
From: Freeman, Lisa <Lisa.Freeman@tufts.edu>
To: Jones, Jennifer L
Sent: 2/24/2019 9:25:14 PM
Subject: B6 files
Attachments: rpt_medical_record_preview smaller.pdf

Hi Jen
This was too large to upload
Thanks
Lisa

Lisa M. Freeman, DVM, PhD, DACVN
Board Certified Veterinary Nutritionist™
Professor
Cummings School of Veterinary Medicine
Friedman School of Nutrition Science and Policy
Tufts Clinical and Translational Science Institute
Tufts University
www.petfoodology.org

Client:

B6

Address:

All Medical Records

Patient:

B6

Breed:

Irish Wolfhound

DOB:

B6

Species: Canine

Sex: Female

Home Phone:

B6

Work Phone:

Cell Phone:

Referring Information

B6

Client:

B6

Patient:

Initial Complaint:

Emergency

SOAP Text:

B6

7:40PM

B6

Subjective

NEW VISIT (ER)

Doctor:

B6

DVM

Student:

B6

V19

Presenting complaint: rDVM:

B6

Referral visit? Y

Diagnostics completed prior to visit:

B6

HISTORY:

Signalment: 5 yo intact female irish wolfhound

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Client:
Patient:

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Client: **B6**
Patient: **B6**

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SOAP Text **B6** 12:41PM - **B6**

Disposition/Recommendations

Client:
Patient:

B6

Client: **B6**
 Patient: **B6**

Cummings
Veterinary Medical Center
 AT TUFTS UNIVERSITY

Foster Hospital for Small Animals

55 Willard Street
 North Grafton, MA 01536
 (508) 839-5395

Client: **B6**
 Veterinarian:
 Patient ID: **B6**
 Visit ID:

Patient:	B6
Species:	Canine
Breed:	Irish Wolfhound
Sex:	Female
Age:	B6 Years Old

Lab Results Report

Chemistry Profile - Small Animal **B6** 3:25:27 AM **Accession ID: B6**

Test	Results	Reference Range	Units
GLUCOSE	B6	67 - 135	mg/dL
UREA		8 - 30	mg/dL
CREATININE		0.6 - 2	mg/dL
PHOSPHORUS		2.6 - 7.2	mg/dL
CALCIUM2		9.4 - 11.3	mg/dL
MAGNESIUM 2+		1.8 - 3	mEq/L
T. PROTEIN		5.5 - 7.8	g/dL
ALBUMIN		2.8 - 4	g/dL
GLOBULINS		2.3 - 4.2	g/dL
A/G RATIO		0.7 - 1.6	
SODIUM		140 - 150	mEq/L
CHLORIDE		106 - 116	mEq/L
POTASSIUM		3.7 - 5.4	mEq/L
tCO2 (BICARB)		14 - 28	mEq/L
AGAP		8 - 19	
NA/K		29 - 40	
T BILIRUBIN		0.1 - 0.3	mg/dL
D.BILIRUBIN		0 - 0.1	mg/dL
I BILIRUBIN		0 - 0.2	mg/dL
ALK PHOS		12 - 127	U/L
GGT	0 - 10	U/L	



Client: **B6**
 Patient: **B6**

ALT	B6	14 - 86	U/L
AST		9 - 54	U/L
CK		22 - 422	U/L
CHOLESTEROL		82 - 355	mg/dL
TRIGLYCERIDES		30 - 338	mg/dl
AMYLASE		409 - 1250	U/L
OSMOLALITY (CALCULATED)		291 - 315	mmol/L

Chemistry Profile - Small Animal (Pa) **B6** 8:26:12 AM **Accession ID: B6**

Test	Results	Reference Range	Units
WBC (ADVIA)	B6	4.4 - 15.1	K/uL
RBC(ADVIA)		5.8 - 8.5	M/uL
HGB(ADVIA)		13.3 - 20.5	g/dL
HCT(ADVIA)		39 - 55	%
MCV(ADVIA)		64.5 - 77.5	fL
MCH(ADVIA)		21.3 - 25.9	pg
MCHC(ADVIA)		31.9 - 34.3	g/dL
RDW (ADVIA)		11.9 - 15.2	
PLT(ADVIA)		173 - 486	K/uL
MPV (ADVIA)		8.29 - 13.2	fl
PLTCRT		0.129 - 0.403	%
RETIC(ADVIA)		0.2 - 1.6	%
RETICS (ABS) ADVIA		14.7 - 113.7	K/uL

Chemistry Profile - Small Animal **B6** 8:26:11 AM **Accession ID: B6**

Test	Results	Reference Range	Units
SEGS%	B6	43 - 86	%
L YMPHS%		7 - 47	%
MONOS%		1 - 15	%
EOS%		0 - 16	%
SEGS (AB)ADVIA		2.8 - 11.5	K/ul
L YMPHS (ABS)ADVIA		1 - 4.8	K/uL
MONOS (ABS)ADVIA		0.1 - 1.5	K/uL
EOS (ABS)ADVIA		0 - 1.4	K/uL
WBC MORPHOLOGY		0 - 0	
Occasional reactive lymphocytes			
TOXIC CHANGE		0 - 0	
RBC MORPHOLOGY		0 - 0	
POIKILOCYTOSIS		0 - 0	

Chemistry Profile - Small Animal (Pa) **B6** 8:59:23 AM **Accession ID: B6**

Test	Results	Reference Range	Units
TS (FHSA)	B6	0 - 0	g/dl



Client: **B6**
 Patient: **B6**

PCV **	B6	0 - 0	%
TS (FHSA)		0 - 0	g/dl

Chemistry Profile - Small Animal **B6** 9:46:25 AM Accession ID: **B6**

Test	Results	Reference Range	Units
SO2%	B6	94 - 100	%
IICT (POC)		38 - 48	%
HB (POC)		12.6 - 16	g/dL
NA (POC)		140 - 154	mmol/L
K (POC)		3.6 - 4.8	mmol/L
CL(POC)		109 - 120	mmol/L
CA (ionized)		1.17 - 1.38	mmol/L
MG (POC)		0.1 - 0.4	mmol/L
GLUCOSE (POC)		80 - 120	mg/dL
LACTATE		0 - 2	mmol/L
BUN (POC)		12 - 28	mg/dL
CREAT (POC)		0.2 - 2.1	mg/dL
TCO2 (POC)		0 - 0	mmol/L
nCA		0 - 0	mmol/L
nMG		0 - 0	mmol/L
GAP		0 - 0	mmol/L
CA/MG		0 - 0	mol/mol
BEecf		0 - 0	mmol/L
BEb		0 - 0	mmol/L
A		0 - 0	mmHg
NOVA SAMPLE		0 - 0	
FiO2		0 - 0	%
PCO2		36 - 44	mmHg
PO2		80 - 100	mmHg
PH		7.337 - 7.467	
PCO2	36 - 44	mmHg	
PO2	80 - 100	mmHg	
HCO3	18 - 24	mmol/L	

Chemistry Profile - Small Animal **B6** 9:53:16 AM Accession ID: **B6**

Test	Results	Reference Range	Units
TS (FHSA)		0 - 0	g/dl
PCV **	B6	0 - 0	%
TS (FHSA)		0 - 0	g/dl

Chemistry Profile - Small Animal **B6** 11:04:00 AM Accession ID: **B6**

Test	Results	Reference Range	Units
		0 - 0	



Client:
Patient:

B6

B6



Client: **B6**
Patient:

B6

Chemistry Profile - Small Animal (Pa **B6** **5:25:25 AM** **Accession ID** **B6**

Test	Results	Reference Range	Units
SO2%	B6	94 - 100	%
HCT (POC)		38 - 48	%
HB (POC)		12.6 - 16	g/dL
NA (POC)		140 - 154	mmol/L
K (POC)		3.6 - 4.8	mmol/L
CL(POC)		109 - 120	mmol/L
CA (ionized)		1.17 - 1.38	mmol/L
MG (POC)		0.1 - 0.4	mmol/L
GLUCOSE (POC)		80 - 120	mg/dL
LACTATE		0 - 2	mmol/L
BUN (POC)		12 - 28	mg/dL
CREAT (POC)		0.2 - 2.1	mg/dL
TCO2 (POC)		0 - 0	mmol/L
nCA		0 - 0	mmol/L
nMG		0 - 0	mmol/L
GAP		0 - 0	mmol/L
CA/MG		0 - 0	mol/mol
BEecf		0 - 0	mmol/L
BEb		0 - 0	mmol/L
A		0 - 0	mmHg
NOVA SAMPLE	0 - 0		
FiO2	0 - 0	%	
PCO2	36 - 44	mmHg	
PO2	80 - 100	mmHg	
PH	7.337 - 7.467		
PCO2	36 - 44	mmHg	
PO2	80 - 100	mmHg	
HCO3	18 - 24	mmol/L	



27/142

B6

Printed Sunday, February 24, 2019

Client: **B6**
 Patient: **B6**

Chemistry Profile - Small Animal (Pa B6) :32:29 AM Accession ID: B6			
Test	Results	Reference Range	Units
TS (FHSA)	B6	0 - 0	g/dl
PCV **	B6	0 - 0	%
TS (FHSA)	B6	0 - 0	g/dl

Chemistry Profile - Small Animal (Pa B6) 1:01:12 PM Accession ID: B6			
Test	Results	Reference Range	Units
WBC (ADVIA)	B6	4.4 - 15.1	K/uL
RBC(ADVIA)	B6	5.8 - 8.5	M/uL
HGB(ADVIA)	B6	13.3 - 20.5	g/dL
HCT(ADVIA)	B6	39 - 55	%
MCV(ADVIA)	B6	64.5 - 77.5	fL
MCH(ADVIA)	B6	21.3 - 25.9	pg
MCHC(ADVIA)	B6	31.9 - 34.3	g/dL
RDW (ADVIA)	B6	11.9 - 15.2	
PLT(ADVIA)	B6	173 - 486	K/uL
MPV (ADVIA)	B6	8.29 - 13.2	fl
PLTCRT	B6	0.129 - 0.403	%
RETIC(ADVIA)	B6	0.2 - 1.6	%
RETICS (ABS) ADVIA	B6	14.7 - 113.7	K/uL

Chemistry Profile - Small Animal (Pa B6) :01:09 PM Accession ID: B6			
Test	Results	Reference Range	Units
SEGS%	B6	43 - 86	%
LYMPHS%	B6	7 - 47	%
MONOS%	B6	1 - 15	%
EOS%	B6	0 - 16	%
SEGS (AB)ADVIA	B6	2.8 - 11.5	K/ul
LYMPHS (ABS)ADVIA	B6	1 - 4.8	K/uL
MONOS (ABS)ADVIA	B6	0.1 - 1.5	K/uL
EOS (ABS)ADVIA	B6	0 - 1.4	K/uL
WBC MORPHOLOGY	B6	0 - 0	
No Morphologic Abnormalities	B6		
CRENATION	B6	0 - 0	

Chemistry Profile - Small Animal (Pa B6) :03:25 AM Accession ID: B6			
Test	Results	Reference Range	Units
SO2%	B6	94 - 100	%
HCT (POC)	B6	38 - 48	%
HB (POC)	B6	12.6 - 16	g/dL
NA (POC)	B6	140 - 154	mmol/L
K (POC)	B6	3.6 - 4.8	mmol/L



Client: **B6**
 Patient: **B6**

CL(POC)		109 - 120	mmol/L
CA (ionized)		1.17 - 1.38	mmol/L
MG (POC)		0.1 - 0.4	mmol/L
GLUCOSE (POC)		80 - 120	mg/dL
LACTATE		0 - 2	mmol/L
BUN (POC)		12 - 28	mg/dL
CREAT (POC)		0.2 - 2.1	mg/dL
TCO2 (POC)		0 - 0	mmol/L
nCA		0 - 0	mmol/L
nMG		0 - 0	mmol/L
GAP		0 - 0	mmol/L
CA/MG		0 - 0	mol/mol
BEecf		0 - 0	mmol/L
BEb		0 - 0	mmol/L
A		0 - 0	mmHg
NOVA SAMPLE		0 - 0	
FiO2		0 - 0	%
PCO2		36 - 44	mmHg
PO2		80 - 100	mmHg
PH		7.337 - 7.467	
PCO2		36 - 44	mmHg
PO2		80 - 100	mmHg
HCO3		18 - 24	mmol/L

B6

Chemistry Profile - Small Animal (Pa) **B6** 8:48:35 AM **Accession ID:** **B6**

Test	Results	Reference Range	Units
TS (FHSA)		0 - 0	g/dl
PCV **	B6	0 - 0	%
TS (FHSA)		0 - 0	g/dl

Chemistry Profile - Small Animal (Pa) **B6** 4:42:12 AM **Accession ID:** **B6**

Test	Results	Reference Range	Units
WBC (ADVIA)		4.4 - 15.1	K/uL
RBC(ADVIA)		5.8 - 8.5	M/uL
HGB(ADVIA)		13.3 - 20.5	g/dL
HCT(ADVIA)		39 - 55	%
MCV(ADVIA)		64.5 - 77.5	fL
MCH(ADVIA)		21.3 - 25.9	pg
MCHC(ADVIA)		31.9 - 34.3	g/dL
RDW (ADVIA)		11.9 - 15.2	
PLT(ADVIA)		173 - 486	K/uL
MPV (ADVIA)		8.29 - 13.2	fl

B6



Client: **B6**
 Patient: **B6**

PLTCRT		0.129 - 0.403	%
RETIC(ADVIA)	B6	0.2 - 1.6	%
RETICS (ABS) ADVIA		14.7 - 113.7	K/uL

Chemistry Profile - Small Animal (Pa) **B6** 4:42:27 AM **Accession ID:** **B6**

Test	Results	Reference Range	Units
GLUCOSE		67 - 135	mg/dL
UREA		8 - 30	mg/dL
CREATININE		0.6 - 2	mg/dL
PHOSPHORUS		2.6 - 7.2	mg/dL
CALCIUM2		9.4 - 11.3	mg/dL
MAGNESIUM 2+		1.8 - 3	mEq/L
T. PROTEIN		5.5 - 7.8	g/dL
ALBUMIN		2.8 - 4	g/dL
GLOBULINS		2.3 - 4.2	g/dL
A/G RATIO		0.7 - 1.6	
SODIUM		140 - 150	mEq/L
CHLORIDE		106 - 116	mEq/L
POTASSIUM		3.7 - 5.4	mEq/L
iCO2 (BICARB)	B6	14 - 28	mEq/L
AGAP		8 - 19	
NA/K		29 - 40	
T BILIRUBIN		0.1 - 0.3	mg/dL
D.BILIRUBIN		0 - 0.1	mg/dL
I BILIRUBIN		0 - 0.2	mg/dL
ALK PHOS		12 - 127	U/L
GGT		0 - 10	U/L
ALT		14 - 86	U/L
AST		9 - 54	U/L
CK		22 - 422	U/L
CHOLESTEROL		82 - 355	mg/dL
TRIGLYCERIDES		30 - 338	mg/dl
AMYLASE		409 - 1250	U/L
OSMOLALITY (CALCULATED)		291 - 315	mmol/L

Chemistry Profile - Small Animal (Pa) **B6** 4:42:07 AM **Accession ID:** **B6**

Test	Results	Reference Range	Units
SEGS%		43 - 86	%
LYMPHS%		7 - 47	%
MONOS%	B6	1 - 15	%
SEGS (AB)ADVIA		2.8 - 11.5	K/ul
LYMPHS (ABS)ADVIA		1 - 4.8	K/uL



Client: **B6**
 Patient: **B6**

MONOS (ABS)ADVIA		0.1 - 1.5	K/uL
WBC MORPHOLOGY	B6	0 - 0	
No Morphologic Abnormalities			
POIKILOCYTOSIS		0 - 0	

Chemistry Profile - Small Animal (Pa) **B6** **8:46:25 AM** **Accession ID: B6**

Test	Results	Reference Range	Units
SO2%		94 - 100	%
HCT (POC)		38 - 48	%
HB (POC)		12.6 - 16	g/dL
NA (POC)		140 - 154	mmol/L
K (POC)		3.6 - 4.8	mmol/L
CL(POC)		109 - 120	mmol/L
CA (ionized)		1.17 - 1.38	mmol/L
MG (POC)		0.1 - 0.4	mmol/L
GLUCOSE (POC)		80 - 120	mg/dL
LACTATE		0 - 2	mmol/L
BUN (POC)		12 - 28	mg/dL
CREAT (POC)		0.2 - 2.1	mg/dL
TCO2 (POC)		0 - 0	mmol/L
nCA		0 - 0	mmol/L
nMG		0 - 0	mmol/L
GAP		0 - 0	mmol/L
CA/MG		0 - 0	mol/mol
BEecf		0 - 0	mmol/L
BEb		0 - 0	mmol/L
A		0 - 0	mmHg
NOVA SAMPLE		0 - 0	
FiO2		0 - 0	%
PCO2		36 - 44	mmHg
PO2		80 - 100	mmHg
PH		7.337 - 7.467	
PCO2		36 - 44	mmHg
PO2		80 - 100	mmHg
HCO3		18 - 24	mmol/L

B6

Chemistry Profile - Small Animal (Pa) **B6** **2:42:36 PM** **Accession ID: B6**

Test	Results	Reference Range	Units
Troponin I (i-STAT) Cardiology - FHSA	B6	0 - 0	ng/ml



B6

Client:
Patient:

B6

RDVM

B6

hx, labs, 2/9/13-9/11/18

B6

Client:
Patient:

B6

RDVM

B6

AH - hx, labs, 2/9/13-9/11/18

B6

Client:
Patient:

B6

RDVM **B6** AH - hx, labs, 2/9/13-9/11/18

B6

Client:
Patient:

B6

RDVM **B6** AH - hx, labs, 2/9/13-9/11/18

B6

Client:
Patient:

B6

RDVM

B6

AH - hx, labs, 2/9/13-9/11/18

B6

Client:
Patient:

B6

RDVM

B6

AH - hx, labs, 2/9/13-9/11/18

B6

Client:
Patient:

B6

RDVM

B6

AH - hx, labs, 2/9/13-9/11/18

B6

Client: **B6**
Patient: **B6**

RDVM **B6** AH - hx, labs, 2/9/13-9/11/18

Client: **B6** Gender: Female
Patient Name: **B6** Weight: 0.00 lbs
Species: Canine Age: 5 Years
Breed: Irish Wolfhound Doctor: **B6**

Test	Results	Reference Interval	LOW	NORMAL	HIGH
ProCyte Dx:	B6	3:16 PM)			
RBC		5.65 - 8.87			
HCT		37.3 - 61.7			
HGB		13.1 - 20.5			
MCV		61.6 - 73.5			
MCH		21.2 - 25.9			
MCHC		32.0 - 37.9			
RDW		13.6 - 21.7			
%RETIC		10.0 - 110.0			
RETIC		22.3 - 29.6			
RETIC-HGB		5.05 - 16.76			
WBC					
%NEU	B6				
%LYM					
%MONO					
%EOS					
%BASO					
NEU		2.95 - 11.64	HIGH		
LYM		1.05 - 5.10			
MONO		0.16 - 1.12			
EOS		0.06 - 1.23			
BASO		0.00 - 0.10			
PLT		148 - 484			
MPV		8.7 - 13.2			
PDW		9.1 - 19.4			
PCT		0.14 - 0.46			

B6

B6

Printed: September 11, 2018 3:16 PM

Page 1 of 1

Client: **B6**
Patient: **B6**

RDVM: **B6** AH - hx, labs, 2/9/13-9/11/18

Client: **B6** Gender: Female
Patient Name: **B6** Weight: 0.00 lbs
Species: Canine Age: 5 Years
Breed: Irish Wolfhound Doctor: **B6**

Test	Results	Reference Interval	LOW	NORMAL	HIGH
Catalyst Dx (B6)		:55 AM)			8/24/18
CREA		0.5 - 1.8			
BUN		7 - 27			
BUN/CREA	B6				
ALT		10 - 125			
AST		0 - 50			
ALKP		23 - 212			
			HIGH		

B6

Printed: August 25, 2018 9:55 AM

Page 1 of 1

B6

Client: **B6**
Patient: **B6**

RDVM **B6** AH - hx, labs, 2/9/13-9/11/18

Client: **B6** Gender: Female
Patient Name: **B6** Weight: 0.00 lbs
Species: Canine Age: 5 Years
Breed: Irish Wolfhound Doctor: **B6**

Test	Results	Reference Interval	LOW	NORMAL	HIGH
Catalyst Dx	B6	1:16 PM)			
CREA		0.5 - 1.8			
BUN		7 - 27			
BUN/CREA	B6				
ALT		10 - 125			
AST		0 - 50			
ALKP		23 - 212			

B6

Printed: August 24, 2018 1:16 PM

Page 1 of 1

B6

Client: **B6**
 Patient: **B6**

NOVA Panel 9/12/18

Sample Profile

Patient ID: **B6**
 Patient Name:
 Analyzed: 09/12/2018 09:46:36 AM
 Analyzer ID: TDome
 Sample Type: Arterial
 Panel: Critical Care
 Operator: 123456
 Releaser: auto

B6
 B6 Canine
 9/12/2018 9:46 AM
 NOVA PANEL-ICU
 Lithium Heparin

RequiredFields

Optional Fields

40% / 7.0g/dl

Measured

Test	Value	Units	Reference Range	Flags
pH			-	
pCO2		mmHg	-	
pO2		mmHg	-	
SO2%			-	
Hct		%	-	
Hb		g/dL	-	
Na+		mmol/L	-	
K+		mmol/L	-	
Cl-		mmol/L	-	
Ca++		mmol/L	-	
Mg++		mmol/L	-	
Glu		mg/dL	-	
Lac		mmol/L	-	
BUN		mg/dL	-	
Creat		mg/dL	-	
TCO2		mmol/L	-	

Calculated

Test	Value	Units	Reference Range	Flags
nCa		mmol/L	-	
nMg		mmol/L	-	
Gap		mmol/L	-	
Ca++/Mg++		mol/mol	-	
BUN/Creat		mg/mg	-	
BE-ecf		mmol/L	-	
BE-b		mmol/L	-	
SBC		mmol/L	-	
HCO3-		mmol/L	-	
RI			-	
P50		mmHg	-	
pO2/FIO2		mmHg	-	
O2Cap		mL/dL	-	
O2Ct		mL/dL	-	
A		mmHg	-	
A-aDO2		mmHg	-	
a/A			-	
Osm		mOsm/kg	-	

Client: **B6**
Patient: **B6**

B6 Aerobic Culture 9/12/18

B6

Client: **B6** Patient: **B6**

Client: **B6**
Patient: **B6**
Species: CANINE
Breed: IRISH_WOLFHOUND
Gender: FEMALE
Age: 5Y

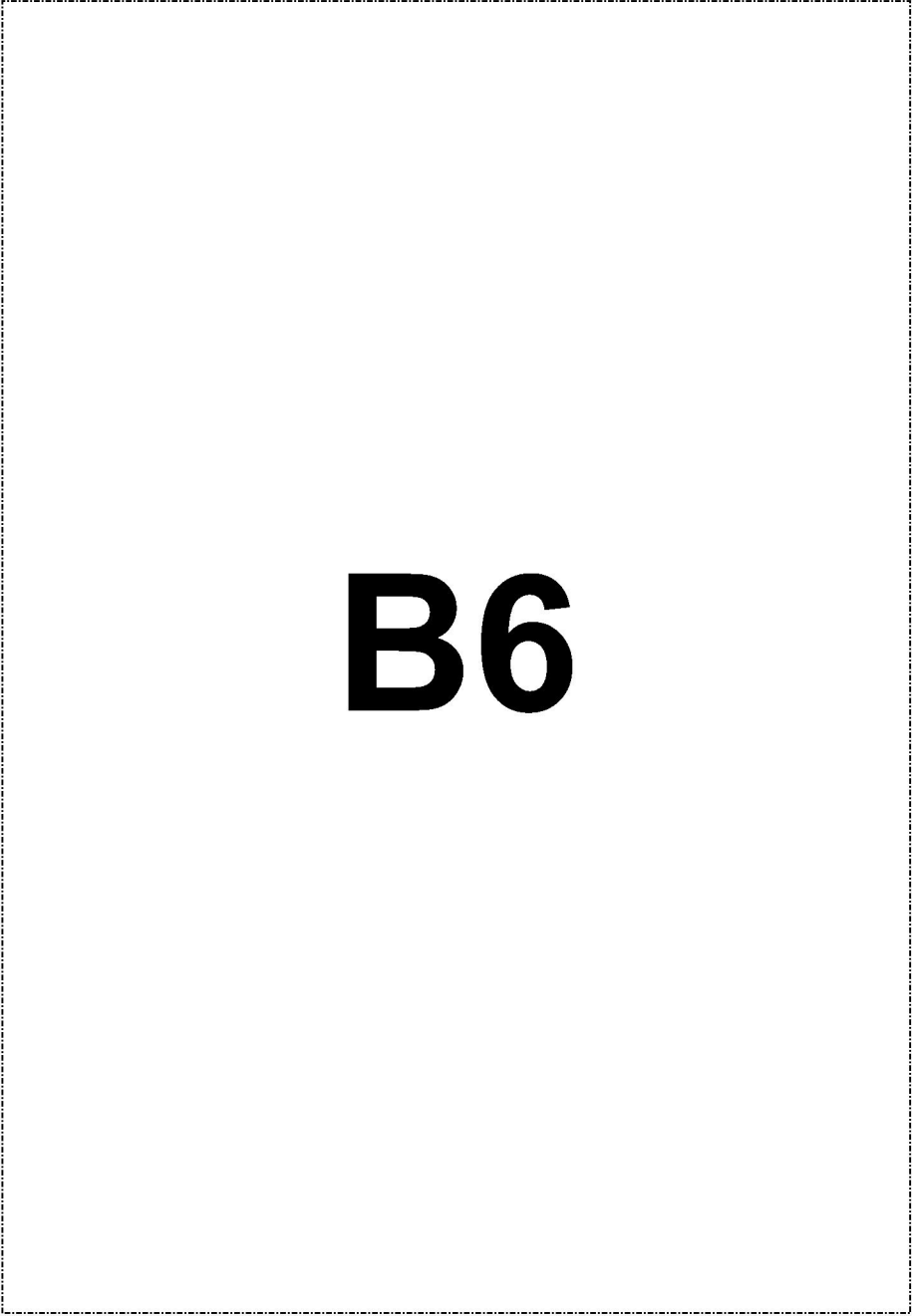
Date: **B6**
Requisition #: **B6**
Accession #: **B6**
Ordered by: **B6**

B6

TUFTS UNIVERSITY
200 WESTBORO RD
NORTH GRAFTON, Massachusetts 01536-1828
508-839-5395

Account: **B6**

AEROBIC CULTURE



Client: **B6**
Patient: **B6**

B6 Aerobic Culture 9/12/18

B6

Client: **B6** Patient: **B6**

B6

Client: **B6**
Patient: **B6**

BNP

B6

Client: **B6** Patient: **B6**

Client: **B6**
Patient: **B6**
Species: CANINE
Breed: IRISH_WOLFHOUND
Gender: FEMALE
Age: 6Y

Date: 02/05/2019
Requisition #: 1A
Accession #: **B6**
Ordered by: **B6**

B6
TUFTS UNIVERSITY
200 WESTBORO RD
NORTH GRAFTON, Massachusetts 01536
508-839-5395
Account: **B6**

CARDIOPET proBNP - CANINE

Test	Result	Reference Range	Low	Normal	High
CARDIOPET proBNP - CANINE	B6	0 - 900 pmol/L	HIGH		B6

Comments

B6

PLEASE NOTE: COMPLETE INTERPRETIVE COMMENTS FOR ALL CONCENTRATIONS OF CARDIOPET proBNP are available in the online directory of services. Serum specimens received at room temperature may have decreased NT-proBNP concentrations.

Client: **B6**
Patient:

Prescription 2/6/2019



Cummings School
of Veterinary Medicine



Dear Pharmacist:

Veterinarians do not have NPI numbers because they do not bill human insurance. If it is a non-control, you will be provided with a MA State License number; if it is a control, you will be provided with a DEA number.

To: **B6** Fax: **B6** Date: 2/6/2019

From Department: Internal Medicine

55 Willard St. North Grafton, MA 01536 – Phone: 508-887-4839

B6

Patient Name: **B6** Owner Name: **B6** Date: 2/6/2019

Patient Species: canine Patient Weight: 60.5 kg Owner Phone: **B6**

Address: **B6**

RX **B6**

Refills: 1 2 3 4 5 6 7 8 9 10 11 NR **B6** partial fill upon owner request

Signature of Veterinarian (name checked above): **B6**

DEA Number (only for CII-V):

Interchange mandated unless practitioner indicates "No substitution" in above box in accordance with the law

Client: **B6**
Patient: **B6**

troponin 2/5/19



Gastrointestinal Laboratory
Dr. J.M. Steiner
Department of Small Animal Clinical Sciences
Texas A&M University
4474 TAMU
College Station, TX 77843-4474



Website User ID: clinpath@tufts.edu

GI Lab Assigned Clinic ID: 11405

Dr. Freeman
Tufts University Clinical Pathology Lab
Attn: **B6**
200 Westboro Road
North Grafton, MA 01536
USA

Phone: 508 887 4669
Fax: 9 508 839 7936

Animal Name:
Owner Name: **B6**
Species: Canine
Date Received: Feb 12, 2019

GI Lab Accession: 6974

Test	Result	Control Range	Assay Date
Ultra-Sensitive Troponin I Fasting	B6 ng/mL	≤0.06	02/12/19

B6

Comments:

Client:
Patient:

B6

troponin 2/5/19

**Important
Notices:**

Internal Medicine Conference

Join us for a unique continuing education event in Phuket, Thailand Oct 7th - 11th, 2019. For details see <http://texasimconference.tamu.edu>

Ongoing studies

Cobalamin Supplementation Study- Dogs and cats with cobalamin deficiency with normal PLI, and either normal or low (consistent with EPI) TLI to compare the efficacy of oral vs parenteral cobalamin supplementation. Contact Dr. Chang at chchang@cvm.tamu.edu for further information.

Chronic Pancreatitis with Uncontrolled Diabetes Mellitus- Seeking dogs with chronic pancreatitis and uncontrolled diabetes mellitus for enrollment into a drug trial (medication provided at no cost). Contact Dr. Sue Yee Lim at slim@cvm.tamu.edu or Dr. Sina Marsilio at smarsilio@cvm.tamu.edu

Dogs with Primary Hyperlipidemia- Prescription diet naive dogs newly diagnosed with primary hyperlipidemia are eligible to be enrolled in a dietary trial. Contact Dr. Lawrence at ylawrence@cvm.tamu.edu for more information.

Dogs with Chronic Pancreatitis- Dogs with chronic pancreatitis (cPLI >400 µg/L) and hypertriglyceridemia (>300 mg/dl) are eligible to be enrolled in a dietary trial. Contact Dr. Lawrence at ylawrence@cvm.tamu.edu

Chronic enteropathies in dogs- Please fill out this brief form <http://tinyurl.com/ibd-enroll> to see if your patient qualifies.

Feline Chronic Pancreatitis- Cats with chronic pancreatitis for more than 2 weeks and fPLI >10 µg/L are eligible for enrollment into a treatment trial investigating the efficacy of prednisolone or cyclosporine. Please contact Dr. Yamkate for further information at pyamkate@cvm.tamu.edu.

We can not accept packages that are marked "Bill Receiver"

Use our preprinted shipping labels to save on shipping. Call 979-862-2861 for assistance. The GI Lab is not here to accept packages on the weekend. Samples may be compromised if you ship for arrival on Saturday or Sunday or if shipped via US Mail.

GI Lab Contact Information

Phone: (979) 862-2861

Fax: (979) 862-2864

Email: gilab@cvm.tamu.edu

vetmed.tamu.edu/gilab

Client: **B6**
Patient: **B6**

CBC and profile 2/5/19



Tufts Cummings School Of Veterinary Medicine

200 Westboro Road
North Grafton, MA 01536

DUPLICATE

Name/DOB: B6	Sex: F	Provider: B6
Patient ID: B6	Age: 6	Order Location: V320559: Investigation into
Phone number:	Species: Canine	Sample ID: 1902050104
Collection Date: 2/5/2019 12:44 PM	Breed: Irish Wolfhound	
Approval date: 2/5/2019 2:27 PM		

CBC, Comprehensive, Sm Animal (Research)

	Ref. Range/Females
SLOPEZ	
WBC (ADVIA)	4.40-15.10 K/uL
RBC (Advia)	5.80-8.50 M/uL
Hemoglobin (ADVIA)	13.3-20.5 g/dL
Hematocrit (Advia) H	39-55 %
MCV (ADVIA)	64.5-77.5 fL
MCH (ADVIA)	21.3-25.9 pg
CHCM	
MCHC (ADVIA)	31.9-34.3 g/dL
RDW (ADVIA)	11.9-15.2
Platelet Count (Advia)	173-486 K/uL
02/05/19 2:26 PM	
Mean Platelet Volume (Advia)	8.29-13.20 fl
02/05/19 1:09 PM	
Platelet Crit	0.129-0.403 %
02/05/19 1:09 PM	
PDW	
Reticulocyte Count (Advia)	0.20-1.60 %
Absolute Reticulocyte Count (Advia)	14.7-113.7 K/uL
CHr	
MCVr	

B6

Microscopic Exam of Blood Smear (Advia)

	Ref. Range/Females
SLOPEZ	
Seg Neuts (%)	43-86 %
Lymphocytes (%)	7-47 %
Monocytes (%)	1-15 %
Eosinophils (%)	0-16 %
Seg Neutrophils (Abs) Advia	2.800-11.500 K/ul
Lymphs (Abs) Advia L	1.00-4.80 K/uL
Mono (Abs) Advia	0.10-1.50 K/uL
Eosinophils (Abs) Advia	0.00-1.40 K/uL
WBC Morphology	
Poikilocytosis	

B6

Research Chemistry Profile - Small Animal (Cobas)

Sample ID: 1902050104/1
This report continues... (Final)

Reviewed by: _____

Client: **B6**
Patient:

CBC and profile 2/5/19



Tufts Cummings School Of Veterinary Medicine

200 Westboro Road
North Grafton, MA 01536

DUPLICATE

Name/DOB:	B6	Sex:	F	Provider:	B6
Patient ID:		Age:	6	Order Location:	V320559: Investigation into
Phone number:		Species:	Canine	Sample ID:	1902050104
Collection Date:	2/5/2019 12:44 PM	Breed:	Irish Wolfhound		
Approval date:	2/5/2019 2:27 PM				

Research Chemistry Profile - Small Animal (Cobas) (cont'd)

		Ref. Range/Females
SMACHUNSKI		
Glucose		67-135 mg/dL
Urea		8-30 mg/dL
Creatinine		0.6-2.0 mg/dL
Phosphorus		2.6-7.2 mg/dL
Calcium 2		9.4-11.3 mg/dL
Magnesium 2+		1.8-3.0 mEq/L
Total Protein		5.5-7.8 g/dL
Albumin		2.8-4.0 g/dL
Globulins	L	2.3-4.2 g/dL
A/G Ratio	H	0.7-1.6
Sodium		140-150 mEq/L
Chloride		106-116 mEq/L
Potassium		3.7-5.4 mEq/L
tCO2(Bicarb)		14-28 mEq/L
AGAP		8.0-19.0
NA/K		29-40
Total Bilirubin		0.10-0.30 mg/dL
Alkaline Phosphatase		12-127 U/L
GGT		0-10 U/L
ALT		14-86 U/L
AST		9-54 U/L
Creatine Kinase		22-422 U/L
Cholesterol		82-355 mg/dL
Triglycerides		30-338 mg/dl
Amylase	L	409-1250 U/L
Osmolality (calculated)		291-315 mmol/L
Comments (Chemistry)		

Sample ID: 1902050104/2
REPRINT: Orig. printing on 2/5/2019 (Final)

Reviewed by: _____
Page 2

Client: **B6**
 Patient: **B6**

Diet history 2/5/19

CARDIOLOGY DIET HISTORY FORM

Please answer the following questions for your pet

Pet's name: **B6** Owner's name: **B6** Today's date: **2/5/19**

1. How would you assess your pet's appetite? (mark the point on the line below that best represents your pet's appetite)
 Example: **Poor** _____ | _____ **Excellent**

Poor _____ | _____ **Excellent**

Sometimes has decreased appetite when she comes into season.

2. Have you noticed a change in your pet's appetite over the last 1-2 weeks? (check all that apply)

- Eats about the same amount as usual Eats less than usual Eats more than usual
 Seems to prefer different foods than usual Other _____

3. Over the last few weeks, has your pet (check one)
 Lost weight Gained weight Stayed about the same weight Don't know

1. Please list below ALL pet foods, people food, treats, snack, dental chews, rawhides, and any other food item that your pet currently eats and that you have fed in the last 2 years.

