	Isolate	Result	Level
Lung		A equuli subsp. equuli	Positive	1+
Lung		Streptococcus sp. (alpha)	Positive	1+
Lung		E.coli (non-haemolytic)	Positive	Few
Small Intestine		E.coli (non-haemolytic)	Positive	4+

**Anaerobic Culture - Comp** Resulted by: Hughes, Giselle Verified by: Erin Zabek on 06/10/14 @ 10:33 AM

Specimen	ID	Isolate	Result	Level
Small Intestine			No Anaerobic Bacteria Isolated	

**Bovine Toxin Typing E.col** Resulted by: Hughes, Giselle Verified by: Jaime Osei-Appiah on 06/12/14 @ 4:22 PM

Specimen	Organism	ID	Test	Result
Small Intestine	E.coli (non-haemolytic)		BTT - E.coli F41	Negative
Small Intestine	E.coli (non-haemolytic)		BTT - E.coli intimin	Negative
Small Intestine	E.coli (non-haemolytic)		BTT - E.coli K99	Negative
Small Intestine	E.coli (non-haemolytic)		BTT - E.coli Stx	Negative
Small Intestine	E.coli (non-haemolytic)		BTT - E.coli Stx-1	Negative
Small Intestine	E.coli (non-haemolytic)		BTT - E.coli Stx-2	Negative

**Culture - Salmonella** Resulted by: Hughes, Giselle Verified by: Erin Zabek on 06/10/14 @ 10:33 AM

Specimen	ID	Isolate	Result	Level
Small Intestine			No Salmonella sp. Isolated	

#### History of Communication

Date	To	Description
06/10/14 2:32 PM	Trillo, Dr. Mario - e-mail	bc report sent
06/13/14 4:25 PM	Trillo, Dr. Mario - e-mail	bc report sent
06/16/14 1:09 PM	Gaming Policy & Enf.Branch - e-mail	bc report sent

Heindrich Snyman, BVSc, DVSc, DACVP  
Heindrich.Snyman@gov.bc.ca

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**END OF REPORT**



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Toll Free : 1-800-661-9903

### Final Report AHC Case: 14-2225

Last Updated: 05/20/14 2:02 PM

Pathologist: Stephen Raverty, DVM

Received Date: 05/08/14

Collected Date: 05/08/14

Client Ref No:

Veterinarian: Dr. Edward Wiebe

Clinic: Wiebe & Lealos Vet.Ser.

Phone: (604) 533-3966

Fax: (604) 533-4320

Submitter: Hastings Park

Phone:

Fax:

Owner: s.22

Phone:

Fax:

Animal Data

Species: Equine

Breed: Thoroughbred

Sex:

Age:

Premise ID:

#### Case History

Submitted one TB equine for post mortem.

Arrived with respiratory problems from shipping from s.22 Bloody nasal discharge, fever, increased resp. rate. Rx - Tetracycline and Ceftiofur 10 days, Enrofloxacin for 4 days, Flunixin B.I.D. for 14 days. Condition becoming worse and euthanized. No insurance.

Presenting complaint: Respiratory. Treatments - Antibiotics, Anti-inflammatories, Euthanized T-61 May 8, 2014.

Animal ID: s.22

Email report to: yatesathpabc.ca and christine.smetschkaatgov.bc.ca

### Final Diagnosis

#### MORPHOLOGIC DIAGNOSES:

1). Lungs, mediastinum, peritoneum, and pericardium: Pleuropneumonia and pericarditis, marked, focally extensive, acute, fibrinosuppurative, chronic with granulation tissue, intralesional coccobacilli, multifocal abscessation, sequestration, hemosiderosis and regional lymphadenopathy

2). Lung: Bronchopneumonia, moderate, multifocal, fibrinosuppurative with bronchiectasis

3). Peripheral vasculature: Presumptive leukocytosis, moderate, multifocal, neutrophilic and mononuclear with septic emboli

4). Kidney: Nephritis, interstitial, mild, multifocal, random, nonsuppurative

5). Colon: Colitis, mild, multifocal, erosive

There are no overt lesions within the heart, peripheral nerves, or brain stem.

#### COMMENTS:

The respiratory lesions would have been sufficiently severe to have contributed to impair pulmonary function; a bacterial etiology is a prime consideration and infection may have been hematogenous, a direct penetrating wound to the thoracic wall, perforation of a thoracic viscus, ruptured pulmonary abscess or some other process. Aerobic culture yielded mixed growth including *Shewanella putrefaciens* and *Streptococcus equi* subsp. *zooepidemicus*, the latter of which is associated with secondary pneumonias, pyothorax and other suppurative processes in a number of organ systems. In this animal, there were no discernible pre-existing conditions in the examined tissues that may have predisposed or possibly exacerbated the bacterial pneumonia. PCR proved negative for EIV 1 and 4. Fecal parasitology did not detect any helminths. The colitis and interstitial nephritis are low grade and not considered pathologically significant and the presumptive leukocytosis is consistent with persistent antigenic stimulation.

## Necropsy

#### GROSS FINDINGS:

An adult Thoroughbred is presented euthanized May 8, 2014 in moderate body and post mortem condition. The animal is moderately fleshed. Bilaterally involving the ventral half of all lung lobes, cranial mediastinum and entire pericardium, the serosal surfaces are diffusely overlaid by abundant amounts of loosely adherent fibrin. The subjacent lung lobes are consolidated, heavy, dark red and wet and the regional lymph nodes are moderately enlarged and glistening. On cut surface the parenchyma is brown red and dull with prominent intervening bands of fibrous connective tissue. Protruding from the visceral pleura of the left and right caudal lung lobes and within the cranial mediastinum, there are numerous 20-30 cm diameter flaccid, encapsulated abscesses which contain abundant clear to slightly turbid pale yellow red fluid and the inner surface is diffusely overlaid by a mat of fibrin. Throughout the abdominal cavity, overlying the serosal surface of multiple loops of bowel and entire length of the spleen, there is moderate accumulation of fibrin deposition. There are no other apparent internal or external lesions.

**COMMENTS:**

The fibrinous pleuritis, pericarditis and peritonitis would have been sufficiently severe to account for the acute loss of this animal. A bacterial pathogen is a prime consideration and further evaluation is pending histopathology and ancillary studies are pending and results are to follow.

**GROSS DIAGNOSES:**

1). Lungs, mediastinum, peritoneum, and pericardium: Pleuropneumonia and pericarditis, marked, focally extensive, acute, fibrinous with multifocal abscessation and regional lymphadenopathy

**PENDING:**

Histopathology

Aerobic culture

Lung and mediastinal lymph nodes, PCR for equine herpesvirus

Joints were evaluated as per the racehorse protocol by AB. There was cartilage erosion of the anterior medial lip of proximal P1 in all fetlocks. Joints were scored as per the racehorse protocol as follows:

	WL	CE	PA
RF	3	2	1
LF	2	1	1
RH	2	0	0
LH	2	0	1

WL = wear lines

CE = cartilage erosion

PA = palmar arthrosis

**Histopathology**

## Refer to Morphologic Diagnoses

## Parasitology

Fecal Flotation Resulted by: Kristen Younie Verified by: Stephen Raverty on 05/09/14 @ 11:38 AM

Specimen	ID	Isolate	Result	Level
Feces			Negative	

## Bacteriology

Companion Panel Resulted by: Jaime Osei-Appiah Verified by: Hughes, Giselle on 05/12/14 @ 2:07 PM

Organism	ID	AMC	ceph	chlor
Shewanella putrefaciens		s	r	s
S equi subsp. zooepidemicus		s	s	s
**: Antibiotic legend: AMC = Amoxicillin-Clavulanic Acid, ceph = Cephalothin, chlor = Chloramphenicol				

Aerobic Culture - Prod Resulted by: Jaime Osei-Appiah Verified by: Hughes, Giselle on 05/12/14 @ 2:06 PM

Specimen	ID	Isolate	Result	Level
Lung		S equi subsp. zooepidemicus	Positive	1+
Lung		Shewanella putrefaciens	Positive	1+
Abscess	lung		No Bacteria Isolated	
Spleen			No Bacteria Isolated	
Small Intestine		Streptococcus sp. (alpha)	Positive	1+

Anaerobic Culture - Prod Resulted by: Jaime Osei-Appiah Verified by: Erin Zabek on 05/16/14 @ 12:01 PM

Specimen	ID	Isolate	Result	Level
Lung		Prevotella sp.	Positive	4+
Lung		Peptostreptococcus sp.	Positive	4+
Abscess	lung	Prevotella sp.	Positive	4+
Abscess	lung	Peptostreptococcus sp.	Positive	4+

**Culture - Salmonella** Resulted by: Jaime Osei-Appiah Verified by: Hughes, Giselle on 05/12/14 @ 2:07 PM

Specimen	ID	Isolate	Result	Level
Small Intestine			No Salmonella sp. Isolated	

**GNEG** Resulted by: Jaime Osei-Appiah Verified by: Hughes, Giselle on 05/12/14 @ 2:07 PM

Organism	ID	enr	xnl	cn	bneo	sam	sxt	tet	ffc
Shewanella putrefaciens		s	s	s	s	s	s	s	s
**: Antibiotic Sensitivity legend: enr = Enrofloxacin, xnl = Excenel, cn = Gentamicin, bneo = Neomycin, sam = Ampicillin-Sulbactam, sxt = Sulfamethoxazole/Trimethoprim, tet = Tetracycline, ffc = Florfenicol									

**GPOS** Resulted by: Jaime Osei-Appiah Verified by: Hughes, Giselle on 05/12/14 @ 2:07 PM

Organism	ID	enr	e	cn	my	p10	sxt	tet	ffc
S equi subsp. zooepidemicus		s	s	s	s	s	s	s	s
**: Antibiotic sensitivity legend: enr = Enrofloxacin, e = Erythromycin, cn = Gentamicin, my = Lincomycin, p10 = Penicillin, sxt = Sulfamethoxazole/Trimethoprim, tet = Tetracycline, ffc = Florfenicol									

## Molecular Diagnostics

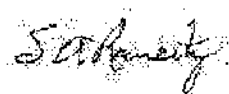
**Equine Herpes Type 1 & 4** Resulted by: Julie Bidulka Verified by: Tomy Joseph on 05/12/14 @ 4:49 PM



Specimen	ID	Test	Result
Tissue	lg,pleura	Equine Herpes Type 1 & 4	Negative

**History of Communication**

Date	To	Description
05/20/14 2:02 PM	Gaming Policy & Enf.Branch - e-mail	bc report sent



Stephen Raverty, DVM  
Stephen.Raverty@gov.bc.ca

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Ministry of Agriculture  
1767 Angus Campbell Road  
Abbotsford BC V3G 2M3  
Telephone: (604) 558-3003  
Facsimile: (604) 558-3010  
Toll-Free: 1-800-661-8605

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### Final Report AHC Case: 14-2386

Last Updated: 05/20/14 10:41 AM

Pathologist: Ann Britton, DVM, MSc, PhD

Received Date: 05/20/14

Collected Date: 05/20/14

Client Ref No:

Veterinarian: Dr. Robert Lealos

Clinic: Wiebe & Lealos Vet.Ser.

Phone: (604) 533-3966

Fax: (604) 533-4320

Submitter: Hastings Park

Phone:

Fax:

Owner: Trainer: s.22

Phone:

Fax:

Animal Data

Species: Equine

Breed: Thoroughbred

Sex: F

Age: 3 Years

Premise ID:

#### Case History

Submitted one equine for post mortem.

Fracture - scapula, humerus?, single limb RF. Training fine, injury happened galloping out.

Owner: s.22

Tattoo: s.22

Email report to: yatesathpabc.ca and christine.smetschkaatgov.bc.ca

### Final Diagnosis

Final Diagnosis:

Fracture of right scapula

Comment:

Right scapular fracture was confirmed at necropsy.

### Necropsy

One 3 year old filly weighing 488 kg was received for necropsy. Joints were evaluated and scored as per the racchorse protocol. There was cartilage erosion of the medial lip of the first phalanx in the right hind and the left fore fetlocks. The right fore first phalanx exhibited a small 1 x 2 mm pit in the cartilage on the proximal medial articular surface and an area of cartilage erosion on the medial lip. The right hock joint and both carpal joints exhibited moderate congestion with synovial hyperplasia. There was a displaced comminuted fracture of the right scapula involving the articular surface (glenoid cavity) and the neck with marked secondary hemorrhage.

Joint scores were as follows:

	WL	CE	PA
RF	2	0	1
LF	1	0	0
RH	1	0	0
LH	0	0	0

WL = wear lines

CE = cartilage erosion

PA = palmar arthrosis

#### History of Communication

Date	To	Description
05/20/14 1:40 PM	Gaming Policy & Inf. Branch - e-mail	bc report sent



Ann Britton, DVM, MSc, PhD  
Ann.P.Britton@gov.bc.ca

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1767 Angus Campbell Road  
Abbotsford BC V3G 2M3  
Telephone : (604) 558-3303  
Facsimile : (604) 558-3010  
Toll-Free : 1-800-661-8909

---

### Final Report AHC Case: 14-1909

Last Updated: 04/28/14 10:41 AM

Pathologist: Ann Britton, DVM, MSc, PhD

Received Date: 04/23/14

Collected Date:

Client Ref No:

Veterinarian: Dr. Robert Lealos

Clinic: EJ Wiebe and Associates

Phone: (604) 533-3966

Fax: (604) 533-4320

Submitter: Hastings Park Racecourse

Phone:

Fax:

Owner: s.22

Phone:

Fax:

Animal Data

Species: Equine

Breed: Thoroughbred

Sex:

Age:

Premise ID:

#### Case History

Submitted one Thoroughbred for post mortem.