Please provide enough detail that we could go to the store and buy the exact same food - examples are shown in the table

Food (include specific product and flavor)	Form	Amount	How often?	Dates fed
Nutro Grain Free Chicken, Lentil, & Sweet Potato Adult	dry	1 1/2 cup	2x/day	Jan 2016-present
85% lean hamburger	microwaved	3 oz	1x/week	June -Aug 2016
Pupperoni original beef flavor	treat	1/2	1x/day	Sept 2016-present
Rawhide	treat	6 inch twist	1x/week	Dec 2018-present
Paulin Pro Form Lamb & Rice Adult Maintenance	Dry	1 1/2 cup	2x day	6/16 - Jan 15, 2019
Purina Pro-Plan - Chicken & Rice	Dry	1 1/2 cup	2x day	1/15/19 - present
Canidae All Life Stages Lamb meal & rice formula	Dry	2 cups	2x day	10wks - 6-2016 of age
Occasional table scraps - beef & veggies	treat	1/4 cup	1x week	- throughout life
fried beef liver - training treat	treat	1 oz		
mackerel	canned	2 oz	2x year	occasionally

*Any additional diet information can be listed on the back of this sheet

2. Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, or any other supplements)? Yes No If yes, please list which ones and give brands and amounts:

	Brand/Concentration	Amount per day
Taurine	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Carnitine	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Antioxidants	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Multivitamin	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Fish oil	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Coenzyme Q10	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	_____
Other (please list): Example: Vitamin C	Nature's Bounty	500 mg tablets - 1 per day
_____	_____	_____
_____	_____	_____
_____	_____	_____

3. How do you administer pills to your pet?

- I do not give any medications
 I put them directly in my pet's mouth without food
 I put them in my pet's dog/cat food
 I put them in a Pill Pocket or similar product
 I put them in foods (list foods): American cheese or Velveeta

Client: **B6**
Patient:

Vitals Results

B6

7:41:21 PM Heart Rate (/min)
7:41:22 PM Temperature (F)
7:41:23 PM Respiratory Rate
7:41:24 PM Weight (kg)
11:20:40 PM Respiratory Rate
11:23:43 PM Quantify IV fluids (mls)
11:23:52 PM Eliminations
11:26:02 PM Heart Rate (/min)
1:18:47 AM Respiratory Rate
2:02:32 AM Eliminations
2:02:40 AM Nursing note

B6

3:26:45 AM Respiratory Rate
3:30:49 AM Heart Rate (/min)
3:31:45 AM Weight (kg)
3:31:55 AM Quantify IV fluids (mls)
3:31:56 AM Catheter Assessment
3:32:14 AM Eliminations
5:40:13 AM Respiratory Rate
5:40:59 AM Temperature (F)
6:48:29 AM Body Condition Score (BCS)
6:48:30 AM Temperature (F)
6:48:32 AM Heart Rate (/min)
6:48:33 AM Respiratory Rate
6:48:34 AM Muscle Condition Score (MCS)
6:48:35 AM Pain assessment
6:55:52 AM Eliminations
6:56:01 AM Respiratory Rate
6:56:09 AM Heart Rate (/min)
8:24:33 AM Quantify IV fluids (mls)
8:24:34 AM Catheter Assessment
8:56:24 AM Nursing note

9:17:40 AM Respiratory Rate
9:39:00 AM Nursing note

11:55:20 AM Heart Rate (/min)
11:56:38 AM Quantify IV fluids (mls)
11:56:59 AM Respiratory Rate
1:17:51 PM Quantify IV fluids (mls)

B6

Client: **B6**
Patient:

Vitals Results

B6	1:17:52 PM	Catheter Assessment
	1:18:06 PM	Heart Rate (/min)
	1:18:12 PM	Respiratory Rate
	1:19:36 PM	Nursing note
B6	2:01:10 PM	Nursing note
B6	3:08:22 PM	Respiratory Rate
	3:27:51 PM	Quantify IV fluids (mls)
	3:27:52 PM	Catheter Assessment
	3:28:25 PM	Catheter Assessment
	3:28:34 PM	Respiratory Rate
	3:30:59 PM	Temperature (F)
	3:31:21 PM	Heart Rate (/min)
	3:40:27 PM	Nursing note
	4:25:11 PM	Respiratory Rate
	5:24:40 PM	Respiratory Rate
	7:02:22 PM	Respiratory Rate
	7:31:01 PM	Quantify IV fluids (mls)
	7:31:02 PM	Catheter Assessment
	7:31:14 PM	Catheter Assessment
	7:31:21 PM	Respiratory Rate
	7:31:42 PM	Heart Rate (/min)
	7:33:02 PM	Temperature (F)
	8:42:52 PM	Respiratory Rate
	9:18:33 PM	Weight (kg)
	9:28:00 PM	Eliminations
	9:28:46 PM	Respiratory Rate
	9:44:59 PM	Amount eaten
	9:45:25 PM	FiO2 (%)
	9:45:35 PM	Amount eaten
	12:45:02 AM	Respiratory Rate
	1:01:23 AM	Quantify IV fluids (mls)
	1:01:24 AM	Catheter Assessment
	1:01:40 AM	Catheter Assessment
1:01:49 AM	Heart Rate (/min)	
1:35:15 AM	Respiratory Rate	
1:55:00 AM	FiO2 (%)	
1:55:13 AM	Respiratory Rate	
1:55:32 AM	Eliminations	
1:58:05 AM	Temperature (F)	

B6

Client: **B6**
Patient:

Vitals Results

B6	3:46:19 AM	Catheter Assessment
	3:48:22 AM	Respiratory Rate
	3:48:32 AM	Quantify IV fluids (mls)
	3:48:33 AM	Catheter Assessment
	3:48:57 AM	Heart Rate (/min)
	5:13:41 AM	Respiratory Rate
	6:16:58 AM	FiO2 (%)
	6:17:16 AM	Respiratory Rate
	6:24:46 AM	SpO2 (%)
	6:35:41 AM	Nursing note
	8:21:16 AM	Weight (kg)
	8:22:10 AM	Eliminations
	8:34:32 AM	Eliminations
	8:57:34 AM	Temperature (F)
	8:57:48 AM	Catheter Assessment
	8:58:05 AM	Quantify IV fluids (mls)
	8:58:23 AM	Respiratory Rate
	8:58:34 AM	Heart Rate (/min)
	8:59:39 AM	Eliminations
	9:03:21 AM	Amount eaten
	9:03:38 AM	Respiratory Rate
	9:04:57 AM	FiO2 (%)
	11:15:10 AM	FiO2 (%)
	11:15:25 AM	Heart Rate (/min)
	11:15:33 AM	Respiratory Rate
	11:15:51 AM	Catheter Assessment
	11:31:09 AM	Quantify IV fluids (mls)
	1:17:07 PM	Respiratory Rate
	1:19:49 PM	Eliminations
B6	2:09:45 PM	Respiratory Rate
	3:07:24 PM	Respiratory Rate
	3:56:47 PM	Respiratory Rate
	3:56:54 PM	Catheter Assessment
	3:57:11 PM	FiO2 (%)
	3:57:35 PM	Quantify IV fluids (mls)
	4:05:31 PM	Heart Rate (/min)
	4:05:37 PM	Amount eaten
B6	4:06:09 PM	Temperature (F)

Client: **B6**
Patient:

Vitals Results

B6	5:02:51 PM	Respiratory Rate
	6:10:52 PM	Respiratory Rate
	7:00:44 PM	Respiratory Rate
	7:31:41 PM	FiO2 (%)
	7:32:04 PM	Catheter Assessment
B6	7:32:20 PM	Heart Rate (/min)
	7:32:25 PM	Quantify IV fluids (mls)
	7:32:51 PM	Eliminations
	8:20:46 PM	Respiratory Rate
	10:00:34 PM	Eliminations
B6	10:02:48 PM	Amount eaten
	10:15:33 PM	Respiratory Rate
	11:20:31 PM	Respiratory Rate
	12:15:17 AM	Quantify IV fluids (mls)
	12:15:18 AM	Catheter Assessment
	12:19:11 AM	Catheter Assessment
	12:19:22 AM	Heart Rate (/min)
	12:19:31 AM	Respiratory Rate
	12:19:49 AM	FiO2 (%)
	12:21:56 AM	Temperature (F)
	1:03:34 AM	Respiratory Rate
	1:50:26 AM	Respiratory Rate
	2:33:32 AM	Weight (kg)
	2:33:40 AM	Eliminations
	2:51:31 AM	Respiratory Rate
	3:41:38 AM	FiO2 (%)
	3:41:52 AM	Catheter Assessment
	3:43:39 AM	Quantify IV fluids (mls)
	3:43:40 AM	Catheter Assessment
	3:51:57 AM	Heart Rate (/min)
3:52:08 AM	Respiratory Rate	
3:52:23 AM	Amount eaten	
5:12:50 AM	Respiratory Rate	
5:27:49 AM	Eliminations	
B6	5:42:55 AM	Catheter Assessment
B6	5:51:59 AM	Respiratory Rate
	5:39:01 AM	Respiratory Rate

B6

Client: **B6**
Patient:

Vitals Results

B6 8:06:02 AM
B6 8:07:49 AM
8:08:31 AM
8:14:49 AM
8:15:31 AM
8:15:32 AM
8:18:54 AM
9:24:28 AM
9:24:49 AM
9:40:24 AM
10:21:24 AM
10:21:51 AM

FiO2 (%)
Respiratory Rate
Catheter Assessment
Temperature (F)
Quantify IV fluids (mls)
Catheter Assessment
Heart Rate (/min)
Weight (kg)
Eliminations
Respiratory Rate
Respiratory Rate
Amount eaten

B6 2:37:52 PM
2:39:25 PM
2:40:03 PM
2:41:45 PM
2:22:29 PM
4:41:42 PM
5:50:42 PM
5:50:51 PM
6:34:02 AM
6:49:04 AM
7:19:21 AM
7:35:57 AM
7:36:14 AM
7:50:30 AM
7:54:58 AM
7:26:00 AM
8:03:48 AM
8:07:48 AM
8:07:59 AM
8:08:05 AM
8:08:06 AM
8:49:27 AM
9:00:04 AM
9:13:39 AM
9:15:55 AM

Respiratory Rate
Heart Rate (/min)
Quantify IV fluids (mls)
Eliminations
Respiratory Rate
Respiratory Rate
Respiratory Rate
Heart Rate (/min)
Weight (kg)
Weight (kg)
Notes
Quantify IV fluids (mls)
Respiratory Rate
Respiratory Rate
Respiratory Rate
Eliminations
Respiratory Rate
Temperature (F)
Heart Rate (/min)
Quantify IV fluids (mls)
Catheter Assessment
Respiratory Rate
Respiratory Rate
Eliminations
Cardiac rhythm

B6

Client: **B6**
Patient:

Vitals Results

B6	10:15:56 AM	Heart Rate (/min)
	11:12:01 AM	Respiratory Rate
	11:12:08 AM	FiO2 (%)
	11:32:18 AM	FiO2 (%)
	11:49:12 AM	Catheter Assessment
	11:49:13 AM	Quantify IV fluids (mls)
	12:11:08 PM	Cardiac rhythm
	12:11:09 PM	Heart Rate (/min)
	12:11:46 PM	Respiratory Rate
	12:57:30 PM	FiO2 (%)
	12:57:45 PM	Respiratory Rate
	12:58:05 PM	Eliminations
	2:30:53 PM	Eliminations
	2:31:01 PM	FiO2 (%)
	2:31:41 PM	Cardiac rhythm
B6	2:31:42 PM	Heart Rate (/min)
	3:22:43 PM	Amount eaten
	3:23:02 PM	FiO2 (%)
	3:23:26 PM	Respiratory Rate
	3:43:14 PM	Temperature (F)
	4:02:08 PM	Respiratory Rate
	4:02:15 PM	Cardiac rhythm
	4:02:16 PM	Heart Rate (/min)
	4:45:58 PM	Respiratory Rate
	5:16:04 PM	Weight (kg)
	5:16:35 PM	Eliminations
	5:52:25 PM	Cardiac rhythm
	5:52:26 PM	Heart Rate (/min)
	5:52:40 PM	Respiratory Rate
	7:46:50 PM	Cardiac rhythm
7:46:51 PM	Heart Rate (/min)	
7:47:35 PM	Respiratory Rate	
7:52:43 PM	Amount eaten	
8:57:15 PM	Respiratory Rate	
9:18:37 PM	Cardiac rhythm	
9:18:38 PM	Heart Rate (/min)	
9:23:06 PM	Eliminations	
10:14:39 PM	Respiratory Rate	
10:49:54 PM	Respiratory Rate	
11:18:51 PM	Temperature (F)	

Client: **B6**
Patient:

Vitals Results

B6	11:58:35 PM	Cardiac rhythm	
	11:58:36 PM	Heart Rate (/min)	
	11:59:13 PM	Respiratory Rate	
	12:50:19 AM	Respiratory Rate	
	1:44:24 AM	Eliminations	
	1:58:05 AM	Cardiac rhythm	
	1:58:06 AM	Heart Rate (/min)	
	1:59:11 AM	Respiratory Rate	
	2:48:26 AM	Respiratory Rate	
	3:50:13 AM	Amount eaten	
	3:56:57 AM	Respiratory Rate	
	4:52:04 AM	Respiratory Rate	
	5:48:32 AM	Cardiac rhythm	
	5:48:33 AM	Heart Rate (/min)	
	5:49:24 AM	Respiratory Rate	
B6	7:38:12 AM	Eliminations	
	7:38:27 AM	Weight (kg)	
	7:38:42 AM	Respiratory Rate	
	7:40:32 AM	Temperature (F)	
	7:56:00 AM	Cardiac rhythm	
	7:56:01 AM	Heart Rate (/min)	
	7:56:46 AM	Respiratory Rate	
	8:58:12 AM	Respiratory Rate	
	9:23:03 AM	Eliminations	
	10:06:28 AM	Respiratory Rate	
	10:33:52 AM	Cardiac rhythm	
	10:33:53 AM	Heart Rate (/min)	
	11:16:05 AM	Respiratory Rate	
	11:45:15 AM	Amount eaten	
	11:45:32 AM	Respiratory Rate	
	11:45:51 AM	Cardiac rhythm	
	11:45:52 AM	Heart Rate (/min)	
	1:29:09 PM	Respiratory Rate	
B6	2:16:19 PM	Weight (kg)	
	11:01:35 AM	Weight (kg)	

Client:
Patient:

B6

ECG from Cardio

B6

B6

2:59:28 PM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client: **B6**
Patient: **B6**

ECG from Cardio

B6

B6

2:59:48 PM

Page 1 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

12-Lead, Standard Placement

B6

Client: **B6**
Patient:

ECG from Cardio

B6

B6 2:59:48 PM Page 2 of 2
Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client: **B6**
Patient: **B6**

ECG from cardio

B6

B6 12:48:42 PM

Page 1 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

12 Lead: Standard Placement

B6

Client: **B6**
Patient: **B6**

ECG from cardio

B6

B6 12:48:42 PM Page 2 of 2
Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client: **B6**
Patient:

ECG from cardio

B6

B6

12:48:57 PM

Page 1 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client:
Patient:

B6

ECG from cardio

B6

B6

12:48:57 PM

Page 2 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client: **B6**
Patient: **B6**

ECG from cardio

B6

B6

12:49:06 PM

Page 1 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

12 Lead: Standard Placement

B6

Client: **B6**
Patient: **B6**

ECG from cardio

B6

B6

12:49:06 PM

Page 2 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client: **B6**
Patient:

Patient History

B6 07:26 PM UserForm
07:27 PM Email

B6 07:40 PM Purchase
07:41 PM Vitals
07:41 PM Vitals
07:41 PM Vitals
07:41 PM Vitals
08:35 PM UserForm

B6 08:53 PM Treatment
09:25 PM UserForm
09:36 PM Purchase
10:40 PM UserForm

B6 1:05 PM Purchase

B6 11:05 PM Purchase
11:18 PM Treatment
11:20 PM Treatment
11:20 PM Vitals
11:23 PM Treatment
11:23 PM Vitals
11:23 PM Treatment
11:23 PM Vitals
11:26 PM Treatment
11:26 PM Vitals
01:18 AM Treatment
01:18 AM Vitals
02:02 AM Vitals
02:02 AM Vitals

B6 02:05 AM Treatment
02:05 AM Treatment
03:26 AM Treatment
03:26 AM Vitals
03:30 AM Treatment
03:30 AM Vitals
03:31 AM Treatment
03:31 AM Vitals
03:31 AM Treatment
03:31 AM Vitals
03:31 AM Vitals

B6 03:32 AM Treatment
03:32 AM Vitals
05:40 AM Treatment
05:40 AM Treatment

B6

Client: **B6**
Patient:

Patient History

B6	05:40 AM	Vitals
	05:40 AM	Treatment
	05:40 AM	Vitals
	06:48 AM	Vitals
	06:48 AM	Vitals
B6	06:48 AM	Vitals
	06:48 AM	Vitals
	06:48 AM	Vitals
	06:48 AM	Vitals
	06:48 AM	Vitals
	06:55 AM	Treatment
	06:55 AM	Vitals
	06:56 AM	Treatment
	06:56 AM	Vitals
	06:56 AM	Treatment
	06:56 AM	Vitals
	08:18 AM	Purchase
	08:18 AM	Purchase
08:18 AM	Purchase	
08:24 AM	Treatment	
08:24 AM	Vitals	
B6	08:24 AM	Vitals
	08:24 AM	Treatment
	08:25 AM	Purchase
	08:26 AM	Purchase
	08:56 AM	Treatment
B6	08:56 AM	Vitals
B6	08:59 AM	Labwork
	09:08 AM	Purchase
	09:17 AM	Treatment
	09:17 AM	Vitals
	09:17 AM	Vitals
	09:35 AM	Purchase
	09:39 AM	Vitals
B6	09:46 AM	Purchase
	09:53 AM	Labwork
	10:04 AM	UserForm
B6	10:09 AM	Treatment
	10:09 AM	Treatment
	10:14 AM	Treatment
	10:22 AM	Treatment
	10:28 AM	Prescription
	10:28 AM	Prescription
	10:29 AM	Prescription

B6

Client: **B6**
Patient: **B6**

Patient History

B6 10:53 AM Purchase
10:53 AM Treatment
11:01 AM Purchase
11:03 AM Purchase

B6 11:05 AM Purchase
11:14 AM Treatment

B6 11:38 AM Purchase
11:49 AM Treatment

B6 11:55 AM Treatment

B6 11:55 AM Treatment
11:55 AM Vitals
11:56 AM Treatment
11:56 AM Vitals
11:56 AM Treatment
11:56 AM Vitals
11:59 AM Purchase
12:46 PM Treatment
01:17 PM Treatment
01:17 PM Vitals

B6 01:17 PM Vitals
01:18 PM Treatment
01:18 PM Vitals
01:18 PM Treatment
01:18 PM Vitals
01:19 PM Vitals

B6 02:01 PM Vitals

B6 02:53 PM UserForm
03:08 PM Treatment
03:08 PM Vitals
03:27 PM Treatment
03:27 PM Vitals

B6 03:27 PM Vitals
03:28 PM Treatment
03:28 PM Vitals
03:28 PM Treatment
03:28 PM Vitals
03:30 PM Treatment
03:30 PM Vitals
03:31 PM Treatment
03:31 PM Vitals
03:40 PM Vitals
04:12 PM Treatment

B6

Client: **B6**
Patient:

Patient History

B6	04:25 PM	Treatment
	04:25 PM	Vitals
	05:24 PM	Treatment
	05:24 PM	Vitals
	05:27 PM	Treatment
B6	07:02 PM	Treatment
	07:02 PM	Vitals
	07:31 PM	Treatment
	07:31 PM	Vitals
	07:31 PM	Vitals
B6	07:31 PM	Treatment
	07:31 PM	Vitals
	07:31 PM	Treatment
	07:31 PM	Vitals
	07:31 PM	Treatment
	07:31 PM	Vitals
	07:33 PM	Vitals
	08:42 PM	Treatment
	08:42 PM	Vitals
	09:18 PM	Treatment
	09:18 PM	Vitals
	09:28 PM	Treatment
	09:28 PM	Vitals
	09:28 PM	Treatment
09:28 PM	Vitals	
	09:32 PM	Treatment
B6	09:44 PM	Vitals
	09:45 PM	Treatment
B6	09:45 PM	Vitals
	09:45 PM	Treatment
	09:45 PM	Treatment
B6	09:45 PM	Vitals
	11:07 PM	Purchase
	11:07 PM	Purchase
	12:45 AM	Treatment
	12:45 AM	Vitals
	01:01 AM	Treatment
B6	01:01 AM	Vitals
B6	01:01 AM	Treatment
	01:01 AM	Vitals
	01:01 AM	Treatment
	01:01 AM	Vitals

B6

Client: **B6**
Patient:

Patient History

B6	01:35 AM	Treatment
	01:35 AM	Vitals
	01:35 AM	Treatment
	01:55 AM	Treatment
B6	01:55 AM	Vitals
	01:55 AM	Treatment
	01:55 AM	Vitals
	01:55 AM	Treatment
B6	01:55 AM	Treatment
	01:55 AM	Vitals
	01:58 AM	Treatment
	01:58 AM	Vitals
	03:46 AM	Treatment
	03:46 AM	Vitals
	03:48 AM	Treatment
	03:48 AM	Vitals
	03:48 AM	Treatment
03:48 AM	Vitals	
B6	03:48 AM	Vitals
B6	03:48 AM	Treatment
	03:48 AM	Vitals
	05:13 AM	Treatment
	05:13 AM	Vitals
	05:18 AM	Treatment
	06:16 AM	Treatment
B6	06:16 AM	Vitals
	06:17 AM	Treatment
	06:17 AM	Vitals
	06:24 AM	Vitals
	06:25 AM	Treatment
	06:25 AM	Treatment
B6	06:25 AM	Purchase
	06:32 AM	Labwork
	06:35 AM	Vitals
	08:21 AM	Treatment
	08:21 AM	Vitals
	08:22 AM	Treatment
	08:22 AM	Vitals
	08:34 AM	Vitals
	08:57 AM	Treatment
	08:57 AM	Vitals
	08:57 AM	Treatment
08:57 AM	Vitals	
08:58 AM	Treatment	

B6

Client: **B6**
Patient: **B6**

Patient History

B6	08:58 AM	Vitals
B6	08:58 AM	Treatment
B6	08:58 AM	Vitals
B6	08:58 AM	Treatment
B6	08:58 AM	Vitals
B6	08:59 AM	Treatment
B6	08:59 AM	Vitals
B6	09:03 AM	Treatment
B6	09:03 AM	Treatment
B6	09:03 AM	Vitals
B6	09:03 AM	Treatment
B6	09:03 AM	Vitals
B6	09:04 AM	Treatment
B6	09:04 AM	Vitals
B6	10:43 AM	Prescription
B6	11:01 AM	Prescription
B6	11:04 AM	Prescription
B6	11:05 AM	Purchase
B6	11:15 AM	Treatment
B6	11:15 AM	Vitals
B6	11:15 AM	Treatment
B6	11:15 AM	Vitals
B6	11:15 AM	Treatment
B6	11:15 AM	Vitals
B6	11:15 AM	Treatment
B6	11:15 AM	Vitals
B6	11:24 AM	Treatment
B6	11:31 AM	Treatment
B6	11:31 AM	Vitals
B6	11:43 AM	Purchase
B6	11:47 AM	Treatment
B6	12:07 PM	Treatment
B6	12:30 PM	UserForm
B6	01:17 PM	Treatment
B6	01:17 PM	Vitals
B6	01:17 PM	Treatment
B6	01:19 PM	Treatment
B6	01:19 PM	Vitals
B6	01:19 PM	Vitals
B6	02:09 PM	Treatment
B6	02:09 PM	Vitals
B6	03:07 PM	Treatment
B6	03:07 PM	Vitals

B6

Client: **B6**
Patient:

Patient History

B6	03:56 PM	Treatment
	03:56 PM	Vitals
	03:56 PM	Treatment
	03:56 PM	Vitals
	03:57 PM	Treatment
B6	03:57 PM	Vitals
	03:57 PM	Treatment
	03:57 PM	Vitals
B6	04:05 PM	Treatment
	04:05 PM	Vitals
	04:05 PM	Treatment
B6	04:05 PM	Vitals
B6	04:06 PM	Treatment
	04:06 PM	Vitals
	05:02 PM	Treatment
	05:02 PM	Vitals
	05:03 PM	Treatment
B6	05:05 PM	Treatment
	06:10 PM	Treatment
	06:10 PM	Vitals
	07:00 PM	Treatment
	07:00 PM	Vitals
B6	07:31 PM	Treatment
	07:31 PM	Vitals
	07:32 PM	Treatment
	07:32 PM	Vitals
B6	07:32 PM	Treatment
	07:32 PM	Vitals
	07:32 PM	Treatment
	07:32 PM	Vitals
B6	07:32 PM	Treatment
	07:32 PM	Vitals
	08:20 PM	Treatment
	08:20 PM	Vitals
	10:00 PM	Treatment
	10:00 PM	Treatment
	10:00 PM	Vitals
B6	10:02 PM	Treatment
	10:02 PM	Vitals
	10:15 PM	Treatment
B6	10:15 PM	Vitals

B6

Client: **B6**
Patient:

Patient History

B6	10:39 PM	Treatment
B6	11:07 PM	Purchase
	11:07 PM	Purchase
	11:20 PM	Treatment
	11:20 PM	Vitals
	12:15 AM	Treatment
	12:15 AM	Vitals
	12:15 AM	Vitals
	12:19 AM	Treatment
	12:19 AM	Vitals
	12:19 AM	Treatment
	12:19 AM	Vitals
	12:19 AM	Treatment
12:19 AM	Vitals	
12:19 AM	Treatment	
B6	12:19 AM	Vitals
	12:21 AM	Treatment
	12:21 AM	Vitals
	01:03 AM	Treatment
	01:03 AM	Vitals
B6	01:12 AM	Treatment
	01:49 AM	Treatment
	01:50 AM	Treatment
	01:50 AM	Vitals
	02:33 AM	Treatment
	02:33 AM	Vitals
	02:33 AM	Treatment
	02:33 AM	Vitals
02:51 AM	Treatment	
02:51 AM	Vitals	
B6	03:41 AM	Treatment
	03:41 AM	Vitals
	03:41 AM	Treatment
	03:41 AM	Vitals
	03:43 AM	Treatment
	03:43 AM	Vitals
	03:43 AM	Vitals
	03:51 AM	Treatment
	03:51 AM	Vitals
	03:52 AM	Treatment
03:52 AM	Vitals	
B6	03:52 AM	Treatment
	03:52 AM	Vitals
	05:12 AM	Vitals
B6	05:12 AM	Treatment
	05:12 AM	Vitals

B6

Client: **B6**
Patient: **B6**

Patient History

B6	05:27 AM	Treatment
	05:27 AM	Treatment
	05:27 AM	Vitals
	05:42 AM	Vitals
B6	05:51 AM	Treatment
	05:51 AM	Vitals
	06:39 AM	Treatment
	06:39 AM	Vitals
B6	08:06 AM	Treatment
	08:06 AM	Vitals
	08:07 AM	Treatment
	08:07 AM	Vitals
	08:07 AM	Vitals
	08:07 AM	Vitals
	08:08 AM	Treatment
	08:08 AM	Vitals
B6	08:14 AM	Treatment
	08:14 AM	Vitals
	08:15 AM	Treatment
	08:15 AM	Vitals
	08:15 AM	Vitals
	08:18 AM	Treatment
	08:18 AM	Vitals
	09:24 AM	Treatment
	09:24 AM	Vitals
	09:24 AM	Treatment
B6	09:24 AM	Vitals
	09:40 AM	Treatment
	09:40 AM	Vitals
	10:08 AM	Purchase
	10:15 AM	Treatment
	10:16 AM	Treatment
	10:19 AM	Prescription
	10:19 AM	Prescription
	10:21 AM	Treatment
	10:21 AM	Vitals
B6	10:21 AM	Treatment
B6	10:21 AM	Vitals
B6	10:21 AM	Vitals
	10:42 AM	Prescription
	11:05 AM	Purchase
B6	12:37 PM	Treatment

B6

Client: **B6**
Patient:

Patient History

B6	12:37 PM	Vitals
	12:39 PM	Treatment
	12:39 PM	Vitals
	12:39 PM	Treatment
	12:40 PM	Treatment
	12:40 PM	Vitals
	12:46 PM	Treatment
B6	12:55 PM	Prescription
	12:55 PM	Prescription
	12:56 PM	Prescription
	12:58 PM	Purchase
	02:21 PM	Treatment
	02:21 PM	Vitals
	02:22 PM	Treatment
B6	02:22 PM	Treatment
B6	02:22 PM	Treatment
	02:22 PM	Vitals
	02:22 PM	Treatment
	03:41 PM	Treatment
	03:41 PM	Vitals
	03:55 PM	Treatment
	04:50 PM	Treatment
	04:50 PM	Vitals
	04:50 PM	Treatment
	04:50 PM	Vitals
	05:50 PM	Appointment
B6	11:14 AM	UserForm
B6	11:34 AM	Vitals
	11:49 AM	Vitals
	12:12 PM	UserForm
	12:25 PM	Purchase
	12:59 PM	Purchase
	12:59 PM	Treatment
	01:01 PM	Purchase
	01:12 PM	Prescription
	01:19 PM	Prescription
	01:20 PM	Purchase
	01:23 PM	Purchase
	03:04 AM	Treatment
	03:25 AM	Treatment
	03:58 AM	Purchase
	03:58 AM	Purchase
	03:58 AM	Purchase
	04:00 AM	Purchase

B6

Client: **B6**
Patient:

Patient History

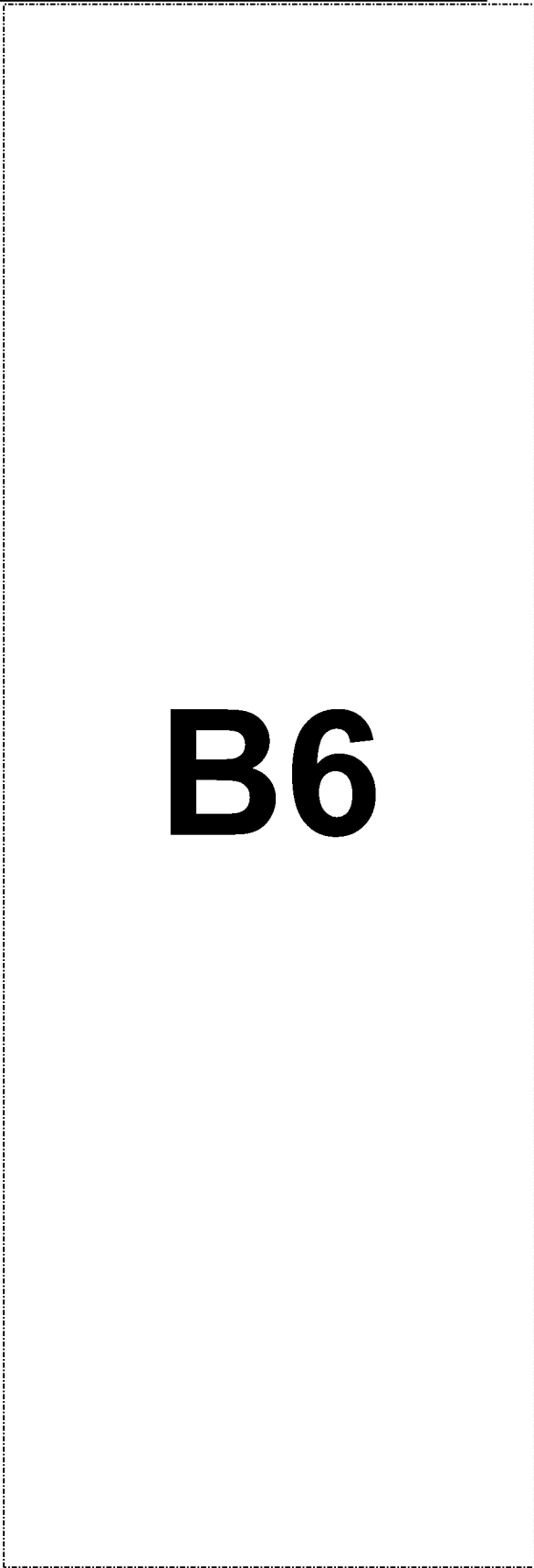
B6	04:00 AM	Purchase
	04:05 AM	UserForm
B6	04:08 AM	Purchase
	04:08 AM	Purchase
	04:18 AM	Labwork
	04:18 AM	Prescription
	04:19 AM	Deleted Reason
B6	04:19 AM	Vitals
	04:19 AM	Purchase
	04:20 AM	Purchase
	04:20 AM	Purchase
	04:20 AM	Purchase
	04:32 AM	Prescription
	04:35 AM	Treatment
	04:35 AM	Vitals
B6	04:36 AM	Treatment
	04:36 AM	Vitals
	04:37 AM	Treatment
	04:37 AM	Treatment
	04:42 AM	Purchase
	04:42 AM	Purchase
	05:02 AM	Treatment
B6	05:03 AM	Treatment
B6	05:03 AM	Treatment
	05:03 AM	Vitals
	05:03 AM	Treatment
	05:49 AM	Treatment
	05:49 AM	Vitals
	07:26 AM	Treatment
	07:26 AM	Vitals
	08:03 AM	Treatment
	08:03 AM	Vitals
	08:07 AM	Treatment
	08:07 AM	Vitals
	08:07 AM	Treatment
	08:07 AM	Vitals
	08:08 AM	Treatment
	08:08 AM	Vitals
	08:08 AM	Vitals
	08:44 AM	Purchase
	08:46 AM	Purchase
	08:49 AM	Treatment
	08:49 AM	Vitals
	10:00 AM	Treatment
	10:00 AM	Vitals

B6

Client: **B6**
Patient:

Patient History

B6	10:13 AM	Treatment
	10:13 AM	Vitals
	10:15 AM	Treatment
B6	10:15 AM	Vitals
	10:15 AM	Vitals
	10:20 AM	Prescription
	10:24 AM	UserForm
	11:12 AM	Treatment
	11:12 AM	Vitals
	11:12 AM	Treatment
B6	11:12 AM	Vitals
	11:32 AM	Treatment
	11:32 AM	Treatment
B6	11:32 AM	Vitals
	11:49 AM	Treatment
B6	11:49 AM	Treatment
	11:49 AM	Vitals
B6	11:49 AM	Vitals
	12:11 PM	Treatment
B6	12:11 PM	Vitals
	12:11 PM	Vitals
	12:11 PM	Treatment
	12:11 PM	Vitals
	12:57 PM	Treatment
B6	12:57 PM	Vitals
	12:57 PM	Treatment
	12:57 PM	Vitals
	12:58 PM	Vitals
	12:59 PM	UserForm
B6	01:00 PM	Treatment
	01:32 PM	Purchase
	01:46 PM	Treatment
B6	02:30 PM	Treatment
	02:30 PM	Vitals
	02:31 PM	Treatment
B6	02:31 PM	Vitals
	02:31 PM	Treatment
B6	02:31 PM	Vitals
	02:31 PM	Vitals
	02:31 PM	Treatment



Client: **B6**
Patient:

Patient History

02:42 PM	Labwork
03:22 PM	Treatment
03:22 PM	Vitals
03:23 PM	Treatment
03:23 PM	Vitals
03:23 PM	Treatment
03:23 PM	Vitals
03:43 PM	Treatment
03:43 PM	Vitals
04:02 PM	Treatment
04:02 PM	Vitals
04:02 PM	Treatment
04:02 PM	Vitals
04:02 PM	Vitals
04:09 PM	Purchase
04:20 PM	Purchase
04:20 PM	Purchase
04:21 PM	Purchase
04:45 PM	Treatment
04:45 PM	Treatment
04:45 PM	Vitals
05:16 PM	Treatment
05:16 PM	Vitals
05:16 PM	Treatment
05:16 PM	Vitals
05:52 PM	Treatment
05:52 PM	Vitals
05:52 PM	Vitals
05:52 PM	Treatment
05:52 PM	Vitals
06:59 PM	UserForm
07:46 PM	Treatment
07:46 PM	Vitals
07:46 PM	Vitals
07:47 PM	Treatment
07:47 PM	Vitals
07:52 PM	Treatment
07:52 PM	Treatment
07:52 PM	Vitals
08:57 PM	Treatment
08:57 PM	Vitals
09:18 PM	Treatment

B6

B6

Client:
Patient:

B6

Patient History

09:18 PM	Vitals
09:18 PM	Vitals
09:19 PM	Treatment
09:23 PM	Treatment
09:23 PM	Vitals
10:14 PM	Treatment
10:14 PM	Vitals
10:49 PM	Treatment
10:49 PM	Vitals
11:18 PM	Treatment
11:18 PM	Vitals
11:58 PM	Treatment
11:58 PM	Vitals
11:58 PM	Vitals
11:59 PM	Treatment
11:59 PM	Vitals
12:50 AM	Treatment
12:50 AM	Vitals
01:44 AM	Treatment
01:44 AM	Vitals
01:58 AM	Treatment
01:58 AM	Vitals
01:58 AM	Vitals
01:59 AM	Treatment
01:59 AM	Vitals
02:48 AM	Treatment
02:48 AM	Vitals
03:30 AM	Treatment
03:50 AM	Treatment
03:50 AM	Vitals
03:56 AM	Treatment
03:56 AM	Treatment
03:56 AM	Vitals
04:07 AM	Purchase
04:07 AM	Purchase
04:52 AM	Treatment
04:52 AM	Vitals
05:30 AM	Treatment
05:48 AM	Treatment
05:48 AM	Vitals
05:48 AM	Vitals
05:49 AM	Treatment
05:49 AM	Vitals
07:38 AM	Treatment

B6

B6

Client: **B6**
Patient:

Patient History

07:38 AM	Vitals
07:38 AM	Vitals
07:38 AM	Treatment
07:38 AM	Vitals
07:40 AM	Treatment
07:40 AM	Vitals
07:56 AM	Treatment
07:56 AM	Vitals
07:56 AM	Vitals
07:56 AM	Treatment
07:56 AM	Vitals
08:58 AM	Treatment
08:58 AM	Vitals
09:23 AM	Vitals
09:59 AM	Deleted Reason
10:00 AM	Purchase
10:06 AM	Treatment
10:06 AM	Vitals
10:11 AM	Prescription
10:12 AM	Prescription
10:16 AM	Purchase
10:33 AM	Treatment
10:33 AM	Vitals
10:33 AM	Vitals
10:40 AM	Treatment
11:16 AM	Treatment
11:16 AM	Vitals
11:45 AM	Treatment
11:45 AM	Vitals
11:45 AM	Treatment
11:45 AM	Vitals
11:45 AM	Treatment
11:45 AM	Vitals
11:45 AM	Vitals
12:47 PM	Prescription
01:26 PM	Treatment
01:29 PM	Treatment
01:29 PM	Vitals
12:15 PM	Appointment
12:18 PM	Appointment

B6

B6

Client: **B6**
Patient:

Patient History

	05:14 PM	Appointment	
	02:16 PM	Vitals	
	02:25 PM	UserForm	
	03:41 PM	Treatment	
	04:01 PM	Purchase	
	04:01 PM	Treatment	
	04:15 PM	Purchase	
	04:17 PM	Prescription	
	04:19 PM	Prescription	
	04:30 PM	Prescription	
	04:31 PM	Prescription	
	04:36 PM	Purchase	
	05:22 PM	UserForm	
	05:27 PM	Email	
	03:24 PM	Appointment	
B6	11:01 AM	UserForm	B6
	11:01 AM	Vitals	
	11:29 AM	Treatment	
	11:36 AM	UserForm	
	11:41 AM	UserForm	
	12:36 PM	Treatment	
	12:36 PM	Purchase	
	12:52 PM	Deleted Reason	
	12:52 PM	Deleted Reason	
	12:52 PM	Purchase	
	12:52 PM	Purchase	
	12:34 PM	UserForm	
	05:20 PM	Appointment	

B6

B6

Female

Canine Irish Wolfhound Gray

Patient ID: **B6**

STANDARD CONSENT FORM

I am the owner, or agent for the owner, of the above described animal and have the authority to execute consent. I hereby authorize the Cummings School of Veterinary Medicine at Tufts University (herein after Cummings School) to prescribe for treatment of said animal according to the following terms and conditions.

Cummings School and its officers, agents and employees will provide such veterinary medical care as they deem reasonable and appropriate under the circumstances.

Cummings School and its officers, agents, and employees will use all reasonable care in the treatment of the above mentioned animal, but will not be liable for any loss or accident that may occur or any disease that may develop as a result of the care and treatment provided.

I understand that the above identified animal may be treated by Cummings School students under the supervision and assistance of Cummings School staff members.

In executing this form, I hereby expressly acknowledge that risks, benefits and alternative forms of treatment have been explained to me. I understand said explanation, and I consent to treatment. Should any additional treatments or diagnostics be required during the continued care of my animal, I understand that I will be given the opportunity to discuss and consent to these additional procedures. I understand that further or additional treatment may be required without an opportunity for discussion and consideration by me, in the case of the development of any life-threatening emergency during the continued care of my animal and I expressly consent to all such reasonable treatment as required. I realize and understand that results cannot be guaranteed.

If any equipment is left with the animal, it will be accepted with the understanding that Cummings School assumes no responsibility for any loss of equipment that may occur.

I agree to pick up the animal when notified that it is ready for release.

In the event the animal is not picked up, and if ten (10) days have expired since a registered letter was sent to the address given above, notifying me to call for the animal, the animal may be sold or otherwise disposed of in a humane manner and the proceeds applied to the charges incurred in caring and treating the animal. Failure to remove said animal will not and does not relieve me from obligation for the costs of services rendered.

I hereby grant to the Cummings School of Veterinary Medicine at Tufts University, its officers and employees (collectively referred to herein as Cummings School), and its agents and assigns (the Grantees) the irrevocable rights to photograph / videotape the operation or procedure to be performed, including appropriate and otherwise use such photographs and images for, and in connection with, a Grantee's medical, scientific, educational, and publicity purposes, by any means, methods and media (print and electronic) now known or, in the future, developed that the Grantee deems appropriate (provided that such photographs and images may not be used in for-profit commercials, unless such commercials are publicizing educational programs at Cummings School). As medical and surgical treatment necessitates the removal of tissue, cells, fluids or body parts of my animal, I authorize the Grantees to dispose of or use these tissues, cells, fluids or body parts for scientific and educational purposes.

I understand that a FINANCE CHARGE will be applied to all accounts unpaid after 30 days. The FINANCE CHARGE is computed on a monthly rate of 1.33% per month, which is an annual percentage rate of 16% applied to the average daily balance outstanding, with a minimum fee of \$50.

I do further agree that should any payment, or the full amount of the sum stated above, become overdue more than 20 days from the above-agreed upon time of payment or payments, the entire balance shall be considered in default and become due and payable. I further agree to be responsible for any or all collection agency and/or attorney fees necessary to collect the full amount.

I do further agree to comply with hours of visitation in conjunction with our Hospital's policy.

I have read, understand, and agree to accept the terms and conditions herein.

Owner's name: Date: 9/11/2018

Owner's address:

B6

9-11-18

Owner's Name Signature

Date

**If the individual admitting the animal is someone other than the legal owner,
please complete the portion below:**

The owner of the animal has granted me authority to obtain medical treatment and to bind this owner to pay the veterinary medical services provided at Cummings School pursuant to the terms and conditions described above

Authorized Agent - Please Print

Agent's Signature

Street Address

Date

Town/City

State

Zip

Cummings

Veterinary Medical Center

AT TUFTS UNIVERSITY

Foster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01536
Telephone (508) 839-5395
Fax (508) 839-7951
<http://vetmed.tufts.edu/>

Emergency & Critical Care Liaison: (508) 887-4745

Patient

Name:

B6

Signalment:

B6 Years Old Gray Female Irish
Wolfhound

Owner

Name:

Address:

B6

Patient ID:

B6

Emergency Clinician:

B6

VMD (Intern)

B6

Consulting Clinician:

ER Supervisor:

B6

Discharge Instructions

Admit Date: B6 7:25:56 PM

Check Out Date: B6

Case Summary

Diagnosis:

- 1.
- 2.
- 3.

Case Summary: Thank you for bringing B6 to see us here at the Tufts Emergency Service. You report that a few

B6

Patient Care Instructions:

- 1.

Medications:

Continue:

- 1.

New medications:

- 1.

Recheck Visits: Please call [B6] at (508) 887-4745 to make a recheck appointment

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvm/c/clinical-studies

Case

[B6]

Owner:

[B6]

Discharge Instructions

Treatment Plan

Estimated Charges

B6

B6

This estimate is based upon our preliminary examination. This is an estimate and is not the final bill. Every effort will be made to keep you informed of the current status of your bill throughout your animal's hospitalization. The final fee may vary considerably from this estimated cost.

Patient	Description	Low Qty	Low Extended	High Qty	High Extended
B6	B6	1.00	B6	1.00	B6

B6

Doctor of Record: B6

Owner Signature

I understand that no guarantee of successful treatment is made. I certify that I have read and fully understand the authorization for medical and/or surgical treatment, the reason for why such medical and/or surgical treatment is considered necessary, as well as its advantages and possible complications, if any. I also assume financial responsibility for all charges incurred to this patient(s). I agree to pay 75% of the estimated cost at the time of admission. Additional deposits will be required if additional care or procedures are required. I further agree to pay the balance of the charges when this patient(s) is released.