Shoulder, single limb, LE, fracture.

Animal ID: s.22

Email report to: [yatesathpabc.ca](mailto:yatesathpabc.ca) and [christine.smetschkaatgov.bc.ca](mailto:christine.smetschkaatgov.bc.ca)

### Final Diagnosis

#### Final Diagnosis:

Spiral midshaft fracture of left humerus

Chronic chip fracture of right radial carpal bone

#### Comment:

s.22 was confirmed to have an acute fracture of the left humerus. He also had a chronic chip fracture of the right radial carpal bone and mild cartilage chipping of the proximal lip of the left intermediate carpal bone.

## Necropsy

One 4 year old gelding weighing 568 kg (s.22) was received for the racehorse study. There was a spiral midshaft fracture of the left humerus with severe secondary hemorrhage in the surrounding musculature and soft tissue. There was moderate superficial cartilage chipping and remodeling of the proximal anterior lip of the right intermediate carpal bone with remodeling of the anterior lip of the intermediate facet of the radius. There was roughening of the medial facet of the third carpal bone in both forelegs. There was a chronic chip fracture of the distal anterior lip of the right radial carpal bone. There was cartilage remodeling of the anterior lip of the proximal surface of the right intermediate carpal bone with concomitant remodeling of the anterior lip of the intermediate facet of the radius.

Joint scores were as follows:

	WL	CE	PA
RF	0	1	0
LF	0	0	0
RH	0	0	0
LH	0	0	0

WL = wear lines

CE = cartilage erosion

PA = palmar arthrosis

### History of Communication

Date	To	Description
04/28/14 1:29 PM	EJ Wiebe and Associates - fax	bc report sent
04/28/14 1:30 PM	Ministry of Energy and Mi - e-mail	bc report sent

*A. Smith*

Ann Britton, DVM, MSc, PhD  
Ann.P.Britton@gov.bc.ca

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**Pages:** 1(including cover)

**Date:** May 2, 2016

**To:** Drs. Bourque/Trillo

**Fax:** 604-534-3290 ; sbourque2@shaw.ca

**Case Number:** 2016/2313

**From:** Dr. Ann Britton

Animal Health Centre

1767 Angus Campbell Road

Abbotsford, BC

V3G 2M3

**Phone:** 1-800-661-9903; 604-556-3003

**Fax:** 604-556-3010

**E-Mail ID:** Ann.P.Britton@gov.bc.ca

**Subject:** s.22 – 6 year old TB gelding – gross post mortem

Moderate to advanced autolysis

Acute pulmonary hemorrhage

Caudodorsal displacement of the left large colon with 180 degree torsion – could  
be post mortem change but doubtful

Reduced ingesta in colon

Histo of lung to follow

Toxicology results to follow

AB

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**Pages:** 1(including cover)

**Date:** March 5, 2015

**To:** Dr. Wiebe

**Fax:** 604-533-4320

**Case Number:** 2015/1046

**From:** Dr. Ann Britton

Animal Health Centre

1767 Angus Campbell Road

Abbotsford, BC

V3G 2M3

**Phone:** 1-800-661-9903; 604-556-3003

**Fax:** 604-556-3010

**E-Mail ID:** Ann.P.Britton@gov.bc.ca

**Subject:** s.22

**- 3 yr old filly – gross post mortem**

**Right sided congestive heart failure – no congenital anomaly found – unexplained  
dilation after gross exam**

**Marked right ventricular and atrial dilation with hepatomegaly and marked  
generalized congestion including lungs**

**About 1 litre of clear yellow fluid in pericardial sac**

**Marked hemorrhage and edema around larynx – source not found**

**Histo to follow**

**Joints scored and photographed**

**Pics to follow of heart, liver**

**AB**





Ministry of  
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Toll-Free : 1-800-661-9903

### Final Report AHC Case: 15-2002

Last Updated: 05/20/15 3:48 PM

Pathologist: Ann Britton, DVM, MSc, PhD

Received Date: 05/04/15

Collected Date: 05/04/15

Client Ref No:

Veterinarian: Dr. S Bourque

Clinic: Hastings Park Racecourse

Phone: (604) 525-4149

Fax:

Submitter: Hastings Park

Phone:

Fax:

Owner: s.22

Phone:

Fax:

#### Animal Data

Species: Equine

Breed:

Sex: F

Age: 5 Years

Premise ID:

### Case History

Submitted one Thoroughbred horse for post mortem.

Broke down just before wire in race. LF. Sesamoids? Treatments: Acepromazine. Euthanized T61 on May 2, 2015. Trainer: s.22

Animal ID: s.22

Email reports to: michael.brownatgov.bc.ca, sheryl.bourqueatgov.bc.ca and rayatesatshaw.ca

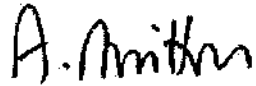
### Final Diagnosis

#### Final Diagnosis:

Bilateral proximal sesamoid fracture: left foreleg

### Necropsy

One 5 year old Thoroughbred mare was received for necropsy. The mare was in good body condition with swelling of the left fore lower limb. There was marked subcutaneous hemorrhage from the proximal left fore cannon bone to the pastern. There was intra-articular hemorrhage of the left fore fetlock associated with bilateral transverse fracture of the proximal sesamoid bones. There was a small chip fracture of the medial cranial lip of the first phalanx within the right fore fetlock.



Ann Britton, DVM, MSc, PhD  
Ann.P.Britton@gov.bc.ca

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Toll-Free : 1-800-661-9903

### Final Report AHC Case: 15-2003

Last Updated: 05/25/15 1:40 PM

Pathologist: Chelsea Himsworth, DVM, MVetSc, Diplomate

Received Date: 05/04/15

Collected Date: 05/04/15

Client Ref No:

Veterinarian: **Dr. S Bourque**

Clinic: **Hastings Park Racecourse**

Phone: (604) 525-4149

Fax:

Submitter: **Hastings Park**

Phone:

Fax:

Owner: **Trainer: s.22**

Phone:

Fax:

#### Animal Data

Species: Equine

Breed:

Sex:

Age:

Premise ID:

### Case History

Submitted one equine, Thoroughbred for post mortem.

Sudden death on racetrack after work. No external blood. ? cardiac event.

Presenting complaint: Sudden death on May 3, 2015.

Animal ID: s.22

Email reports to: michael.brown@gov.bc.ca, sheryl.bourque@gov.bc.ca and rayates@shaw.ca

### Final Diagnosis

#### Diagnosis:

Exercise-related sudden cardiac death

**Comment:** The necropsy findings in this horse were consistent with acute heart failure, but there was no pathology in the heart or other vital organs to explain the cause of the heart failure.