Procedural billing is inclusive up to and including the estimated duration of hospitalization. There will be additional expenses if hospitalization extends beyond the specified duration. I have read, understand, and agree to accept the conditions of this treatment plan.

Thank you for entrusting us with your pet's care.

High Total		B6
Low Total		
75% Deposit		

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

Foster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01536
Telephone (508) 839-5395
Fax (508) 839-7951
<http://vetmed.tufts.edu/>

Patient

Name:

B6

Signalment:

B6 years Old Gray Female Irish
Wolfhound

Owner

Name:

B6

Address:

Patient ID:

B6

Contact Clinician:

B6 DVM (Emergency &
Critical Care Resident)

Alternate Clinician:

B6

Student:

B6 V19

Discharge Instructions

Admit Date: B6 7:25:56 PM

Check Out Date: B6

Case Summary

Diagnosis:

1. B6

General Summary:

History: Thank you for bringing B6 to Tufts. You report that on 08/24/18 B6 ingested several medications

B6

B6

Prescription Refill Disclaimer:

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Case B6

Owner B6

Discharge Instructions

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Fax (508) 839-7951
<http://vetmed.tufts.edu/>

Emergency & Critical Care Liaison: (508) 887-4745

Patient

Name:

B6

Signalment:

B6 Years Old Gray Female Irish
Wolfhound

Owner

Name:

B6

Address:

Patient ID:

B6

Emergency Clinician:
Resident)

B6

DVM (Emergency & Critical Care Resident),

B6

DVM (SAM

ER Supervisor:

B6

Discharge Instructions

Admit Date: B6 7:25:56 PM

Check Out Date: B6

Diagnosis:

1. B6

Case Summary:

B6

B6

Prescription Refill Disclaimer:

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Case: B6

Owner: B6

Discharge Instructions

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Fax (508) 839-7951
<http://vetmed.tufts.edu/>

Patient

Name:

B6

Signalment:

B6 Years Old Gray Female Irish
Wolfhound

Owner

Name:

Address:

B6

Patient ID:

B6

Contact Clinician:

B6 DVM (Resident -

Alternate Clinician:

B6

Discharge Instructions

Appointment Date:

B6

Case Summary

Diagnosis:

B6

General Summary:

B6

B6

Prescription Refill Disclaimer:

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Clinical Trials:

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Case: B6

Owner: B6

Discharge Instructions

Radiology Request & Report

Patient

Name: B6

Species: Canine

Gray Female Irish Wolfhound

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: B6

Date of request: B6

Attending Clinician: B6 DVM (Resident): B6

Student:

Date of exam: B6

Patient Location: Ward/Cage:

Weight (kg) 61.4

B6

B6

Dates

Reported **B6**

Finalized: 10/9/2018

Treatment Plan

Estimated Charges
 12/22/2018

B6

This estimate is based upon our preliminary examination. This is an estimate and is not the final bill. Every effort will be made to keep you informed of the current status of your bill throughout your animal's hospitalization. The final fee may vary considerably from this estimated cost.

Patient	Description	Low Qty	Low Extended	High Qty	High Extended
B6	B6	1.00	B6	1.00	B6

B6

Doctor of Record **B6**

I understand that no guarantee of successful treatment is made. I certify that I have read and fully understand the authorization for medical and/or surgical treatment, the reason for why such medical and/or surgical treatment is considered necessary, as well as its advantages and possible complications, if any. I also assume financial responsibility for all charges incurred to this patient(s). I agree to pay 75% of the estimated cost at the time of admission. Additional deposits will be required if additional care or procedures are required. I further agree to pay the balance of the charges when this patient(s) is released.

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Thank you for entrusting us with your pet's care.

High Total	B6
Low Total	
75% Deposit	

Cummings

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Emergency & Critical Care Liaison: (508) 887-4745

Patient

Name:

B6

Signalment:

B6 Years Old Gray Female Irish
Wolfhound

Owner

Name:

Address:

B6

Patient ID:

B6

Emergency Clinician:

B6

DVM

ECC Supervisor:

B6

Discharge Instructions

Admit Date: B6 2:43:45 AM

Check Out Date: B6

Diagnosis:

- 1.
- 2.
- 3.

B6

Case Summary:

B6

B6

Case: B6

Owner: B6

Discharge Instructions

Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY
Cardiology Liaison: 508-887-4696

B6

Patient ID: **B6**
B6 Canine
B6 Years Old Female Irish Wolfhound
Gray BW: Weight (kg) 61.40

Cardiology Consultation

Date: **B6**

Weight: Weight (kg) 61.40

Requesting Clinician: **B6**

Attending Cardiologist:

John E. Rush, DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Thoracic radiographs available for review?

- Yes - in SS
- Yes - in PACS
- No

Patient location: ICU run 4

Presenting complaint and important concurrent diseases: Presented for coughing, tachypnea, and dyspnea. Was hospitalized in September 2018 due to aspiration pneumonia and has done well at home until 10 PM yesterday, at which point **B6** became acutely tachypneic, dyspneic, and began coughing on the car ride to Tufts.

Current medications and doses: **B6**
last night, but this was discontinued today.

At-home diet: Poulin lamb and rice kibble, free fed

Key indication for consultation: SVT and NS Vtach on telemetry, tachypnea, subjectively enlarged pulmonary veins on CxR.

Questions to be answered: Respiratory pattern more likely secondary to cardiac disease vs recurrence of pneumonia?

Is your consult time-sensitive? (e.g., anesthesia today, owner waiting, trying to get biopsy today)

- Yes (explain):
- No

STOP - remainder of form to be filled out by Cardiology

Physical Examination

B6

Muscle condition:

- Normal
- Mild muscle loss
- Moderate cachexia
- Marked cachexia

Cardiovascular Physical Exam

Murmur Grade:

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- Top 2/3 of the neck
- 1/2 way up the neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxus
- Other (describe):

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

Gallop:

- Yes
- No
- Intermittent
- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Pulmonary Crackles
- Wheezes
- Upper airway stridor
- Other auscultatory findings: harsh lung sounds, bilaterally in caudal lung lobes

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension
- Mild ascites

Echocardiogram Findings:

B6

Assessment and recommendations:

Findings consistent with normal cardiac structure and somewhat slightly decreased to normal contractile function. There is no obvious cardiac abnormalities to justify the arrhythmias, tachypnea and cough. Thus, patient appears to be able to tolerate IV fluids based on the findings of the present study, and respiratory signs are suspected to be related to pneumonia. Patient has been on Lamb & Rice based diet for years and it is unclear whether mild contractile dysfunction is diet induced, early stage DCM, or related to systemic illness. The arrhythmias observed in the telemetry could be secondary to systemic disease, infection, decreased myocardial oxygenation, early stage DCM, or myocarditis. Troponin CnTi is slightly increased which does not support severe cardiac injury. Once fully recovered from current event, recommend switch the current Lamb & Rice diet to a diet manufactured by a major brand pet food company with standard protein sources. There is currently no clear evidence of endocarditis, but there is some thickening of the MV and echocardiography is not the most sensitive test for endocarditis; if the patient has recurrent fevers or is not responding well to current therapy, then consider brief recheck echo to assess valves in 2-3 days. No cardiac medications needed at this time. Consider recheck echo after recovery from current illness, as patient could potentially be induced in the DCM study if there is still low contractile function.

Final Diagnosis:

Slight decreased systolic function;

Non sustained ventricular tachycardia;

Supraventricular tachycardia.

(r/o secondary to systemic disease v early DCM v diet related)

M-Mode

IVSd	B6	cm
LVIDd		cm
LVPWd		cm
IVSs		cm
LVIDs		cm
LVPWs		cm
EDV(Teich)		ml
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml
EPSS		cm

M-Mode Normalized

IVSdN	B6	{0.290 - 0.520}
LVIDdN		{1.350 - 1.730}
LVPWdN		{0.330 - 0.530}
IVSsN		{0.430 - 0.710}
LVIDsN		{0.790 - 1.140}
LVPWsN		{0.530 - 0.780}

2D

SA LA	B6	cm
Ao Diam		cm
SA LA / Ao Diam		
IVSd		cm
LVIDd		cm
LVPWd		cm
EDV(Teich)		ml
IVSs		cm
LVIDs		cm
LVPWs		cm
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml
IVSd		cm
LVIDd		cm
EDV(Teich)		ml
LVPWd		cm
IVSs		cm
LVIDs		cm
ESV(Teich)		ml
EF(Teich)		%
ESV(Cube)		ml
EF(Cube)		%
%FS		%

SV(Teich)
SI(Teich)
SV(Cube)
SI(Cube)
LVPWs
LVld LAX
LVAd LAX
LVEDV A-L LAX
LVEDV MOD LAX

LVLs LAX
LVA_s LAX
LVESV A-L LAX
LVESV MOD LAX
HR
EF A-L LAX
LVEF MOD LAX
SV A-L LAX
SV MOD LAX
CO A-L LAX
CO MOD LAX

B6

B6

ml
ml/m
ml
ml/m
cm
cm
cm
ml

ml
cm
cm
ml
ml
BPM
%
%
ml
ml
l/min
l/min

Patient

Name: B6
Signalment: B6 Years Old Gray Female Irish
Wolfhound

Owner

Name:
Address:

B6

Patient ID: B6

Contact Clinician: B6 DVM (Resident -

B6
Alternate Clinician: B6 DVM, DACVIM

Discharge Instructions

Admit Date: B6 2:04:12 PM

Check Out Date: B6

Case Summary

Diagnosis:

B6

- Decreased cardiac contractility noted on previous echocardiogram B6
B6

General Summary:

History B6 presented to Tufts Internal Medicine Service for recheck of her B6 episode). She was diagnosed B6 by our Emergency Service from radiographs. A tracheal wash and culture were performed during her first hospital stay in B6 but were not repeated for this most recent episode. The current antibiotic choice B6 was based off the initial culture B6 has been doing well at home. She is breathing comfortably, eating well and has normal energy. No gastrointestinal signs have been noted at home, so it is currently unclear why B6 might be aspirating. We questioned more about bark change and B6 and it is possible that these have been present. B6 has B6 that has been bothering her some.

Exam findings: B6 was bright and alert with normal vital parameters on presentation. Her heart and lung sounds were normal and she was breathing without any effort. She did not cough during the exam. Her abdomen was soft and nonpainful. Her left ear had some dark debris and was slightly inflamed. Her right ear looked fine. The rest of the physical exam was unremarkable.

Diagnostics:

- Chest x-rays: near complete resolution of B6 possible small focal patch remaining overlying the cardiac silhouette

B6

Treatment plan: We discussed today that B6 chest x-rays look much improved from her previous set. She appears to be responding both clinically and radiographically to antibiotics. We have recommended that B6 continue four

more weeks of B6 to ensure that we completely clear this infection. We currently do not know why B6 is developing recurrent bouts of B6. Possible causes discussed today include silent B6. We asked about signs that may be linked to B6. B6 has potentially had some hind end weakness. A voice change is less definitive. B6 can contribute to B6 due to an inability to protect the airway. We should monitor changes associated with this carefully. Some management and monitoring strategies have been recommended below.

Patient Care Instructions:

B6

Prescription Refill Disclaimer:

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Ordering Food:

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Case: B6

Owner: B6

Discharge Instructions

Discharge Instructions

Patient

Name: B6
Species: Canine
Gray Female Irish Wolfhound
Birthdate: B6

Owner

Name: B6
Address: B6

Patient ID: B6

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V19

Discharge Date: B6

Diagnoses:

Slightly decreased cardiac contractility
Non-sustained frequent single ventricular premature contractions (VPCs)

Clinical Findings:

Thank you for bringing B6 to the Tufts Cardiology Service for a recheck echocardiogram, ECG, and chest X-rays.

Her physical exam was mostly unremarkable. You report that B6 is doing much better at home. Your only concern is that she has a B6 that is healing. B6 echocardiogram today demonstrated that the contractility of her heart is still slightly abnormal, though the chambers in her heart are normal sized and the walls of the chambers are normal thickness.

B6

We discussed whether or not B6 is a candidate for a study involving diet related heart disease. At this time, B6 does not have classic dilated cardiomyopathy. We have sent out two blood tests to check for damage to the heart muscle. Depending on the results of these tests, she may still be a candidate for the study. We should have these results back in 1-2 weeks.

We can consider using a holter monitor for at home heart rhythm tracking. You can elect to have a holter monitor placed at any time. This monitor would track her heart rhythm for a period of 24 hours at home which would give us a better idea of

how frequently B6 is having abnormal electrical activity of the heart. Alternatively, you can purchase an Aivecor monitor for at home ECG tracking.

B6 will contact you with the results of B6 chest radiographs.

Monitoring at Home:

Please monitor B6 for changes in appetite, vomiting, diarrhea, coughing, difficulty breathing, exercise intolerance, lethargy, or any other changes. If you note any of these, please contact us or bring her to see a veterinarian as soon as possible.

Diet Suggestions:

Please continue feeding Darcy the Purina Proplan food.

Exercise Recommendations:

B6 does not need any exercise restriction at this time. If you notice that she is not tolerating exercise, stop and contact a veterinarian.

Medications:

B6

Recheck Visits: The timing of B6 recheck examination will depend on her eligibility for the study. If we get the bloodwork results back and she does qualify, she will need a recheck echocardiogram in 3 months. If she does not qualify for the study, B6 should have a recheck in 3-6 months. You can call to schedule a technician appointment for placement of the Holter monitor at any time should you elect to do so.

Thank you for entrusting us with B6 care, she is such a sweetheart! Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information
<http://vet.tufts.edu/heartsmart/>

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Case: B6

Owner: B6

Discharge Instructions

Radiology Request & Report

Patient

Name: B6
Species: Canine
Gray Female Irish Wolfhound
Birthdate: B6

Owner

Name: B6
Address: B6

Patient ID: B6
Date of request: B6

Attending Clinician: B6 DVM (Intern: B6 Student: B6

Date of exam: B6

Patient Location: Ward/Cage:

Weight (kg) 61.90

Sedation

- Inpatient
- Outpatient Time:
- Waiting
- Emergency

- BAG
- OBAG
- 1/2 dose OBAG
- DexDomitor/Butorphanol
- Anesthesia to sedate/anesthetize

Examination Desired: chest rads, +/- 4 quadrant views

Presenting Complaint and Clinical Questions you wish to answer: rDVM referred for B6
workup
Emergency

Pertinent History:

B6

The cardiovascular structures, mediastinum, pleural space, and imaged cranial abdomen are normal. Ventral spondylosis deformans, as well as degenerative changes to the costochondral junctions of

B6

Conclusions:

B6

Radiologists

Primary: B6 DVM

Reviewing: B6 DVM, DACVR; B6 DVM, DACVR

Dates

Reported: B6

Finalized: 2/6/19

Radiology Request & Report

Patient

Name: B6
Species: Canine
Gray Female Irish Wolfhound
Birthdate: B6

Owner

Name: B6
Address: B6

Patient ID: B6
Date of request: B6

Attending Clinician: B6 DVM (Resident - SA Medicine) Student:

Date of exam: B6

Patient Location: Ward/Cage:

Weight (kg) 61.00

Sedation

- Inpatient
- Outpatient Time:
- Waiting
- Emergency

- BAG
- OBAG
- 1/2 dose OBAG
- DexDomitor/Butorphanol
- Anesthesia to sedate/anesthetize

Examination Desired:

left lateral and VD

Presenting Complaint and Clinical Questions you wish to answer:

Pertinent History:

Findings:

B6

Conclusions:

- Right cranial, right middle and left cranial (caudal subsegment) aspiration pneumonia. Follow up radiographs are recommended to monitor for resolution/progression.

Radiologists

Primary: [B6] DVM

Reviewing: [B6] DVM, DACVR; [B6] DVM, DACVR

Dates

Reported [B6]

Finalized: 2/6/19

Radiology Request & Report

Patient

Name: B6
Species: Canine
Gray Female Irish Wolfhound
Birthdate: B6

Owner

Name: B6
Address: B6

Patient ID: B6
Date of request: B6

Attending Clinician: B6

Student:

Date of exam: B6

Patient Location: Ward/Cage:

Weight (kg) 61.40

- Inpatient
- Outpatient Time:
- Waiting
- Emergency

Sedation

- BAG
- OBAG
- 1/2 dose OBAG
- DexDomitor/Butorphanol
- Anesthesia to sedate/anesthetize

Examination Desired:

2 view chest

Presenting Complaint and Clinical Questions you wish to answer:

B6

Pertinent History:

Findings:

B6

B6

Conclusions:

B6

Radiologists

Primary: B6 DVM

Reviewing: B6 DVM, DACVR; B6 DVM, DACVR

Dates

Reported: 1/10/2019

Finalized: 2/6/19

Radiology Request & Report

Patient

Name: B6

Species: Canine

Gray Female Irish Wolfhound

Birthdate: B6

Owner

Name: B6

Address: B6

Patient ID: B6

Date of request: B6

Attending Clinician: B6

DVM (Resident - SAM)

Student:

Date of exam: B6

Patient Location: Ward/Cage: with owner- no runs in B ward or radiology holding

Weight (kg) 64.40

- Inpatient
- Outpatient Time:
- Waiting
- Emergency

Sedation

- BAG
- OBAG
- 1/2 dose OBAG
- DexDomitor/Butorphanol
- Anesthesia to sedate/anesthetize

Examination Desired: met check

Presenting Complaint and Clinical Questions you wish to answer:

B6

Pertinent History: B6

B6

Findings:

B6

B6

Conclusions:

B6

Radiologists

Primary: B6 DVM

Reviewing: B6 DVM, DACVR; B6 DVM, DACVR

Dates

Reported: B6

Finalized: 2/6/19

Radiology Request & Report

Patient

Name: B6
Species: Canine
Gray Female Irish Wolfhound
Birthdate: B6

Owner

Name: B6
Address: B6

Patient ID: B6
Date of request: 2/5/2019

Attending Clinician: B6 DVM (Resident, Cardiology) Student: B6 V19

Date of exam: 2/5/19

Patient Location: Ward/Cage: Cardio

Weight (kg) 60.50

Sedation

- Inpatient
- Outpatient Time:
11am
- Waiting
- Emergency

- BAG
- OBAG
- 1/2 dose OBAG
- DexDomitor/Butorphanol
- Anesthesia to sedate/anesthetize

Examination Desired: 3 view chest

Presenting Complaint and Clinical Questions you wish to answer:

B6

Pertinent History:

B6

Findings:

B6

Conclusions:

[Redacted] B6

Radiologists

Primary: [Redacted] B6 DVM

Reviewing: [Redacted] B6 DVM, DACVR

Dates

Reported: 2/5/19

Finalized: 2/6/19

Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY
Cardiology Liaison: 508-887-4696

B6

Patient ID: B6
B6 Canine
B6 Years Old Female Irish Wolfhound
Gray

Cardiology Appointment Report

Date: 2/5/2019

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6, V*19

Presenting Complaint:

Recheck for possible diet associated DCM and B6

B6 no coughing, no trouble breathing, great energy level, no exercise restriction and tolerating that well. Normal appetite and drinking habits. No v/d/c/s.

O has noted a change in her bark (not as deep and more high pitched). Also has been B6 which she has been doing for her whole life. O mentions this because she was asked this when seen by internal medicine related to the B6

Overdue for vaccines, O is wondering when it is ok to give her vaccines.

Concurrent Diseases:

B6

General Medical History:

History of B6

Diet and Supplements:

Purina pro plan chicken and rice, 1.5 cups twice a day since January 15, 2019. Cheese with medications. Occasional dog treats.

No supplements.

Cardiovascular History:

Prior CHF diagnosis? N

Prior heart murmur? N

Prior ATE? N

Prior arrhythmia? Y

Monitoring respiratory rate and effort at home? N

Cough? N

Shortness of breath or difficulty breathing? N

Syncope or collapse? N

Sudden onset lameness? N

Exercise intolerance? N

Current Medications Pertinent to CV System:

B6

Cardiac Physical Examination:

B6

Muscle condition:

- Normal
- Mild muscle loss to
- Moderate cachexia
- Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

- None
- I/VI
- II/VI
- III/VI
- IV/VI
- V/VI
- VI/VI

Murmur location/description:

Jugular vein:

- Bottom 1/3 of the neck
- Middle 1/3 of the neck
- 1/2 way up the neck
- Top 2/3 of the neck

Arterial pulses:

- Weak
- Fair
- Good
- Strong
- Bounding
- Pulse deficits
- Pulsus paradoxous
- Other:

Arrhythmia:

- None
- Sinus arrhythmia
- Premature beats
- Bradycardia
- Tachycardia

Gallop:

- Yes
- No
- Intermittent
- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Pulmonary crackles
- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension
- Mild ascites
- Marked ascites

Problems:

History of B6
 History of B6
B6

Differential Diagnoses:

arrhythmias secondary to systemic disease at the time vs early DCM vs diet related

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure
- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests:

Echocardiogram Findings:

B6

B6

Mitral inflow:

- | | |
|--|---------------------------------------|
| <input type="checkbox"/> Summated | <input type="checkbox"/> Pseudonormal |
| <input type="checkbox"/> Normal | <input type="checkbox"/> Restrictive |
| <input checked="" type="checkbox"/> Delayed relaxation | |

:

ECG findings:

B6

Assessment and recommendations:

Echocardiogram is similar to previous examination with normal cardiac size but a contractile function that is low normal to slightly decreased. The patient is doing much better at home and the pneumonia is under control which makes the changes visualized at the previous echocardiogram (as well as today) unlikely to be related to sepsis or general inflammation. The patient is an athletic large breed and it is possible that the changes visualized are a variant of normal although we cannot rule out for sure DCM that is either diet related or breed related. Full bloodwork as well as NT-proBNP and troponin were submitted today and if one or the other is elevated the patient could officially be enrolled in the study in the equivocal category. Isolated VPCs were still visualized today and we discuss with the owner the possibility of doing a Holter monitor vs. purchasing an AliveCor vs. starting a beta-blocker. A Holter was not performed today because it was logistically not feasible for the owner to come back tomorrow but she will contact us if she wants to schedule a Holter placement. No cardiac medications are recommended as of right now. The patient has been switched to a Purina diet for the past 2 weeks and it has been tolerated well. A recheck echocardiogram and ECG are recommended in 3 months or sooner if the patient develops clinical signs consistent with worsening heart disease such as increased RR/RE, cough, exercise intolerance, or syncope.

Final Diagnosis:

- Mild decreased of the contractile function r/o variant of normal vs. DCM (diet related vs. breed related)

2D

SALA
Ao Diam
SALA / Ao Diam
IVSd
LVIDd
LVPWd
EDV(Teich)
IVSs
LVIDs
LVPWs
ESV(Teich)
EF(Teich)
%FS
SV(Teich)
LV Major
LV Minor
Sphericity Index
LVld A4C
LVEDV MOD A4C
LVls A4C
LVESV MOD A4C
LVEF MOD A4C
SV MOD A4C

B6

cm
cm
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M-Mode

IVSd
LVIDd
LVPWd
IVSs
LVIDs
LVPWs
EDV(Teich)
ESV(Teich)
EF(Teich)
%FS
SV(Teich)
Max LA
Ao Diam
LA Diam
LA/Ao
TAPSE
EPSS

B6

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Doppler

MV E Vel
MV DecT
MV Dec Slope
MV A Vel

B6

m/s
ms
m/s
m/s

MV E/A Ratio

E'

E/E'

A'

S'

AV Vmax

AV maxPG

PV Vmax

PV maxPG

B6

m/s

m/s

m/s

m/s

mmHg

m/s

mmHg

B6

B6 Female
Canine Irish Wolfhound Gray
Patient ID: **B6**

Outside Prescription Log

1. Date: 02/07/19
Clinician: **B6**
Prescription: **B6** no refills
Pharmacy sent to: faxed to **B6**
Completed by: **B6**
Origin of request: dr

2. Date:
Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

3. Date:
Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

4. Date:
Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

5. Date:
Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

6. Date:
Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

7. Date:

Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

8. Date:

Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

9. Date:

Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

10. Date:

Clinician:
Prescription:
Pharmacy sent to:
Completed by:
Origin of request:

Notice of Patient Admit

Date: B6 7:25:56 PM
Referring Doctor: B6
Client Name: B6
Patient Name: B6

Case No: B6

Dear Colleague,

Your patient presented to our Emergency service. Please make note of the following information to facilitate communication with our team.

The attending doctor is: B6
The reason for admission to the FHSA is: B6

If you have any questions regarding this particular case, please call 508-887-4988 to reach the Internal Medicine Service. Information is updated daily, by noon.

Thank you for your referral to our Emergency Service.

Notice of Patient Admit

Date: [B6] 7:25:56 PM

Case No: [B6]

Referring Doctor: [B6]

Client Name: [B6]

Patient Name: [B6]

Dear [B6]

Your patient presented to our Emergency service. Please make note of the following information to facilitate communication with our team.

The attending doctor is [B6]

The reason for admission to the FHSA is: [B6]

If you have any questions regarding this particular case, please call 508-887-4988 to reach the ECC Service. Information is updated daily, by noon.

Thank you for your referral to our Emergency Service.

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

Foster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01536
Telephone (508) 839-5395
Fax (508) 839-7951
<http://vetmed.tufts.edu/>

B6

B6 Female
Canine Irish Wolfhound Gray
B6

9/14/2018

Dear **B6**

B6

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

B6 DVM (Resident - SAM)

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

Foster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01536
Telephone (508) 839-5395
Fax (508) 839-7951
<http://vetmed.tufts.edu/>

B6

B6

Female

Canine Irish Wolfhound Gray

B6

9/28/2018

Dear

B6

B6

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

B6

DVM (Resident - SAM)

Notice of Patient Admit

Date: B6 2:43:45 AM

Case No: B6

Referring Doctor: B6

Client Name: B6

Patient Name: B6

Dear B6

Your patient presented to our Emergency service. Please make note of the following information to facilitate communication with our team.

The attending doctor is: B6

The reason for admission to the FHSA is: B6

If you have any questions regarding this particular case, please call 508-887-4988 to reach the ECC Service. Information is updated daily, by noon.

Thank you for your referral to our Emergency Service.

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

Foster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01536
Telephone (508) 839-5395
Fax (508) 839-7951
<http://vetmed.tufts.edu/>

B6

B6 Female
Canine Irish Wolfhound Gray
B6

B6

Dear **B6**

B6

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

B6 DVM (Resident - Emergency & Critical Care)

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

Foster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01536
Telephone (508) 839-5395
Fax (508) 839-7951
<http://vetmed.tufts.edu/>

B6

B6

Female

Canine Irish Wolfhound Gray

B6

1/9/2019

Dear

B6

B6

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

B6

DVM (Resident - SAM)

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

Foster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01536
Telephone (508) 839-5395
Fax (508) 839-7951
<http://vetmed.tufts.edu/>

B6

B6 Female
Canine Irish Wolfhound Gray
B6

2/11/2019

Dear **B6**

Thank you for referring **B6** with their pet **B6**

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

B6 DVM (Resident, Cardiology)

From: Rotstein, David </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=0A3B17EBFCF14A6CB8E94F322906BADD-DROTSTEI>
To: Carey, Lauren; Ceric, Olgica; Glover, Mark; Jones, Jennifer L; Nemser, Sarah; Palmer, Lee Anne; Peloquin, Sarah; Queen, Jackie L; Rotstein, David
Sent: 3/27/2019 11:07:28 AM
Subject: DCM 3/27/2019 0630
Attachments: 4Health whitefish and potato dry: Lisa Freeman - EON-376448; 4Health whitefish and potato dry: Lisa Freeman - EON-383414; Acana Singles Duck and Pear Formula Dry dog food: [B6] [B6] - EON-383424; Consumer Complaint Record Created in EON IMS (EON-383456); Rachel Ray's Chicken and Veggies: [B6] - EON-383378; Taste of the Wild High Prairie Puppy: [B6] - EON-383461; Taste of the Wild Venison & Legume diet: [B6] EON-383371

Note that 383371 is the PFR Lauren created for the reported that was submitted as a RFR (EON0383367)

4health (383414) is related to PFR 376448 (attached)

David Rotstein, DVM, MPVM, Dipl. ACVP
CVM Vet-LIRN Liaison
CVM OSC/DC/CERT
7519 Standish Place
240-506-6763 (BB)



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From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: [B6] HQ Pet Food Report Notification; [B6]
Sent: 1/15/2019 9:05:17 PM
Subject: 4Health whitefish and potato dry: Lisa Freeman - EON-376448
Attachments: 2061217-report.pdf; 2061217-attachments.zip

A PFR Report has been received and PFR Event [EON-376448] has been created in the EON System.

A "PDF" report by name "2061217-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2061217-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-376448

ICSR #: 2061217

EON Title: PFR Event created for 4Health whitefish and potato dry, 4Health salmon and potato adult dog food; 2061217

AE Date	01/03/2019	Number Fed/Exposed	3
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Stable
Breed	Pit Bull		
Age	7.5 Years		
District Involved	PFR-New England DO		

Product information

Individual Case Safety Report Number: 2061217

Product Group: Pet Food

Product Name: 4Health whitefish and potato dry, 4Health salmon and potato adult dog food

Description: Eating BEG diet Syncopal episodes - identified arrhythmia recently Owner changing diet and will recheck in 3 months Elevated BNP [B6] taurine and troponin pending 2 other dogs in household eating same diet - they have not been screened yet

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Stable

Number of Animals Treated With Product: 3

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
4Health salmon and potato adult dog food		
4Health whitefish and potato dry		

Sender information

Lisa Freeman
200 Westboro Rd
North Grafton, MA 01536
USA

Owner information

B6

To view this PFR Event, please click the link below:

<https://eon.fda.gov/eon//browse/EON-376448>

To view the PFR Event Report, please click the link below:

<https://eon.fda.gov/eon//EventCustomDetailsAction!viewReport.jspa?decorator=none&e=0&issueType=12&issueId=393457>

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Failure to adhere to the above provisions could result in removal from the approved distribution list. If you think

you received this email in error, please send an email to FDAREportableFoods@fda.hhs.gov immediately.

Report Details - EON-376448

ICSR: 2061217
 Type Of Submission: Initial
 Report Version: FPSR.FDA.PETF.V.V1
 Type Of Report: Adverse Event (a symptom, reaction or disease associated with the product)
 Reporting Type: Voluntary
 Report Submission Date: 2019-01-15 15:57:50 EST

Reported Problem:
Problem Description: Eating BEG diet Syncopal episodes - identified arrhythmia recently. Owner changing diet and will recheck in 3 months Elevated BNP: **B6** taurine and troponin pending 2 other dogs in household eating same diet - they have not been screened yet
Date Problem Started: 01/03/2019
Concurrent Medical Problem: Yes
Pre Existing Conditions: **B6**
Outcome to Date: Stable

Product Information:
Product Name: 4Health salmon and potato adult dog food
Product Type: Pet Food
Lot Number:
Product Use Information: **Description:** Alternates with other product listed
Manufacturer /Distributor Information:
Purchase Location Information:
Product Name: 4Health whitefish and potato dry
Product Type: Pet Food
Lot Number:
Product Use Information: **Description:** Alternates with other listed 4Health product
Manufacturer /Distributor Information:
Purchase Location Information:

Animal Information:
Name: **B6**
Type Of Species: Dog
Type Of Breed: Pit Bull
Gender: Male
Reproductive Status: Neutered
Weight: 33.4 Kilogram
Age: **B6** Years
Assessment of Prior Health: Excellent
Number of Animals Given the Product: 3
Number of Animals Reacted: 1
Owner Information: **Owner Information provided:** Yes
Contact: **Name:** **B6**
Phone:
Email:

		Address:	B6	
			United States	
Healthcare Professional Information:	Practice Name:	Tufts Cummings School of Veterinary Medicine		
	Contact:	Name:	Lisa Freeman	
		Phone:	(508) 887-4523	
		Email:	lisa.freeman@tufts.edu	
Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States			
Sender Information:	Name:	Lisa Freeman		
	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States		
	Contact:	Phone:	5088874523	
		Email:	lisa.freeman@tufts.edu	
	Permission To Contact Sender:	Yes		
Preferred Method Of Contact:	Email			
Additional Documents:	Attachment:	rpt_medical_record_preview	B6	pdf
	Description:	Records		
	Type:	Medical Records		

Foster Hospital for Small Animals

55 Willard Street
North Grafton, MA 01536
(508) 839-5395

Client:
Address:

B6

All Medical Records

Patient: **B6**
Breed: Pit Bull
DOB: **B6**

Species: Canine
Sex: Male
(Neutered)

B6

Referring Information

B6

Client: **B6**
Patient:

Initial Complaint:
Scanned Record

Initial Complaint:
Cardiology New - will be here at 1:30 PM

SOAP Text Jan 3 2019 1:03PM

B6

Disposition/Recommendations

Client:
Patient:

B6

Client:
Patient:

B6

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

Foster Hospital for Small Animals

55 Willard Street
North Grafton, MA 01536
(508) 839-5395

Client:
Veterinarian:
Patient ID:
Visit ID:

B6

Patient:

B6

Species:

Canine

Breed:

Pit Bull

Sex:

Male (Neutered)

Age:

B6 years Old

Lab Results Report

Accession ID:

Test	Results	Reference Range	Units
------	---------	-----------------	-------



3/53

B6

Printed Tuesday, January 15, 2019

Client:
Patient:

B6

B6

History 9/2018-12/29/18

B6

INVOICE

For:

B6

Date	For	Qty	Description	Price	Discount	Net Price
------	-----	-----	-------------	-------	----------	-----------

40.00

B6

Client:
Patient:

B6

B6

History 9/2018-12/29/18

B6

B6

B6

History 9/2018-12/29/18

B6

Client:
Patient

B6

B6

History 9/2018-12/29/18

B6

INVOICE

B6

Client:
Patient:

B6

B6

History 9/2018-12/29/18

B6

Patient Chart

CLIENT INFORMATION

B6

Client: **B6**
Patient:

B6 History 9/2018-12/29/18

B6

Client:
Patient:

B6

B6

Med 3/17/18 3 year Rabies Cert

B6

Client: **B6**
Patient:

diet history 1/3/19

CARDIOLOGY DIET HISTORY FORM

Please answer the following questions about your pet

Pet's name: **B6** Owner's name: **B6** Veterinarian: **B6**

B6

has been eating the health gran tree (alternating protein)
for multiple years, just recently switched to
regular kibble (w/ grain)

has also been fed a very wide variety of canned
food, only used to give medications.
about 2 tablespoons twice daily

- pedigree
- pure balance
- y health

Client:
Patient:

B6

B6

ospital records

B6

Patent Chart

B6

Client:
Patient:

B6

B6

ospital records

B6

Client:
Patient:

B6

B6

hospital records

B6

Client:
Patient:

B6

B6

ospital records

B6

Client: **B6**
Patient:

B6

hospital records

B6

Client:
Patient:

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hospital records

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Client:
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hospital records

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Client:
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hospital records

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Client:
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hospital records

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Client: **B6**
Patient:

B6 hospital records

B6

Client:
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hospital records

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hospital records

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hospital records

B6

Client:
Patient:

B6

IDEXX BNP - 1/3/2019

B6

Client:
Patient:

B6

CBC/CHEM - 1/3/2019



Tufts Cummings School Of Veterinary Medicine
300 Winthrop Road
North Grafton, MA 01133

DUPLICATE

B6

Client:
Patient:

B6

CBC/CHEM - 1/3/2019



Tufts Cummings School Of Veterinary Medicine
300 Winthrop Road
North Grafton, MA 01133

DUPLICATE

B6

Sample ID: D01101110
LAB OF REPORT (Test)

Examination _____
Page 1

Client:
Patient:

B6

Diet history 1/3/19

CARDIOLOGY DIET HISTORY FORM
Please answer the following questions about your pet:

Pet's name:

B6

Owner's name:

B6

Today's date:

1/5/19

B6

Client:
Patient:

B6

Diet history 1/3/19

Has been eating 4health grain free (alternating proteins)
for multiple years, just recently swapped to
regular kibble (Lufgran)

Has also been fed a very wide variety of canned
food, only used to give medications.
about 2 tablespoons twice daily

- pedigree
- pure balance
- 4 health

Client:
Patient:

B6

Lab Results IDEXX Leptospirosis Panel (MAT) 1/4/19

B6

Client:
Patient:

B6

B6

hospital UA results- 1/7/19

B6

Client:
Patient:

B6

B6

hospital UA results- 1/7/19

B6

Client:
Patient:

B6

IDEXX Chemistry 1/8/19

B6

B6

Client:
Patient:

B6

IDEXX Chemistry 1/8/19

B6

Client:
Patient:

B6

Taurine Panel send out 1/3/2019

Amino Acid Laboratory Sample Submission Form

Amino Acid Laboratory, 1383 Veterinary Medicine Drive, Davis, CA 95616
Telephone: 925-752-4653, Fax: 925-752-4698
Email: aa@aminoacidlab.com
www.aminoacidlab.com

B6

Veterinarian Contact: **B6**

Clinic/Company Name: Duke University School of Vet. Med. - Clinical Pathology Laboratory

Address: 200 Westcott Road, North Carolina, NC 27599

Email: clp@duke.edu

Telephone: 919-687-4000

Fax: 919-687-7000

Billing Contact: **B6**

Email: **B6**

Billing Contact Phone: 919-687-4000

Tax ID: _____

Patient Name: **B6**

Species: Cat

Breed: Tabby

Owner's Name: _____

Current Diet: _____

Sample type: Plasma Whole Blood Urine Food Other

Test: Taurine Complete Amino Acids Other

Taurine Results (lab use only)

Plasma: **B6** Whole Blood: **B6** Urine: _____ Food: _____

	Plasma (nMol/ml)		Whole Blood (nMol/ml)	
	Normal Range	No known risk for deficiency	Normal Range	No known risk for deficiency
Cat	80-120	>40	300-600	>200
Dog	60-120	>40	200-350	>150

* Please note with the recent increase in the number of dogs screened for taurine deficiency, we are seeing dogs with values within the reference ranges (or above the "no known risk for deficiency range") yet are still exhibiting signs of cardiac disease. Veterinarians are welcome to contact our laboratory for assistance in evaluating your patient's results.

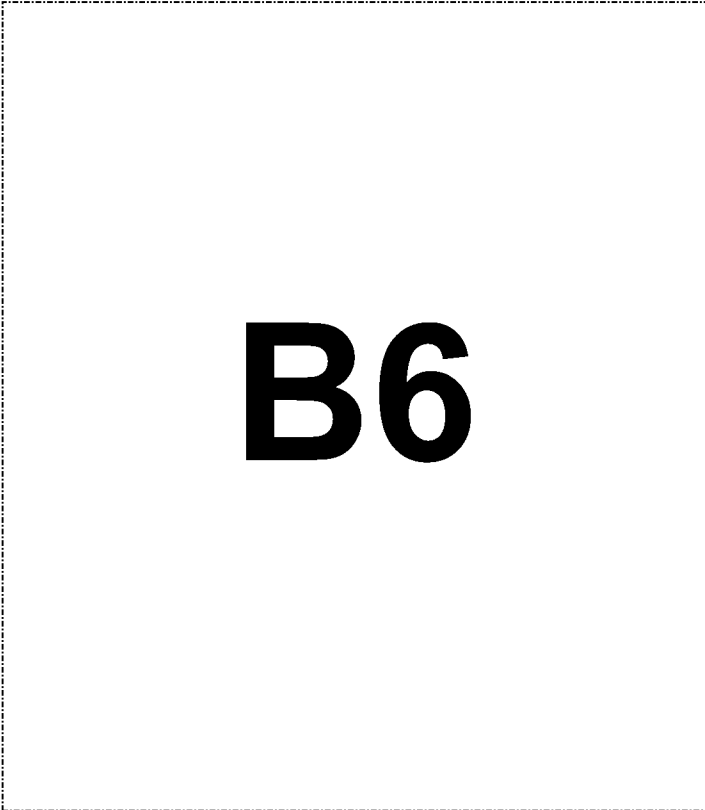
Client: **B6**
Patient:

Vitals Results

1/3/2019 1:44:42 PM	Weight (kg)	33.4000
1/3/2019 1:44:49 PM	Heart Rate (/min)	110.0000

Patient History

01/02/2019 12:50 PM	Appointment
01/03/2019 01:06 PM	UserForm
01/03/2019 01:16 PM	Treatment
01/03/2019 01:44 PM	Vitals
01/03/2019 01:44 PM	Vitals
01/03/2019 03:07 PM	Deleted Reason
01/03/2019 03:09 PM	Purchase
01/03/2019 03:10 PM	UserForm
01/03/2019 03:25 PM	Purchase
01/03/2019 03:25 PM	Purchase
01/03/2019 03:33 PM	Prescription
01/03/2019 03:33 PM	Prescription
01/03/2019 03:38 PM	Prescription
01/03/2019 03:47 PM	Purchase
01/03/2019 04:08 PM	Appointment
01/04/2019 06:18 PM	Purchase



Discharge Instructions

Patient:

Owner:

B6

Attending Cardiologist:

John F. Rush DVM, MS, DACVM (Cardiology), DACVCP

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student:

B6

Appointment Date: 1/3/2019

Diagnoses: Dilated cardiomyopathy (DCM)

Ventricular arrhythmias (ventricular tachycardia, ventricular bigeminy)

Case summary:

Thank you for bringing **B6** to Tufts Cardiology Service for evaluation of his collapsing episodes and arrhythmia that was noticed at your referring veterinarian. **B6** has been diagnosed with a primary heart muscle disease called dilated cardiomyopathy (DCM). This disease is more common in large and giant breed dogs and is characterized by thinning of the walls of the heart, reduced cardiac pump function, and enlargement of the upper chambers of the heart. Many dogs with DCM will also have significant arrhythmias which can be life-threatening, and also require medical management.