This is consistent with a condition known as exercise-related sudden cardiac death in racehorses. These cases have no significant lesions (other than those of acute heart failure), leading researchers to speculate that they are a result of functional (vs. structural) disorders of the heart.

### Necropsy

This horse is in excellent body condition with good musculing and ample fat stores.

The lungs are diffusely edematous and congested. The anterior mucous membranes (e.g., in the head and trachea) are

also markedly congested, as is the spleen. The heart is flabby with prominent dilation of the left ventricle. There are no other significant findings.

Note that this horse is markedly autolyzed, which inhibits accurate post-mortem examination.

Joints were evaluated as per the racehorse protocol. A chronic transverse fracture of the proximal aspect of the medial sesamoid bone in the right hind fetlock was observed.

## Histopathology

*Please note that the tissues were too autolyzed for microscopic examination.*

*Chelsea Himsworth.*

Chelsea Himsworth, DVM, MVetSc, Diplomate  
Chelsea.Himsworth@gov.bc.ca

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### Final Report AHC Case: 15-2361

Last Updated: 05/22/15 8:50 AM

Pathologist: Ann Britton, DVM, MSc, PhD

Received Date: 05/21/15

Collected Date: 05/21/15

Client Ref No:

Veterinarian: **Dr. Edward Wiebe**

Clinic: **Wiebe & Lealos Vet.Ser.**

Phone: (604) 533-3966

Fax: (604) 533-4320

Submitter: **Hastings Park**

Phone:

Fax:

Owner: s.22

Phone:

Fax:

#### Animal Data

Species: Equine

Breed:

Sex: F

Age: 2 Years

Premise ID:

### Case History

Submitted one Thoroughbred horse for post mortem.

Fractured LH on track 10:00am. TDX: Fractured LH fetlock. Euthanized T61 on May 21, 2015.

Animal ID: s.22

Email reports to: michael.brownatgov.bc.ca, sheryl.bourqueatgov.bc.ca and rayatesatshaw.ca

### Final Diagnosis

#### Final Diagnosis:

Third left metatarsal condylar fracture

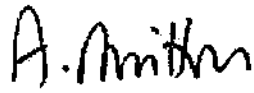
Torn left hind superficial digital flexor tendon

Torn left hind intersesamoidena ligament

### Necropsy

One female 2 year old Thoroughbred racehorse weighing 560 kg was received for necropsy. The horse was in good body condition with swelling of the left hind fetlock and distal cannon bone. There was marked subcutaneous hemorrhage around with swollen site with medial articular fracture of the third metatarsal bone. There was also marked tearing of the medial aspect superficial digital flexor with separation and tearing of the intersesamoiden ligament. There was marked hemorrhage within the fetlock joint. The first phalanges of the forelegs exhibited cartilage erosion along the cranial proximal lip. There were two foci of 1 x 0.5 cm cartilage depression and pitting on the trochlear surface of the right tibial tarsal bone.

Scores for all joints following the racehorse protocol were zero.



Ann Britton, DVM, MSc, PhD  
Ann.P.Britton@gov.bc.ca

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### Final Report AHC Case: 15-2511

Last Updated: 06/05/15 11:39 AM  
Pathologist: Ann Britton, DVM, MSc, PhD  
Received Date: 06/01/15  
Collected Date: 06/01/15  
Client Ref No:

Veterinarian: **Dr. Robert Lealos**  
Clinic: **EJ Wiebe and Associates**  
Phone: (604) 533-3966  
Fax: (604) 533-4320

Submitter: **Hastings Racecourse**  
Phone:  
Fax:  
Owner: s.22  
Phone:  
Fax:

**Animal Data**  
Species: Equine  
Breed:  
Sex:  
Age:  
Premise ID:

### Case History

Submitted one equine for post mortem as per racehorse protocol.

Pulled up after race with suspected fractured right carpus. Xrayed by Dr. Rob Lealos. Euthanized with T61.

Animal ID: s.22

Send reports to: sheryl.bourque@gov.bc.ca and rayates@shaw.ca

### Final Diagnosis

#### Final Diagnosis:

Severe acute comminuted fracture of right carpus

Mild acute and subacute chip fracture of left proximal radial carpal and intermediate carpal bones

### Necropsy

One 4 year old Thoroughbred filly weighing 492 kg was received for inclusion in the Hastings Racecourse study. The horse was in good body condition. There was comminuted fracture of the right carpus involving the third carpal bone, radial carpal bone and intermediate carpal bone with a slight chip fracture of the second carpal bone. The left carpus exhibited moderate synovial hyperplasia with mildly to moderately increased joint fluid and small chip fracture of the proximal anterior surface of the radial carpal and to a lesser extent the intermediate carpal bones. There was cartilage erosion of the proximal anterior lips of the foreleg first phalanges.

Fetlock joints were evaluated as per the racehorse protocol as follows:

Leg	Wear lines	Cartilage erosion	Palmar arthrosis
RF	2	0	2
LF	2	0	2
RH	0	0	0
LH	0	0	0

*A. Britton*

Ann Britton, DVM, MSc, PhD  
Ann.P.Britton@gov.bc.ca

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### Final Report AHC Case: 15-3358

Last Updated: 07/17/15 9:22 AM  
Pathologist: Stephen Raverty, DVM  
Received Date: 06/29/15  
Collected Date: 06/29/15  
Client Ref No:

Veterinarian: **Dr. Mario Trillo**  
Clinic: **Trillo, Dr. Mario**  
Phone: (604) 534-3299  
Fax: (604) 534-3290

Submitter: **Hastings Racecourse**  
Phone:  
Fax:  
Owner: s.22  
Phone:  
Fax:

**Animal Data**  
Species: Equine  
Breed: Thoroughbred  
Sex: M  
Age: 3 Years  
Premise ID:

### Case History

Submitted one Thoroughbred for post mortem - as per racecourse protocol.

Past wire pulled up lame on RF. Euthanized with T61 by Dr. Mario Trillo on June 27/15.

Trainer: s.22      Animal ID: s.22      Tattoo: s.22

Clinical diagnosis: Carpal fractures RF.

Send reports to: sheryl.bourque@gov.bc.ca and rayates@shaw.ca

### Final Diagnosis

#### FINAL DIAGNOSIS:

Right carpal fracture

### Necropsy

One 3 year old 437 kg Thoroughbred gelding was received for the racehorse study. There was a fracture of the right carpus. Fetlocks were scored as per the racehorse protocol as follows:

Leg	Wear lines	Cartilage erosion	Palmar arthrosis
RF	2 0 3		
LF	2	0	1
RH	1 0 0		
LH	1	0	0

*Stephen Raverty*

Stephen Raverty, DVM  
Stephen.Raverty@gov.bc.ca

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### Final Report AHC Case: 15-3906

Last Updated: 07/28/15 1:42 PM

Pathologist: Ann Britton, DVM, MSc, PhD

Received Date: 07/23/15

Collected Date: 07/23/15

Client Ref No:

Veterinarian: Dr. Mario Trillo

Clinic: Hastings Park Racecourse

Phone: (604) 525-4149

Fax:

Submitter: Hastings Park Racecourse

Phone:

Fax:

Owner: s.22

Phone:

Fax:

#### Animal Data

Species: Equine

Breed:

Sex:

Age:

Premise ID:

### Case History

Submitted one equine for post mortem as per racehorse protocol.