Fortunately, we caught this condition relatively early and **B6** does not appear to be in congestive heart failure yet.

However, if you notice that **B6** breathing rate is faster than normal at home we will want to have chest x-rays taken.

B6 also has some arrhythmias that are likely secondary to his heart disease. We will be starting him on some medications to mitigate the heart disease that he has and the arrhythmias that he is experiencing. We would like to adjust

B6 diet and we provided some dietary recommendations below.

B6

B6

B6

Dry Food Options:

Royal Canin Early Cardiac (ventriary diet)

Royal Canin Bloat

Purina Pro Plan Adult Weight Management (may be more cost-efficient)

Canned Food Options:

Hill's Science Diet Adult Beef and Barley Entrée

Hill's Science Diet Adult 1-6 Healthy Cuisine Roasted Chicken, Carrot, and Spinach Stew

Royal Canin Mature B+

Recheck Visits:

Thank you for enrolling **B6** in our clinical study. We would like to see an Alvecor reading in around two weeks once he has had some time on the anti-arrhythmic medication, or send one earlier if you are having any concerns. It would also be great if you can obtain an Alvecor reading if Horton has another episode of collapse or abnormal behavior.

B6 is scheduled for an appointment on April 8th, 2019 at 4:00 PM. We will perform an echo, ECG and bloodwork at this time.

If you would like to have your other dogs who have been eating the same diet as **B6** screened as part of the study, please call or email to set up an appointment in the near future.

Thank you for entrusting us with **B6** and it was a pleasure to meet you all today and he was a very good boy. Please contact our Cardiology liaison at (508)-287-4676 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information:

<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-287-4676) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/ventriary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new drug or treatment. Please see our website: vet.tufts.edu/apply-clinical-trials

Case

B6

Discharge Instructions

Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Foxley Hospital for Small Animals
95 Wilbur Street
North Grafton, MA 01536
Telephone (508) 839-5095
Fax (508) 839-7151
<http://vetmed.tufts.edu/>

AliveCor/Kardia Handout

If you have an iPhone or Android, you may want to explore the option of purchasing an AliveCor/Kardia ECG monitor which will allow you to record and email your pet's heart rate and rhythm at home.

The device (Kardia) can be purchased at www.alivecor.com or www.amazon.com. The app for your phone is free.

If you have an iPhone:

- Search for "Veterinary AliveECG" app in the Apple Store
- You will need to sign-up for an account
- Make sure to have your pet's name in the information so we know whom it is from
- If the app asks for permission to access headphone port/speaker port, say "OK/allow"

If you have an Android:

- Search for "Kardia" app in the Google Playstore
- You will need to sign-up for an account.
- Make sure to have your pet's name in the information so we know whom it is from
- If the app asks for permission to access headphone port/speaker port, say "OK/allow"
- Once downloaded, it will require you to send a "test ECG" for activation of the app. Just place your fingers on the silver sensors and let it record
- If the test ECG is unable to record, try again, with less movement. If it still fails, then your phone is not compatible with the device

Recording an ECG:

- Apply rubbing alcohol (soaked cotton ball will work) to the chest region behind your pet's elbow (where you can feel the heart beat)
- Enough to wet the regions where both silver boxes will touch the animal
- If your pet is fluffy, you may have to clip a small patch of fur to allow for better contact
- Hold the device against your pet's chest with the silver areas being up and down (vertical) in contact with the animal
- With the app open, hold your phone near (within a few inches) the device.
- There is a signal bar in the upper left corner of the app to show whether it detects the device. If there are no bars then move your phone around/get closer to the device until they appear.
- Once you see a recording, hold everything in place for at least 30 seconds if possible.
- The human Kardia app will attempt to interpret the ECG; just ignore this as it is not always accurate.
- The heart rate that the apps report is also not always accurate.

Saving an ECG:

- The app will automatically save the ECG as long as the recording is long enough (>20seconds)
- You can click on the ID box with pencil icon) in the Veterinary AliveECG app to add your pet's name

Emailing an ECG:

- If you are in the recording screen on the Veterinary AliveECG app, click on "ECGs" to see the list of saved ECGs
- If you are in the home screen on the Korlia app, click "History".
- Select the ECG you wish to send. Go to "Share". Select "Email PDF". **SKIP** the Password protect feature and select the email app you wish to send it by (Gmail, outlook, yahoo, etc). **You must have a working email on your phone for this to work.**
- Select an ECG that you wish to send
- Click the mail icon (either a box with arrow or a letter symbol), and select "Email"
- Email to: cardlowet@tufts.edu (only monitored Monday-Friday 9AM-5PM)

B6

Cardiology Appointment Report
ENROLLED IN DCM STUDY

Date: 1/3/2019

Attending Cardiologist:

John L. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student:

B6

Presenting Complaint:

Episodes of collapse over past year

Concerning Diseases:

B6

General Medical History:

First episode occurred about a year ago - owner originally thought that she had given him too much trazodone. He takes it in the winter because he is reactive to snow falling off the roof. Dog fight about to break out later that day and he collapsed.

Has had 5-6 episodes in the past year where he collapses - maintains consciousness, gum color is normal and he is alert. He is usually down for 30-60 seconds. Takes around a couple of hours after the event to go back to normal (lethargic).

All of these had been stimulated by a dog or a lot of arousal. Twice in past month.

Most recent episode was on Saturday - was in the yard and B6 got very worked up. Didn't fully collapse but laid down and wouldn't move. This more recent time he was spinning and acting nauseous (lip smacking). Took into the rDVM where they diagnosed an abnormal arrhythmia.

Chest radi from September, 4DX negative.

Diet has been reduced in the past week, will eat if the food is elevated.

Started urinating in the house about a year ago, believed to be behavioral.
Possibly PUPO in the past couple of months.

Diet and Supplements:

For Health grain free diet until 2 weeks ago For Health
Switched to non-grain free: For Health 1 cup and 1/4 BQ
Nupro powder

B6

B6

Problems:

Collapse
Arrhythmia

Differential Diagnosis:

DCM/CHF vs tachyarrhythmia vs bradyarrhythmia vs non-cardiac cause of collapse

Diagnostic plan:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Echocardiogram | <input type="checkbox"/> Dialysis profile |
| <input type="checkbox"/> Chemistry profile | <input checked="" type="checkbox"/> Thoracic radiographs +/- |
| <input checked="" type="checkbox"/> ECG | <input checked="" type="checkbox"/> NT-proBNP |
| <input type="checkbox"/> Renal profile | <input type="checkbox"/> Troponin I |
| <input type="checkbox"/> Blood pressure | <input type="checkbox"/> Other tests: |

B6

B6

Assessment and recommendations:

Echocardiogram and ECG reveal DCM and frequent ventricular arrhythmia. There is enough cardiac enlargement to be compatible with CHF and radiographs were discussed, but the owners perceive him to be breathing comfortably and will continue to monitor RR at home for now. If RR at home is 35 or higher then thoracic radiographs are recommended to assess for CHF. Holter monitor was discussed, but there was enough arrhythmia today to consider starting antiarrhythmic therapy and owners are planning to obtain a Kardia for at home ECG monitoring. The longstanding occurrence of collapse episodes (~1 year) is less consistent with these episodes being clearly related to his heart disease, but there is significant arrhythmia so it is possible the intermittent VT could be causing collapse. Recommend attempting to obtain a Kardia reading during an event if they continue, and if this is not successful then consider 24h Holter monitor. Recommend starting pimobendan, enalapril, and amiodarone. Recommend diet change to a main-stream brand suggestion from Dr Freeman. Patient was enrolled in DCM study so taurine levels, BNP, troponin, CBC/chemistry were submitted as part of the study. Recheck echo and blood work in 3 and 6 months as part of the study. Recheck sooner if clinical sign occur such as increased RR/RE, repeated collapse, cough, or exercise intolerance. The housemates of this dog who have been eating the same diet are eligible for screening as part of the DCM study.

Start:

B6

Final Diagnosis:

DCM

Ventricular arrhythmia (VPCs, couplets, triplets, non-sustained R on T VT)

Heart Failure Classification Score:

ISACH Classification:

- | | |
|--|-------------------------------|
| <input type="checkbox"/> Ia | <input type="checkbox"/> IIIa |
| <input checked="" type="checkbox"/> Ib | <input type="checkbox"/> IIIb |
| <input type="checkbox"/> II | |

ACVIM Classification:

- | | |
|--|----------------------------|
| <input type="checkbox"/> A | <input type="checkbox"/> C |
| <input type="checkbox"/> B1 | <input type="checkbox"/> D |
| <input checked="" type="checkbox"/> B2 | |

M-Mode

IVSd

LVIdd

LVPWd

IVSc

LVIdSc

LVPWSc

EDV(Teich)

ESV(Teich)

EF(Teich)

%FS

SV(Teich)

Ao Diam

LA Diam

LA/Ao

Max LA

EPSS

M-Mode Normalized

IVSdN

LVIddN

LVPWdN

IVScN

LVIdScN

LVPWScN

Ao Diam N

LA Diam N

ZD

SA LA

Ao Diam

SA LA / Ao Diam

IVSd

LVIdd

LVPWd

EDV(Teich)

IVSc

LVIdSc

LVPWSc

ESV(Teich)

EF(Teich)

%FS

SV(Teich)

LV Major

LV Minor

Sphericity Index

LVId LAX

LVAd LAX

LVEDV A.L LAX

B6

cm

cm

cm

cm

cm

cm

ml

ml

%

%

ml

cm

cm

cm

cm

(0.290 - 0.520)

(1.350 - 1.730) !

(0.330 - 0.530)

(0.430 - 0.710)

(0.790 - 1.140) !

(0.530 - 0.780) !

(0.680 - 0.890) !

(0.640 - 0.900) !

cm

cm

cm

cm

cm

ml

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ml

LVEDV MOD LAX
LVLs LAX
LVA_s LAX
LVESV A-L LAX
LVESV MOD LAX
HR
EF A-L LAX
LVEF MOD LAX
SV A-L LAX
SV MOD LAX
CO A-L LAX
CO MOD LAX

Doppler

MR Vmax
MR maxPG
MV E Vel
MV DecT
MV Dec Slope
MVA Vel
MV L/A Ratio
E'
E/E'
A'
AV Vmax
AV maxPG
PV Vmax
PV maxPG

B6

ml
cm
cm
ml
ml
BPM
%%ml
ml
l/min
l/min

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Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

Forster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01526
Telephone (508) 829-5295
Fax (508) 829-7951
<http://vetmed.tufts.edu/>

B6

B6

1/4/2019

Dear Dr. **B6**

Thank you for referring **B6** with their pet **B6**

If you have any questions, or concerns, please contact us at 508-829-1988.

Thank you,

B6 (Cardiology)

2

From: Related PFR Event <pfrsignificantactivitycreation@fda.hhs.gov>
To: B6 HQ Pet Food Report Notification;
Sent: 3/26/2019 6:25:57 PM
Subject: 4Health whitefish and potato dry: Lisa Freeman - EON-383414
Attachments: 2064645-report.pdf; 2064645-attachments.zip

A PFR Report has been received and Related PFR Event [EON-383414] has been created in the EON System.

A "PDF" report by name "2064645-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2064645-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-383414

ICSR #: 2064645

EON Title: Related PFR Event created for 4Health whitefish and potato dry, 4Health salmon and potato adult dog food; 2064645

AE Date	01/03/2019	Number Fed/Exposed	3
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Died Euthanized
Breed	Pit Bull		
Age	7.5 Years		
District Involved	PFR-New England DO		

Product information

Individual Case Safety Report Number: 2064645

Product Group: Pet Food

Product Name: 4Health whitefish and potato dry, 4Health salmon and potato adult dog food

Description: Eating BEG diet Syncopal episodes - identified arrhythmia recently Owner changing diet and will recheck in 3 months Elevated BNP (B6) taurine and troponin pending 2 other dogs in household eating same diet - they have not been screened yet

Submission Type: Followup

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Died Euthanized

Number of Animals Treated With Product: 3

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
4Health salmon and potato adult dog food		
4Health whitefish and potato dry		

This report is linked to:

Initial EON Event Key: EON-376448

Initial ICSR: 2061217

Sender information

Lisa Freeman
200 Westboro Rd
North Grafton, MA 01536
USA

Owner information

B6

To view this Related PFR Event, please click the link below:

<https://eon.fda.gov/eon//browse/EON-383414>

To view the Related PFR Event Report, please click the link below:

<https://eon.fda.gov/eon//EventCustomDetailsAction!viewReport.jspa?decorator=none&e=0&issueType=10100&issueId=400512&parentIssueTypeId=12>

This email and attached document are being provided to you in your capacity as a Commissioned Official with the U.S. Department of Health and Human Services as authorized by law. You are being provided with this information pursuant to your signed Acceptance of Commission.

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shared or acted upon independently. Any and all actions regarding this information should be coordinated through your local district FDA office.

Failure to adhere to the above provisions could result in removal from the approved distribution list. If you think you received this email in error, please send an email to FDAREportableFoods@fda.hhs.gov immediately.

Report Details - EON-383414

ICSR:	2064645	
Type Of Submission:	Followup	
Report Version:	FPSR.FDA.PETF.V.V1	
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)	
Reporting Type:	Voluntary	
Report Submission Date:	2019-03-26 14:13:37 EDT	
Initial Report Date:	01/15/2019	
Parent ICSR:	2061217	
Follow-up Report to FDA Request:	Yes	
Reported Problem:	Problem Description:	Eating BEG diet Syncopal episodes - identified arrhythmia recently Owner changing diet and will recheck in 3 months Elevated BNP [B6] taurine and troponin pending 2 other dogs in household eating same diet - they have not been screened yet
	Date Problem Started:	01/03/2019
	Concurrent Medical Problem:	Yes
	Pre Existing Conditions:	[B6]
	Outcome to Date:	Died Euthanized
	Date of Death:	[B6]
Product Information:	Product Name:	4Health salmon and potato adult dog food
	Product Type:	Pet Food
	Lot Number:	
	Product Use Information:	Description: Alternates with other product listed
	Manufacturer /Distributor Information:	
	Purchase Location Information:	
	Product Name:	4Health whitefish and potato dry
	Product Type:	Pet Food
	Lot Number:	
	Product Use Information:	Description: Alternates with other listed 4Health product
	Manufacturer /Distributor Information:	
	Purchase Location Information:	
Animal Information:	Name:	[B6]
	Type Of Species:	Dog
	Type Of Breed:	Pit Bull
	Gender:	Male
	Reproductive Status:	Neutered
	Weight:	33.4 Kilogram
	Age:	[B6] Years
	Assessment of Prior Health:	Good
	Number of Animals Given the Product:	3
	Number of Animals Reacted:	1

	Owner Information:	Owner Information provided:	Yes						
		Contact:	<table border="1"> <tr> <td>Name:</td> <td rowspan="3" style="text-align: center; vertical-align: middle;">B6</td> </tr> <tr> <td>Phone:</td> </tr> <tr> <td>Email:</td> </tr> </table>	Name:	B6	Phone:	Email:		
Name:	B6								
Phone:									
Email:									
		Address:	<table border="1"> <tr> <td style="text-align: center; vertical-align: middle;">B6</td> </tr> <tr> <td>United States</td> </tr> </table>	B6	United States				
B6									
United States									
	Healthcare Professional Information:	Practice Name:	Tufts Cummings School of Veterinary Medicine						
		Contact:	<table border="1"> <tr> <td>Name:</td> <td>Lisa Freeman</td> </tr> <tr> <td>Phone:</td> <td>(508) 887-4523</td> </tr> <tr> <td>Email:</td> <td>lisa.freeman@tufts.edu</td> </tr> </table>	Name:	Lisa Freeman	Phone:	(508) 887-4523	Email:	lisa.freeman@tufts.edu
Name:	Lisa Freeman								
Phone:	(508) 887-4523								
Email:	lisa.freeman@tufts.edu								
		Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States						
Sender Information:	Name:	Lisa Freeman							
	Address:	200 Westboro Rd North Grafton Massachusetts 01536 United States							
	Contact:	<table border="1"> <tr> <td>Phone:</td> <td>5088874523</td> </tr> <tr> <td>Email:</td> <td>lisa.freeman@tufts.edu</td> </tr> </table>	Phone:	5088874523	Email:	lisa.freeman@tufts.edu			
Phone:	5088874523								
Email:	lisa.freeman@tufts.edu								
	Permission To Contact Sender:	Yes							
	Preferred Method Of Contact:	Email							
	Reported to Other Parties:	None							
Additional Documents:	Attachment:	Med record 1.pdf							
	Description:	Medical record							
	Type:	Medical Records							
	Attachment:	Med record 4.pdf							
	Description:	Medical record							
	Type:	Medical Records							
	Attachment:	Med record 2.pdf							
	Description:	Medical record							
	Type:	Medical Records							
	Attachment:	Med record 3.pdf							
	Description:	Medical record							
	Type:	Medical Records							

Client:
Address:

B6

All Medical Records

Patient: B6
Breed: Pit Bull
DOB: B6

Species: Canine
Sex: Male
(Neutered)

B6

Referring Information

B6

Client: B6
Patient:

Initial Complaint:
Scanned Record

Initial Complaint:
Cardiology New - will be here at 1:30 PM

SOAP Text Jan 3 2019 1:03PM

B6

Disposition/Recommendations

Client:
Patient

B6

Client:
Patient:

B6

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

Foster Hospital for Small Animals

55 Willard Street
North Grafton, MA 01536
(508) 839-5395

Client:	B6
Veterinarian:	
Patient ID:	
Visit ID:	

Patient:	B6
Species:	Canine
Breed:	Pit Bull
Sex:	Male (Neutered)
Age:	B6 Years Old

Lab Results Report

Accession ID:

Test	Results	Reference Range	Units
------	---------	-----------------	-------



3/95

B6

Printed Tuesday, March 26, 2019

Client: **B6**
Patient:

B6 History 9/2018-12/29/18

B6

INVOICE

FOR: **B6**

Printed: 12-31-18 at 2:26p
Date: 12-29-18
Account: 10080
Invoice: 106408

Date	For	Qty	Description	Price	Discount	Net Price
------	-----	-----	-------------	-------	----------	-----------

12-29-18						40.00
----------	--	--	--	--	--	-------

B6

Heart- NMA, irregularly irregular rhythm, femoral pulses deficits

B6

Assessment -
1. Cardiac arrhythmia
2. Pulse deficits
3. Apparent syncopal events

Ddx - DCM, atrial fibrillation, PSVT

Plan -
1. Referral to specialist for echocardiogram + ECG

2. **B6**

O reports intermittent, more frequent syncopal episodes recently. Sometimes

Client:
Patient:

B6

B6

History 9/2018-12/29/18

fainting, but other times appears nauseated and unstable. Strongly recommended referral to cardiologist for complete work up including ECHO, ECG, BP, proBNP and complete thoracic radiograph series. VHS = 10.5 based on prior radiograph taken in hospital

12-29-18

1 Ultrasound - In House

55.00

B6

A minimum Service Charge of \$5.00 per month in addition to a 1.5% monthly finance charge will be applied to all balances after 30 days.

Patient

Total charges

B6

B6

Doctor's Instructions

Office Call - Brief Exam

Our Regular Business Hours are Mon, Tues, Wed and Fri 9am-5pm, Thurs 9am-7pm and Sat 9am-12pm

In Case of an Emergency After Hours:

B6

to the appropriate hospital providing coverage at that time.

In order to ensure the most comprehensive care for your pet, all overnight, weekend and holiday emergencies are referred to the closest fully staffed 24 hour emergent facilities by all of the **B6** area animal hospitals.

B6

Client:
Patient:

B6

B6

History 9/2018-12/29/18

PET OWNER'S COPY

B6

B6

THAT TO MY KNOWLEDGE THIS DOG HAS NOT BITTEN ANYONE WITHIN 10 DAYS.

This is to certify that this date 3/17/2018, a (dog) (cat)
(ferret) (wolf)

belonging to **B6**
mailing address **B6**
and residing in **B6**

was vaccinated with Boehringer-Ingelheim Rabivac 3 Killed vac
brand type rabies vaccine,
serial no. 1215388A

Breed P. Bull mix Age 4 yrs Sex NM

Weight 76.6# Tag No. _____

Animal's Name **B6**

Markings of animal _____

Re-vaccination Due
Date 3/17/2018 **B6**

Retain this certificate. A charge for replacement may be made.

The Veterinarian signing this certificate is licensed by the State of **B6** and has the approval of the Department of Agriculture for the issuance of Health Certificates and Rabies Vaccinations.

Client:
Patient:

B6

B6

History 9/2018-12/29/18

B6

INVOICE

FOR:

B6

Printed: 12-31-18 at 2:44p
Date: 12-29-18
Account: 10080
Invoice: 106408

Date	For	Qty	Description	Price	Discount	Net Price
------	-----	-----	-------------	-------	----------	-----------

12-29-18

B6

Heart- NMA, irregularly irregular rhythm, femoral pulses deficits

B6

Assessment -

1. Cardiac arrhythmia
2. Pulse deficits
3. Apparent syncopal events

Ddx - DCM, atrial fibrillation, PSVT

Plan -

1. Referral to specialist for echocardiogram + ECG
2. **B6**

O reports intermittent, more frequent syncopal episodes recently. Sometimes

Client:
Patient:

B6

B6

History 9/2018-12/29/18

B6

Patient Chart

Printed: 12-31-18 at 2:30p

CLIENT INFORMATION

Name
Address

B6

Significant Other

B6

PATIENT INFORMATION

Name **B6**
Sex Male, Neutered
Birthday **B6**
ID
Color Tan & White
Reminded 03-08-18

Species Canine
Breed American Pit Bull
Age 7y
Rabies 6696
Weight 74.20 lbs
Codes

⚠ 03-22-18 11:23a: CAUTION! **B6** excellent handler

B6

MEDICAL HISTORY

Date	By	Code	Description	Qty (Variance)	Photo
------	----	------	-------------	----------------	-------

09-20-18

B6

Client:
Patient:

B6

B6

History 9/2018-12/29/18

Patient Chart for **B6**
Date: 12-31-18, Time: 2:30p

Client: **B6**
Page: 2

Date	By	Code	Description	Qty (Variance)	Photo
------	----	------	-------------	----------------	-------

09-20-18

B6

Heart- NMA, NSR, femoral pulses are strong and synchronous - just very fast.

B6

Age: 7y

(Additional history not shown)

Client:
Patient:

B6

B6

et Med 3/17/18 3 year Rabies Cert

PET OWNER'S COPY

B6

B6

RSA 436:10JL REQUIRES THE FOLLOWING OWNER STATEMENT:

I, **B6** _____ SWEAR
THAT TO MY KNOWLEDGE THIS DOG HAS NOT BITTEN ANYONE WITHIN 10 DAYS.

This is to certify that this date 3/17/18, a (dog) (cat)
(ferret) (wolf)

belonging to **B6**
mailing address **B6**
and residing in **B6**

was vaccinated with Rabvac 3 KV
serial no. **B6** brand rabies vaccine, type

Breed Pitbull mix Age 7 YRS Sex NM

Weight 80 lbs Tag No. **B6**

Animal's Name **B6**

Markings of animal tan & white

Re-vaccination Due **B6**
Date 3/17/21

Retain this certificate. A charge for rep made.

B6

The Veterinarian signing this certificate is licensed by the State of **B6** and has the approval of the Department of Agriculture for the issuance of Health Certificates and Rabies Vaccinations.

Client: **B6**
 Patient: _____

diet history 1/3/19

CARDIOLOGY DIET HISTORY FORM
 Please answer the following questions about your pet

Pet's name: **B6** Owner's name: **B6** Today's date: 1/3/19

1. How would you assess your pet's appetite? (mark the point on the line below that best represents your pet's appetite)
 Example: **Poor** _____ | _____ **Excellent**
Poor _____ | _____ **Excellent**

2. Have you noticed a change in your pet's appetite over the last 1-2 weeks? (check all that apply)
 Eats about the same amount as usual Eats less than usual Eats more than usual
 Seems to prefer different foods than usual Other: seems more hesitant to eat but once encouraged, he eats his meals. Elevating his bowl has helped
3. Over the last few weeks, has your pet (check one)
 Lost weight Gained weight Stayed about the same weight Don't know
4. Please list below **ALL** pet foods, people food, treats, snack, dental chews, rawhides, and any other food item that your pet currently eats. Please include the brand, specific product, and flavor so we know exactly what you pet is eating.

Examples are shown in the table – please provide enough detail that we could go to the store and buy the exact same food.

Food (include specific product and flavor)	Form	Amount	How often?	Fed since
Nutro Grain Free Chicken, Lentil, & Sweet Potato Adult	dry	1 1/2 cup	2x/day	Jan 2018
85% lean hamburger	microwaved	3 oz	1x/week	Jan 2015
Pupperoni original beef flavor	treat	1/2	1x/day	Aug 2015
Rawhide	treat	6 inch twist	1x/week	Dec 2015
4Health adult Kibble (alternating proteins - lamb, fish)	dry	1/4 c	Twice daily	12/18
↓ WHITE FISH + SWEET POTATO OR SALMON + POTATO ADULT				

*Any additional diet information can be listed on the back of this sheet

5. Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, or any other supplements)? Yes No If yes, please list which ones and give brands and amounts:
- | | Brand/Concentration | Amount per day |
|--|--|----------------------------|
| Taurine | <input type="checkbox"/> Yes <input type="checkbox"/> No _____ | _____ |
| Carnitine | <input type="checkbox"/> Yes <input type="checkbox"/> No _____ | _____ |
| Antioxidants | <input type="checkbox"/> Yes <input type="checkbox"/> No _____ | _____ |
| Multivitamin | <input type="checkbox"/> Yes <input type="checkbox"/> No _____ | _____ |
| Fish oil | <input type="checkbox"/> Yes <input type="checkbox"/> No _____ | _____ |
| Coenzyme Q10 | <input type="checkbox"/> Yes <input type="checkbox"/> No _____ | _____ |
| Other (please list):
Example: Vitamin C | Nature's Bounty | 500 mg tablets – 1 per day |
| <u>Auger powder</u> | _____ | <u>1 tsp twice daily</u> |
| <u>CBM oil - 4 drops BID</u> | _____ | <u>(just for flavor)</u> |

6. How do you administer pills to your pet?
 I do not give any medications
 I put them directly in my pet's mouth without food
 I put them in my pet's dog/cat food - canned food
 I put them in a Pill Pocket or similar product
 I put them in foods (list foods): _____

diet history 1/3/19

Has been eating 4health grain free (alternating proteins) for multiple years, just recently switched to regular kibble (w/grain)

has ~~use~~ been fed a very wide variety of canned food, only used to give medications - about 2 tablespoons twice daily

- pedigree
- pure balance
- 4 health

Client:
Patient:

B6

RDVM

B6

vet hospital records

B6

Patient Chart

Printed: 01-02-19 at 5:09p

CLIENT INFORMATION

Name
Address

B6

Significant Other

B6

PATIENT INFORMATION

Name
Sex
Birthday
ID
Color
Reminded

B6
Male, Neutered
B6
Tan & White
03-08-18

Species
Breed
Age
Rabies
Weight
Codes
Canine
American Pit Bull
7y
6696
74.20 lbs

⚠ 03-22-18 11:23a: CAUTION! **B6** excellent handler

B6

HEALTH HISTORY SUMMARY

Date Diagnosis

B6

MEDICAL HISTORY

Date By Code Description Qty (Variance) Photo

01-02-19 **B6** NOTES Notes
B6 01-02-19 at 4:40p: emailed chart to liaisons@tufts.edu

12-31-18 **B6** FNOTES\$ By: NKS, notes? Plan?
B6 12-31-18 at 1:36p: looks like she left without being checked out? Plan? Was he referred?
Payment?

B6 12-31-18 at 4:35p: Took care of bill today - sent home with thoracic image from previous date
+ notes from Saturday's exam. He has an appointment with a specialist at Tufts on Thurs
1/3/19

12-29-18 **B6** 1IHUL Ultrasound - In House

Client:
Patient:

B6

RDVM

B6

hospital records

Patient Chart for **B6**
Date: 01-02-19, Time: 5:09p

Client **B6**
Page: 2

Date	By	Code	Description	Qty (Variance)	Photo
------	----	------	-------------	----------------	-------

B6

Heart: NMA, irregularly irregular rhythm, femoral pulses deficits

B6

Assessment -
 1. Cardiac arrhythmia
 2. Pulse deficits
 3. Apparent syncopal events

Ddx - DCM, atrial fibrillation, PSVT

Plan -
 1. Referral to specialist for echocardiogram + ECG
 2. **B6**

O reports intermittent, more frequent syncopal episodes recently. Sometimes fainting, but other times appears nauseated and unstable. Strongly recommended referral to cardiologist for complete work up including ECHO, ECG, BP, proBNP and complete thoracic radiograph series. VHS = 10.5 based on prior radiograph taken in hospital

12-29-18

SGY MSIT Patient check-in

B6 12-29-18 at 11:01a: urgent- check heart- having a episode. Having a tough time hearing HR

Age: 7y

Client:
Patient:

B6

RDVM

B6

hospital records

Patient Chart for **B6**
Date: 01-02-19, Time: 5:08p

Client: **B6**

Page: 3

Date	By	Code	Description	Qty (Variance)	Photo
------	----	------	-------------	----------------	-------

B6

Client:
Patient:

B6

RDVM:

B6

hospital records

B6

Client:
Patient:

B6

RDVM

B6

vet hospital records

B6

Client: **B6**
Patient:

RDVM **B6** hospital records

Patient Chart **B6**
Date: 01-02-19, Time: 5:09p

Client: **B6**
Page: 6

Date	By	Code	Description	Qty (Variance)	Photo
CHEM 27 w/ SDMA.03-22-18.8:38a					
			ALP	5 160	U/L
			ALT	18 121	U/L
			AST	16 55	U/L
			CREATINE KINASE	10 200	U/L
			GGT	0 13	U/L
			AMYLASE	337 1469	U/L
			LIPASE	138 755	U/L
			ALBUMIN	2.7 3.9	g/dL
			TOTAL PROTEIN	5.5 7.5	g/dL
			GLOBULIN	2.4 4.0	g/dL
			TOTAL BILIRUBIN	0.0 0.3	mg/dL
			BILIRUBIN CONJUGATED	0.0 0.1	mg/dL
			BUN	9 31	mg/dL
			CREATININE	0.5 1.5	mg/dL
			CHOLESTEROL	131 345	mg/dL
			GLUCOSE	63 114	mg/dL
			CALCIUM	8.4 11.8	mg/dL
			PHOSPHORUS	2.5 6.1	mg/dL
			TCO2 (BICARBONATE)	13 27	mmol/L
			CHLORIDE	108 119	mmol/L
			POTASSIUM	4.0 5.4	mmol/L
			SODIUM	142 152	mmol/L
			ALB/GLOB RATIO	0.7 1.5	
			BUN/CREATININE		
			BILIRUBIN UNCONJUGATED	0.0 0.2	mg/dL
			NA/K RATIO	28 37	
			HEMOLYSIS INDEX		

B6

B6

Index of N, 1+, 2+ exhibits no significant effect on chemistry values.

RESULTS MAY BE AFFECTED BY THE PRESENCE OF HEMOLYSIS.

LIPEMIA INDEX **B6**

Index of N, 1+, 2+ exhibits no significant effect on chemistry values.

ANION GAP	11	26	mmol/L
SDMA	0	14	ug/dL

SDMA IS WITHIN THE REFERENCE INTERVAL AND CREATININE IS INCREASED. This combination of results is uncommon. Hemolysis, if present, can result in decreased SDMA. SDMA and creatinine can both be affected by biologic and assay variability resulting in fluctuations around the upper end of the reference interval; this can be seen with well-managed stable CKD and results will likely align as disease progresses. Creatinine can exceed the reference interval in muscular dogs with normal kidney function. Creatinine can be artifactually increased postprandially. If kidney disease is still suspected, a complete urinalysis should be performed on all patients to evaluate for inappropriate specific gravity, proteinuria or other evidence of kidney disease.

Test	Result	Flag	Normal Range		Measure
			Low	High	
T4 03-22-18 8:38a	B6		1.0	4.0	ug/dL

B6

Interpretive ranges:

- <1.0 Low
- 1.0-4.0 Normal
- >4.0 High
- 2.1-5.4 Therapeutic

Dogs with no clinical signs of hypothyroidism and results within the normal reference range are likely euthyroid. Dogs with low T4 concentrations may be hypothyroid or "euthyroid sick". Occasionally,

Client: **B6**
Patient: **B6**

RDVM **B6** hospital records

Patient Chart for **B6**
Date: 01-02-19, Time: 5:09p

Client **B6** Page: 7

Date By Code Description Qty (Variance) Photo

hypothyroid dogs can have T4 concentrations that are low normal. Dogs with clinical signs of hypothyroidism and low or low normal T4 concentrations may be evaluated further by submission of free T4 and canine TSH. A high T4 concentration in a clinically normal dog is likely variation of normal; however elevations may occur secondary to thyroid autoantibodies or rarely thyroid neoplasia. For dogs on thyroid supplement, acceptable 4-6 hour post pill total T4 concentrations generally fall within the higher end or slightly above the reference range.

Test	Result	Flag	Normal Range Low High	Measure
CBC STANDARD 03-22-18 8:38a				
WBC	B6		4.9 17.6	K/uL
REC	B6		5.39 8.70	M/uL
HGB	B6		13.4 20.7	g/dL
HCT	B6		38.3 56.5	%
MCV	B6		59 76	fL
MCH	B6		21.9 26.1	pg
MCHC	B6		32.6 39.2	g/dL
% RETICULOCYTE	B6			%
RETICULOCYTE	B6		10 110	K/uL
% NEUTROPHIL	B6			%
% LYMPHOCYTE	B6			%
% MONOCYTE	B6			%
% EOSINOPHIL	B6			%
% BASOPHIL	B6			%
PLATELET	B6		143 448	K/uL
NEUTROPHIL	B6		2940 12670	/uL
LYMPHOCYTE	B6	L	1060 4950	/uL
MONOCYTE	B6		130 1150	/uL
EOSINOPHIL	B6		70 1490	/uL
BASOPHIL	B6		0 100	/uL
AUTOMATED CBC				

Test	Result	Flag	Normal Range Low High	Measure
------	--------	------	--------------------------	---------

UPC IF INDICATED 03-22-18 8:38a
UPC IF INDICATED

A urine protein-to-creatinine ratio (UPC) was not indicated because there was either a negative SSA protein or an active urine sediment (presence of gross hematuria, >100 RBC/hpf, >5 WBC/hpf or bacteria).

Test	Result	Flag	Normal Range Low High	Measure
URINALYSIS 03-22-18 8:38a				
COLLECTION METHOD	B6			
COLOR	B6			
CLARITY	B6			
SPECIFIC GRAVITY	B6			
GLUCOSE	B6			
BILIRUBIN	B6			
KETONES	B6			
BLOOD	B6			
PH	B6			
PROTEIN	B6			

Protein test is performed and confirmed by the sulfosalicylic acid test

WBC	B6		0 5	HPF
-----	-----------	--	-----	-----

Client:
Patient:

B6

RDVN

B6

hospital records

Patient Chart for **B6**
Date: 01-02-19, Time: 5:09p

Client **B6**
Page: 8

Date	By	Code	Description	Qty (Variance)	Photo
			RBC	NONE SEEN	HPF
			BACTERIA	NONE SEEN	
			EPI CELL	RARE (0-1)	
			MUCUS	NONE SEEN	
			CASTS	OCC HYALINE (0-1)LP	
			CRYSTALS	NONE SEEN	
			UROBILINOGEN	NORMAL	
			<u>Test</u>	<u>Result</u>	<u>Flag</u> <u>Normal Range</u> <u>Low</u> <u>High</u>

NOTE FROM IDEXX 03-22-18 8:38a
NOTE

Sample submitted in non-IDEXX glass tube: IDEXX no longer supports the use of glass collection tubes in order to minimize safety concerns. Plastic collection tubes can be ordered at no charge online at order.idexx.com or through the Inside Sales Center at 888-79-IDEXX using product number 98-0003497-00.

03-22-18 **B6** 1SPR Senior Profile w/Reflex UA #26639999
1DOCI Doctors' Instructions

B6

Client: **B6**
Patient:

RDV **B6** hospital records

Patient Chart for **B6**
Date: 01-02-19, Time: 5:09p

Client **B6**
Page: 9

Date	By	Code	Description	Qty (Variance)	Photo
------	----	------	-------------	----------------	-------

B6			Heart-NMA, NSR, femoral pulses are strong and synchronous		
-----------	--	--	---	--	--

B6

B6

Client:
Patient:

B6

RDVM:

B6

hospital records

Patient Chart for **B6**
Date: 01-02-19, Time: 5:09p

Client **B6**

Page: 10

Date	By	Code	Description	Qty (Variance)	Photo
------	----	------	-------------	----------------	-------

B6

Client:
Patient:

B6

RDVM

B6

hospital records

Patient Chart for **B6**
Date: 01-02-19, Time: 5:09p

Client **B6**

Page: 11

Date	By	Code	Description	Qty (Variance)	Photo
------	----	------	-------------	----------------	-------

B6

Client: **B6**
Patient:

RDVN **B6** hospital records

Patient Chart # **B6**
Date: 01-02-19, Time: 5:09p

Client **B6** Page: 12

Date	By	Code	Description	Qty (Variance)	Photo
------	----	------	-------------	----------------	-------

B6

Client:
Patient:

B6

RDVM

B6

hospital records

B6

Client:
Patient:

B6

RDVM:

B6

hospital records

B6

Client:
Patient:

B6

RDVN

B6

hospital records

B6

Client: **B6**
Patient:

RDVN **B6** hospital records

B6

Client:
Patient:

B6

RDVM

B6

hospital records

B6

Client: **B6**
Patient:

IDEXX BNP - 1/3/2019

IDEXX Reference Laboratories

Client: **B6**

Client: **B6**
Patient:
Species: CANINE
Breed: AMERICAN_PIT_BU
Gender: MALE NEUTERED
Age: 0Y

Date: 01/03/2019
Requisition #: 436257
Accession:
Ordered by: **B6**

IDEXX VetConnect 1-888-433-9987
TUFTS UNIVERSITY
200 WESTBORO RD
NORTH GRAFTON, Massachusetts 01536
508-839-5395
Account #88933

CARDIOPET proBNP - CANINE

Test	Result	Reference Range	Low	Normal	High
CARDIOPET proBNP - CANINE	B6	0 - 900 pmol/L	HIGH		B6

Comments

B6

Client:
Patient:

B6

CBC/CHEM - 1/3/2019



Tufts Cummings School Of Veterinary Medicine

200 Westboro Road
North Grafton, MA 01536

DUPLICATE

Name/DOB: Patient ID:	B6	Sex: CM	Provider: B6
Phone number:		Age: 7	Order Location: V320539: Investigation into
Collection Date: 1/3/2019 3:35 PM		Species: Canine	Sample ID: 1901030138
Approval date: 1/4/2019 10:42 AM		Breed: Pit Bull	

CBC, Comprehensive, Sm Animal (Research)

DNOYES	B6	Ref. Range/Males
WBC (ADVIA)		4.40-15.10 K/uL
RBC (Advia)		5.80-8.50 M/uL
Hemoglobin (ADVIA)		13.3-20.5 g/dL
Hematocrit (Advia)		39-55 %
MCV (ADVIA)		64.5-77.5 fL
MCH (ADVIA)		21.3-25.9 pg
MCHC (ADVIA)		31.9-34.3 g/dL
RDW (ADVIA)		11.9-15.2
Platelet Count (Advia)		173-486 K/uL
01/03/19 5:49		
Mean Platelet Volume (Advia)	8.29-13.20 fl	
01/03/19 4:20		
Platelet Crit	0.129-0.403 %	
01/03/19 4:20		
Reticulocyte Count (Advia)	0.20-1.60 %	
Absolute Reticulocyte Count (Advia)	14.7-113.7 K/uL	

Microscopic Exam of Blood Smear (Advia)

DNOYES	B6	Ref. Range/Males
Seg Neuts (%)		43-86 %
Lymphocytes (%)		7-47 %
Monocytes (%)		1-15 %
Eosinophils (%)		0-16 %
Seg Neutrophils (Abs) Advia		2.80-11.50 K/uL
Lymphs (Abs) Advia		1.00-4.80 K/uL
Mono (Abs) Advia		0.10-1.50 K/uL
Eosinophils (Abs) Advia		0.00-1.40 K/uL
WBC Morphology		
RBC Morphology		

Research Chemistry Profile - Small Animal (Cobas)

ABLASOTTO	B6	Ref. Range/Males
Glucose		67-135 mg/dL
Urea		8-30 mg/dL
Creatinine		0.6-2.0 mg/dL
Phosphorus		2.6-7.2 mg/dL

Sample ID: 1901030138/1
This report continues... (Final)

Reviewed by: _____

Client:
Patient:

B6

CBC/CHEM - 1/3/2019



Tufts Cummings School Of Veterinary Medicine

200 Westboro Road
North Grafton, MA 01536

DUPLICATE

Name/DOB:	B6	Sex: CM	Provider: B6
Patient ID:	B6	Age: 7	Order Location: V320559: Investigation into
Phone number:		Species: Canine	Sample ID: 1901030138
Collection Date: 1/3/2019 3:35 PM		Breed: Pit Bull	
Approval date: 1/4/2019 10:42 AM			

Research Chemistry Profile - Small Animal (Cobas) (cont'd)

		Ref. Range/Males
ABLASOTTO		
Calcium 2	H:	9.4-11.3 mg/dL
Magnesium 2+	L:	1.8-3.0 mEq/L
Total Protein		5.5-7.8 g/dL
Albumin		2.8-4.0 g/dL
Globulins		2.3-4.2 g/dL
A/G Ratio		0.7-1.6
Sodium	H:	140-150 mEq/L
Chloride		106-116 mEq/L
Potassium		3.7-5.4 mEq/L
tCO2(Bicarb)		14-28 mEq/L
AGAP	H:	8.0-19.0
NA/K		29-40
Total Bilirubin		0.10-0.30 mg/dL
Alkaline Phosphatase		12-127 U/L
GGT		0-10 U/L
ALT	H:	14-86 U/L
AST		9-54 U/L
Creatine Kinase		22-422 U/L
Cholesterol		82-355 mg/dL
Triglycerides		30-338 mg/dl
Amylase		409-1250 U/L
Osmolality (calculated)	H:	291-315 mmol/L

B6

Sample ID: 1901030138/2
END OF REPORT (Final)

Reviewed by: _____
Page 2

Client:
Patient:

B6

Diet history 1/3/19

CARDIOLOGY DIET HISTORY FORM

Please answer the following questions about your pet

Pet's name **B6** Owner's name **B6** Today's date: 1/3/19

1. How would you assess your pet's appetite? (mark the point on the line below that best represents your pet's appetite)



2. Have you noticed a change in your pet's appetite over the last 1-2 weeks? (check all that apply)

- Eats about the same amount as usual
- Eats less than usual
- Eats more than usual
- Seems to prefer different foods than usual
- Other

seems more hesitant to eat but once encouraged, he eats his meals. Elevating his bowl has helped

3. Over the last few weeks, has your pet (check one)

- Lost weight
- Gained weight
- Stayed about the same weight
- Don't know

4. Please list below ALL pet foods, people food, treats, snack, dental chews, rawhides, and any other food item that your pet currently eats. Please include the brand, specific product, and flavor so we know exactly what you pet is eating.

Examples are shown in the table – please provide enough detail that we could go to the store and buy the exact same food.

Food (include specific product and flavor)	Form	Amount	How often?	Fed since
Nutro Grain Free Chicken, Lentil, & Sweet Potato Adult	dry	1 1/2 cup	2x/day	Jan 2018
85% lean hamburger	microwaved	3 oz	1x/week	Jan 2015
Pupperoni original beef flavor	treat	1/2	1x/day	Aug 2015
Rawhide	treat	6 inch twist	1x/week	Dec 2015
4Health adult Kibble (alternating proteins - lamb, fish)	dry	1 1/4 c	Twice daily	12/18
↓ WHITE FISH + POTATO OR SALMON + POTATO ADULT				

*Any additional diet information can be listed on the back of this sheet

5. Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, or any other supplements)? Yes No If yes, please list which ones and give brands and amounts:

	Brand/Concentration	Amount per day
Taurine <input type="checkbox"/> Yes <input type="checkbox"/> No	_____	_____
Carnitine <input type="checkbox"/> Yes <input type="checkbox"/> No	_____	_____
Antioxidants <input type="checkbox"/> Yes <input type="checkbox"/> No	_____	_____
Multivitamin <input type="checkbox"/> Yes <input type="checkbox"/> No	_____	_____
Fish oil <input type="checkbox"/> Yes <input type="checkbox"/> No	_____	_____
Coenzyme Q10 <input type="checkbox"/> Yes <input type="checkbox"/> No	_____	_____
Other (please list): Example: Vitamin C	Nature's Bounty	500 mg tablets – 1 per day
<u>Augen powder</u>	_____	_____
<u>CBM oil - 4 drops BID</u>	_____	<u>1 tsp twice daily (just for flavor)</u>

6. How do you administer pills to your pet?

- I do not give any medications
- I put them directly in my pet's mouth without food
- I put them in my pet's dog/cat food - *canned food*
- I put them in a Pill Pocket or similar product
- I put them in foods (list foods): _____

Client:
Patient:

B6

Diet history 1/3/19

Has been eating 4health grain free (alternating proteins) for multiple years, just recently switched to regular kibble (w/grain)

has ~~use~~ been fed a very wide variety of canned food, only used to give medications - about 2 tablespoons twice daily

- pedigree
- pure balance
- 4 health

Client:
Patient:

B6

Lab Results IDEXX Leptospirosis Panel (MAT) 1/4/19

IDEXX Reference Laboratories

Client:

B6

Client: **B6**
Patient:
Species: CANINE
Breed: AMERICAN_PIT_BU
Gender: MALE NEUTERED
Age: 7Y

Date: 01/04/2019
Requisition #: 462544
Accession:
Ordered by: **B6**

IDEXX VetConnect 1-888-433-9987
TUFTS UNIVERSITY
200 WESTBORO RD
NORTH GRAFTON, Massachusetts 01536-1828
508-839-5395
Account #80735

LEPTOSPIROSIS PANEL (MAT)

Test	Result	Reference Range	Low	Normal	High
L. BRATISLAVA	B6				
L. CANICOLA					
L. GRYPPOTYPHOSA					
L. ICTEROHAEMORRHAGIAE					
L. POMONA					
L. AUTUMNALIS					

Comments:

B6

Client:
Patient:

B6

B6

hospital UA results- 1/7/19

Page: 1

Patient Info:

Name:
Record:
Owner:
Doctor:

B6

Species: Dog
Breed: American Pit Bull
Age: 7Y
Sex: N

Hospital:

B6

Accession No.	Doctor	Owner	Patient Name
B6			

Test	Results	Adult Reference Range	L	Normal	H
------	---------	-----------------------	---	--------	---

SPECIAL URINE PRO/CREAT RATIO Date given: 01-07-19 T11:30a

URINE CREATININE -

URINE PROTEIN - **B6**

URINE PRO/CREAT RATIO -

COLOR -

Renal proteinuria:

- UPC <0.2 non-proteinuric
- UPC 0.2-0.5 borderline proteinuric
- UPC >0.5 proteinuric

The urine protein:creatinine ratio (UPC) should be interpreted along with a concurrent urinalysis. Pre-renal and post-renal proteinuria need to be ruled-out prior to evaluating renal proteinuria. Renal proteinuria requires proof of persistence by repeating UPC on at least three urine samples collected over a period of at least 2 weeks.

Additional interpretive guidelines and management recommendations are available in our online directory on www.vetconnectplus.com or www.iris-kidney.com.

UPC IF INDICATED Date given: 01-07-19 T11:30a

UPC IF INDICATED -

A urine protein:creatinine ratio (UPC) has been ordered as indicated by a positive urine protein with an inactive urine sediment.

URINALY SIS Date given: 01-07-19 T11:30a

COLLECTION METHOD

COLOR

CLARITY

SPECIFIC GRAVITY

GLUCOSE

BILIRUBIN

KETONES

BLOOD

PH

PROTEIN

UROBILINOGEN

WBC

B6

Client:
Patient:

B6

B6

ospital UA results- 1/7/19

Accession No.	Doctor	Owner	Patient Name		
B6					
Test	Results	Adult ReferenceRange	L	Normal	H
RBC	B6	-			
BACTERIA		-			
EPI CELL		-			
MUCUS		-			
CASTS		-			
CRYSTALS		-			

Client:
Patient:

B6

IDEXX Chemistry 1/8/19

01/08/2019 15:59

B6

PAGE 02

B6

Date: 1/8/19

To: Tufts Foster Hospital

Attn: Cardiology **B6**

Fax Number: 508-899-7951

NUMBER OF PAGES (including this cover page) _____

MESSAGE: Results attached of VA results

for **B6**

Client:
Patient:

B6

IDEXX Chemistry 1/8/19

01/08/2019 15:59
01-08-2019 6:19 AM

B6

PAGE 01
pg 1 of 2



IDEXX Reference Laboratories
Division of IDEXX Laboratories
www.idexx.com

One IDEXX Drive
Westbrook, Maine 04092
United States

IDEXX Reference Laboratories
Customer Support
888 433 9887



B6

PET OWNER

B6

B6

ACCESSION #

B6

REQUISITION #:

116882782

DATE OF COLLECTION:

01/08/2019

DATE OF RECEIPT:

01/08/2019

DATE OF REPORT:

01/08/2019

SPECIES: CANINE
BREED: PIT BULL, AMERICAN
GENDER: MALE NEUTERED
AGE: 7Y8M26D

ACCOUNT #:
ORDERED BY:

B6

IDEXX SERVICES: 3970 SPECIAL URINE PRO/CREAT RATIO, 2326 UA WITH UPC REFLEX

CHEMISTRY

TEST
Urine Protein:
Creatinine Ratio If
Indicated

RESULT

REF. RANGE/UNITS

Urine Creatinine
Urine Protein
Urine Protein:
Creatinine Ratio
Color *

URINALYSIS

TEST
Collection
Color
Clarity
Specific Gravity
pH
Urine Protein
Glucose
Ketones
Blood / Hemoglobin
Bilirubin
Urobilinogen
White Blood Cells
Red Blood Cells
Bacteria
Epithelial Cells
Mucus
Casts
Crystals

B6

NOTES

CHEMISTRY

^a

Renal proteinuria:

UPC <0.2 non-proteinuric
UPC 0.2-0.5 borderline proteinuric
UPC >0.5 proteinuric

The urine protein:creatinine ratio (UPC) should be interpreted along with a

Get deeper insights: For complete access to this patient's diagnostic results, including historic values and images, login to www.vetconnectplus.com

Final report generated January 08, 2019

PAGE 1 of 2

Client:
Patient:

B6

Taurine Panel send out 1/3/2019

26 Q56 PL ①
26457 WB ②

Amino Acid Laboratory Sample Submission Form

Amino Acid Laboratory, 1089 Veterinary Medicine Drive, Davis, Ca 95616
Telephone: 530-752-5058, Fax: 530-752-4698
Email: ucd.aminoacid.lab@ucdavis.edu
www.vetmed.ucdavis.edu/labs/amino-acid-laboratory

1901030139
B6
436257 pit Race
1/3/2019 3:36 PM
SHIP w ICE PACKS, TAURINE
PANEL
Lithium Heparin

B6

Veterinarian Contact: **B6**

Clinic/Company Name: Tufts Cummings School of Vet. Med. - Clinical Pathology Laboratory

Address: 200 Westboro Road, North Grafton MA 015389

Email: Clinpath@tufts.edu cardiovet@tufts.edu

Telephone: 508-887-4689 Fax: 508-839-7936

Billing Contact: **B6** Email: **B6**

Billing Contact Phone: 508-887-4267 Tax ID: _____

Patient Name: **B6** Species: Canine

Breed: Pit Bull Owner's Name: _____

Current Diet: _____

Sample type: Plasma Whole Blood Urine Food Other _____

Test: Taurine Complete Amino Acids Other: _____

Taurine Results (lab use only)

Plasma: **B6** Whole Blood: **B6** Urine: _____ Food: _____

	Plasma (nMol/ml)		Whole Blood (nMol/ml)	
	Normal Range	No known risk for deficiency	Normal Range	No known risk for deficiency
Cat	80-120	>40	300-600	>200
Dog	60-120	>40	200-350	>150

* Please note with the recent increase in the number of dogs screened for taurine deficiency, we are seeing dogs with values within the reference ranges (or above the "no known risk for deficiency range") yet are still exhibiting signs of cardiac disease. Veterinarians are welcome to contact our laboratory for assistance in evaluating your patient's results.

Client:
Patient:

B6

Amino Acid Labs Taurine Panel 1/3/19

Amino Acid Laboratory Sample Submission Form

Amino Acid Laboratory, 1089 Veterinary Medicine Drive, Davis, Ca 95616

Telephone: 530-752-5058, Fax: 530-752-4698

Email: ucd.aminoacid.lab@ucdavis.edu

www.vetmed.ucdavis.edu/labs/amino-acid-laboratory

1901030139
B6
SHIP w ICE PACKS, TAURINE
PANEL
Lithium Hep

Veterinarian Contact: **B6**

B6

Clinic/Company Name: Tufts Cummings School of Vet. Med. - Clinical Pathology Laboratory

Address: 200 Westboro Road, North Grafton, MA 01536

Email: Clinpath@tufts.edu cardiovet@tufts.edu

Telephone: 508-887-4669

Fax: 508-839-7936

Billing Contact: **B6**

Email: **B6**

Billing Contact Phone: 508-887-4267

Tax ID: _____

Patient Name: **B6**

Species: Canine

Breed: Pit Bull

Owner's Name: _____

Current Diet: _____

Sample type: Plasma Whole Blood Urine Food Other _____

Test: Taurine Complete Amino Acids Other: _____

Taurine Results (lab use only)

Plasma: **B6** Whole Blood: **B6** Urine: _____ Food: _____

	Plasma (nMol/ml)		Whole Blood (nMol/ml)	
	Normal Range	No known risk for deficiency	Normal Range	No known risk for deficiency
Cat	80-120	>40	300-600	>200
Dog	60-120	>40	200-350	>150

* Please note with the recent increase in the number of dogs screened for taurine deficiency, we are seeing dogs with values within the reference ranges (or above the "no known risk for deficiency range") yet are still exhibiting signs of cardiac disease. Veterinarians are welcome to contact our laboratory for assistance in evaluating your patient's results.

Client:
Patient:

B6

Amino Acid Labs Taurine Panel 1/3/19

UNIVERSITY OF CALIFORNIA, DAVIS

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

STERN CARDIAC GENETICS LABORATORY
JOSHUA A. STERN, DVM, PHD, DACVIM (CARDIOLOGY)
sterngenetics@ucdavis.edu; August 9, 2018

**FREQUENTLY REQUESTED INFORMATION REGARDING TAURINE & DILATED
CARDIOMYOPATHY IN GOLDEN RETRIEVERS**

Taurine reference ranges for Golden Retrievers: The Stern Lab suggests that the following clinical reference ranges be used for Golden Retrievers and be considered for other known taurine-sensitive breeds such as Newfoundlands or American Cocker Spaniels. This is primarily based on 3 observations :

1. Golden Retrievers with marginal taurine levels (defined below) have been diagnosed with dilated cardiomyopathy and have documented disease reversal after taurine supplementation and diet change.
2. Previously published work documents taurine sensitivity in Golden Retrievers.
3. The most recently published reference on normal blood taurine values shows higher levels than previously reported.

- Normal whole blood taurine: >250nmol/mL
- Normal plasma taurine: >70nmol/mL
- Marginal whole blood taurine: 200-250nmol/mL
- Marginal plasma taurine: 60-70nmol/mL
- Low whole Blood taurine: <200nmol/mL
- Low plasma taurine: <60nmol/mL

References:

- Kramer GA, Kittleson MD, Fox PR, Lewis J, Pion PD. Plasma taurine concentrations with normal dogs and in dogs with heart disease. *J Vet Intern Med* 1995;9:253-258.
- Belanger MC, Ouellet M, Queney G, Moreau M. Taurine-deficient dilated cardiomyopathy in a family of golden retrievers. *J Am Anim Hosp Assoc* 2005;41:284-291.
- Kittleson MD, Keene B, Pion PD, Loyer CG, MUST Study Investigators. Results of the multicenter spaniel trial (MUST): taurine- and carnitine-responsive dilated cardiomyopathy in American Cocker Spaniels with decreased plasma taurine concentration. *J Vet Intern Med* 1197;11:204-211.
- Backus RC, Choen G, Pion PD, Good KL, Rogers QR, Fascetti AJ. Taurine deficiency in Newfoundlands fed commercially available complete and balanced diets. *J Am Vet Med Assoc* 2003;223:1130-1136.
- Fascetti AJ, Reed JR, Rogers QR, Backus RC. Taurine deficiency in dogs with dilated cardiomyopathy: 12 cases (1997-2001). *J Am Vet Med Assoc* 2003;223:1137-1141.
- Freeman LM, Michel KE, Brown DJ, Kaplan PM, Stamoulis ME, Rosenthal SL, Keene BW, Rush JE. Idiopathic dilated cardiomyopathy in Dalmatians: nine cases (1990-1995). *J Am Vet Med Assoc* 1996;209:1592-1596.
- Delaney SJ, Kass PH, Rogers QR, Fascetti AJ. Plasma and whole blood taurine in normal dogs of varying size fed commercially prepared food. *J Anim Physiol a Anim Nutr* 2003;87:236-244.

Plasma vs. whole blood taurine testing:

If at all possible, we recommend that paired (plasma and whole blood) taurine samples be submitted for analysis. A low value on either or both tests is clinically relevant. If your dog is diagnosed with DCM, submitting paired taurine samples (plasma and whole blood) is imperative. We recommend that the UC Davis Amino Acid Laboratory be used for taurine testing, as this is where the literature utilized for our reference ranges was generated. <https://www.vetmed.ucdavis.edu/labs/amino-acid-laboratory>. If a single test is submitted the Stern Lab recommends that whole blood be submitted preferentially. This is due to the false elevation of taurine levels that is possible in plasma samples due to sample handling issues. This is an area of some debate between clinicians and conflicting information on preference for plasma vs. whole blood exists. This underscores the value of paired sampling.

Page 1 of 3

Client:
Patient:

B6

Amino Acid Labs Taurine Panel 1/3/19

Clinical Recommendations for Golden Retrievers based on taurine levels:

If taurine levels test <200nmol/mL in whole blood or <60nmol/mL in plasma

- An echocardiogram by a board-certified veterinary cardiologist is indicated
- After echocardiogram has been completed, a diet change is recommended.
 - If DCM is diagnosed, this patient may need a variety of cardiac medications that would be prescribed by the attending cardiologist.
 - If DCM is diagnosed, prescribed supplementation with oral taurine and l-carnitine is recommended.
 - Reevaluation of taurine levels is warranted after three months of diet change and supplementation.
 - Cardiology reevaluation schedules will be recommended by the attending clinician pending echocardiographic findings.
 - Many Golden Retrievers with taurine-deficient DCM in our study showed slow and steady improvement over a period of 6-12 months.

If taurine levels test 200 – 250nmol/mL in whole blood or 60-70nmol/mL in plasma

- An echocardiogram by a board-certified cardiologist is recommended.
- After echocardiogram has been completed, a diet change is recommended.
- We recognize that many dogs in this category may have normal echocardiograms and thus the value of screening should be carefully considered. If the dog is eating a diet that falls within the FDA warning or shares features with the diets identified in our study (see diets of concern section below), we encourage echocardiographic screening with greater enthusiasm.
- If an echocardiogram is not performed, a diet change is still recommended and a taurine level reevaluation after three months on the new diet should be considered.
- If DCM is diagnosed, this patient may need a variety of cardiac medications that would be prescribed by the attending cardiologist.
 - If DCM is diagnosed, prescribed supplementation with oral taurine and l-carnitine is recommended.
 - Reevaluation of taurine levels is warranted after three months of diet change and supplementation.
 - Cardiology reevaluation schedules will be recommended by the attending clinician pending echocardiographic findings.
 - Many Golden Retrievers with taurine-deficient DCM in our study showed slow and steady improvement over a period of 6-12 months.

If taurine levels test >250nmol/mL in whole blood or >70nmol/mL in plasma

- Diet change is recommended if you are feeding a diet that falls within the FDA warning or shares features with the diets identified in our study (see diets of concern section below)
- If your pet shows any signs of cardiac disease (trouble breathing, exercise intolerance, fainting/collapse, coughing) we recommend your veterinarian evaluate your pet.

Client:
Patient:

B6

Amino Acid Labs Taurine Panel 1/3/19

Diets of Concern & Choosing a diet

The FDA alert called attention to several dietary ingredients that should be considered when evaluating whether your pet is at risk (for example legumes like peas and lentils, white or sweet potatoes). These findings were largely recapitulated in our current study of Golden Retrievers with low taurine levels and DCM. Our lab considers these ingredients to be of greatest concern when present within the first 5 listed ingredients on the dog food bag. Additionally, we noted a high percent of diets in our study were using protein sources other than chicken or beef and labeled as grain-free.

Points to consider when making a diet change:

- Choose a diet that does not contain the concerning components listed above
- Choose a diet that meets the WSAVA Global Nutrition Assessment Guidelines published as consensus by veterinary nutritionists from around the world:
 - <https://www.wsava.org/WSAVA/media/Arpita-and-Emma-editorial/Selecting-the-Best-Food-for-your-Pet.pdf>
- FDA alert found here:
 - <https://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/ucm613305.htm>

Choosing a taurine or l-carnitine supplement:

Selecting supplements should be performed based upon those that match their stated contents and are readily available for absorption. Luckily a previous publication tested multiple taurine and l-carnitine supplements. Based upon this publication our laboratory recommends the following supplements as those meeting our quality criteria. (Bragg et al. 2009 J Am Vet Med Assoc; 234(2))

Tested taurine supplements that test within 5% of stated contents and if applicable disintegrated within 30 minutes

- Mega taurine caps by Twinlab (1000 capsule)
- Taurine by Swanson Health Products (500mg capsule)
- Taurine by NOW foods (500mg capsule)
- Taurine 500 by GNC (500mg tablet)

Tested L-carnitine supplements that test within 5% of stated contents and if applicable disintegrated within 30 minutes

- L-carnitine 500 by Jarrow Formulas (500mg capsule)
- L-carnitine caps by Country Life (500mg capsule)
- Maxi L-carnitine by Solgar Vitamin and Herb (500mg tablet)
- L-carnitine by Puritan's Pride (500mg tablet)

The Stern lab does not recommend the empirical supplementation of taurine or l-carnitine to dogs without evidence of DCM and/or significant deficiency. If DCM is diagnosed we typically recommend dogs over 50lbs receive 1000mg of taurine every 12hrs and dogs under 50lbs receive 500mg of taurine every 12hours. We recommend L-carnitine at a dose of ~50mg/kg orally with food every 8hrs. Your veterinary cardiologist or family veterinarian should be consulted for prescribing the best dose for your dog.

Reporting to the FDA:

Understanding the basis of this condition requires a great deal of research and investigation. Clients with affected dogs can contribute their data to help propel this research forward. You can report cases of taurine deficiency, dilated cardiomyopathy, sudden cardiac death, or any combination of these events to the FDA by following the information found here:

<https://www.fda.gov/animalveterinary/safetyhealth/reportaproblem/ucm182403.htm>

Additional questions or comments:

sterngenetics@ucdavis.edu

This document last updated: Aug. 20, 2018

Page 3 of 3

Client:
Patient:

B6

Amino Acid Labs Taurine Panel 1/3/19



CARDIOLOGY SERVICE UPDATES: DOG FOOD & DILATED CARDIOMYOPATHY

The Cardiology Service has developed this document in response to the alerts from the FDA. These alerts identify an associated risk for some grain-free diets containing certain ingredients (legumes like peas, pea components, lentils; white potatoes, sweet potatoes) and a diagnosis of dilated cardiomyopathy (DCM). The links provided throughout this document can be copied and pasted to obtain additional information.

FDA Alerts found here:

<https://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/ucm613305.htm>

<https://www.fda.gov/AnimalVeterinary/ResourcesforYou/AnimalHealthLiteracy/ucm616279.htm>

What is Dilated Cardiomyopathy (DCM)?

DCM is a heart muscle disorder that results in a weak pump function and heart chamber enlargement. In the early stages of this disease pets may appear totally healthy with no apparent clinical signs. Later in the course of this disease, dogs may have a heart murmur, an arrhythmia (irregular heart beat), collapse episodes, weakness or tiredness with exercise, and even trouble breathing from congestive heart failure. While there are some breeds of dogs (like Dobermans) that have a genetic predisposition to development of DCM, there are also nutritional factors that may result in this disease.

What should I do?

If you are feeding a diet of concern based upon the FDA alert we recommend that you consult with your veterinarian or veterinary cardiologist. We provide 4 general points for guidance below:

1. An initial step is to **consider whether you are willing or interested in performing additional testing** to assess whether your pet is affected with DCM. If you believe your dog is at risk, showing any of the aforementioned clinical signs or would prefer to simply rule out any heart disease, we recommend that you first have your pet's taurine levels tested (both whole blood and plasma levels) as well as seek an echocardiogram by a board-certified veterinary cardiologist. Low taurine levels are associated with development of DCM in dogs and are sometimes a component of this current issue.

Information on taurine testing can be found here: <https://www.vetmed.ucdavis.edu/labs/amino-acid-laboratory>

2. At this time, **diet change is recommended when possible** and should be considered regardless of the results obtained from any testing. You can consult with your veterinarian in selecting a new diet that avoids the ingredients of concern listed by the FDA. When selecting this diet, we recommend that you choose a diet that is manufactured with rigorous quality control measures and research behind the formulation. A way to ensure that your diet meets these recommendations is to follow the following guidelines that were generated by a large number of the world's leading experts in veterinary nutrition.

Food selection guidelines found here:

<https://www.wsava.org/WSAVA/media/Arpita-and-Emma-editorial/Selecting-the-Best-Food-for-your-Pet.pdf>

3. If your pet is identified through testing to have a low blood taurine level or evidence of DCM by echocardiogram, we urge you to **report this information to the FDA**.

FDA reporting guidelines found here: <https://www.fda.gov/AnimalVeterinary/SafetyHealth/ReportaProblem/ucm182403.htm>

4. **Work with your veterinarian(s)** to determine the best course of action and medical treatments if indicated. In the case of a DCM diagnosis, diet change alone may not be sufficient and additional medications may be prescribed.

Please continue to monitor the FDA website and the UC Davis School of Veterinary Medicine Newsfeeds for updates and recommendations regarding this issue.

Client: **B6**
Patient:

Texas A&M GI Lab Troponin Result 1/24/19



Gastrointestinal Laboratory
Dr. J.M. Steiner
Department of Small Animal Clinical Sciences
Texas A&M University
4474 TAMU
College Station, TX 77843-4474



Website User ID: Cardiovet@tufts.edu OR clinpath@tufts.edu

GI Lab Assigned Clinic ID: 11405

Dr. **B6**
Tufts University-Clinical Pathology Lab
Attr: **B6**
200 Westboro Road
North Grafton, MA 01536
USA

Phone: 508 887 4669
Fax: 9 508 839 7936
Animal Name:
Owner Name: **B6**
Species: Canine
Date Received: Jan 24, 2019

Tufts University-Clinical Pathology Lab
Tracking Number:

GI Lab Accession: **B6**

Test	Result	Reference Interval	Assay Date
Ultra-Sensitive Troponin I Fasting	B6	≤0.06	01/24/19

B6

Comments:

GI Lab Contact Information

Phone: (979) 862-2861
Fax: (979) 862-2864

Email: gilab@cvm.tamu.edu
vetmed.tamu.edu/gilab

Client: **B6**
Patient:

Gastro Lab 1/24/19



Gastrointestinal Laboratory
Dr. J.M. Steiner
Department of Small Animal Clinical Sciences
Texas A&M University
4474 TAMU
College Station, TX 77843-4474



Website User ID: Cardiovet@tufts.edu OR clinpath@tufts.edu

GI Lab Assigned Clinic ID: 11405

Dr: **B6**
Tufts University-Clinical Pathology Lab
Attn: **B6**
200 Westboro Road
North Grafton, MA 01536
USA

Phone: 508 887 4669
Fax: 9 508 839 7936
Animal Name: **B6**
Owner Name:
Species: Canine
Date Received: Jan 24, 2019

Tufts University-Clinical Pathology Lab
Tracking Number:

GI Lab Accession: **B6**

Test	Result	Reference Interval	Assay Date
Ultra-Sensitive Troponin I Fasting	B6	≤0.06	01/24/19

B6

Comments:

GI Lab Contact Information

Phone: (979) 862-2861
Fax: (979) 862-2864

Email: gilab@cvm.tamu.edu
vetmed.tamu.edu/gilab

Client: **B6**
Patient: **B6**

B6

Catalyst One 1/29/19

Client: (51432)

Patient Name: **B6**

Species: Canine

Breed:

Gender:

Weight:

Age:

Doctor: **B6**

B6

HUMANE SOCIETY

B6

Test	Results	Reference Interval	LOW	NORMAL	HIGH
------	---------	--------------------	-----	--------	------

Catalyst One (January 29, 2019 2:46 PM)

GLU		74 - 143			
CREA		0.5 - 1.8			HIGH
BUN		7 - 27			HIGH
BUN/CREA					
PHOS		2.5 - 6.8			
CA		7.9 - 12.0			
TP		5.2 - 8.2			
ALB		2.3 - 4.0			
GLOB		2.5 - 4.5			
ALB/GLOB					
ALT		10 - 125			HIGH
ALKP		23 - 212			
GGT		0 - 11			
TBIL		0.0 - 0.9			
CHOL		110 - 320			
AMYL		500 - 1500			
LIPA		200 - 1800			

B6

B6

1/29/19
78.4lbs

Specific Gravity
1025

Printed: January 29, 2019 2:46 PM

Page 1 of 1

IDEXX
LABORATORIES

Client:
Patient:

B6

Alivecor ECG

Patient: **B6** (rs)
Breed/Species: American Pit Bull Terrier / Dog
Recorded: Sunday, February 10, 2019 at 10:01:55 PM
Heart Rate: 163 bpm Duration: 1 min 7 s



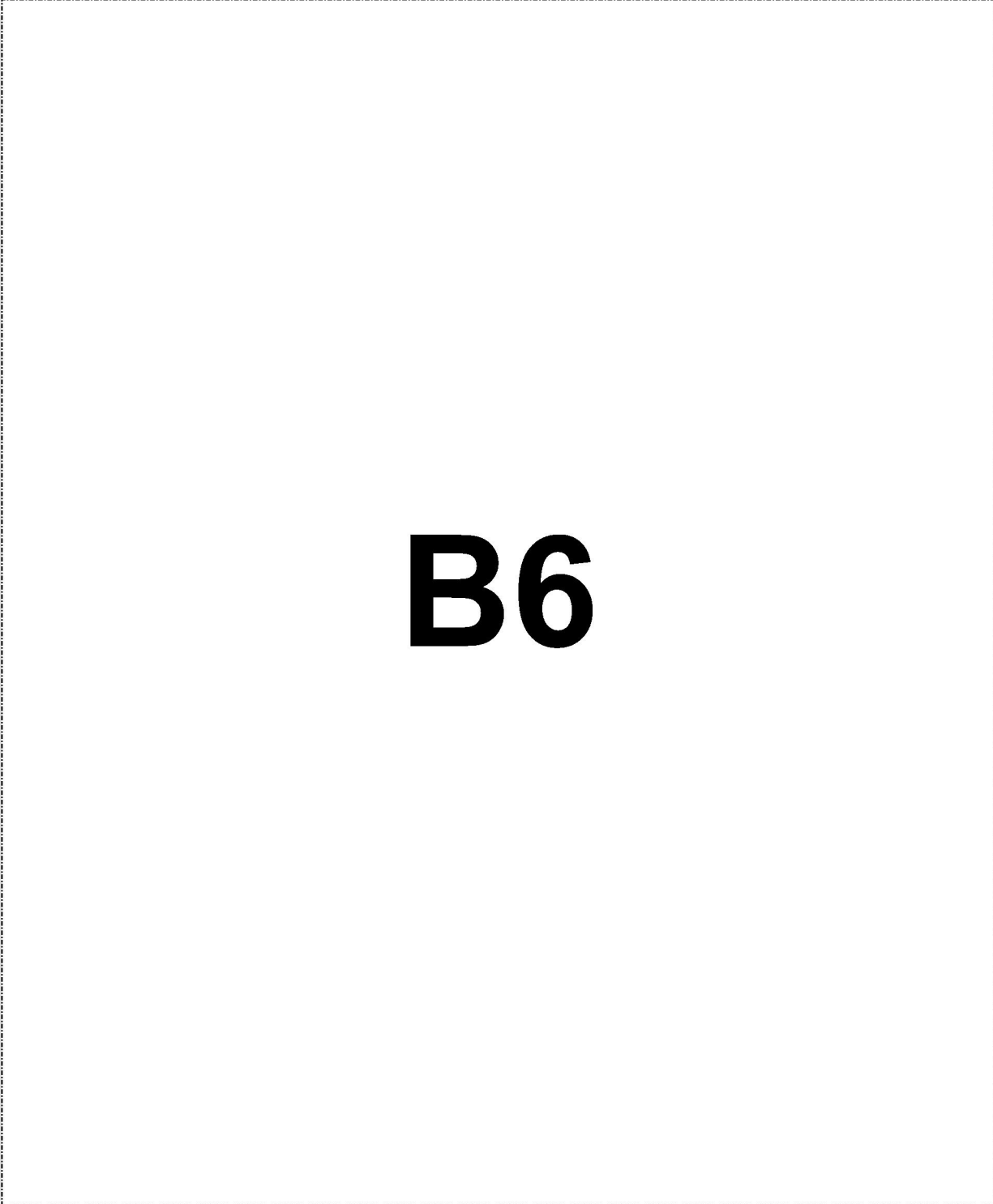
B6

Client:
Patient:

B6

Alivecor ECG

Patient: **B6**
Breed/Species: American Pit Bull Terrier / Dog
Recorded: Sunday, February 10, 2019 at 10:01:13 PM
Heart Rate: 158 bpm Duration: 16 s



Copyright 2012, AliveCor Inc. AliveECG Ver12.1.4.17, ReportV2.0.0, UID: 14401BB0280941A050B38C8F4C89800 Page 1 of 1

Client: **B6**
Patient: **B6**

Bloodwork from **B6**

Client: (51432)

Patient Name: **B6**

Species: Canine

Breed:

Gender:

Weight:

Age:

Doctor: **B6**

B6

HUMANE SOCIETY

B6

Test	Results	Reference Interval	LOW	NORMAL	HIGH
Catalyst One (February 28, 2019 6:03 PM)					1/29/19 2:46 PM
GLU	B6	74 - 143			
CREA		0.5 - 1.8	HIGH		
BUN		7 - 27	HIGH		
BUN/CREA					
PHOS		2.5 - 6.8			
CA		7.9 - 12.0			
TP		5.2 - 8.2			
ALB		2.3 - 4.0			
GLOB		2.5 - 4.5			
ALB/GLOB					
ALT		10 - 125	HIGH		
ALKP		23 - 212			
GGT		0 - 11			
TBIL		0.0 - 0.9			
CHOL		110 - 320	HIGH		
AMYL		500 - 1500			
LIPA	200 - 1800				

B6

Client:
Patient:

B6

Vitals Results

1/3/2019 1:44:42 PM	Weight (kg)	33.4000
1/3/2019 1:44:49 PM	Heart Rate (/min)	110.0000

Client:
Patient:

B6

ECG from cardio

B6

1/3/2019 3:28:10 PM

Page 1 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

12 Lead: Standard Placement

B6

Client
Patient

B6

ECG from cardio

B6

1/3/2019 3:28:10 PM

Page 2 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client:
Patient:

B6

ECG from cardio

B6

1/3/2019 3:28:46 PM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

12 Lead: Standard Placement

B6

Client:
Patient:

B6

ECG from cardio

B6

1/3/2019 3:29:45 PM

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client: **B6**
Patient: **B6**

ECG from cardio

B6

1/3/2019 3:30:38 PM

Page 1 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

12 Lead: Standard Placement

B6

Client:
Patient:

B6

ECG from cardio

B6

1/3/2019 3:30:38 PM

Page 2 of 2

Tufts University
Tufts Cummings School of Vet Med
Cardiology

B6

Client:
Patient:

B6

Radiograph

B6

9/20/18

B6

Client:
Patient:

B6

Urine strip

B6

Client:
Patient:

B6

Urine strip

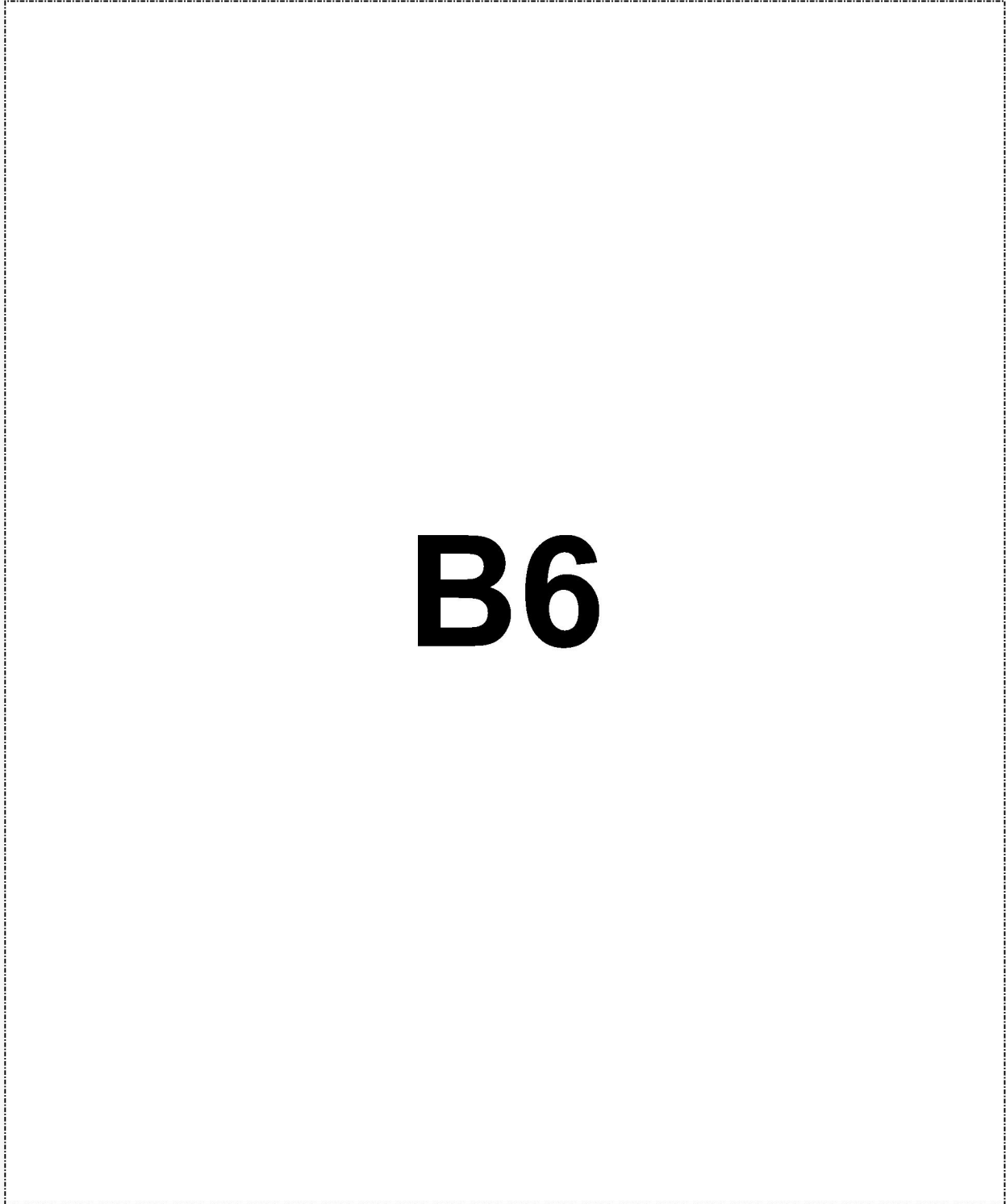
B6

Client:
Patient:

B6

Alivecor from cardio

Patient: **B6** (yrs)
Breed/Species: American Pit Bull Terrier / Dog
Recorded: Monday, January 7, 2019 at 11:29:27 PM
Heart Rate: 140 bpm Duration: 34 s



B6

Client: **B6**
Patient: **B6**

AliveCor from cardio

Patient: **B6**
Breed/Species: American Pit Bull Terrier / Dog
Recorded: Monday, January 7, 2019 at 11:29:27 PM
Heart Rate: 140 bpm Duration: 34 s