Horse shown signs of incoordination, stumbling, mild proprioception deficits and weakness. 2-3 weeks ago, while he was ponied at the track he lost balance and fell down, then few episodes of marked stumbling at the track, especially when asked to stop. Lameness and Neurological exam revealed: mild incoordination, weakness when tail is pulled while walking. Proprioceptive deficits and spasticity when walked on tight circles. Differential: cervical stenotic myelopathy, EPM. The animal died July 23, 2015

Animal ID: s.22

Send reports to: sheryl.bourque@gov.bc.ca and rayates@shaw.ca

### Final Diagnosis

Final diagnosis:

Mild degenerative myelopathy

Comment:

The lesions are compatible with equine wobbler syndrome in view of the non-inflammatory degenerative myelopathy, the age and breed of the horse and the clinical signs.

### Necropsy

One intact male 3 year old Thoroughbred horse with tattoo s.22 was received for necropsy. The horse was in good body condition. No significant lesions were observed in the cervical spine, the brain or the cervical spinal cord. Joints were evaluated as per the racehorse protocol as below:

Leg	Wear lines	Cartilage erosion	Palmar arthrosis
RF	2	0	0
LF	0	0	0
RH	0	0	0
LH	0	0	0

### Histopathology

Spinal cord: Involving C2 to T1, there is mild Wallerian degeneration of dorsal, lateral and ventral tracts.

*A. Britton*

Ann Britton, DVM, MSc, PhD  
Ann.P.Britton@gov.bc.ca

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### Final Report AHC Case: 15-3948

Last Updated: 07/27/15 11:42 AM

Pathologist: Ann Britton, DVM, MSc, PhD

Received Date: 07/27/15

Collected Date: 07/27/15

Client Ref No:

Veterinarian: **Dr. Robert Lealos**

Clinic: **EJ Wiebe and Associates**

Phone: (604) 533-3966

Fax: (604) 533-4320

Submitter: **Hastings Park Racecourse**

Phone:

Fax:

Owner: s.22

Phone:

Fax:

#### Animal Data

Species: Equine

Breed:

Sex: F

Age: 2 Years

Premise ID:

### Case History

Submitted one equine for post mortem as per racehorse protocol.

Broke down training. Suspected fx R pelvis. Euthanized T61. Filly foaled in 2013 named s.22 untattooed.  
Owner/Trainer: s.22 Presenting complaint: Suspected fx R pelvis. Euthanized T61 on July 26, 2015.

Send reports to: sheryl.bourque@gov.bc.ca and rayates@shaw.ca

### Final Diagnosis

Final diagnosis:

Comminuted fracture of right wing of ilium

### Necropsy

One 2 year old female Thoroughbred horse weighing 473 kg was received for evaluation as per the racehorse protocol. The horse was in good body condition with comminuted fracture of the right wing of the ilium.

Joint scores:

Leg	Wear lines	Cartilage erosion	Palmar arthrosis
RF	0	0	1
LF	0	0	1
RH	0	0	0
LH	0	0	1

A. Britton

Ann Britton, DVM, MSc, PhD  
Ann.P.Britton@gov.bc.ca

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### Final Report AHC Case: 15-5358

Last Updated: 10/13/15 12:16 PM  
Pathologist: Ann Britton, DVM, MSc, PhD  
Received Date: 10/13/15  
Collected Date: 10/13/15  
Client Ref No: Hastings Park

Veterinarian: **Wiebe & Lealos Vet.Ser.**  
Clinic: **Wiebe & Lealos Vet.Ser.**  
Phone: (604) 533-3966  
Fax: (604) 533-4320

Submitter: **Wiebe, E.J.**  
Phone:  
Fax: (604) 533-4320  
Owner: s.22  
Phone:  
Fax:

**Animal Data**  
Species: Equine  
Breed:  
Sex: F  
Age: 2 Years  
Premise ID:

#### Case History

Submitted one Thoroughbred equine for post mortem.

Fractured right third carpal during race. Euthanized on Oct 12, 2015 with T61.

Animal ID: s.22                      Tag s.22

### Final Diagnosis

Final diagnosis:

Right acute second and third carpal fracture

Subacute to chronic chip fractures of distal left radial carpal bone and medial right distal tibia

### Necropsy

One 2 year old Thoroughbred mare s.22 weighing 478 kg was received for the racehorse study. The mare was in good body condition. There was full thickness fracture of the right second and third carpal bones. There were healing chip fractures of the left distal surface of the radial carpal bone and the medial aspect of the distal tibia in the hock.

Fetlock joints were scored as per the racehorse protocol as follows:

Leg	Wear lines	Cartilage erosion	Palmar arthrosis
RF	0	0	0
LF	0	0	0
RH	0	0	0
LH	0	0	0

A. Britton

Ann Britton, DVM, MSc, PhD  
Ann.P.Britton@gov.bc.ca

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### Final Report AHC Case: 16-749

Last Updated: 02/10/16 4:03 PM  
Pathologist: Ann Britton, DVM, MSc, PhD  
Received Date: 02/09/16  
Collected Date: 02/09/16  
Client Ref No:

Veterinarian: Dr. Mario Trillo  
Clinic: Trillo, Dr. Mario  
Phone: (604) 534-3299  
Fax: (604) 534-3290

Submitter: Hastings Park Racecourse  
Phone:  
Fax:  
Owner: s.22  
Phone:  
Fax:

Animal Data  
Species: Equine  
Breed: Thoroughbred  
Sex: M  
Age: 4 Years  
Premise ID:

#### Case History

Submitted one 4 year old Thoroughbred horse for post mortem.

Horse injured on Feb. 7/16 while galloping easy at Hastings track. Clinical signs typical of a severe scapulo-humeral joint (not weight bearing, radial paralysis signs, no crepitus heard). Today no clinical improvement at all. Worst with a massive inflammation/hematoma. While on Flunixin m, quiet comfortable and eating, etc.

Presenting complaint: musculoskeletal. Clinical diagnosis: possible fracture - scapulo-humeral joint (humerus; scapula).  
Treatments: anti-inflammatories - Flunixin meglumine. Euthanized T61 IV on Feb. 8/16.