B6

Client:
Patient:

B6

Alivecor ECG

Patient: **B6**
Breed/Species: American Pit Bull Terrier / Dog
Recorded: Tuesday, January 29, 2019 at 9:23:52 PM
Heart Rate: 126 bpm Duration: 1 min 32 s



B6

Client: **B6**
Patient:

AliveCor ECG

Patient: **B6**
Breed/Species: American Pit Bull Terrier / Dog
Recorded: Tuesday, January 29, 2019 at 9:23:52 PM
Heart Rate: 126 bpm Duration: 1 min 32 s



B6

Client:
Patient: **B6**

Alivecor ECG

Patient: **B6**
Breed/Species: American Pit Bull Terrier / Dog
Recorded: Tuesday, January 29, 2019 at 9:23:52 PM
Heart Rate: 126 bpm Duration: 1 min 32 s



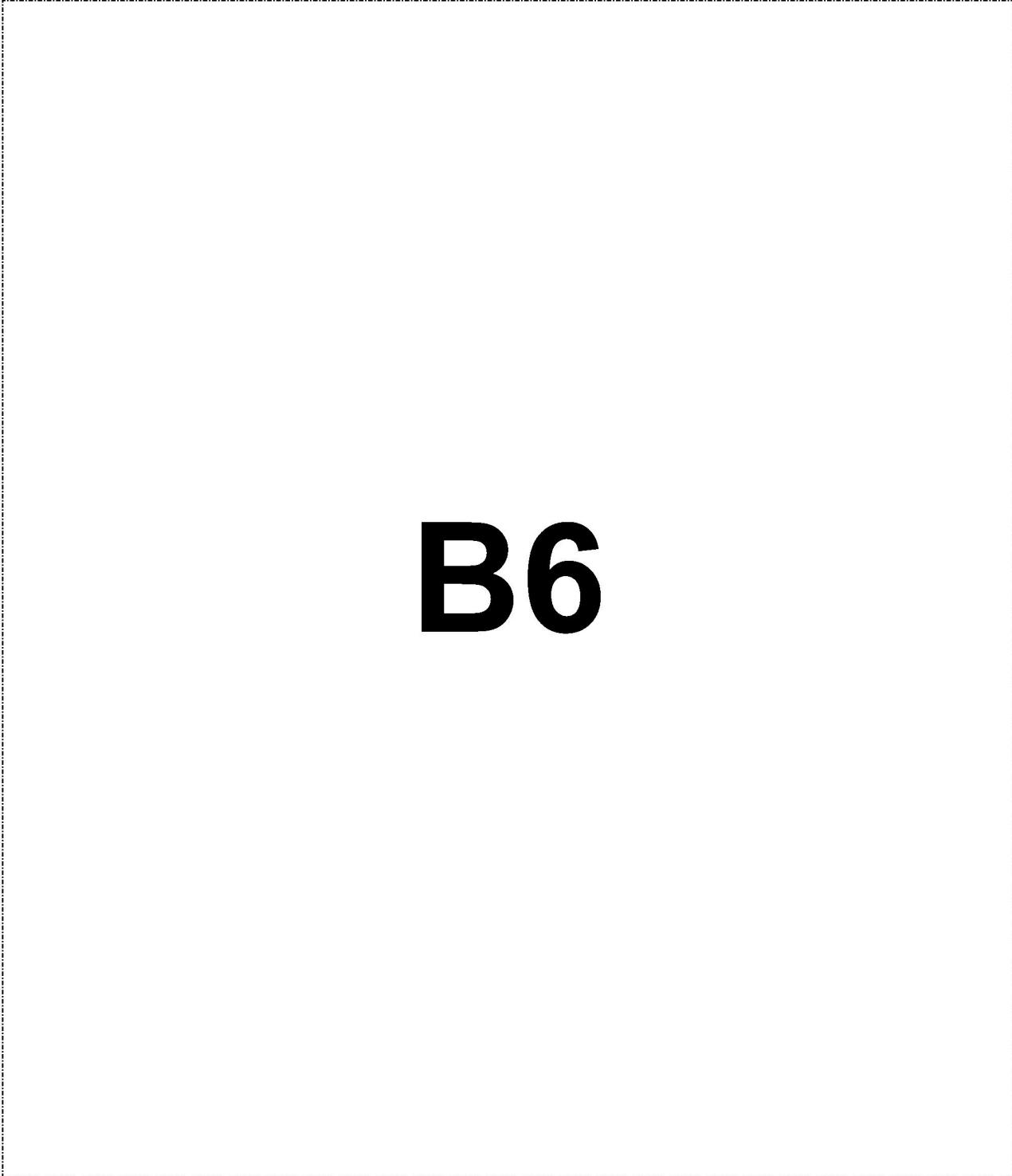
B6

Client:
Patient:

B6

Alivecor ECG

Patient: **B6**
Breed/Species: American Pit Bull Terrier / Dog
Recorded: Saturday, March 2, 2019 at 5:44:52 PM
Heart Rate: 93 bpm **Duration:** 1 min



B6

Client: **B6**
Patient:

Alivecor ECG

Patient: **B6**
Breed/Species: American Pit Bull Terrier / Dog
Recorded: Saturday, March 2, 2019 at 5:44:52 PM
Heart Rate: 93 bpm Duration: 1 min



B6

Client:
Patient:

B6

Alivecor ECG from cardio

Patient: **B6**
Breed/Species: American Pit Bull Terrier / Dog
Recorded: Friday, March 22, 2019 at 8:37:00 AM
Heart Rate: 95 bpm Duration: 1 min 38 s



B6

Client:
Patient:

B6

Alivecor ECG from cardio

Patient:

B6

Breed/Species

American Pit Bull Terrier / Dog

Recorded:

Friday, March 22, 2019 at 8:37:00 AM

Heart Rate:

95 bpm

Duration: 1 min 38 s



B6

Client:
Patient:

B6

Alivecor ECG from cardio

Patient: **B6**
Breed/Species: American Pit Bull Terrier / Dog
Recorded: Friday, March 22, 2019 at 8:37:00 AM
Heart Rate: 95 bpm Duration: 1 min 38 s



B6

Client:
Patient:

B6

Alivecor ECG from cardio

Patient: **B6**
Breed/Species: American Pit Bull Terrier / Dog
Recorded: Friday, March 22, 2019 at 8:37:00 AM
Heart Rate: 95 bpm **Duration:** 1 min 38 s



B6

Client:
Patient:

B6

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
--------------------------------	--------------------	------------	--------------	-----------------	-------------	------------

Thursday, 03 January 2019 15:09 Appointment: Cardiology Study

B6

Client:
Patient:

B6

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
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Thursday, 03 January
2019 15:33

B6

Client:
Patient:

B6

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
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Thursday, 03 January
2019 15:33

B6

Client:
Patient:

B6

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
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Thursday, 03 January
2019 15:38

B6

Client:
Patient:

B6

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
Thursday, 03 January 2019 15:46	Pharmacy Finished	1.000	0.000	0.0000	0.0000	0.0000

Client:
Patient:

B6

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
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Friday, 04 January
2019 18:18

B6

Foster Hospital for Small Animals

Phone: (508) 839-5395

FHSA@tufts.edu

<http://vetmed.tufts.edu/>

Patient Report Card For B6 1/2/2019

**Weight
(kg)**

Foster Hospital for Small Animals

Phone: (508) 839-5395

FHSA@tufts.edu

<http://vetmed.tufts.edu/>

B6

**Weight
(kg)**

Patient Report Card For **B6 3/2019**

Discharge Instructions

Patient

Name: B6
Species: Canine
Breed: Brindle/Blue Male (Neutered) Pit Bull
Birthdate: B6

Owner

Name: B6
Address: B6

Patient ID: 436257

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student:

B6

Appointment Date: 1/3/2019

Diagnoses: Dilated cardiomyopathy (DCM)

Ventricular arrhythmias (ventricular tachycardia, ventricular bigeminy)

Case summary:

Thank you for bringing B6 to Tufts Cardiology Service for evaluation of his collapsing episodes and arrhythmia that was noticed at your referring veterinarian. B6 has been diagnosed with a primary heart muscle disease called dilated cardiomyopathy (DCM). This disease is more common in large and giant breed dogs and is characterized by thinning of the walls of the heart, reduced cardiac pump function, and enlargement of the upper chambers of the heart. Many dogs with DCM will also have significant arrhythmias which can be life-threatening and also require medical management. Fortunately, we caught this condition relatively early and B6 does not appear to be in congestive heart failure yet. However, if you notice that B6 breathing rate is faster than normal at home we will want to have chest x-rays taken. B6 also have some arrhythmias that are likely secondary to his heart disease. We will be starting him on some medications to mitigate the heart disease that he has and the arrhythmias that he is experiencing. We would like to adjust B6 diet and we provided some dietary recommendations below.

Diagnostic test results and findings:

- **Echocardiogram findings:** The walls of the chambers of his heart are thinner than normal and he has reduced contractile function. The left ventricle and left atrium are dilated.
- **ECG findings:** The ECG showed arrhythmias that are ventricular in origin.
- **Labwork findings:** We will call you when we have the results of his bloodwork. Most of it should come back tomorrow, but some of it will take a week or so to return.

Monitoring at home:

- We would like you to monitor your dog's breathing rate and effort at home, ideally during sleep or at a time of rest. The doses of drugs will be adjusted based on the breathing rate and effort.
- In general, most dogs with heart failure that is well controlled have a breathing rate at rest of less than 35 to 40 breaths per minute. In addition, the breathing effort, noted by the amount of belly wall motion used for each breath, is fairly minimal if heart failure is controlled. If you notice that his respiratory rate is elevated, we recommend that you bring him to your referring veterinarian for chest x-rays so that we can see if his heart disease has progressed.
- There are instructions for monitoring breathing, and a form to help keep track of breathing rate and drug doses, on the Tufts HeartSmart web site (<http://vet.tufts.edu/heartsmart/at-home-monitoring/>).
- We also want you to watch for weakness or collapse, a reduction in appetite, worsening cough, or distention of the belly as these findings indicate that we should do a recheck examination.

Recommended Medications:

B6

Exercise Recommendations:

B6

B6

Dry Food Options:

Royal Canin Early Cardiac (veterinary diet)

Royal Canin Boxer

Purina Pro Plan Adult Weight Management (may be more cost-efficient)

Canned Food Options:

Hill's Science Diet Adult Beef and Barley Entree

Hill's Science Diet Adult 1-6 Healthy Cuisine Roasted Chicken, Carrot, and Spinach Stew

Royal Canin Mature 8+

Recheck Visits:

Thank you for enrolling **B6** in our clinical study. We would like to see an Alivector reading in around two weeks once he has had some time on the anti-arrhythmic medication, or send one earlier if you are having any concerns. It would also be great if you can obtain an Alivector reading if **B6** has another episode of collapse or abnormal behavior.

B6 is scheduled for an appointment on April 4th, 2019 at 4:00 P.M. We will perform an echo, ECG and bloodwork at this time.

If you would like to have your other dogs who have been eating the same diet as **B6** screened as part of the study, please call or email to set up an appointment in the near future.

Thank you for entrusting us with **B6** care! It was a pleasure to meet you all today and he was a very good boy. Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case

B6

Owner

B6

Discharge Instructions

Cummings

Veterinary Medical Center

AT TUFTS UNIVERSITY

Foster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01536
Telephone (508) 839-5395
Fax (508) 839-7951
<http://vetmed.tufts.edu/>

AliveCor/Kardia Handout

If you have an iPhone or Android, you may want to explore the option of purchasing an AliveCor/Kardia ECG monitor which will allow you to record and email your pet's heart rate and rhythm at home.

The device (Kardia) can be purchased at www.alivecor.com or www.amazon.com. The app for your phone is free.

If you have an iPhone:

- Search for "Veterinary AliveECG" app in the Apple Store
- You will need to sign-up for an account
- Make sure to have your pet's name in the information so we know whom it is from
- If the app asks for permission to access headphone port/speaker portal, say "OK/allow"

If you have an Android:

- Search for "Kardia" app in the Google Playstore
- You will need to sign-up for an account.
- Make sure to have your pet's name in the information so we know whom it is from
- If the app asks for permission to access headphone port/speaker portal, say "OK/allow"
- Once downloaded, it will require you to send a "test ECG" for activation of the app. Just place your fingers on the silver sensors and let it record
- If the test ECG is unable to record, try again, with less movement. If it still fails, then your phone is not compatible with the device

Recording an ECG:

- Apply rubbing alcohol (soaked cotton ball will work) to the chest region behind your pet's elbow (where you can feel the heartbeat)
- Enough to wet the regions where both silver boxes will touch the animal
- If your pet is fluffy, you may have to clip a small patch of fur to allow for better contact
- Hold the device against your pet's chest with the silver areas being up and down (vertical) in contact with the animal
- With the app open, hold your phone near (within a few inches) the device.
- There is a signal bar in the upper left corner of the app to show whether it detects the device. If there are no bars then move your phone around/get closer to the device until they appear.
- Once you see a recording, hold everything in place for at least 30 seconds if possible.
- *The human Kardia app will attempt to interpret the ECG; just ignore this as it is not always accurate.*
- *The heart rate that the apps report is also not always accurate.*

Saving an ECG:

- The app will automatically save the ECG as long as the recording is long enough (>20seconds)
- You can click on the ID (box with pencil icon) in the Veterinary AliveECG app to add your pet's name

Emailing an ECG:

- If you are in the recording screen on the Veterinary AliveECG app, click on "ECGs" to see the list of saved ECGs
- If you are in the home screen on the Kardia app, click "History".
- Select the ECG you wish to send. Go to "Share". Select "Email PDF". **SKIP** the Password protect feature and select the email app you wish to send it by (Gmail, outlook, yahoo, etc). **You must have a working email on your phone for this to work.**
- Select an ECG that you wish to send
- Click the mail icon (either a box with arrow or a letter symbol), and select "Email"
- Email to: cardiovet@tufts.edu (*only monitored Monday-Friday 9AM-5PM*)

B6

Patient ID: 436257

B6

Canine
Years Old Male (Neutered) Pit Bull
Brindle/Blue

Cardiology Appointment Report
ENROLLED IN DCM STUDY

Date: 1/3/2019

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student

B6

Presenting Complaint:

Episodes of collapse over past year

Concurrent Diseases:

B6

Kennel cough in September - CXR at rDVM

General Medical History:

First episode occurred about a year ago - owner originally thought that she had given him too much **B6**. He takes it in the winter because he is reactive to snow falling off the roof. Dog fight about to break out later that day and he collapsed.

Has had 5-6 episodes in the past year where he collapses - maintains consciousness, gum color is normal and he is alert. He is usually down for 30-60 seconds. Takes around a couple of hours after the event to go back to normal (lethargic).

All of these had been stimulated by a dog or a lot of arousal. Twice in past month.

Most recent episode was on Saturday - weasel in the yard and **B6** got very worked up. Didn't fully collapse but laid down and wouldn't move. This more recent time he was spinning and acting nauseous (lip smacking). Took into the rDVM where they diagnosed an abnormal arrhythmia.

Chest rads from September, 4DX negative.

Diet has been reduced in the past week, will eat if the food is elevated.

Started urinating in the house about a year ago, believed to be behavioral.
Possibly PUPD in the past couple of months.

Diet and Supplements:

For Health grain free diet until 2 weeks ago For Health
Switched to non-grain free For Health 1 cup and 1/4 BID
Nupro powder

B6

Cardiovascular History:

Prior CHF diagnosis? No
Prior heart murmur? No
Prior ATE? No
Prior arrhythmia? Yes
Monitoring respiratory rate and effort at home? No
Cough? No
Shortness of breath or difficulty breathing? Snoring, raspy
Syncope or collapse? yes
Sudden onset lameness? No
Exercise intolerance? No

Current Medications Pertinent to CV System:

None

Cardiac Physical Examination:

B6

B6

Problems:

Collapse

Arrhythmia

Differential Diagnoses:

DCM/CHF vs tachyarrhythmia vs bradyarrhythmia vs non-cardiac cause of collapse

Diagnostic plan:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Echocardiogram | <input type="checkbox"/> Dialysis profile |
| <input type="checkbox"/> Chemistry profile | <input checked="" type="checkbox"/> Thoracic radiographs +/- |
| <input checked="" type="checkbox"/> ECG | <input checked="" type="checkbox"/> NT-proBNP |
| <input type="checkbox"/> Renal profile | <input type="checkbox"/> Troponin I |
| <input type="checkbox"/> Blood pressure | <input type="checkbox"/> Other tests: |

Echocardiogram Findings:

B6

B6

Assessment and recommendations:

Echocardiogram and ECG reveal DCM and frequent ventricular arrhythmia. There is enough cardiac enlargement to be compatible with CHF and radiographs were discussed, but the owners perceive him to be breathing comfortably and will continue to monitor RR at home for now. If RR at home is 35 or higher then thoracic radiographs are recommended to assess for CHF. Holter monitor was discussed, but there was enough arrhythmia today to consider starting antiarrhythmic therapy and owners are planning to obtain a Kardia for at home ECG monitoring. The longstanding occurrence of collapse episodes (~1 year) is less consistent with these episodes being clearly related to his heart disease, but there is significant arrhythmia so it is possible the intermittent VT could be causing collapse. Recommend attempting to obtain a Kardia reading during an event if they continue, and if this is not successful then consider 24h Holter monitor. Recommend diet change to a main-stream brand suggestion from Dr Freeman. Patient was enrolled in DCM study so taurine levels, BNP, troponin, CBC/chemistry were submitted as part of the study. Recheck echo and blood work in 3 and 6 months as part of the study. Recheck sooner if clinical sign occur such as increased RR/RE, repeated collapse, cough, or exercise intolerance. The housemates of this dog who have been eating the same diet are eligible for screening as part of the DCM study.

Start:

B6

Addendum: Blood worked showed significant azotemia and mild increase in ALT. Recommend stopping and submitting u/a +/- culture and the treating with a course of There is concern for the with the increased ALT, but given the limited options and severity of arrhythmia, recommend continuing for now and rechecking liver values in 2-3 weeks. Recheck blood work sooner if patient stops eating. Unfortunately, if the azotemia does not resolve and the cardiac disease continues to worsen then it may become difficult to balance advanced renal disease and CHF in the future.

Final Diagnosis:

DCM

Ventricular arrhythmia (VPCs, couplets, triplets, non sustained R on T VT)

Heart Failure Classification Score:

ISACHC Classification:

- | | |
|--|-------------------------------|
| <input type="checkbox"/> Ia | <input type="checkbox"/> IIIa |
| <input checked="" type="checkbox"/> Ib | <input type="checkbox"/> IIIb |
| <input type="checkbox"/> II | |

ACVIM Classification:

- | | |
|--|----------------------------|
| <input type="checkbox"/> A | <input type="checkbox"/> C |
| <input type="checkbox"/> B1 | <input type="checkbox"/> D |
| <input checked="" type="checkbox"/> B2 | |

M-Mode

IVSd	cm
LVIDd	cm
LVPWd	cm
IVSs	cm
LVIDs	cm
LVPWs	cm
EDV(Teich)	ml
ESV(Teich)	ml
EF(Teich)	%
%FS	%
SV(Teich)	ml
Ao Diam	cm
LA Diam	cm
LA/Ao	
Max LA	cm
EPSS	cm

M-Mode Normalized

IVSdN	(0.290 - 0.520)
LVIDdN	(1.350 - 1.730) !
LVPWdN	(0.330 - 0.530)
IVSsN	(0.430 - 0.710)
LVIDsN	(0.790 - 1.140) !
LVPWsN	(0.530 - 0.780) !
Ao Diam N	(0.680 - 0.890) !
LA Diam N	(0.640 - 0.900) !

2D

SA LA	cm
Ao Diam	cm
SA LA / Ao Diam	
IVSd	cm
LVIDd	cm
LVPWd	cm
EDV(Teich)	ml
IVSs	cm
LVIDs	cm
LVPWs	cm
ESV(Teich)	ml
EF(Teich)	%
%FS	%
SV(Teich)	ml
LV Major	cm
LV Minor	cm
Sphericity Index	
LVLd LAX	cm
LVAAd LAX	cm
LVEDV A-L LAX	ml

B6

LVEDV MOD LAX
LVLs LAX
LVA_s LAX
LVESV A-L LAX
LVESV MOD LAX
HR
EF A-L LAX
LVEF MOD LAX
SV A-L LAX
SV MOD LAX
CO A-L LAX
CO MOD LAX

Doppler

MR Vmax
MR maxPG
MV E Vel
MV DecT
MV Dec Slope
MV A Vel
MV E/A Ratio
E'
E/E'
A'
AV Vmax
AV maxPG
PV Vmax
PV maxPG

B6

ml
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BPM
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mmHg

Cummings
Veterinary Medical Center
AT TUFTS UNIVERSITY

Foster Hospital for Small Animals
55 Willard Street
North Grafton, MA 01536
Telephone (508) 839-5395
Fax (508) 839-7951
<http://vetmed.tufts.edu/>

B6

B6

Male (Neutered)

Canine Pit Bull Brindle/Blue
436257

1/4/2019

Dear **B6**

Thank you for referring **B6** with their pet **B6**

If you have any questions, or concerns, please contact us at 508-887-4988.

Thank you,

B6

DVM (Cardiology)

From: PFR Event <pfpreventcreation@fda.hhs.gov>

To: Cleary, Michael *; HQ Pet Food Report Notification **B6**

Sent: 3/26/2019 7:48:30 PM

Subject: Acana Singles Duck and Pear Formula Dry dog food EON-383424 **B6**

Attachments: 2064656-report.pdf

A PFR Report has been received and PFR Event [EON-383424] has been created in the EON System.

A "PDF" report by name "2064656-report.pdf" is attached to this email notification for your reference.

Below is the summary of the report:

EON Key: EON-383424

ICSR #: 2064656

EON Title: PFR Event created for Acana Singles Duck and Pear Formula Dry dog food, Wet Noses Grain Free pea and carrot dog treats Wet Noses Grain Free berry Blast dog treats, Now Fresh Grain Free Large Breed Adult Recipe Dry Dog f.; 2064656

AE Date	03/16/2019	Number Fed/Exposed	2
Best By Date		Number Reacted	2
Animal Species	Dog	Outcome to Date	Died Naturally
Breed	Retriever - Labrador		
Age	8 Years		
District Involved	PFR B6 DO		

Product information

Individual Case Safety Report Number: 2064656

Product Group: Pet Food

Product Name: Acana Singles Duck and Pear Formula Dry dog food, Wet Noses Grain Free pea and carrot dog treats Wet Noses Grain Free berry Blast dog treats, Now Fresh Grain Free Large Breed Adult Recipe Dry Dog food

Description: Both my dogs **B6** 8 years Labrador, and **B6** 5 year Labrador) lived on grain free food and treats for years. Lots of peas and legumes. Brands like Acana Lamb and Pear, Wet Noses grain free peas and carrots treats and later on NOW grain free large breed adult food. I thought **B6** was doing great. She looked

so healthy, but she developed enlarged heart and died at only 8 years old.. My sweet girl is now gone. About 6 months ago?, I learned of the FDA warning and added in grain inclusive food along with her grain free as well as cooked meat, thinking this would help. So she was still on grain free 2/3rds with 1/3rd grain inclusive and cooked meat like chicken/beef. But at the emergency room, her heart enzymes were at **B6** (should be under 900) and her diagnosis was Dilated Cardiomyopathy. **B6** dog (Labrador), age 5, was then tested as he ate the same food and shows high enzymes test for heart issues (**B6**) so I know this was not a genetic defect for my other dog. No Vet detected any murmur when listening to her heart, and she loved to run. Those were all of my reasoning I did not fully believe the warning. This disease can stay hidden. Her heart compensated right up until the weekend of her death, when she did have tachycardia the weekend of her death. So terrible that this food is still on the market. I have now heard that Labrador and Golden Retrievers may be more at risk with this food.

B6 vet was **B6** at https: **B6** Her Emergency Vet was
 http:// **B6**

Submission type: Injured

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Died Naturally

Number of Animals Treated With Product: 2

Number of Animals Reacted With Product: 2

Product Name	Lot Number or ID	Best By Date
Now Fresh Grain Free Large Breed Adult Recipe Dry Dog food		
Wet Noses Grain Free pea and carrot dog treats Wet Noses Grain Free berry Blast dog treats		
Acana Singles Duck and Pear Formula Dry dog food		

Sender information

B6

USA

To view this PFR Event, please click the link below:

<https://eon.fda.gov/eon//browse/EON-383424>

To view the PFR Event Report, please click the link below:

<https://eon.fda.gov/eon//EventCustomDetailsAction!viewReport.jspx?decorator=none&e=0&issueType=12&issueId=400522>

=====
 This email and attached document are being provided to you in your capacity as a Commissioned Official with

the U.S. Department of Health and Human Services as authorized by law. You are being provided with this information pursuant to your signed Acceptance of Commission.

This email message is intended for the exclusive use of the recipient(s) named above. It may contain information that is protected, privileged, or confidential. Any dissemination, distribution, or copying is strictly prohibited.

The information is provided as part of the Federal-State Integration initiative. As a Commissioned Official and state government official, you are reminded of your obligation to protect non-public information, including trade secret and confidential commercial information that you receive from the U.S. Food and Drug Administration from further disclosure. The information in the report is intended for situational awareness and should not be shared or acted upon independently. Any and all actions regarding this information should be coordinated through your local district FDA office.

Failure to adhere to the above provisions could result in removal from the approved distribution list. If you think you received this email in error, please send an email to FDAREportableFoods@fda.hhs.gov immediately.

Report Details - EON-383424

ICSR: 2064656
Type Of Submission: Initial
Report Version: FPSR.FDA.PETF.V.V1
Type Of Report: Adverse Event (a symptom, reaction or disease associated with the product)
Reporting Type: Voluntary
Report Submission Date: 2019-03-26 15:39:34 EDT
Reporter is the Animal Owner: Yes

Reported Problem:
Problem Description: Both my dogs (B6 8 years Labrador, and B6 15 year Labrador) lived on grain free food and treats for years. Lots of peas and legumes. Brands like Acana Lamb and Pear, Wet Noses grain free peas and carrots treats and later on NOW grain free large breed adult food. I thought B6 was doing great. She looked so healthy, but she developed enlarged heart and died at only 8 years old. My sweet girl is now gone. About 6 months ago?, I learned of the FDA warning and added in grain inclusive food along with her grain free as well as cooked meat, thinking this would help. So she was still on grain free 2/3rds with 1/3rd grain inclusive and cooked meat like chicken/beef. But at the emergency room, her heart enzymes were at B6 (should be under 900) and her diagnosis was Dilated Cardiomyopathy. B6 dog (Labrador), age 5, was then tested as he ate the same food and shows high enzymes test for heart issues. B6 so I know this was not a genetic defect for my other dog. No Vet detected any murmur when listening to her heart, and she loved to run. Those were all of my reasoning I did not fully believe the warning. This disease can stay hidden. Her heart compensated right up until the weekend of her death, when she did have tachycardia the weekend of her death. So terrible that this food is still on the market. I have now heard that Labrador and Golden Retrievers may be more at risk with this food. B6 vet was B6 https://www.B6 Her Emergency Vet was http://www.B6
Date Problem Started: 03/16/2019
Concurrent Medical Problem: No
Outcome to Date: Died Naturally
Date of Death: B6

Product Information:
Product Name: Now Fresh Grain Free Large Breed Adult Recipe Dry Dog food
Product Type: Pet Food
Lot Number:
Package Type: BAG
Package Size: 25 Pound
Possess Unopened Product: No
Possess Opened Product: No
Storage Conditions: In Bag in cool room
Product Use Information:
Description: This food was given to both of my dogs for about the last year. I switched from Acana Duck and Pear to a larger size grain free kibble for my large dog. Grain free kibble was fed to my dogs for many years.
Perceived Relatedness to Adverse Event: Probably related
Manufacturer /Distributor Information:
Name:
Type(s):
Address: B4

			B4
	Contact:	Phone:	B4
		Web Address:	
	Possess One or More Labels from This Product:	Yes	
Purchase Location Information:			
Product Name:	Wet Noses Grain Free pea and carrot dog treats Wet Noses Grain Free berry Blast dog treats		
Product Type:	Pet Food		
Lot Number:			
Package Type:	BOX		
Package Size:	14 Ounce		
Possess Unopened Product:	No		
Possess Opened Product:	No		
Storage Conditions:	in a cookie type jar		
Product Use Information:	Description:	This is grain free dog treats given to both of my dogs for many years. It is not just one box. It reflects that they were given grain free food and grain free treats for many years which correlates to the FDA warning of Grain free food for dogs	
	Perceived Relatedness to Adverse Event:	Definitely related	
Manufacturer /Distributor Information:			
Purchase Location Information:			
Product Name:	Acana Singles Duck and Pear Formula Dry dog food		
Product Type:	Pet Food		
Lot Number:			
Package Type:	BAG		
Package Size:	25 Pound		
Possess Unopened Product:	No		
Possess Opened Product:	No		
Storage Conditions:	in bag stored in cold area		
Product Use Information:	Description:	Grain Free Food for Dogs. This is Grain free dog food type that was fed for many years to both of my dogs. So I am unable to give detailed dates. It is not a one bag of dog food event. sorry.	
	Time Interval between Product Use and Adverse Event:	5 Years	
	Product Use Stopped After the Onset of the Adverse Event:	Yes	
	Adverse Event Abate After Product Stop:	No	

		Product Use Started Again:	No	
		Perceived Relatedness to Adverse Event:	Definitely related	
	Manufacturer /Distributor Information:	Name:	Champion Pet Foods	
		Type(s):	Manufacturer	
		Address:	11403-186 Street N EDMONTON, AB T5S 2W6 Canada Canada	
		Contact:		
		Possess One or More Labels from This Product:	Yes	
	Purchase Location Information:			
Animal Information:	Name:	B6		
	Type Of Species:	Dog		
	Type Of Breed:	Retriever - Labrador		
	Gender:	Female		
	Reproductive Status:	Neutered		
	Weight:	71 Pound		
	Age:	8 Years		
	Assessment of Prior Health:	Good		
	Number of Animals Given the Product:	2		
	Number of Animals Reacted:	2		
	Owner Information:			
	Healthcare Professional Information:	Practice Name:	B6	
		Contact:	Name:	B6
			Phone:	
			Email:	
		Address:	B6	
			United States	
		Type of Veterinarian:	Primary/regular veterinarian	
		Date First Seen:	01/09/2019	
		Permission to Release Records to FDA:	Yes	
Practice Name:		B6		
	Contact:	Name:	B6	
		Phone:		
		Email:		
Address:	B6			
		United States		

Date First Seen: 03/16/2019

Permission to Release Records to FDA: Yes

Sender Information:

Name:

Address:

B6

United States

Contact:

Phone:

B6

Email:

Reporter Wants to Remain Anonymous: No

Permission To Contact Sender: Yes

Preferred Method Of Contact: Email

Reported to Other Parties: Other Store/Place of Purchase

Additional Documents:

From: EON Admin <eoncvmlabsamples@fda.hhs.gov>
To: Queen, Jackie L; Carey, Lauren; Rotstein, David; Palmer, Lee Anne
Sent: 3/27/2019 3:00:26 AM
Subject: Consumer Complaint Record Created in EON IMS (EON-383456)
Attachments: EON-383456-ConsumerComplaint-Report.pdf

B6

The ORA Reporting Database was polled and the following Consumer Complaint record was inserted into the Emergency Operations Network Incident Management System (EON IMS).

EON Key: EON-383456

Complaint Number: 156879

Brand Name: Zignature

Product Name: Turkey Blend Grain Free

Consumer Complaint Issue Screen - EON-383456

Complaint Number:	156879									
Complaint Date:	03/25/2019									
Receiving Organization:	DET-DO									
Complaint Identification:	<table border="1"> <tr> <td>Name:</td> <td rowspan="2" style="text-align: center; vertical-align: middle;">B6</td> </tr> <tr> <td>Address:</td> </tr> <tr> <td></td> <td>US</td> </tr> <tr> <td>Phone (H):</td> <td>B6</td> </tr> <tr> <td>Phone (W):</td> <td></td> </tr> </table>	Name:	B6	Address:		US	Phone (H):	B6	Phone (W):	
Name:	B6									
Address:										
	US									
Phone (H):	B6									
Phone (W):										
Complaint/Injury:	<p>Complaint Description: Zignature - Turkey Blend Grain Free Consumer was feeding her 10-year-old male Lab/Weimer mix when he developed a hacking cough. Upon visit to the family vet they noted that he had a heart murmur and the dog was referred to a Vet Cardiologist. An Echo Cardio Gram was performed, and the vet diagnosed him with Dilated Cardio Myopathy and the owner was instructed to take the dog off this food and start on a dog food with grain product in it. There had been no other medical issues with the animal other than allergies.</p>									
Complaint Symptoms:	<p>Symptom: Coughing Other cardiovascular</p>									
Health Care Professional:	<table border="1"> <tr> <td>Provider Name:</td> <td rowspan="2" style="text-align: center; vertical-align: middle;">B6</td> </tr> <tr> <td>Address:</td> </tr> <tr> <td></td> <td>US</td> </tr> <tr> <td>Phone:</td> <td>B6</td> </tr> </table>	Provider Name:	B6	Address:		US	Phone:	B6		
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Address:										
	US									
Phone:	B6									
Hospital Information:	<table border="1"> <tr> <td>Hospital Name:</td> <td rowspan="2" style="text-align: center; vertical-align: middle;">B6</td> </tr> <tr> <td>Address:</td> </tr> <tr> <td>Phone:</td> <td></td> </tr> </table>	Hospital Name:	B6	Address:	Phone:					
Hospital Name:	B6									
Address:										
Phone:										
Product and Labeling:	<p>Brand Name: Zignature</p> <p>Product Name: Turkey Blend Grain Free</p> <p>UPC Code: unk</p> <p>Lot/Serial #: unk</p> <p>Exp/Use by Date: unk</p>									

From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; [B6]
Sent: 3/26/2019 2:44:44 PM
Subject: Rachel Ray's Chicken and Veggies: [B6] EON-383378
Attachments: 2064635-report.pdf; 2064635-attachments.zip

A PFR Report has been received and PFR Event [EON-383378] has been created in the EON System.

A "PDF" report by name "2064635-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2064635-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-383378

ICSR #: 2064635

EON Title: PFR Event created for Rachel Ray's Chicken and Veggies; 2064635

AE Date	11/14/2018	Number Fed/Exposed	1
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Better/Improved/Recovering
Breed	Retriever - Labrador		
Age	2 Years		
District Involved	PFR-Baltimore DO		

Product information

Individual Case Safety Report Number: 2064635

Product Group: Pet Food

Product Name: Rachel Ray's Chicken and Veggies

Description: On 11/14/2018, presented to pcDVM for on/off limping with unknown trauma and cardiomegaly was identified on the subsequent radiographs, as well as muffled heart sounds on auscultation; a cardiac consultation was recommended. At consult, a Grade V/VI heart murmur was ausculted with significantly muffled heart sounds on the left. She was diagnosed with severe tricuspid valve dysplasia, severe tricuspid insufficiency, severe right heart volume load, severe enlargement of the caudal vena cava and hepatic veins, and dilated, thin-walled, hypocontractile left ventricle consistent with left-sided DCM. An ECG showed sinus rhythm

conducted with first-degree AV block, and a Holter monitor was performed (normal). She was started on **B6** (following a Taurine level being drawn).

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Better/Improved/Recovering

Number of Animals Treated With Product: 1

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
Rachel Ray's Chicken and Veggies		

Sender information

B6

USA

Owner information

B6

To view this PFR Event, please click the link below:

<https://eon.fda.gov/eon/browse/EON-383378>

To view the PFR Event Report, please click the link below:

<https://eon.fda.gov/eon/EventCustomDetailsAction!viewReport.jspx?decorator=none&e=0&issueType=12&issueId=400476>

This email and attached document are being provided to you in your capacity as a Commissioned Official with the U.S. Department of Health and Human Services as authorized by law. You are being provided with this information pursuant to your signed Acceptance of Commission.

This email message is intended for the exclusive use of the recipient(s) named above. It may contain information that is protected, privileged, or confidential. Any dissemination, distribution, or copying is strictly prohibited.

The information is provided as part of the Federal-State Integration initiative. As a Commissioned Official and state government official, you are reminded of your obligation to protect non-public information, including trade secret and confidential commercial information that you receive from the U.S. Food and Drug Administration from further disclosure. The information in the report is intended for situational awareness and should not be shared or acted upon independently. Any and all actions regarding this information should be coordinated through your local district FDA office.

Failure to adhere to the above provisions could result in removal from the approved distribution list. If you think you received this email in error, please send an email to FDAREportableFoods@fda.hhs.gov immediately.

Report Details - EON-383378

ICSR: 2064635
 Type Of Submission: Initial
 Report Version: FPSR.FDA.PETF.V.V1
 Type Of Report: Adverse Event (a symptom, reaction or disease associated with the product)
 Reporting Type: Voluntary
 Report Submission Date: 2019-03-26 10:33:23 EDT

Reported Problem:

Problem Description: On 11/14/2018, presented to pcDVM for on/off limping with unknown trauma and cardiomegaly was identified on the subsequent radiographs, as well as muffled heart sounds on auscultation; a cardiac consultation was recommended. At consult, a Grade V/VI heart murmur was ausculted with significantly muffled heart sounds on the left. She was diagnosed with severe tricuspid valve dysplasia, severe tricuspid insufficiency, severe right heart volume load, severe enlargement of the caudal vena cava and hepatic veins, and dilated, thin-walled, hypocontractile left ventricle consistent with left-sided DCM. An ECG showed sinus rhythm conducted with first-degree AV block and a Holter monitor was performed (normal). She was started on [redacted] B6 (following a Taurine level being drawn).

Date Problem Started: 11/14/2018
Date of Recovery: 03/13/2019
Concurrent Medical Problem: No
Outcome to Date: Better/Improved/Recovering

Product Information:

Product Name: Rachel Ray's Chicken and Veggies
Product Type: Pet Food
Lot Number:
Package Type: BAG
Purchase Date: 11/20/2018

Product Use Information:	Last Exposure Date:	11/20/2018
	Product Use Stopped After the Onset of the Adverse Event:	Yes
	Adverse Event Abate After Product Stop:	Yes
	Product Use Started Again:	No
	Perceived Relatedness to Adverse Event:	Probably related

Manufacturer /Distributor Information:
Purchase Location Information:

Animal Information:

Name: [redacted] B6
Type Of Species: Dog
Type Of Breed: Retriever - Labrador
Gender: Female
Reproductive Status: Neutered
Weight: 25.2 Kilogram
Age: 2 Years
Assessment of Prior Health: Good

	Number of Animals Given the Product:	1									
	Number of Animals Reacted:	1									
	Owner Information:	<table border="1"> <tr> <td>Owner Information provided:</td> <td>Yes</td> </tr> <tr> <td rowspan="3">Contact:</td> <td>Name: B6</td> </tr> <tr> <td>Phone: B6</td> </tr> <tr> <td>Email: B6</td> </tr> <tr> <td rowspan="2">Address:</td> <td>B6</td> </tr> <tr> <td>United States</td> </tr> </table>	Owner Information provided:	Yes	Contact:	Name: B6	Phone: B6	Email: B6	Address:	B6	United States
Owner Information provided:	Yes										
Contact:	Name: B6										
	Phone: B6										
	Email: B6										
Address:	B6										
	United States										
	Healthcare Professional Information:	<table border="1"> <tr> <td>Practice Name:</td> <td>B6</td> </tr> <tr> <td rowspan="3">Contact:</td> <td>Name: B6</td> </tr> <tr> <td>Phone: B6</td> </tr> <tr> <td>Email: B6</td> </tr> <tr> <td rowspan="2">Address:</td> <td>B6</td> </tr> <tr> <td>United States</td> </tr> </table>	Practice Name:	B6	Contact:	Name: B6	Phone: B6	Email: B6	Address:	B6	United States
Practice Name:	B6										
Contact:	Name: B6										
	Phone: B6										
	Email: B6										
Address:	B6										
	United States										
Sender Information:	Name:	B6									
	Address:	B6									
		United States									
	Contact:	Phone: B6									
		Email: B6									
	Permission To Contact Sender:	Yes									
	Preferred Method Of Contact:	Email									
	Reported to Other Parties:	None									
Additional Documents:	Attachment:	B6 Medical Records.pdf									
	Description:	SOAPs, Client Communication, Labwork, Echo Reports, Holter monitor Report									
	Type:	Medical Records									

B6

Patient:

Client:

Veterinarian:

Practice:

B6

03/13/2019

Presenting Complaint: Cardiac Recheck

History:

B6 presents for her first 16 week recheck. She is doing very well at home. Her appetite and energy levels are normal. She exhibits no exercise intolerance. She is now on Pro Plan Lamb and Rice diet.

Performed Today:

Physical Exam: BAR; Weight decreased 0.22# to 25.2 kg/ 55.44pounds (BCS 5/9); Temperature 100.8F; Heart rate 72bpm; Precordium displaced to right, Grade V/VI systolic murmur loudest over right heart base, heart sounds muffled on left; Respiratory rate 24bpm; Breath sounds clear and comfortable; Abdomen unremarkable: minimal periodontal disease.

Echocardiogram:

Tricuspid Valve Dysplasia - Severe
Severe tricuspid insufficiency
Severe right heart volume load
Caudal vena cava and hepatic veins not nearly as enlarged and there is at least a 30% attenuation with inspiration
No appreciable abdominal fluid
Dilated, thin-walled, hypocontractile left ventricle consistent with left-sided dilated cardiomyopathy
LV diameter overall stable
Anterior mitral valve stiff, with "hockey stick" configuration
- rule out mild mitral valve dysplasia
Trace mitral insufficiency

Assessment:

**Tricuspid Valve Dysplasia
Severe Tricuspid Insufficiency
Severe Right Heart Volume Load
Dilated Cardiomyopathy**

B6 heart appears overall the same as her baseline. The enlargement of the blood vessels connecting heart and lungs is improved. We will not change a thing.

Medications:

B6

Monitoring:

Diet: Normal - There have been multiple recent reports linking grain-free diets to heart muscle dysfunction. **B6 diet only has one of the suspect**

BY **B6**
DATE 3/13/19
3:25 p

FAXED
 EMAILED

Information

B6

7/23/19 @ 2p

B6

components, but I do recommend transition to a grain based diet or one that does not have lentils, chick peas, peas, pea meal, white or sweet potatoes in the first 8-10 ingredients

Avoid salty snacks (deli meats, cheese, Pupperoni or Snausages)

Exercise: Avoid Overexertion/Overheating

Call us if: Status changes, Increased respiratory rate, Increase or change in cough, distended abdomen, passing out, failure to respond to medications

Recheck: Recheck here in 4 months for physical exam, abbreviated echocardiogram
- sooner if problems

We appreciate your confidence in **B6** We pledge to provide the clients you refer to us the same personal care that you and your pets appreciate. Please do not hesitate to call with any questions or concerns. Again, thank you for your trust.

RDVM Radiographs:

Returned to Owner

Mailed to RDVM

Discharge Technician's Initials:

B6

B6

Information for

B6

B6

Patient:

Client:

Veterinarian:

Practice:

B6

01/08/2019

Note

pcDVM update

Provider: D

B6

Thanks for the updated labwork on

B6

She has a cardiac recheck scheduled with us in March.

B6

B6

FAXED EMAILED

FILE

BY

B6

DATE

1-8-19
MCA

Info

B6

B6

Patient:

Client:

Veterinarian:

Practice:

B6

01/07/2019

Note

P update

Provider: Dr.

B6

I spoke with **B6** this morning. I let her know that the Taurine level returned normal. Dr. **B6** is still recommending supplementation of taurine. **B6** will start as soon as she obtains. She has a plan to have **B6** renal panel and electrolytes recheck at the end of the week. Please call if there are any changes or concerns.

B6

LVT

B6

Licensed Veterinary Technician

B6

FAXED EMAILED

BY

B6

DATE 1-7-19 3:47P

Information

B6

B6

Patient:

Client:

Veterinarian:

Practice:

B6

01/02/2019

Note

pcDVM Update

Provider:

B6

I spoke with **B6** this afternoon, and she reported that **B6** is doing well. I explained to her that, in addition to the Taurine level **B6** also needed to have a renal panel and electrolytes checked in order to check how her kidneys were responding to the **B6**. This can be performed at your office, which I reviewed with **B6**. She is planning to get in touch with you to schedule an appointment to have this performed. I also let her know we have not yet heard from UC Davis regarding the Taurine level, and I explained that it can take up to 2 weeks for the results, with a possibility of things being a little longer with the holidays. I told her we would be sure to contact her as soon as we receive the results, and that we would also fax a copy to your office.

B6

LVT

B6

Licensed Veterinary Technician

B6

FAXED EMAILED

FILE

BY

B6

DATE 1/21/19

B:Blp

Information

B6

B6

Patient:

Client:

Veterinarian:

Practice:

B6

11/20/2018

Presenting Complaint: Cardiac Consultation

History:

[B6] is presented to the Cardiology service for evaluation of a heart murmur and radiographic cardiomegaly. She is completely asymptomatic for cardiac disease and runs, plays and swims vigorously. She was evaluated last week for new forelimb lameness when heart sounds were muffled on physical exam. Thoracic radiographs revealed cardiomegaly. Labwork was overall unremarkable. [B6] had received a dose of meloxicam from a housemate's prescription. This has been discontinued and she has since not been on any pain other management. Her activity has been restricted. [B6] is fed Rachel Ray's Chicken and Veggies.

Performed Today:

Physical Exam: BAR; Weight 25.3 kg/ 55.66pounds (BCS 5/9); Temperature 100.7F; Heart rate 100bpm; Precordium displaced to right, Grade V/VI systolic murmur loudest over right heart base, heart sounds significantly muffled on left; Respiratory rate ~bpm; Breath sounds clear and comfortable; Abdomen unremarkable: minimal periodontal disease.

Blood Pressure: 110 mmHg systolic; #3 cuff; Location LRL; Position RLR

Radiograph Review: Severe generalized cardiomegaly. Vertebral heart score 12.7. Suspect both right and left ventricular enlargement. Caudal vena cava slightly larger than aorta. Pulmonary vasculature undercirculated

Echocardiogram: Tricuspid Valve Dysplasia - Severe
Severe tricuspid insufficiency
Severe right heart volume load
Severe enlargement of Caudal vena cava and hepatic veins
No appreciable abdominal fluid
Dilated, thin-walled, hypocontractile left ventricle
consistent with left-sided dilated cardiomyopathy
Anterior mitral valve stiff, with "hockey stick" configuration
- rule out mild mitral valve dysplasia
Trace mitral insufficiency
ESVI 45.7, ADVI 92.45cm³/M2 respectively

Positive Contrast Bubble Study: No right-to-left shunting of contrast noted

Electrocardiogram: Sinus rhythm conducted with first degree AV block. Deep Q waves in caudal leads

Plasma and Serum Taurine: Unable to submit to UC Davis today due to holiday closure. Sample handling and submission information supplied to [B6]

Information

[B6]

FILE

FAXED EMAILED

[B6]

DATE 12/5/18
3:50P

B6

Holter Monitor:

Total Normal Heart beats: 118,488 (mean heart rate 82bpm)
Total Ventricular Ectopic - 2, not premature
No supraventricular arrhythmia noted

Assessment:

Tricuspid Valve Dysplasia
Severe Tricuspid Insufficiency
Severe Right Heart Volume Load
Dilated Cardiomyopathy

B6

Unfortunately, B6 also has a condition called Dilated Cardiomyopathy (DCM). DCM occurs when the ventricular heart muscles become weak and unable to effectively pump blood to nourish the body with oxygen. Most cases of DCM are thought to be genetic in origin, but nutritional, infectious, arrhythmic and metabolic causes have been identified. Testing for specific causes may be recommended. In B6 case, I strongly recommend submission of plasma and whole blood taurine levels to UC Davis and to begin taurine supplementation. We also discussed performance of a 24-hour Holter monitor to be sure that B6 is not experiencing runs of SVT that may have affected her heart muscle. B6 is also at risk of developing symptoms of DCM well before middle age and I would like institute medication. Symptoms of DCM may include any of the following:

- 1.) Congestive heart failure (CHF) - Buildup of fluid within the lungs, around the lungs or in the abdomen. CHF may cause rapid or difficulty breathing, cough or difficulty getting around.
- 2.) Abnormal heart rhythm (arrhythmia) - Arrhythmia may cause weakness, passing out (syncope) or unfortunately even sudden death in some instances
- 3.) Many patients with DCM lose a significant amount of weight despite a good appetite. Dr. B6 may recommend dietary supplements

Patients with DCM generally receive multiple heart medications that work against the heart disease at different levels. Medications are aimed to help the heart pump more efficiently, reduce the workload on the heart and to combat congestive heart failure. Some of these medications may actually slow progression of the disease itself. With effective treatment, dogs with DCM can generally be kept happy and comfortable for months to many months and sometimes even longer.

B6 Holter monitor was very pleasing. There was no evidence of supraventricular tachycardia (often associated with TVD) on today's monitor. There is no indication for further cardiac therapy.

Medications:

B6

Monitoring:

Diet: Normal - There have been multiple recent reports linking grain-free diets to heart muscle dysfunction. B6 diet only has one of the suspect components, but I do recommend transition to a grain based diet or one that does not have lentils, chick peas, peas, pea meal, white or sweet potatoes in the first 8-10 ingredients

Information for B6

B6

Avoid salty snacks (deli meats, cheese, Pupperoni or Snausages)
Exercise: Avoid Overexertion/Overheating
Call us if: Status changes, Increased respiratory rate, Increase or change in cough,
distended abdomen, passing out, failure to respond to medications

Recheck: Recheck renal panel 7-14 days after starting cardiac medications
Whole blood and plasma taurine levels recommended
Recheck here in 4 months for physical exam, abbreviated echocardiogram *8/13/2019 2:00PM*

We appreciate your confidence B6 We pledge to provide the clients you refer to us the same personal care that you and your pets appreciate. Please do not hesitate to call with any questions or concerns. Again, thank you for your trust.

RDVM Radiographs:

- Returned to Owner
- Mailed to RDVM
- _____

Discharge Technician's Initials

B6

Owner's Signature

B6

Information

B6

B6

Patient:

Client:

Veterinarian:

Practice:

B6

11/20/2018

Presenting Complaint: Cardiac Consultation

History:

B6 is presented to the Cardiology service for evaluation of a heart murmur and radiographic cardiomegaly. She is completely asymptomatic for cardiac disease and runs, plays and swims vigorously. She was evaluated last week for new forelimb lameness when heart sounds were muffled on physical exam. Thoracic radiographs revealed cardiomegaly. Labwork was overall unremarkable. **B6** had received a dose of meloxicam from a housemate's prescription. This has been discontinued and she has since not been on any pain other management. Her activity has been restricted. **B6** is fed Rachel Ray's Chicken and Veggies.

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Anterior mitral valve stiff, with "hockey stick" configuration
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Electrocardiogram: Sinus rhythm conducted with first degree AV block. Deep Q waves in caudal leads

Plasma and Serum Taurine: Unable to submit to I.C. Davis today due to holiday closure. Sample handling and submission information supplied to **B6**

Holter Monitor: Results pending, typically 2-3 weeks

FAXED EMAIL

B6

3/13/19 020

B6

Assessment:

**Tricuspid Valve Dysplasia
Severe Tricuspid Insufficiency
Severe Right Heart Volume Load
Dilated Cardiomyopathy**

B6

Unfortunately, **B6** also has a condition called Dilated Cardiomyopathy (DCM). DCM occurs when the ventricular heart muscles become weak and unable to effectively pump blood to nourish the body with oxygen. Most cases of DCM are thought to be genetic in origin, but nutritional, infectious, arrhythmic and metabolic causes have been identified. Testing for specific causes may be recommended. In **B6** case, I strongly recommend submission of plasma and whole blood taurine levels to UC Davis and to begin taurine supplementation. We also discussed performance of a 24-hour Holter monitor to be sure that **B6** is not experiencing runs of SVT that may have affected her heart muscle. **B6** is also at risk of developing symptoms of DCM well before middle age and I would like institute medication. Symptoms of DCM may include any of the following:

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- 3.) Many patients with DCM lose a significant amount of weight despite a good appetite. **B6** may recommend dietary supplements

Patients with DCM generally receive multiple heart medications that work against the heart disease at different levels. Medications are aimed to help the heart pump more efficiently, reduce the workload on the heart and to combat congestive heart failure. Some of these medications may actually slow progression of the disease itself. With effective treatment, dogs with DCM can generally be kept happy and comfortable for months to many months and sometimes even longer.

It is OK if **B6** wears the monitor longer than 24 hours. **Please note if there are any problems with the monitor while recording.** It is OK if a single lead dislodges - we may still obtain a valid reading. You may try to replace if you can easily find the electrode. Please do not use scissors to cut off the bandages surrounding the Holter - there are several long lead wires. Be sure to use some Goo Gone or mineral oil to remove the tape and/or ECG pads from h** chest if they seems sticky. If, after removing the electrodes, the skin is red or irritated, you may apply 1% hydrocortisone cream to keep the itch and irritation down. Holter results are generally available 10-14 days after the monitor is returned to us.

Medications:

B6

Monitoring:

Diet: Normal - There have been multiple recent reports linking grain-free diets to heart muscle dysfunction. **B6 diet only has one of the suspect components, but I do recommend transition to a grain based diet or one that does not have lentils, chick peas, peas, pea meal, white or sweet potatoes in the first 8-10 ingredients**

B6

B6

Avoid salty snacks (deli meats, cheese, Pupperoni or Snausages)
Exercise: Avoid Overexertion/Overheating
Call us if: Status changes, Increased respiratory rate, Increase or change in cough, distended abdomen, passing out, failure to respond to medications

Recheck: Recheck renal panel 7-14 days after starting cardiac medications
Whole blood and plasma taurine levels recommended
Recheck here in 4 months for physical exam, abbreviated echocardiogram

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RDVM Radiographs:

- Returned to Owner
- Mailed to RDVM
- _____

Discharge Technician's Initials:

B6

B6

B6

B6

B6

RC 11-12-1808-56A

FAXE

B6

Confirmed 11/19/18

B6

B6

Labrador Retriever - Canine - FS

B6

B6

B6

PATIENT

11-20-18 @ 9AM

Date Nov. 14, 2018

REFERRING INFORMATION

This is a Stat Referral

Veterinarian B6

Hospital B6

Address B6

Phone:

Client MUST call to schedule an appointment for our specialty services.

I am referring to the following service: Emergency/Critical Care Surgery Cardiology Other: _____

CLIENT INFORMATION

Client's Name B6

Home Phone:

Address B6

Work Phone:

PATIENT INFORMATION

Pet's Name: B6

Sex: M F M/N F/S

Species: K9

Breed: Lab

Weight: 57 # kgs

DOB: B6

Presenting Complaint/Problem List: Patient presented for off-on limping for 1 week duration. During physical exam, found muffled heart sounds. Radiographs reveal cardiomegaly.

Tests Performed: To bring disc Redd Radiographs, Bloodwork, 4Dx (All neg)

Treatments Performed: None

Medications: None - had been giving p 3.75 mg Meloxicam to SID x 7 days (her other dog's meds) before coming in - This put us in panic mode. Concurrent/Long-term Medical Conditions: None. This was not recommended by anyone at our hospital.

In order to expedite best quality medical care, please include all PERTINENT medical records/notes, laboratory results with referral and send radiographs via email to radiographs B6 or with pet owner.

B6

FS
5/16

Continuation Sheet

11-14-18 cont.

Would like 4Dx test, chest rads,
~~SABODZ~~ Bldwork

~~Normal~~ Meg X 4 - 4Dx test ~~ok~~

o called & said p has been
given 3.75mg Meloxicam SID
(p's dose would be 2.5mg SID)

Once you stop **B6** need
7 day wash-out period.

CBC: P14 194

- Profile 2 ~~ok~~

Chem: PHOS 5.5

All else, WNL

(A) No abnormalities - Xr 4¹⁺² ~~ok~~
seen w/ shoulders.

(B) Severe cardiomegaly - recommend
referral to cardiologist -

B6

FS 5/16

B6

B6



B6

Accession No. **B6**
Received 01/05/2019
Reported 01/05/2019 07:12 AM

Owner	Pet Name	Species	Breed	Sex	Pet Age	Chart#
B6		Canine	Labrador Retriever	SF	2Y	15731

Complete Blood Count

Tests	Results	Ref. Range	Units
WBC	B6	4.0-15.5	10 ³ /μL
RBC		4.8-9.3	10 ⁶ /μL
Hemoglobin		12.1-20.3	g/dL
Hematocrit		38-60	%
MCV		58-79	fL
MCH		19-28	pg
MCHC		30-38	g/dL
Platelet Count		170-400	10 ³ /μL
Platelet EST			
Differential			
Neutrophils		2060-10600	/μL
Bands			
Lymphocytes (HIGH)		690-4500	/μL
Monocytes		0-840	/μL
Eosinophils		0-1200	/μL
Basophils	0-150	/μL	

Test Requested	Results	Reference Range	Units
----------------	---------	-----------------	-------

Test Requested	Results	Reference Range	Units
ADULT WELLNESS CHEMISTRY	B6		
Total Protein		5.0-7.4	g/dL
Albumin		2.7-4.4	g/dL
Globulin		1.6-3.6	g/dL
A/G Ratio		0.8-2.0	
ALT (SGPT)		12-118	IU/L
Alk Phosphatase		5-131	IU/L
Urea Nitrogen		6-31	mg/dL
Creatinine		0.5-1.6	mg/dL
BUN/Creatinine Ratio		4-27	
Glucose		70-138	mg/dL
Potassium		3.6-5.5	mEq/L

Comment: Hemolysis 2+ No significant interference.

TEST	Result	Flag	Normal Range	Units	Dog I	B6
Chemistry (DRI-CHEM) - Friday, January 04, 2019 10:56 AM						
Sodium	B6		141 - 152	mEq/l	B6	
Potassium			3.8 - 5.3	mEq/l		
Chloride			102 - 120	mEq/l		
Na/K Ratio						

26209 PL
26210 WB

Amino Acid Laboratory Sample Submission Form

Amino Acid Laboratory, 1089 Veterinary Medicine Drive, Davis, Ca 95616

Telephone: 530-752-5058

Fax: 530-752-4698

Email: ucd.aminoacid.lab@ucdavis.edu

www.vetmed.ucdavis.edu/labs/amino-acid-laboratory



UC DAVIS

VETERINARY MEDICINE

Submitting Veterinarian Information

Clinic Name: _____

Mailing Address: _____

Veterinarian Name: _____

Email: _____

B6

Owner Information

Name: _____

Mailing Address: _____
(required if billing owner)

Email: _____

B6

Patient Information

Name: B6 Species: KG Breed: Lab. Ret

Current Diet: Purina Pro Plan Saver Adult Shredded Blend

Preferred method of results reporting: Fax Email

Bill to: Clinic Owner (Non-federal funds) UC Account # _____

*Invoices will be mailed to all customers with a US mailing address, unless emailed invoices are required

*Credit cards are not accepted for payment, please wait to receive invoice and remit payment by check per invoice instructions

Sample type: Plasma Whole Blood Urine Food Other: _____

Test: Taurine Complete Amino Acid Other: _____

Taurine Results (lab use only)

Plasma: **B6** Whole Blood: **B6** Urine: _____ Food: _____

Reporter's Initials: _____ Date: 1-2-19

Normal Taurine Values (nMols/ml) for Cat & Dog

	Plasma (nMol/ml)		Whole Blood (nMol/ml)	
	Normal Range	No known risk for deficiency	Normal Range	No known risk for deficiency
Cat	80 - 120	>40	300 - 600	>200
Dog	60 - 120	>40	200 - 350	>150

* Please note with the recent increase in the number of dogs screened for taurine deficiency, we are seeing dogs with values within the reference ranges (or above the "no known risk for deficiency range") yet are still exhibiting signs of cardiac disease. Veterinarians are welcome to contact our laboratory for assistance in evaluating your patients results.

4:02P
DATE 1-7-19
B6
BY
 FAXED EMAIL

Rec'd 11/15/18 10:50a

TEST Result Flag Normal Range Units
Hematology (HemaTrue) - Wednesday, November 14, 2018 5:52 PM

Dog ID **B6**

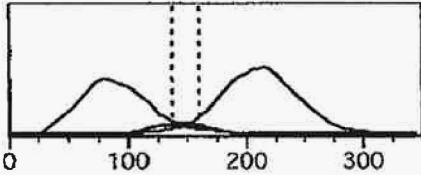
B6

B6

TEST	Result	Flag	Normal Range	Units
WBC			6.0 - 17.0	10 ³ /μl
LYM			0.9 - 5.0	10 ³ /μl
MONO			0.3 - 1.5	10 ³ /μl
GRAN			3.5 - 12.0	10 ³ /μl
LYM %				
MONO %				
GRAN %				
HCT			37.0 - 55.0	%
MCV			60.0 - 72.0	fl
RDW _a			35.0 - 53.0	fl
RDW %			12.0 - 17.5	%
HGB			12.0 - 18.0	g/dl
MCHC			32.0 - 38.5	g/dl
MCH			19.5 - 25.5	pg
RBC			5.50 - 8.50	10 ⁶ /μl
PLT			200 - 500	10 ³ /μl
MPV			5.5 - 10.5	fl

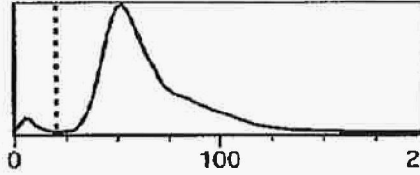
Asp Mode

WBC (fl)



WBC Time: 9.6

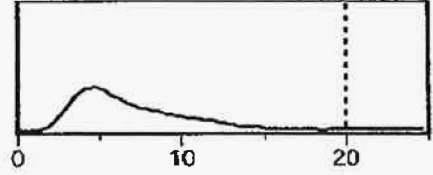
RBC (fl)



RBC Time: 14.2

Asp Time: 0.4

PLT (fl)



Asp Mode:

TEST	Result	Flag	Normal Range	Units
------	--------	------	--------------	-------

Chemistry (DRI-CHEM) - Wednesday, November 14, 2018 3:53 PM

BUN			9.0 - 29.0	mg/dl
Creatinine			0.4 - 1.4	mg/dl
BUN/Creat Ratio				
Phosphorus			1.9 - 5.0	mg/dl
Calcium			9.0 - 12.2	mg/dl
Corrected Ca			9.0 - 12.2	mg/dl
Total Protein			5.5 - 7.6	g/dl
Albumin			2.5 - 4.0	g/dl
Globulin			2.0 - 3.6	g/dl
Alb/Glob Ratio				
Glucose			75 - 125	mg/dl
Cholesterol			120 - 310	mg/dl
ALT (GPT)			0 - 120	U/l
ALP			0 - 140	U/l
GGT			0 - 14	U/l
Total Bilirubin			0.0 - 0.5	mg/dl

B6

B6

*Corrected Calcium is only valid for dogs which are greater than 6 months old

Cardiac Report: Brief

B6
Ultrasound Laboratory

Name **B6**

Referral Reason
Cardiac Recheck

Age 2
Birthdate **B6**

Height 0.0 cm

Weight 25.2 kg

Sex Female

Date 03/13/2019

Diagn.Phys.

BSA 0.86 m²

BP
Site Name **B6**

Diagnosis
Tricuspid Valve Dysplasia
Severe Tricuspid Insufficiency
Severe Right Heart Volume Load
Dilated Cardiomyopathy

M-Mode

- IVSd
- LVIDd
- LVPWd
- IVSs
- LVIDs
- LVPWs
- EDV(Teich)
- ESV(Teich)
- EF(Teich)
- %FS
- SV(Teich)
- Ao Diam
- LA Diam
- LA/Ao
- Ao Diam
- LA Diam
- AV Cusp
- LA/Ao
- Ao/LA
- IVSd
- LVIDd
- EDV(Teich)
- LVPWd
- IVSs
- LVIDs
- ESV(Teich)

B6

Doppler

- RVOT Vmax
- RVOT maxPG
- TR Vmax
- TR maxPG

B6

2-D

- LA Diam
- AV Diam
- LADs
- RA Diam

B6

Print Date: 3/13/2019

B6

EF(Teich)
%FS
LVPWs
EPSS
LVPEP
LVET
LVPEP/ET

B6

Findings

Image 1

Image 2

B6

Image 5

Image 6

03/13/2019

Print Date: 3/13/2019

B6

B6

Date 03/13/2019

B6

03/13/2019

Print Date: 3/13/2019

NARRATIVE SUMMARY

The monitoring period was 23 hours and 59 minutes.
The period started at 11:51 on 11/20/2018 and ended at 11:50 on 11/21/2018.
No Patient Events were logged.

118490 QRS complexes were detected, **118488 Normal beats**. The average heart rate was 82 BPM.
The maximum heart rate was 269 BPM at **15:37:22** and the minimum was 37 BPM at **04:33:22**.

2 VE beats were 0.0% of total beats, 2 were isolated.

2 Single Ventricular Ectopics were detected.

No Bigeminy episodes were detected.

No Trigeminy episodes were detected.

No Couplets were detected.

No Ventricular Runs were detected.

No Idioventricular episodes (< 100 bpm) were detected.

No SV beats were detected.

No Single Supraventricular Ectopics were detected.

No SV Bigeminy episodes were detected.

No SV Trigeminy episodes were detected.

No SV Couplets were detected.

No SVT episodes were detected.

323 Irregular Rhythm episodes were detected, totaling 3.7 hours in duration.

10 Tachycardia episodes (> 180 bpm) were detected, totaling 16.5 minutes in duration.

No Bradycardia episodes (< 40 bpm) were detected.

1 Pause (> 3.0 sec) was detected, 3.2 seconds in duration.

109 ST displacement episodes (> 1.5 mm) were detected, totaling 5.8 hours in duration.

SDNN: 0.354 (standard deviation of all NN intervals)

SDANN: 0.180 (standard deviation of all 5-minute NN interval means)

SDNN Index: 0.296 (mean of all 5-minute NN interval standard deviations)

RMSSD: 0.397 (square root of the mean squared successive NN interval differences)

Triangular Index: 28.689 (total number of NN intervals divided by the NN histogram height)

B6

Holter Monitor Diary for B6 on Nov. 20, 2018

Please record time and activities for your pet while it wears the Holter monitor. It is even important to know when they are sleeping and when they receive medications.

TIME	Activity
11/20/18	11:50AM Started Holter monitor
	3:30 arrived home
	3:30-3:45 played ball
	dinner
	4-6 some play w/ other dogs, some rest
	6-6:30 ball
	7:40 walk
	Sleep
	11:25 - outside
	sleep
11/21/2018	6:15 wake & out
	6:30 breakfast
	7:45-8:15 - moderate exercise
	8:45-9:15 - some play
	1:30-2:00 - some play

Cardiac Report

B6
Ultrasound Laboratory

Name: **B6**
Patient: **B6**
Age: 2
Birthdate: **B6**
Height: 0.0 cm
Weight: 25.3 kg
Sex: Female
Date: 11/20/2018
BSA: 0.86 m²
Site Name: **B6**
Ref. Doc. Name:

Referral Reason:
Cardiac Consult
Heart Murmur
Radiographic Cardiomegaly

Diagnosis:
Tricuspid Valve Dysplasia
Severe Tricuspid Insufficiency
Severe Right Heart Volume Load
Dilated Cardiomyopathy

Comments:

M-Mode

IVSd
LVIDd
LVPWd
IVSs
LVIDs
LVPWs
EDV(Teich)
ESV(Teich)
EF(Teich)
%FS
SV(Teich)
Ao Diam
LA Diam
LA/Ao
IVSd
LVIDd
EDV(Teich)
LVPWd
IVSs
LVIDs
ESV(Teich)
EF(Teich)
%FS
LVPWs
EPSS

B6

Doppler

MV E Vel
MV DecT
MV Dec Slope
MV A Vel
MV E/A Ratio
LVOT Vmax
LVOT maxPG
RVOT Vmax
RVOT maxPG
PRend Vmax
PRend PG
TR Vmax
TR maxPG
TV E Vel
TV Dec Time
TV Dec Slope
TV A Vel
TV E/A Ratio

B6

2-D

LA Diam
AV Diam
LADs
RA Diam

B6

Print Date: 11/21/2018

B6

LVPEP
LVET
LVPEP/ET
EPSS

B6

Findings:

ECG rhythm: Sinus rhythm conducted with RBBB.

Study quality: This was a technically good study.

Left Ventricle: The left ventricle is moderately volume loaded. Left ventricular wall thickness is decreased. There is moderate global hypokinesis of LV contractility and moderate to severe chamber dilation.

Left Atrium: The left atrial size is normal.

Right Ventricle: The right ventricle is severely volume loaded.

Right Atrium: The right atrium is markedly enlarged.

Aortic Valve: The aortic valve is trileaflet, and appears structurally normal. No aortic stenosis or regurgitation.

Mitral Valve: There is trace mitral regurgitation. Mild thickening of the anterior mitral valve leaflet. There is mild thickening of the posterior mitral valve leaflet.

Tricuspid Valve: Two dimensional and doppler echocardiography demonstrates caudal displacement of mitral annulus, thickened tricuspid leaflets with shortened chordal tendons consistent with severe tricuspid dysplasia. There is no evidence of pulmonary hypertension - mildly elevated TR velocity likely due to volume or TR .

Pulmonic Valve: The pulmonic valve is normal. Trace/mild (physiologic) pulmonic regurgitation.

Aorta: The aortic root, ascending aorta and aortic arch are normal.

Pulmonary Artery: The pulmonary artery is normal.

IVC/Hepatic Veins: The caudal vena cava and hepatic veins are markedly dilated, but there is still inspiratory collapse. There is no abdominal fluid.

Pulmonary Veins: The pulmonary veins appear mildly dilated.

B6

Image 1

Image 2

B6

Date 11/20/2018

B6

(sonographer)

(physician)

11/20/2018

Print Date: 11/21/2018

From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; **B6**
Sent: 3/27/2019 5:52:32 AM
Subject: Taste of the Wild High Prairie Puppy; **B6** EON-383461
Attachments: 2064711-report.pdf; 2064711-attachments.zip

A PFR Report has been received and PFR Event [EON-383461] has been created in the EON System.

A "PDF" report by name "2064711-report.pdf" is attached to this email notification for your reference. Please note that all documents received in the report are compressed into a zip file by name "2064711-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

EON Key: EON-383461

ICSR #: 2064711

EON Title: PFR Event created for Taste of the Wild High Prairie Puppy; 2064711

AE Date	03/11/2019	Number Fed/Exposed	2
Best By Date	12/30/2019	Number Reacted	1
Animal Species	Dog	Outcome to Date	Stable
Breed	Beagle		
Age	9 Months		
District Involved	PFR; B6 DO		

Product information

Individual Case Safety Report Number: 2064711

Product Group: Pet Food

Product Name: Taste of the Wild High Prairie Puppy

Description: Echocardiogram done by cardiologist 3/18/19 because of an enlarged heart found on x-rays done at our regular vet's office. Diagnosis by the cardiologist "early occult dilated cardiomyopathy, likely diet-related". His "contractility is just below normal range and his left ventricle measures mildly dilated. His left atrium is normal in size, therefore there is no concern for imminent heart failure. However, we recommend supplementing Taurine, switching to a non grain free diet and medicating with Vetmedin for the next 3 months. In 3 months time, some improvement in **B6** cardiac dimensions should be noted; it may take up to 6 months for full

return to normal cardiac structure and function

B6

shows improvement in 3 months, his overall prognosis will be good."

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Stable

Number of Animals Treated With Product: 2

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
Taste of the Wild High Prairie Puppy	THP1207 032S B0B 09:48	12/30/2019

Sender information

B6

USA

To view this PFR Event, please click the link below:

<https://eon.fda.gov/eon//browse/EON-383461>

To view the PFR Event Report, please click the link below:

<https://eon.fda.gov/eon//EventCustomDetailsAction!viewReport.jspx?decorator=none&e=0&issueType=12&issueId=400559>

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Report Details - EON-383461		
ICSR:	2064711	
Type Of Submission:	Initial	
Report Version:	FPSR.FDA.PETF.V.V1	
Type Of Report:	Adverse Event (a symptom, reaction or disease associated with the product)	
Reporting Type:	Voluntary	
Report Submission Date:	2019-03-27 01:41:45 EDT	
Reporter is the Animal Owner:	Yes	
Reported Problem:	Problem Description: Echocardiogram done by cardiologist 3/18/19 because of an enlarged heart found on x-rays done at our regular vet's office. Diagnosis by the cardiologist "early occult dilated cardiomyopathy, likely diet-related". His "contractility is just below normal range and his left ventricle measures mildly dilated. His left atrium is normal in size, therefore there is no concern for imminent heart failure. However, we recommend supplementing Taurine, switching to a non grain free diet and medicating with Vetmedin for the next 3 months. In 3 months time, some improvement in [B6] cardiac dimensions should be noted; it may take up to 6 months for full return to normal cardiac structure and function if [B6] shows improvement in 3 months, his overall prognosis will be good."	
	Date Problem Started: 03/11/2019	
	Concurrent Medical Problem: Yes	
	Pre Existing Conditions: [B6] which it totally unrelated to his DCM. He was neutered 1/29/19 and started coughing and was thought to have Kennel Cough - ongoing and getting worse so treated with antibiotics/cough tab. Did not get better, so at next appointment x-rays were done which diagnosed him with pneumonia possibly from aspirating during recovery from his neuter surgery. He was found to have an extremely enlarged heart on the x-rays, so we were referred to a cardiologist for an Echocardiogram, done on 3/18/19. If he hadn't got pneumonia, we may not have found the DCM so quickly. SECOND DOG not tested but considering it as he has eaten this same food for 2.5 years.	
	Outcome to Date: Stable	
Product Information:	Product Name: Taste of the Wild High Prairie Puppy	
	Product Type: Pet Food	
	Lot Number: Lot Number: THP1207 032S B0B 09:48 Expiration Date: 12/30/2019	
	UPC: 7419861114	
	Package Type: BAG	
	Package Size: 30 Pound	
	Purchase Date: 01/17/2019	
	Number Purchased: 1	
	Possess Unopened Product: No	
	Possess Opened Product: Yes	
	Storage Conditions: Before opening - stored in basement until needed to be opened. After opening - stored in air-tight dog food storage container.	
	Product Use Information:	Description: Fed dry as a meal 3-4 times a day.
		First Exposure Date: 01/23/2019
Last Exposure Date: 03/11/2019		
Time Interval between Product Use and Adverse Event: 7 Months		
Product Use: Yes		

Stopped After the Onset of the Adverse Event:	
Adverse Event Abate After Product Stop:	Unknown
Product Use Started Again:	No
Perceived Relatedness to Adverse Event:	Definitely related
Other Foods or Products Given to the Animal During This Time Period:	No

Manufacturer /Distributor Information:

Purchase Location Information:

Name:	Chewy.com
Address:	United States

Animal Information:

Name:	B6
Type Of Species:	Dog
Type Of Breed:	Beagle
Gender:	Male
Reproductive Status:	Neutered
Weight:	14 Pound
Age:	9 Months
Assessment of Prior Health:	Good
Number of Animals Given the Product:	2
Number of Animals Reacted:	1
Owner Information:	

Healthcare Professional Information:

Practice Name:	B6
Contact:	Name: B6
	Phone: B6
	Other Phone: B6
	Email: B6
Address:	B6
	United States
Type of Veterinarian:	Primary/regular veterinarian
Date First Seen:	03/04/2019
Permission to Release Records to FDA:	Yes
Practice Name:	B6
Contact:	Name: B6
	Phone: B6
	Other Phone: B6
	Email: B6

		Address:	B6 United States	
		Type of Veterinarian:	Referred veterinarian	
		Date First Seen:	03/18/2019	
		Permission to Release Records to FDA:	Yes	
Sender Information:	Name:			
	Address:	B6 United States		
	Contact:	Phone:		
		Other Phone:		B6
		Email:		
	Permission To Contact Sender:	Yes		
Preferred Method Of Contact:	Email			
Reported to Other Parties:	None			
Additional Documents:	Attachment:	B6	Echocardiogram diagnosis 3-18-19.jpg	
	Description:	Diagnosis and Assessment by the Cardiologist after performing an Echocardiogram o		
	Type:	Analysis	B6	

B6

Client Details		Patient Details	
Name	B6	Name	B6
Address		Species	Canine
Phone(s)		Breed	Beagle
		Age	9 months
	Sex	Male Neutered	

DISCHARGE INSTRUCTIONS Cardiology

03-18-2019

DIAGNOSIS: Early occult dilated cardiomyopathy, likely diet-related;

B6

DIET: Maintain normal diet (not grain free)

MEDICATION:

Date/Time	Drug Name	Quantity	Instructions
03-18-2019		B6	

-Taurine supplementation 500 mg capsules: Give 2 capsules by mouth every day. This can be obtained over the counter at a healthfood store. The first dose was given today.

ASSESSMENT: **B6** was diagnosed with early, occult dilated cardiomyopathy on today's echocardiogram, which is likely diet-related. **B6**'s contractility is just below normal range and his left ventricle measures mildly dilated. His left atrium is normal in size, therefore there is no concern for imminent heart failure. However, we recommend supplementing taurine, switching to a non grain free diet and medicating with **B6** for the next 3 months. In 3 months time, some improvement; **B6** cardiac dimensions should be noted; it may take up to 6 months for full return to normal cardiac structure and function. If **B6** shows improvement in 3 months, his overall prognosis will be good.

RECHECK: 3 months

MONITORING: Please monitor for recurrence of cough, increased respiratory rate/effort, lethargy or exercise intolerance. Contact us with any questions/concerns.

ADDITIONAL INFORMATION: If you have any questions or concerns after hours or during the weekend, please call our emergency service at **B6**

From: PFR Event <pfpreventcreation@fda.hhs.gov>
To: Cleary, Michael *; HQ Pet Food Report Notification; [B6]
Sent: 3/26/2019 2:00:39 PM
Subject: Taste of the Wild Venison & Legume die [B6] EON-383371
Attachments: 2064630-report.pdf

A PFR Report has been received and PFR Event [EON-383371] has been created in the EON System.

A "PDF" report by name "2064630-report.pdf" is attached to this email notification for your reference.

Below is the summary of the report:

EON Key: EON-383371

ICSR #: 2064630

EON Title: PFR Event created for Taste of the Wild Venison & Legume diet; 2064630

AE Date	03/06/2019	Number Fed/Exposed	
Best By Date		Number Reacted	1
Animal Species	Dog	Outcome to Date	Unknown
Breed	Unknown		
Age			
District Involved	PFR- [B6] DO		

Product information

Individual Case Safety Report Number: 2064630

Product Group: Pet Food

Product Name: Taste of the Wild Venison & Legume diet

Description: Originally submitted as RFR EON-383367. CVM resubmitting as PFR. The patient has been eating a grain free diet, specifically the Taste of the Wild Venison & Legume diet for years. He presented on 3/6/19 and the owner reported a mild cough but he felt it was resolving and declined a work up at that time. He presented again on 3/12/19 since the cough had not resolved and we started a work up of the patient that included thoracic radiographs. The patient was/is in congestive heart failure with an enlarged heart. The pet's breed is not a common breed for DCM and with the dietary history of a high legume grain free diet I feel that this is dietary induced.

Submission Type: Initial

Report Type: Adverse Event (a symptom, reaction or disease associated with the product)

Outcome of reaction/event at the time of last observation: Unknown

Number of Animals Reacted With Product: 1

Product Name	Lot Number or ID	Best By Date
Taste of the Wild Venison & Legume diet		

Sender information

B6

USA

Owner information

B6

Unknown USA

To view this PFR Event, please click the link below:

<https://eon.fda.gov/eon//browse/EON-383371>

To view the PFR Event Report, please click the link below:

<https://eon.fda.gov/eon//EventCustomDetailsAction!viewReport.jspa?decorator=none&e=0&issueType=12&issueId=400469>

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Report Details - EON-383371

ICSR: 2064630
Type Of Submission: Initial
Report Version: FPSR.FDA.PETF.V.V1
Type Of Report: Adverse Event (a symptom, reaction or disease associated with the product)
Reporting Type: Voluntary
Report Submission Date: 2019-03-26 09:52:47 EDT

Reported Problem:

Problem Description:	Originally submitted as RFR EON-383367. CVM resubmitting as PFR. The patient has been eating a grain free diet, specifically the Taste of the Wild Venison & Legume diet for years. He presented on 3/6/19 and the owner reported a mild cough but he felt it was resolving and declined a work up at that time. He presented again on 3/12/19 since the cough had not resolved and we started a work up of the patient that included thoracic radiographs. The patient was/is in congestive heart failure with an enlarged heart. The pet's breed is not a common breed for DCM and with the dietary history of a high legume grain free diet I feel that this is dietary induced.
Date Problem Started:	03/06/2019
Concurrent Medical Problem:	Unknown
Outcome to Date:	Unknown

Product Information:

Product Name:	Taste of the Wild Venison & Legume diet
Product Type:	Pet Food
Lot Number:	
Product Use Information:	
Manufacturer /Distributor Information:	
Purchase Location Information:	

Animal Information:

Name:													
Type Of Species:	Dog												
Type Of Breed:	Unknown												
Gender:	Male												
Reproductive Status:	Unknown												
Assessment of Prior Health:	Unknown												
Number of Animals Reacted:	1												
Owner Information:	<table border="1"><tr><td>Owner Information provided:</td><td>Yes</td></tr><tr><td>Contact:</td><td><table border="1"><tr><td>Name:</td><td>B6</td></tr><tr><td>Phone:</td><td></td></tr><tr><td>Email:</td><td></td></tr></table></td></tr><tr><td>Address:</td><td>Unknown Unknown B6 Unknown United States</td></tr></table>	Owner Information provided:	Yes	Contact:	<table border="1"><tr><td>Name:</td><td>B6</td></tr><tr><td>Phone:</td><td></td></tr><tr><td>Email:</td><td></td></tr></table>	Name:	B6	Phone:		Email:		Address:	Unknown Unknown B6 Unknown United States
Owner Information provided:	Yes												
Contact:	<table border="1"><tr><td>Name:</td><td>B6</td></tr><tr><td>Phone:</td><td></td></tr><tr><td>Email:</td><td></td></tr></table>	Name:	B6	Phone:		Email:							
Name:	B6												
Phone:													
Email:													
Address:	Unknown Unknown B6 Unknown United States												
Healthcare Professional Information:													

Sender Information:

Name:	B6
Address:	B6

B6

United States

Contact:

Phone:

Email:

B6

Reporter Wants to
Remain Anonymous:

No

Permission To Contact
Sender:

Yes

Preferred Method Of
Contact:

Email

Additional Documents:

From: [REDACTED] **B5, B6**
To: Jones, Jennifer L
Sent: 7/6/2018 4:54:55 PM
Subject: Suspected diet related DCM case logs
Attachments: Dilated cardiomyopathy cases 2017.xlsx

Dr. Jones,

Please find attached the current case log for suspected diet related DCM cases. Let me know if you have any questions.