Animal ID: s.22      Tattoo s.22

#### Final Diagnosis

Final diagnosis:

Acute spiral mid-shaft fracture of left humerus

#### Necropsy

One 4 year old Thoroughbred gelding weighing 528 kg was received for participation in the Hastings Racecourse Study. The horse was in good body condition with deviation of the upper left forelimb. There was a spiral midshaft fracture of the left humerus with marked surrounding hemorrhage and muscle tearing. There was moderate synovial hyperplasia of the synovium of the right carpus. There was cartilage pitting of the proximal facet surfaces of right C3 and right radial carpal bone. There were wear lines of the lateral distal facet of the right radius with pitting of radial and intermediate facets. There was pitting of the edge of the radial facet of the left radius. The fetlock joints were scored as per the racehorse protocol. Please see the attached table.

A. Amitha

Ann Britton, DVM, MSc, PhD  
Ann.P.Britton@gov.bc.ca

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### Interim Report AHC Case: 16-2313

Last Updated: 05/10/16 9:27 AM

Pathologist: Ann Britton, DVM, MSc, PhD

Received Date: 05/02/16

Collected Date: 05/02/16

Client Ref No:

Veterinarian: Dr. Mario Trillo

Clinic: Trillo, Dr. Mario

Phone: (604) 534-3299

Fax: (604) 534-3290

Submitter: Hastings Park Racecourse

Phone:

Fax:

Owner: s.22

Phone:

Fax:

#### Animal Data

Species: Equine

Breed:

Sex: M

Age: 6 Years

Premise ID:

#### Case History

Submitted one Thoroughbred for post mortem as per the Racehorse protocol. Ann, the owners are requesting a toxicology report. Please call me if you have any questions (604-818-2440)

6 year old gelding s.22

Trained by s.22

Distanced in race fell at wire. Sudden death on track.

Presenting complaint: Sudden death. Clinical diagnosis: Acute heart failure?

Tattoo: s.22

Please email copy of necropsy to Dr. Mario Trillo.

Email reports to: michael.brown@gov.bc.ca, sheryl.bourque@gov.bc.ca and ra.yates@shaw.ca

#### Final Diagnosis

Final diagnosis:

Marked pulmonary congestion, edema and hemorrhage

Mild focal myocardial fibrosis

Comment:

The most probable cause of death is acute cardiopulmonary failure as a result of the pulmonary congestion, edema and hemorrhage with perhaps some contribution from the myocardial fibrosis. Liver has been sent for toxicology screen and a final report will be issued when those results are received.

#### Necropsy

One 6 year old Thoroughbred gelding was received in moderate autolysis for post mortem. The horse was in good body

condition with hemorrhagic froth emanating from the nostrils. The top of the head was swollen with multiple 2 to 3 cm diameter excoriations. There was stable hemorrhagic froth in the tracheobronchial tree with marked generalized congestion of the lung, worst on the left side. There was a 180 degree torsion of the left large colon with caudodorsal repositioning of the left colon such that it was situated dorsal to the cecum and the pelvic flexure folded into the pelvic cavity. There was reduced roughage in the large colon overall. Normal consistency of large intestinal content was noted.

The proximal cranial surface of all P1 exhibited moderate to marked cartilage erosion with or without adhesion to the joint capsule. There was cartilage pitting of both proximal surfaces of C3. The left distal RC bone was adhered to the joint capsule on the cranial aspect with cartilage erosions and wear lines on the proximal surface of both the RC and RI bones. The left radius exhibited wear lines and cartilage erosion. The distal cranial surface of the right RC bone and the right radius exhibited cartilage erosion. RC = radial carpal bone, RI = intermediate carpal bone, P1 = first phalanx bone, C3 = third carpal bone.

Joint scores:

Lesion	LF	RF	LH	RH
Wear lines	3	3	N/A	0
Cartilage erosion	2	2	N/A	1
Palmar arthrosis	1	2	N/A	0

## Histopathology

Lung: There is marked generalized congestion and edema with multifocal alveolar hemorrhage.

Liver: There is one encapsulated focus characterized by layers of fibrous tissue speckled with a few variably sized densely mineralized foci. This is surrounded by a moderate wall of mixed inflammation dominated by lymphocytes and eosinophils.

Heart: There is mild focal myocardial fibrosis with equivocal loss of cardiomyofibres.

## Additional Tests

Results are Pending for Additional Tests

Ann Britton, DVM, MSc, PhD  
Ann.P.Britton@gov.bc.ca

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Toll Free : 1-800-661-9903

### Final Report AHC Case: 16-2493

Last Updated: 06/22/16 3:51 PM  
Pathologist: Ann Britton, DVM, MSc, PhD  
Received Date: 05/11/16  
Collected Date: 05/11/16  
Client Ref No:

Veterinarian: Dr. Edward Wiebe  
Clinic: Wiebe & Lealos Vet. Ser.  
Phone: (604) 533-3966  
Fax: (604) 533-4320

Submitter: Hastings Park  
Phone:  
Fax:  
Owner: s.22  
Phone:  
Fax:

Animal Data  
Species: Equine  
Breed: Thoroughbred  
Sex: G  
Age: 4 Years  
Premise ID:

#### Case History

Submitted one equine, TB for post mortem.

Euthanized T61 May 11, 2016. TDx: Bilateral blindness. Treated with Dexamethasone. Shipped from s.22 two weeks ago. Blind on arrival. Pupils dilated bilateral. Pupillary light reflex improved slightly with Dexamethasone treatment but no improvement with blindness. Ophthalmologist report (Dr. M. Ford) available. Suspect damage cranial nerve 2 x 3 of unknown cause. No history or sign of head trauma.

Animal ID: s.22

Email reports to: michael.brown@atgov.bc.ca, sheryl.bourque@atgov.bc.ca and ra.yates@shaw.ca

#### Final Diagnosis

Final diagnosis:

Severe chronic necrosuppurative sphenopalatine sinusitis

Severe acute to subacute degenerative optic neuritis

Comment:

The clinical diagnosis of blindness due to optic neuritis was confirmed on necropsy. The marked inflammation associated with the sinusitis had involved the optic chiasma by direct extension of the inflammation to the epineurium but most significantly by secondary compression. The marked inflammation in the underlying sphenopalatine sinus was associated with bone lysis and the hemorrhage and inflammatory exudate caused upward pressure on the optic nerves and chiasma. The degeneration within the optic chiasma was severe and would certainly explain the blindness.

Optic neuritis is rarely reported in association with sphenopalatine sinusitis in horses. Review of the literature reveals 3 variably aged horses with a similar history and evidence of bacterial sphenopalatine sinusitis and with pressure on the overlying optic nerves. Unlike s.22 these horses did not harbour fungal agents in the sinusitis.

We are presently working on culture efforts to specifically identify the fungal agents observed in the sinus. When

complete, a final report will follow.

**ADDENDUM June 22, 2016.** Additional efforts to identify fungal agents in the sinus left us with a few opportunistic environmental species, *Emmericella nidulans*, *Candida* sp and *Cladosporium* sp. The marked representation of fungal agents in the histopathological assessment stands as a significant contribution to the sinusitis. The sinusitis is interpreted to be a mixed species infection of bacteria and fungi, typical of chronic inflammation. The report is now final. **AB**

## Necropsy

One 4 year old Thoroughbred gelding weighing 557 kg was received for necropsy. The horse was in good body condition with moderate swelling and bruising over the right eye. There was moderate multifocal intra- and intermuscular hemorrhage over the head. There was swelling of the optic chiasma of about 2 times normal diameter. The underlying sphenopalatine sinus was filled with clotted blood and foci of cheesy to mushy tan brown material.

Joint scores were as follows:

Lesion	RFL	FLR	RHL	LHL
Wear lines	3	3	0	0
Cartilage erosion	0	0	0	0
Palmar arthrosis	1	2	0	0

## Histopathology

**Spheno-palatine sinus:** There is marked exudate within the sinus consisting of hemorrhage, mixed inflammatory cells dominated by neutrophils and plasma cells, large laminar mats of branched septate fungal hyphae with bulbous conidia, gram positive coccoid and gram negative bacillary bacterial colonies and necrotic debris. Epithelium is intact when present with moderate to marked underlying mixed inflammation dominated by plasma cells with edema and hemorrhage, granulation tissue and extension of inflammation into bone. Within the granulation tissue, there is scattered bone lysis immediately associated with small clusters of pigmented fungal hyphae and centred within an expanse of marked mixed inflammation with giant cells.

**Optic chiasma:** There is marked inflammation as described above in the surrounding connective tissue which focally extends to the meninges and the underlying outer neuropil of the optic chiasma. These foci are associated with gliosis, mild mixed inflammatory cell perivascular cuffing, congestion and endothelial cell hypertrophy. There is marked multifocal malacia with spheroids, hemorrhage and digestion chambers.

**Optic nerves:** With increasing distance from the inflammation at the level of the chiasma described above, there is a declining presence of spheroids and digestion chambers from marked to mild.

**Eye:** No significant lesions.

## Bacteriology

**Companion Panel Resulted by:** Jaime Osei-Appiah **Verified by:** Erin Zabek on 05/16/16 @ 8:34 AM



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Toll-Free : 1-800-661-9603

### Final Report AHC Case: 16-2561

Last Updated: 05/16/16 11:16 AM  
Pathologist: Ann Britton, DVM, MSc, PhD  
Received Date: 05/16/16  
Collected Date: 05/16/16  
Client Ref No:

Veterinarian: **Dr. Mario Trillo**  
Clinic: **Trillo, Dr. Mario**  
Phone: (604) 534-3299  
Fax: (604) 534-3290

Submitter: **Hastings Park Racecourse**  
Phone:  
Fax:  
Owner: s.22  
Phone:  
Fax:

**Animal Data**  
Species: Equine  
Breed:  
Sex: M  
Age: 5 Years  
Premise ID:

#### Case History

Submitted one Thoroughbred for post mortem as per the Racehorse protocol.

May 07 came back from breezing at the track (easy) Lamé on R hind. Examined on May 10: poss diagnosis Fractured pelvis R. Maintained on NSAID BID. Horse was comfortable, B/A. Eating and drinking etc. All vital signs normal. Today May 15 - unable to move around stall, very sore and R tuber coxae very displaced and R gluteal muscles do so (sic). Presenting complaint: Musculoskeletal. TDX: Fracture pelvis R Tuber Coxae. Treated Bute, Banamine BID. Vaccinated: Flu, Rhino, Strangles. Euthanized T61 IV.

Please email copy of necropsy to Dr. Mario Trillo.

Email reports to: michael.brown@gov.bc.ca, sheryl.bourque@gov.bc.ca and ra.yates@shaw.ca

Animal ID: s.22 (sic)

#### Final Diagnosis

Final diagnosis:

Right coxal tuber fracture

#### Necropsy

One 5 year old Thoroughbred gelding weighing 525 kg was received for the racehorse study. The horse was in good body condition with swelling over the right tuber coxae. There was a transverse fracture of the right wing of the ilium at the narrowest width just caudal to the coxal tuber with displacement of the coxal tuber caudoventrally. There was moderate hemorrhage and edema of the surrounding musculature and soft tissue.

Joint scores:

Lesions	RF	LF	RR	LR
Wear lines	3	1	0	0
Cartilage erosion	0	0	0	0
Palmar arthrosis	0	0	0	0

*A. Britton*

Ann Britton, DVM, MSc, PhD  
Ann.P.Britton@gov.bc.ca

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Toll-Free : 1-800-661-9903

### Final Report AHC Case: 16-2931

Last Updated: 06/06/16 10:51 AM  
Pathologist: Ann Britton, DVM, MSc, PhD  
Received Date: 06/06/16  
Collected Date: 06/06/16  
Client Ref No:

Veterinarian: **Dr. Robert Lealos**  
Clinic: **Wiebe & Lealos Vet.Ser.**  
Phone: (604) 533-3966  
Fax: (604) 533-4320

Submitter: **Hastings Park Racecourse**  
Phone:  
Fax:  
Owner: s.22  
Phone:  
Fax:

**Animal Data**  
Species: Equine  
Breed: Thoroughbred  
Sex: F  
Age:  
Premise ID:

#### Case History

Submitted one Thoroughbred for post mortem as per the Racetrack protocol.

Was working and fractured LF sesamoids bilateral.

Presenting complaint: Musculoskeletal. Clinical diagnosis: LF fractured sesamoids. Treatments: Butazone 4gms.  
Euthanized June 5/16 with T61.

Animal ID: s.22                      Tattoo s.22

Send reports to: michael.brown@atgov.bc.ca; sheryl.bourque@atgov.bc.ca and rayates@shaw.ca

#### Final Diagnosis

Final diagnosis:

Left fore bilateral proximal sesamoid bone fracture with suspensory ligament rupture

#### Necropsy

One 4 year old female Thoroughbred horse weighing 520 kg was received for inclusion in the Hastings Racehorse Study. The horse was in good body condition with moderate swelling of the left fore fetlock. There was marked subcutaneous hemorrhage over the left fore fetlock with complete rupture of the suspensory ligament and partial lateral rupture of the superficial digital flexor tendon. There was bilateral transverse fracture of the proximal sesamoid bones.

Joint scores:

Lesion	RF	LF	RH	LH
Wear lines	0	N/A	1	0
Cartilage erosion	0	N/A	0	0
Palmar arthrosis	0	N/A	0	0

A. Britton

Ann Britton, DVM, MSc, PhD  
Ann.P.Britton@gov.bc.ca

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## Final Report AHC Case: 16-3058

Last Updated: 06/16/16 1:23 PM  
Pathologist: Anthony (Tony) Redford, DVM  
Received Date: 06/13/16  
Collected Date: 06/13/16  
Client Ref No:

Veterinarian: **Dr. Mario Trillo**  
Clinic: **Trillo, Dr. Mario**  
Phone: (604) 534-3299  
Fax: (604) 534-3290

Submitter: **Hastings Racecourse**  
Phone:  
Fax:  
Owner: s.22  
Phone:  
Fax:

**Animal Data**  
Species: Equine  
Breed: Thoroughbred  
Sex: M  
Age: 3 Years  
Premise ID:

### Case History

Submitted one Thoroughbred for post mortem as per the Racecourse protocol.