B5, B6

**DOCUMENT
PRODUCED IN NATIVE**

From: B5, B6
To: Jones, Jennifer L
Sent: 5/18/2018 5:25:41 PM
Subject: DCM and Diet spreadsheet
Attachments: Diet Breakdown by Brand.xlsx

**DOCUMENT
PRODUCED IN NATIVE**

From: B5, B6
To: Jones, Jennifer L
Sent: 5/18/2018 5:43:58 PM
Subject: Diet Breakdown by brand and breed
Attachments: Diet Breakdown by Brand.xlsx; Diet Breakdown by Breed.xlsx

From: Burkholder, William </O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=8D5FDA60A4814BD290D84BD28A2A9292-BBURKHOL>
To: Carey, Lauren; Stamper, Carmela; Rotstein, David; Queen, Jackie L; Jones, Jennifer L; Atkinson, Krisztina Z; Palmer, Lee Anne
CC: Norris, Anne; Glover, Mark; Conway, Charlotte
Sent: 6/7/2018 2:49:06 PM
Subject: Grain-Free Diet Effects

This is from Charlotte Conway who has contacts within the pet food formulation business:

"In follow-up to Dr. Freeman's article, I got a call from [REDACTED] this morning, so passing along his thoughts: too much [REDACTED]
[REDACTED] Passing along because I said I would."

Some things to think about.

Bill Burkholder

From: Jones, Jennifer L </o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0f6ca12eaa9348959a4cbb1e829af244-Jennifer.Jo>
To: Norris, Anne; Rotstein, David; Palmer, Lee Anne; Carey, Lauren; Queen, Jackie L
CC: DeLancey, Siobhan; 'Reimschuessel, Renate (Renate.Reimschuessel@fda.hhs.gov)'; Ceric, Olgica; Nemser, Sarah
Sent: 4/24/2018 4:30:56 PM
Subject: RE: DCM/grain-free - checking in
Attachments: DCM Cluster-Cardio Experts-case summary-4.24.2018.doc; DCM-Case Report Analysis-4.23.2018.xls; Tufts suspected diet dcm dogs 4-11-18 for fda.xls

JJ-I reviewed the list sent by Tufts and compiled it with the PFRs we've received for DCM.

B5

B5

I looked up the ingredients for each product listed and looked for common product commonalities.

BLUF: The most common ingredients were:

- Flaxseed/Flaxseed oil
- Peas/Pea fiber/Pea flour

On the phone call, one of the cardiologists mentioned a dog improved after Taurine supplementation and changing to a mainstream brand (Purina) grain free food; Purina Grain Free True Instinct contains pea starch; Flaxseed is a common ingredient to many other commonly brands that are not reporting DCM

Hypotheses if a pet food issue:

B5

Jennifer Jones, DVM
Veterinary Medical Officer
Tel: 240-402-5421



From: Norris, Anne
Sent: Friday, April 20, 2018 12:53 PM
To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Subject: RE: DCM/grain-free - checking in

Agree wholeheartedly. Thanks for putting that call together, very interesting!

Anne

From: Jones, Jennifer L

Sent: Friday, April 20, 2018 12:42 PM

To: Norris, Anne <Anne.Norris@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Subject: RE: DCM/grain-free - checking in

Anne and Siobhan,

Dave and I were talking after the call. We recommend:

B5

B5

What do you think?

Jen

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: 240-402-5421



From: Norris, Anne

Sent: Monday, April 16, 2018 11:07 AM

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Subject: RE: DCM/grain-free - checking in

Following up on our discussion last week:

B5

B5

B5 Exploring alternatives, will keep you posted.

Thanks,

Anne

From: Jones, Jennifer L

Sent: Friday, April 13, 2018 6:37 AM

To: Norris, Anne <Anne.Norris@fda.hhs.gov>; Rotstein, David <David.Rotstein@fda.hhs.gov>

Cc: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Subject: RE: DCM/grain-free - checking in

Thanks, Anne. I'll be in the office until 9am, then I'm on leave the rest of the day. I hope to catch you guys for a chat before then.

Jennifer Jones, DVM

Veterinary Medical Officer

Tel: 240-402-5421



From: Norris, Anne

Sent: Thursday, April 12, 2018 6:56 PM

To: Rotstein, David <David.Rotstein@fda.hhs.gov>; Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Cc: DeLancey, Siobhan <Siobhan.Delancey@fda.hhs.gov>

Subject: Re: DCM/grain-free - checking in

Wow. What breeds? I'll send a cal invite for tomorrow AM to try to catch you while you're at Vet-LIRN with Jen.

From: Rotstein, David <David.Rotstein@fda.hhs.gov>

Date: April 12, 2018 at 5:59:56 PM EDT

To: Norris, Anne <Anne.Norris@fda.hhs.gov>, Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>

Subject: Re: DCM/grain-free - checking in

Anne

I'll be available. I'll be with VetLIRN in the morning.

This sounds great-thanks for moving it forward. We got two new complaints (same submitter) today.

From: Norris, Anne <Anne.Norris@fda.hhs.gov>

Date: April 12, 2018 at 5:36:50 PM EDT

To: Jones, Jennifer L <Jennifer.Jones@fda.hhs.gov>, Rotstein, David <David.Rotstein@fda.hhs.gov>

Subject: DCM/grain-free - checking in

Hi Jen and Dave,

B5

recently, I just talked with Dan McChesney for a while and he had a few ideas. If you have any availability tomorrow, perhaps we could discuss briefly?

B5

Thanks,
Anne

Anne Norris

Health Communications Specialist

Strategic Communications & Public Engagement Team

Office of Foods and Veterinary Medicine

U.S. Food & Drug Administration

O: 240-402-0132

M: 240-704-0579

Anne.Norris@fda.hhs.gov



Vet-LIRN Case Summary Document

Vet-LIRN Case Number:	
EON/CC #:	
Owner LAST Name:	
Vet LAST Name:	Multiple
Vet-LIRN Initiation Date:	4/13/2018
MedRec: Requested:	
MedRec: Received:	
MedRec: Significant finding:	
Vet-LIRN Tests (planned):	
Vet-LIRN Test Results:	
Result Interpretation:	
IF NFA, justification:	

COMPLAINT Narrative: Dave and I proactively held a call with communications about [redacted] **B5**

[redacted] **B5**

[redacted] **B5**

AN replied that t [redacted] **B4, B5**

I contacted Darcy Adin-cardiologist at NCSU-to request a meeting with multiple cardiologists to gather information.

4/20/2018

JJ-We held a call with many cardiologists and nutritionists today. I sent a follow-up to the group with a request to [redacted] **B5**

[redacted] **B5**

Dr. Adin sent samples to a biochemist at [redacted] **B4** for testing. I will need to ask Dr. Adin what she asked them to test for. We do not want to duplicate efforts; [redacted] **B5**

[redacted] **B5**

Vet-LIRN Plan:

-
-
-

[redacted] **B5**

B5

4/24/2018

JJ-I reviewed the list sent by Tufts and compiled it with the PFRs we've received for DCM.

B5

B4

B5

B5

On the phone call, one of the cardiologists mentioned a dog improved after Taurine supplementation and changing to a mainstream brand (**B4**) grain free food;

B4

B4, B5

Hypotheses if a pet food issue:

B5

Document properties

Author: Reimschuessel, Renate
Company: US FDA
Template: Normal.dotm
Page count: 2
Paragraph count: 44
Line count: 89
Word count: 561
Character count (spaces excluded): 3056
Character count (spaces included): 3600

**DOCUMENT
PRODUCED IN NATIVE**

From: Freeman, Lisa <Lisa.Freeman@tufts.edu>
To: Jones, Jennifer L
Sent: 11/19/2018 10:03:04 PM
Subject: FW: Taurine Result
Attachments: Stern Lab Taurine Recommendations.pdf; T_24730.pdf; T_24731.pdf; UCD Diet and DCM Handout.pdf

Hi Jen

Updates on B6 and B6

Thanks,

Lisa

Lisa M. Freeman, DVM, PhD, DACVN
Board Certified Veterinary Nutritionist™
Professor
Cummings School of Veterinary Medicine
Friedman School of Nutrition Science and Policy
Tufts Clinical and Translational Science Institute
Tufts University
www.petfoodology.org

From: Tufts Veterinary Cardiology Service
Sent: Monday, November 19, 2018 2:42 PM
To: Freeman, Lisa <lisa.freeman@tufts.edu>
Subject: FW: Taurine Result

Veterinary Cardiology Service
Tufts University Cummings School of Veterinary Medicine

Please note: This account is not monitored on weekends, holidays, or evenings (after 5pm). Please allow 24 - 48 business hours for a reply. For immediate service during business hours, please call the liaison office at 508-887-4696. If you need to speak with the Emergency Service, please call 508-839-5395.

Foster Hospital for Small Animals
200 Westboro Road
North Grafton, MA 01536
<http://www.tufts.edu/vet/>
508.887.4696 phone
508.887.4363 fax

From: Amino Acid Lab <ucd.aminoacid.lab@ucdavis.edu>
Sent: Monday, November 19, 2018 2:39 PM
To: Clinical Pathology Lab <clinpath@tufts.edu>; Tufts Veterinary Cardiology Service <cardiovet@tufts.edu>
Subject: Taurine Result

Hello -

Thank you for using the Amino Acid Laboratory at UC Davis, School of Veterinary Medicine.

Please find attached the results for your patient. You will note that we are now using a new submission form. The new form requests some additional information that may be useful in interpreting your results. Please note, with the recent increase in the number of dogs screened for taurine deficiency, we are seeing some dogs with values within the lower reference ranges (or above the “no known risk for deficiency range”) yet are still exhibiting changes in cardiac function.

In addition to our new submission form, we have also attached 2 handouts developed by our cardiology service at UC Davis for your information. The first is a general handout on dilated cardiomyopathy in dogs. The second is a handout specifically focused on Golden Retrievers, a breed that has been over-represented in the association between grain-free diet consumption and dilated cardiomyopathy.

We hope your clinic finds this information helpful. Veterinarians are always welcome to contact our laboratory for assistance in evaluating your patient’s results.

Thank you -

The Amino Acid Laboratory
Department of Molecular Biosciences
School of Veterinary Medicine
University of California, Davis

Phone: 530-752-5058

Email: ucd.aminoacid.lab@ucdavis.edu



STERN CARDIAC GENETICS LABORATORY
 JOSHUA A. STERN, DVM, PHD, DACVIM (CARDIOLOGY)
 sterngenetics@ucdavis.edu; August 9, 2018

FREQUENTLY REQUESTED INFORMATION REGARDING TAURINE & DILATED CARDIOMYOPATHY IN GOLDEN RETRIEVERS

Taurine reference ranges for Golden Retrievers: The Stern Lab suggests that the following clinical reference ranges be used for Golden Retrievers and be considered for other known taurine-sensitive breeds such as Newfoundlands or American Cocker Spaniels. This is primarily based on 3 observations :

1. Golden Retrievers with marginal taurine levels (defined below) have been diagnosed with dilated cardiomyopathy and have documented disease reversal after taurine supplementation and diet change.
2. Previously published work documents taurine sensitivity in Golden Retrievers.
3. The most recently published reference on normal blood taurine values shows higher levels than previously reported.

- Normal whole blood taurine: >250nmol/mL
- Normal plasma taurine: >70nmol/mL

- Marginal whole blood taurine: 200-250nmol/mL
- Marginal plasma taurine: 60-70nmol/mL

- Low whole Blood taurine: <200nmol/mL
- Low plasma taurine: <60nmol/mL

References:

- Kramer GA, Kittleson MD, Fox PR, Lewis J, Pion PD. Plasma taurine concentrations with normal dogs and in dogs with heart disease. *J Vet Intern Med* 1995;9:253-258.
- Belanger MC, Ouellet M, Queney G, Moreau M. Taurine-deficient dilated cardiomyopathy in a family of golden retrievers. *J Am Anim Hosp Assoc* 2005;41:284-291.
- Kittleson MD, Keene B, Pion PD, Loyer CG, MUST Study Investigators. Results of the multicenter spaniel trial (MUST): taurine- and carnitine-responsive dilated cardiomyopathy in American Cocker Spaniels with decreased plasma taurine concentration. *J Vet Intern Med* 1197;11:204-211.
- Backus RC, Choen G, Pion PD, Good KL, Rogers QR, Fascetti AJ. Taurine deficiency in Newfoundlands fed commercially available complete and balanced diets. *J Am Vet Med Assoc* 2003;223:1130-1136.
- Fascetti AJ, Reed JR, Rogers QR, Backus RC. Taurine deficiency in dogs with dilated cardiomyopathy: 12 cases (1997-2001). *J Am Vet Med Assoc* 2003;223:1137-1141.
- Freeman LM, Michel KE, Brown DJ, Kaplan PM, Stamoulis ME, Rosenthal SL, Keene BW, Rush JE. Idiopathic dilated cardiomyopathy in Dalmatians: nine cases (1990-1995). *J Am Vet Med Assoc* 1996;209:1592-1596.
- Delaney SJ, Kass PH, Rogers QR, Fascetti AJ. Plasma and whole blood taurine in normal dogs of varying size fed commercially prepared food. *J Anim Physiol a Anim Nutr* 2003;87:236-244.

Plasma vs. whole blood taurine testing:

If at all possible, we recommend that paired (plasma and whole blood) taurine samples be submitted for analysis. A low value on either or both tests is clinically relevant. If your dog is diagnosed with DCM, submitting paired taurine samples (plasma and whole blood) is imperative. We recommend that the UC Davis Amino Acid Laboratory be used for taurine testing, as this is where the literature utilized for our reference ranges was generated. <https://www.vetmed.ucdavis.edu/labs/amino-acid-laboratory>. If a single test is submitted the Stern Lab recommends that whole blood be submitted preferentially. This is due to the false elevation of taurine levels that is possible in plasma samples due to sample handling issues. This is an area of some debate between clinicians and conflicting information on preference for plasma vs. whole blood exists. This underscores the value of paired sampling.

Clinical Recommendations for Golden Retrievers based on taurine levels:

If taurine levels test <200nmol/mL in whole blood or <60nmol/mL in plasma

- An echocardiogram by a board-certified veterinary cardiologist is indicated
- After echocardiogram has been completed, a diet change is recommended.
 - If DCM is diagnosed, this patient may need a variety of cardiac medications that would be prescribed by the attending cardiologist.
 - If DCM is diagnosed, prescribed supplementation with oral taurine and l-carnitine is recommended.
 - Reevaluation of taurine levels is warranted after three months of diet change and supplementation.
 - Cardiology reevaluation schedules will be recommended by the attending clinician pending echocardiographic findings.
 - Many Golden Retrievers with taurine-deficient DCM in our study showed slow and steady improvement over a period of 6-12 months.

If taurine levels test 200 – 250nmol/mL in whole blood or 60-70nmol/mL in plasma

- An echocardiogram by a board-certified cardiologist is recommended.
- After echocardiogram has been completed, a diet change is recommended.
- We recognize that many dogs in this category may have normal echocardiograms and thus the value of screening should be carefully considered. If the dog is eating a diet that falls within the FDA warning or shares features with the diets identified in our study (see diets of concern section below), we encourage echocardiographic screening with greater enthusiasm.
- If an echocardiogram is not performed, a diet change is still recommended and a taurine level reevaluation after three months on the new diet should be considered.
- If DCM is diagnosed, this patient may need a variety of cardiac medications that would be prescribed by the attending cardiologist.
 - If DCM is diagnosed, prescribed supplementation with oral taurine and l-carnitine is recommended.
 - Reevaluation of taurine levels is warranted after three months of diet change and supplementation.
 - Cardiology reevaluation schedules will be recommended by the attending clinician pending echocardiographic findings.
 - Many Golden Retrievers with taurine-deficient DCM in our study showed slow and steady improvement over a period of 6-12 months.

If taurine levels test >250nmol/mL in whole blood or >70nmol/mL in plasma

- Diet change is recommended if you are feeding a diet that falls within the FDA warning or shares features with the diets identified in our study (see diets of concern section below)
- If your pet shows any signs of cardiac disease (trouble breathing, exercise intolerance, fainting/collapse, coughing) we recommend your veterinarian evaluate your pet.

Diets of Concern & Choosing a diet

The FDA alert called attention to several dietary ingredients that should be considered when evaluating whether your pet is at risk (for example legumes like peas and lentils, white or sweet potatoes). These findings were largely recapitulated in our current study of Golden Retrievers with low taurine levels and DCM. Our lab considers these ingredients to be of greatest concern when present within the first 5 listed ingredients on the dog food bag. Additionally, we noted a high percent of diets in our study were using protein sources other than chicken or beef and labeled as grain-free.

Points to consider when making a diet change:

- Choose a diet that does not contain the concerning components listed above
- Choose a diet that meets the WSAVA Global Nutrition Assessment Guidelines published as consensus by veterinary nutritionists from around the world:
 - <https://www.wsava.org/WSAVA/media/Arpita-and-Emma-editorial/Selecting-the-Best-Food-for-your-Pet.pdf>
- FDA alert found here:
 - <https://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/ucm613305.htm>

Choosing a taurine or l-carnitine supplement:

Selecting supplements should be performed based upon those that match their stated contents and are readily available for absorption. Luckily a previous publication tested multiple taurine and l-carnitine supplements. Based upon this publication our laboratory recommends the following supplements as those meeting our quality criteria. (Bragg et al. 2009 J Am Vet Med Assoc; 234(2))

Tested taurine supplements that test within 5% of stated contents and if applicable disintegrated within 30 minutes

- Mega taurine caps by Twinlab (1000 capsule)
- Taurine by Swanson Health Products (500mg capsule)
- Taurine by NOW foods (500mg capsule)
- Taurine 500 by GNC (500mg tablet)

Tested L-carnitine supplements that test within 5% of stated contents and if applicable disintegrated within 30 minutes

- L-carnitine 500 by Jarrow Formulas (500mg capsule)
- L-carnitine caps by Country Life (500mg capsule)
- Maxi L-carnitine by Solgar Vitamin and Herb (500mg tablet)
- L-carnitine by Puritan's Pride (500mg tablet)

The Stern lab does not recommend the empirical supplementation of taurine or l-carnitine to dogs without evidence of DCM and/or significant deficiency. If DCM is diagnosed we typically recommend dogs over 50lbs receive 1000mg of taurine every 12hrs and dogs under 50lbs receive 500mg of taurine every 12hours. We recommend L-carnitine at a dose of ~50mg/kg orally with food every 8hrs. Your veterinary cardiologist or family veterinarian should be consulted for prescribing the best dose for your dog.

Reporting to the FDA:

Understanding the basis of this condition requires a great deal of research and investigation. Clients with affected dogs can contribute their data to help propel this research forward. You can report cases of taurine deficiency, dilated cardiomyopathy, sudden cardiac death, or any combination of these events to the FDA by following the information found here:

<https://www.fda.gov/animalveterinary/safetyhealth/reportaproblem/ucm182403.htm>

Additional questions or comments:

sterngenetics@ucdavis.edu

This document last updated: Aug. 20, 2018

Page 3 of 3

~~24730~~ 24730

Amino Acid Laboratory Sample Submission Form

Amino Acid Laboratory, 1089 Veterinary Medicine Drive, Davis, Ca 95616

Telephone: 530-752-5058, Fax: 530-752-4698

Email: ucd.aminoacid.lab@ucdavis.edu

www.vetmed.ucdavis.edu/labs/amino-acid-laboratory

B6

B6 Canine
TAURINE (WHOLE BLOOD)
Lithium Heparin
12:34 PM

Veterinarian Contact: B6

Clinic/Company Name: Tufts Cummings School of Vet. Med. - Clinical Pathology Laboratory

Address: 200 Westboro Road, North Grafton MA 015369

Email: Clinpath@tufts.edu | *cardiovet@tufts.edu*

Telephone: B6 Fax: B6

Billing Contact: B6 Email: B6

Billing Contact Phone: B6 Tax ID: _____

Patient Name: B6 Species: canine

Breed: Wolfhound Owner's Name: B6

Current Diet: Acana Lamb / Apple dry

Sample type: Plasma Whole Blood Urine Food Other _____

Test: Taurine Complete Amino Acids Other: _____

Taurine Results (lab use only)

Plasma: _____ Whole Blood: B6 Urine: _____ Food: _____

	Plasma (nMol/ml)		Whole Blood (nMol/ml)	
	Normal Range	No known risk for deficiency	Normal Range	No known risk for deficiency
Cat	80-120	>40	300-600	>200
Dog	60-120	>40	200-350	>150

* Please note with the recent increase in the number of dogs screened for taurine deficiency, we are seeing dogs with values within the reference ranges (or above the "no known risk for deficiency range") yet are still exhibiting signs of cardiac disease. Veterinarians are welcome to contact our laboratory for assistance in evaluating your patient's results.

~~2466~~
24731

Amino Acid Laboratory Sample Submission Form

Amino Acid Laboratory, 1089 Veterinary Medicine Drive, Davis, Ca 95616
Telephone: 530-752-5058, Fax: 530-752-4698
Email: ucd.aminoacid.lab@ucdavis.edu
www.vetmed.ucdavis.edu/labs/amino-acid-laboratory

B6
pat Race
2:18 PM
SHIP W ICE PACKS, TAURINE
(WHOLE BLOOD)
Lithium Heparin
B6

Veterinarian Contact: **B6**

Clinic/Company Name: Tufts Cummings School of Vet. Med. - Clinical Pathology Laboratory

Address: 200 Westboro Road, North Grafton MA 015369

Email: Clinpath@tufts.edu

Telephone: **B6** Fax: **B6**

Billing Contact: **B6** Email: **B6**

Billing Contact Phone: **B6** Tax ID: _____

Patient Name: **B6** Species: Canine

Breed: Great dane Owner's Name: **B6**

Current Diet : proplan

Sample type: Plasma Whole Blood Urine Food Other **B6**

Test: Taurine Complete Amino Acids Other: _____ *taurine BID*

Taurine Results (lab use only)

Plasma: _____ Whole Blood: **B6** Urine: _____ Food: _____

	Plasma (nMol/ml)		Whole Blood (nMol/ml)	
	Normal Range	No known risk for deficiency	Normal Range	No known risk for deficiency
Cat	80-120	>40	300-600	>200
Dog	60-120	>40	200-350	>150

* Please note with the recent increase in the number of dogs screened for taurine deficiency, we are seeing dogs with values within the reference ranges (or above the "no known risk for deficiency range") yet are still exhibiting signs of cardiac disease. Veterinarians are welcome to contact our laboratory for assistance in evaluating your patient's results.

CARDIOLOGY SERVICE UPDATES: DOG FOOD & DILATED CARDIOMYOPATHY

The Cardiology Service has developed this document in response to the alerts from the FDA. These alerts identify an associated risk for some grain-free diets containing certain ingredients (legumes like peas, pea components, lentils; white potatoes, sweet potatoes) and a diagnosis of dilated cardiomyopathy (DCM). The links provided throughout this document can be copied and pasted to obtain additional information.

FDA Alerts found here:

<https://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/ucm613305.htm>

<https://www.fda.gov/AnimalVeterinary/ResourcesforYou/AnimalHealthLiteracy/ucm616279.htm>

What is Dilated Cardiomyopathy (DCM)?

DCM is a heart muscle disorder that results in a weak pump function and heart chamber enlargement. In the early stages of this disease pets may appear totally healthy with no apparent clinical signs. Later in the course of this disease, dogs may have a heart murmur, an arrhythmia (irregular heart beat), collapse episodes, weakness or tiredness with exercise, and even trouble breathing from congestive heart failure. While there are some breeds of dogs (like Dobermans) that have a genetic predisposition to development of DCM, there are also nutritional factors that may result in this disease.

What should I do?

If you are feeding a diet of concern based upon the FDA alert we recommend that you consult with your veterinarian or veterinary cardiologist. We provide 4 general points for guidance below:

1. An initial step is to **consider whether you are willing or interested in performing additional testing** to assess whether your pet is affected with DCM. If you believe your dog is at risk, showing any of the aforementioned clinical signs or would prefer to simply rule out any heart disease, we recommend that you first have your pet's taurine levels tested (both whole blood and plasma levels) as well as seek an echocardiogram by a board-certified veterinary cardiologist. Low taurine levels are associated with development of DCM in dogs and are sometimes a component of this current issue.

Information on taurine testing can be found here: <https://www.vetmed.ucdavis.edu/labs/amino-acid-laboratory>

2. At this time, **diet change is recommended when possible** and should be considered regardless of the results obtained from any testing. You can consult with your veterinarian in selecting a new diet that avoids the ingredients of concern listed by the FDA. When selecting this diet, we recommend that you choose a diet that is manufactured with rigorous quality control measures and research behind the formulation. A way to ensure that your diet meets these recommendations is to follow the following guidelines that were generated by a large number of the world's leading experts in veterinary nutrition.

Food selection guidelines found here:

<https://www.wsava.org/WSAVA/media/Arpita-and-Emma-editorial/Selecting-the-Best-Food-for-your-Pet.pdf>

3. If your pet is identified through testing to have a low blood taurine level or evidence of DCM by echocardiogram, we urge you to **report this information to the FDA**.

FDA reporting guidelines found here: <https://www.fda.gov/AnimalVeterinary/SafetyHealth/ReportaProblem/ucm182403.htm>

4. **Work with your veterinarian(s)** to determine the best course of action and medical treatments if indicated. In the case of a DCM diagnosis, diet change alone may not be sufficient and additional medications may be prescribed.

Please continue to monitor the FDA website and the UC Davis School of Veterinary Medicine Newsfeeds for updates and recommendations regarding this issue.

Discharge Instructions

Patient

Name: B6
Species: Canine
Breed: Male Irish Wolfhound
Birthdate: B6

Owner

Name: B6
Address: B6

Patient ID: B6

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V19

Discharge Date: B6

Diagnoses: Mildly low taurine

Clinical Findings:

Thank you for bringing B6 to Tufts Cardiology Service for screening for dilated cardiomyopathy (DCM).

On physical exam, B6 was bright, alert, and responsive and his vital parameters (heart rate and respiratory rate) were within normal limits. We did not hear any obvious heart murmurs or arrhythmias.

We performed an echocardiogram (ultrasound of the heart) today, which revealed that B6 heart did not show any obvious signs of DCM. However, in early stages of the disease, the ventricles (lower chambers of the heart) are not dilated. Similarly, the atria (upper chambers of the heart) are not obviously dilated. B6 heart had very mildly reduced contractility, which could be normal for him or could possibly be an early indication of DCM. Additionally, the speed of blood flow through the aorta, the main artery of the heart that supplies the blood to the rest of the body, is mildly increased, but this is not a concerning finding.

Overall, B6 looks good and he does not appear to have significant heart disease. Given his low taurine levels, we would like to begin taurine supplementation as instructed below.

Our Cardiology and Nutrition team here at Tufts are conducting a study on DCM and its correlation with diet. Although B6 does not have DCM, the study includes normal cardiac dogs that have a history of a grain-free diet. You have elected to enroll B6 in the study so we pulled some blood for that today.

Diet Suggestions:

We understand that B6 has food sensitivities. If he is tolerating the Hill's I/D diet well, then he can continue to eat this.

If you need to change [B6] diet for any reason, we recommend choosing something from Royal Canin, Hill's, and Purina.

- The FDA is currently investigating an apparent association between diet and a type of heart disease called dilated cardiomyopathy. The exact cause is still unclear, but it appears to be associated with boutique diets and those containing exotic ingredient or are grain-free. Therefore, we are currently recommending that dogs do not eat these types of diets.
- We recommend switching [B6] to commercial diet made by a well-established company that is not grain-free and does not contain any exotic ingredients, such as kangaroo, duck, lamb, venison, lentils, peas, beans, buffalo, tapioca, barley, and chickpeas.

- The FDA issued a statement regarding this issue (<https://www.fda.gov/AnimalVeterinary/NewsEvents/CVMUpdates/uom613305.htm>) and a recent article published by Dr. Lisa Freeman on the Cummings School's Petfoodology blog can further explain these findings (<http://vetnutrition.tufts.edu/2018/06/a-broken-heart-risk-of-heart-disease-in-boutique-or-grain-free-diets-and-exotic-ingredients/>).

Exercise Recommendations:

[B6] may be allowed to dictate his own activity level.

Recommended Medications:

There are no heart medications indicated for [B6] at this time. However, we would like to begin taurine supplementation since the levels in his blood plasma are low. You can purchase a taurine supplement over-the-counter from any human pharmacy. The brands our nutritionists recommend are Twinlab, GNC, NOW, or Swanson. [B6] should receive 1000mg by mouth twice daily (every 12 hours).

Recheck Visits: [B6] will need a recheck echocardiogram in 3 months and 6 months for the study.

Thank you for entrusting us with [B6] care. He is such a sweet boy! Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

Please visit our HeartSmart website for more information

<http://vet.tufts.edu/heartsmart/>

Prescription Refill Disclaimer:

For the safety and well-being of our patients, your pet must have had an examination by one of our veterinarians within the past year in order to obtain prescription medications.

Ordering Food:

Please check with your primary veterinarian to purchase the recommended diet(s). If you wish to purchase your food from us, please call 7-10 days in advance (508-887-4629) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/veterinary approval.

Clinical Trials:

Clinical trials are studies in which our veterinary doctors work with you and your pet to investigate a specific disease process or a promising new test or treatment. Please see our website: vet.tufts.edu/cvmc/clinical-studies

Case: [B6]

Owner: [B6]

Discharge Instructions

Cummings Veterinary Medical Center

AT TUFTS UNIVERSITY

Cardiology Liaison: 508-887-4696

B6

Patient ID: B6

B6 Canine

B6 Years Old Male Irish Wolfhound
Brindle

Cardiology Appointment Report ENROLLED IN DCM DIET STUDY

Date: B6

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V'19

Presenting Complaint: Screen for DCM

Concurrent Diseases:

B6

General Medical History:

B6 has history of B6 - owner suspects it's when she changed from puppy food to adult food. Owner acquired B6 as a puppy. Owner reports that B6 pants a lot, but owner feels it is increased. Owner sent sputum to a diagnostic lab to find out allergens and sensitivities. Eating and drinking normally. No c/s/v/PUPD; B6 currently resolved with B6 B6 littermate was recently diagnosed with DCM about 6 months ago and was also on a grain free diet. Owner requested taurine levels by rDVM - owner sent blood sample (plasma) to UC Davis for taurine levels, plasma level was B6 currently being treated for B6, lost weight during bout of B6 diet change, but has gained weight back.

Diet and Supplements:

Previously fed Taste of the Wild (grain-free)

Acana in 2016

Hill's I/D kibble and canned - for 4 weeks

B6

B6

Cardiovascular History:

Prior CHF diagnosis? No

Prior heart murmur? No

Prior ATE? No

Prior arrhythmia? No

Monitoring respiratory rate and effort at home? Normal effort, pants all the time except when sleeping

Cough? No

Shortness of breath or difficulty breathing? No

Syncope or collapse? No

Sudden onset lameness? No

Exercise intolerance? No

Current Medications Pertinent to CV System:

None

Cardiac Physical Examination:

B6

Muscle condition:

Normal

Mild muscle loss

Moderate cachexia

Marked cachexia

Cardiovascular Physical Exam:

Murmur Grade:

None

I/VI

II/VI

III/VI

IV/VI

V/VI

VI/VI

Jugular vein:

Bottom 1/3 of the neck

Middle 1/3 of the neck

1/2 way up the neck

Top 2/3 of the neck

Arterial pulses:

Weak

Fair

Good

Strong

Bounding

Pulse deficits

Pulsus paradoxus

Other:

Arrhythmia:

None

Sinus arrhythmia

Premature beats

Bradycardia

Tachycardia

Gallop:

- Yes
- No
- Intermittent

- Pronounced
- Other:

Pulmonary assessments:

- Eupneic
- Mild dyspnea
- Marked dyspnea
- Normal BV sounds
- Pulmonary crackles
- Wheezes
- Upper airway stridor

Abdominal exam:

- Normal
- Hepatomegaly
- Abdominal distension
- Mild ascites
- Marked ascites

Problems:

Low plasma taurine (42, ref range 60-120)

Differential Diagnoses:

R/o dietary induced taurine deficiency → DCM

Diagnostic plan:

- Echocardiogram
- Chemistry profile
- ECG
- Renal profile
- Blood pressure
- Dialysis profile
- Thoracic radiographs
- NT-proBNP
- Troponin I
- Other tests:

Echocardiogram Findings:

B6

Assessment and recommendations:

Echocardiogram reveals relatively normal cardiac structure and function. The LV contractile function is low normal, so early DCM cannot be definitively ruled out. Patient was enrolled in the DCM study, and whole blood and plasma taurine were submitted; recommend supplementing taurine 1000mg PO BID until those results are back. Recheck per study protocol in 3 and 6 months.

Final Diagnosis:

Low plasma taurine

No clear evidence of DCM

Heart Failure Classification Score:

ACVIM Classification:

- A C
- B1 D
- B2

M-Mode

IVSd	B6	cm
LVIDd		cm
LVPWd		cm
IVSs		cm
LVIDs		cm
LVPWs		cm
%FS		%

M-Mode Normalized

IVSdN	B6	(0.29 - 0.52)
LVIDdN		(1.35 - 1.73)
LVPWdN		(0.33 - 0.53)
IVSsN		(0.43 - 0.71)
LVIDsN		(0.79 - 1.14)
LVPWsN		(0.53 - 0.78)

2D

SALA	B6	cm
Ao Diam		cm
SALA / Ao Diam		
IVSd		cm
LVIDd		cm
LVPWd		cm
EDV(Teich)		ml
IVSs		cm
LVIDs		cm
LVPWs		cm
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml
LVLd A2C		cm
LVEDV MOD A2C		ml
LVLs A2C		cm
LVESV MOD A2C		ml
LVEF MOD A2C		%
SV MOD A2C		ml
LVLd IAX		cm

LVAd LAX
LVEDV A-L LAX
LVEDV MOD LAX
LVLS LAX
LVA_s LAX
LVESV A-L LAX
LVESV MOD LAX
HR
EF A-L LAX
LVEF MOD LAX
SV A-L LAX
SV MOD LAX
CO A-L LAX
CO MOD LAX

Doppler
MV E Vel
MV DecT
MV A Vel
MV E/A Ratio
E'
A'
E/E'
AV Vmax
AV maxPG

B6

B6

cm
ml
ml
cm
cm
ml
ml
BPM
%
%
ml
ml
l/min
l/min

m/s
ms
m/s

m/s
m/s

m/s
mmHg

Discharge Instructions

Patient

Name: B6
Species: Canine
Breed: Male Irish Wolfhound
Birthdate: B6

Owner

Name: B6
Address: B6

Patient ID: B6

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 /19

Appointment Date: 3/19/19 B6

Diagnosis: Stable to slightly improved healthy heart

Clinical Findings:

Thank you for bringing B6 to Tufts Cardiology Service for recheck examination as part of the dilated cardiomyopathy (DCM) study. On physical exam B6 was bright, alert, and responsive and his vital parameters (heart rate and respiratory rate) were within normal limits. We did not hear any obvious heart murmurs or arrhythmias.

We performed an echocardiogram (ultrasound of the heart) today, which revealed that B6 heart was stable since his last visit and did not show any obvious signs of DCM. He may even have somewhat improved contractile function. Overall, B6 looks good and he does not appear to have significant heart disease. We also took blood samples today to check for biomarkers of heart disease which had been slightly elevated at this last visit. We will call you with the results of these tests.

Diet Suggestions:

It is great that B6 is doing well on the Hills I/D diet! He has gained over 13 pounds since his last visit so we recommend cutting back just a little bit on how much he is eating. You can start with feeding a total of 5 cups of dry food and 1/2 can of wet food per day. If he is getting treats at home, it is also important to cut back on his regular diet to account for those extra calories.

Exercise Recommendations:

B6 may be allowed to dictate his own activity level.

Recommended Medications:

There are no heart medications indicated for B6 at this time.

Recheck Visits: A recheck visit is scheduled for in 3 months as part of the study. We have scheduled an appointment for Tuesday, [B6]. At this visit we will want to recheck an echocardiogram and bloodwork.

Thank you for entrusting us with [B6] care. He is a very sweet dog! Please contact our Cardiology liaison at (508)-887-4696 or email us at cardiovet@tufts.edu for scheduling and non-emergent questions or concerns.

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Case: [B6]

Owner: [B6]

Discharge Instructions

B6

Patient ID: B6
B6 Canine
B6 Years Old Male Irish Wolfhound
Brindle

Cardiology Appointment Report
DCM STUDY

Date: B6

Attending Cardiologist:

John E. Rush DVM, MS, DACVIM (Cardiology), DACVECC

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student: B6 V19

Presenting Complaint: Recheck DCM study

Concurrent Diseases: B6 well-controlled with Hills I/D food

General Medical History:

Last seen in November for a DCM screen when a littermate had been diagnosed with DCM on a grain-free diet. B6 had been on a grain free diet and rDVM had previously dx with low taurine. We measured taurine in November which was normal (B6 reference range 200-350). B6 has been doing well at home. Since changing diet to Hill I/D has not had any B6 and has gained back the weight he had lost. 4 months ago treated for B6 and has not had any B6 issues. Good appetite and energy levels at home. Owner says is doing great with no issues (no c/s/v/d).

Diet and Supplements:

B6

Cardiovascular History:

B6

B6

Current Medications Pertinent to CV System:

B6

B6

B6

not rule out early DCM

Echocardiogram Findings:

B6

Assessment and recommendations:

Echocardiogram reveals relatively normal cardiac structure and function. The LV contractile function is slightly higher on all measurements, but this could also be daily variation. Blood work submitted via DCM study. Recheck per study protocol in 3 months.

Heart Failure Classification Score:

ACVIM Classification:

- | | |
|---------------------------------------|----------------------------|
| <input checked="" type="checkbox"/> A | <input type="checkbox"/> C |
| <input type="checkbox"/> B1 | <input type="checkbox"/> D |
| <input type="checkbox"/> B2 | |

M-Mode

IVSd	B6	cm
LVIDd		cm
LVPWd		cm
IVSs		cm
LVIDs		cm
LVPWs		cm
EDV(Teich)		ml
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml
Ao Diam		cm
LA Diam		cm
LA/Ao		
TAPSE		cm

M-Mode Normalized

IVSdN	B6	(0.290 - 0.520)
LVIDdN		(1.350 - 1.730)
LVPWdN		(0.330 - 0.530)
IVSsN		(0.430 - 0.710)
LVIDsN		(0.790 - 1.140)
LVPWsN		(0.530 - 0.780)
Ao Diam N		(0.680 - 0.890) !
LA Diam N		(0.640 - 0.900) !

2D

SA LA	B6	cm
Ao Diam		cm
SA LA / Ao Diam		
IVSd		cm
LVIDd		cm
LVPWd		cm
EDV(Teich)		ml
IVSs		cm
LVIDs		cm
LVPWs		cm
ESV(Teich)		ml
EF(Teich)		%
%FS		%
SV(Teich)		ml
LV Major		cm
LV Minor		cm
Sphericity Index		
LVLd LAX		cm
LVAd LAX		cm

LVEDV A-L LAX
LVEDV MOD LAX
LVLS LAX
LVA_s LAX
LVESV A-L LAX
LVESV MOD LAX
HR
EF A-L LAX
LVEF MOD LAX
SV A-L LAX
SV MOD LAX
CO A-L LAX
CO MOD LAX

B6

ml
ml
cm
cm
ml
ml
BPM
%
%
ml
ml
l/min
l/min

Doppler
MV E Vel
MV DecT
MV Dec Slope
MV A Vel
MV E/A Ratio
E'
E/E'
A'
S'
AV Vmax
AV maxPG
PV Vmax
PV maxPG

B6

m/s
ms
m/s
m/s

m/s

m/s
m/s
m/s
mmHg
m/s
mmHg