Chronic left shoulder lameness: from severe to mild. Treated with NSAID. Better with rest, worst after exercise. Suspect stress fx of humerus or scapula, Old shoulder joint.

Presenting complaint: Musculoskeletal. Clinical diagnosis: Chronic left shoulder lameness. Treatments: anti-inflammatories. Vaccinations: Flu-Rhino-Tets-EW Enceph-WNV. Euthanized IV with T-61 on June 12/16.

Animal ID: s.22      Tattoos: s.22

Send reports to: michael.brown@gov.bc.ca, sheryl.bourque@gov.bc.ca and rayates@shaw.ca

## Final Diagnosis

### Final Diagnosis:

Degenerative Joint Disease of Left shoulder Joint and Left Distal Carpus Joint

### Comments:

The changes noted on necropsy were consistent with chronic degenerative disease in the joints. There was no evidence of acute lesions (e.g., fractures, tendon ruptures). The joints examined, other than the 2 affected, had relatively mild changes.

## Necropsy

### Gross Report:

A 476 kg male thoroughbred was received for post-mortem examination. There were severe cartilage erosions on the cranial aspect and distal articular surface of the left second carpal bone, and on the proximal articular surface of the left

front cannon bone. There were also moderate erosions of the cartilage on the head of the left humerus and the articular cartilage of the left scapula. There were no signs of fracture of the left humerus or scapula. There were no other significant findings on gross examination.

Morphologic Diagnoses:

1. Left Front Carpal-Metacarpal Joint, Left Scapulohumeral Joint: Degenerative joint disease, multifocal, chronic, severe, with cartilage erosions

Joint scores:

Lesion	RF	LF	RH	LH
Wear lines	0	0	0	0
Cartilage erosion	0	0	0	0
Palmar arthrosis	1	0	0	0

Anthony (Tony) Redford, DVM

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### Final Report AHC Case: 16-3059

Last Updated: 06/16/16 1:28 PM  
Pathologist: Anthony (Tony) Redford, DVM  
Received Date: 06/13/16  
Collected Date: 06/13/16  
Client Ref No:

Veterinarian: Dr. S Bourque  
Clinic: Hastings Park Racecourse  
Phone: (604) 525-4149  
Fax:

Submitter: Hastings Racecourse  
Phone:  
Fax:  
Owner: Leese: s.22  
Phone:  
Fax:

**Animal Data**  
Species: Equine  
Breed: Thoroughbred  
Sex: F  
Age: 5 Years  
Premise ID:

#### Case History

Submitted one Thoroughbred horse for post mortem as per the Racecourse Protocol.

Trainer: s.22 Leese: s.22 Broke down at 1/4 pole. Open, comminuted fractures of both sesamoid bones, left front. Euthanized with T61 on June 11/16.

Presenting complaint: Musculoskeletal.

Animal ID: s.22 Tattoo s.22

Send reports to: michael.brown@gov.bc.ca, sheryl.bourque@gov.bc.ca and rayatesatshaw.ca

#### Final Diagnosis

##### Final Diagnosis:

Traumatic Fracture of the Left Front Fetlock Sesamoid Bones and Left Ulnar Carpal Bone

##### Comments:

The lesions were consistent with acute damage to the bones and soft tissues around them. The joints of this animal had relatively mild degenerative changes.

#### Necropsy

##### Gross Report:

A 478 kg female Thoroughbred was received for post-mortem examination. The sesamoid bones adjacent to the left front fetlock both had comminuted fractures and the skin and subcutaneous tissues were lacerated so that these fractures were exposed to the external surface. There was abundant hemorrhage and edema associated with these fractures. The proximal articular surface of the left front P1 featured a hairline fracture and several chip fractures. There was a complete,

slab fracture of the left ulnar carpal bone. There were mild cartilage erosions on the proximal articular surface of the left and right front cannon bones. There were no other significant findings on gross examination.

Morphologic Diagnoses:

1. Left Front Sesamoid Bones: Fractures, acute, traumatic, comminuted, open, with hemorrhage and edema
2. Left Ulnar Carpal Bone: Fracture, acute, traumatic, slab, complete

Joint scores:

Lesion	RF	LF	RH	LH
Wear lines	0	N/A	0	0
Cartilage erosion	1	N/A	0	0
Palmar arthrosis	1	N/A	0	0

N/A

Anthony (Tony) Redford, DVM

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### Final Report AHC Case: 16-3353

Last Updated: 06/28/16 10:34 AM  
Pathologist: Ann Britton, DVM, MSc, PhD  
Received Date: 06/27/16  
Collected Date: 06/27/16  
Client Ref No:

Veterinarian: Dr. Mario Trillo  
Clinic: Trillo, Dr. Mario  
Phone: (604) 534-3299  
Fax: (604) 534-3290

Submitter: Hasting Race Course  
Phone:  
Fax:  
Owner: s.22  
Phone:  
Fax:

**Animal Data**  
Species: Equine  
Breed: Thoroughbred  
Sex: F  
Age: 7 Years  
Premise ID:

#### Case History

Submitted one Thoroughbred horse for post mortem. Worked this am and suffered break down injury on left front distal digit. X-rays revealed: comminuted P1 fracture. Previous history: DJD left ankle. Clinical Diagnosis: Comminuted P1 fracture left front. Treatments: none. Vaccinated: Flu-Rhino-Tets-W&E Enceph-Strangles. Euthanized: Yes, T-61.

Animal ID: s.22

#### Final Diagnosis

Final diagnosis:

Left fore first phalanx fracture

Chronic chip fracture distal left radius

#### Necropsy

One 7 year old Thoroughbred mare weighing 513 kg was received for participation in the Hastings Racecourse study. The horse was in good body condition with swelling of the left front fetlock. There was comminuted fracture of the left fore first phalanx involving the sagittal groove to the mid shaft with displacement of the medial tuberosity. There was chronic thickening of the left fore joint capsule with new bone production along the dorsal lip of the first phalanx and multiple wear lines on the articular surface of both the first phalanx and the third metacarpal bone. There was new bone production of the proximal lips of the proximal sesamoid bones which also demonstrated wear lines along the articular cartilage and there was moderate synovial hyperplasia of the joint capsule. There was a large healed central chip fracture of the distal dorsal lip of the left radius.

Joint scores:

Lesion		RF	LF	RH	LH
Wear lines	3	N/A	0	0	
Cartilage erosion	2	N/A	2	2	
Palmar arthrosis	1	N/A	2	1	

A. Britton

Ann Britton, DVM, MSc, PhD  
Ann.P.Britton@gov.bc.ca

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