

# Report Details - EON-390790

ICSR:	2069328														
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:	2019-06-18 12:50:49 EDT														
Initial Report Date:	12/27/2018														
Parent ICSR:	2060599														
Follow-up Report to FDA Request:	Yes														
Reported Problem:	<p><b>Problem Description:</b> Housemate was diagnosed with DCM ([B6] - previously reported). [B6] was asymptomatic but eating same diet (Acana) so was screened 8/20/18 - reduced contractile function. Owner changed diet to Pro Plan Weight Management dry. No improvement on 12/12/18 echo. Will recheck in 3 months WB taurine: [B6]</p> <p><b>Date Problem Started:</b> 08/20/2018</p> <p><b>Date of Recovery:</b> 06/11/2019</p> <p><b>Concurrent Medical Problem:</b> Yes</p> <p><b>Pre Existing Conditions:</b> [B6]</p> <p><b>Outcome to Date:</b> Recovered Completely</p>														
Product Information:	<p><b>Product Name:</b> Acana Free Run Poultry dry</p> <p><b>Product Type:</b> Pet Food</p> <p><b>Lot Number:</b></p> <p><b>Package Type:</b> BAG</p> <p><b>Product Use Information:</b> <b>Description:</b> Fed since approximately 9/2016 (see diet history form) Changed to Pro Plan Weight Management Aug 2018</p> <p><b>Manufacturer /Distributor Information:</b></p> <p><b>Purchase Location Information:</b></p>														
Animal Information:	<p><b>Name:</b> [B6]</p> <p><b>Type Of Species:</b> Dog</p> <p><b>Type Of Breed:</b> Doberman Pinscher</p> <p><b>Gender:</b> Female</p> <p><b>Reproductive Status:</b> Neutered</p> <p><b>Weight:</b> 38.1 Kilogram</p> <p><b>Age:</b> 10 Years</p> <p><b>Assessment of Prior Health:</b> Excellent</p> <p><b>Number of Animals Given the Product:</b> 2</p> <p><b>Number of Animals Reacted:</b> 2</p> <p><b>Owner Information:</b></p> <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>[B6]</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:	[B6]
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:	[B6]														

**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**Reported to Other  
Parties:** None**Additional Documents:****Attachment:****B6**

2019-06-12-1033.pdf

**Description:** Idexx NT pro-BNP**Type:** Laboratory Report**Attachment:**

Diet hx 6-11-2019.pdf

**Description:** med records**Type:** Medical Records**Attachment:**

Echo report V9.pdf

**Description:** Echo report**Type:** Echocardiogram

<b>Report Details - EON-374786</b>				
ICSR:	2060599			
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:	2018-12-27 10:09:22 EST			
Reported Problem:	Problem Description:	Housemate was diagnosed with DCM (B6) - previously reported). B6 was asymptomatic but eating same diet (Acana) so was screened 8/20/18 - reduced contractile function. Owner changed diet to Pro Plan Weight Management dry. No improvement on 12/12/18 echo. Will recheck in 3 months WB taurine B6		
	Date Problem Started:	08/20/2018		
	Concurrent Medical Problem:	Yes		
	Pre Existing Conditions:	B6		
	Outcome to Date:	Stable		
Product Information:	Product Name:	Acana Free Run Poultry dry		
	Product Type:	Pet Food		
	Lot Number:			
	Package Type:	BAG		
	Product Use Information:	Description:	Fed since approximately 9/2016 (see diet history form) Changed to Pro Plan Weight Management Aug 2018	
	Manufacturer /Distributor Information:			
	Purchase Location Information:			
Animal Information:	Name:	B6		
	Type Of Species:	Dog		
	Type Of Breed:	Doberman Pinscher		
	Gender:	Female		
	Reproductive Status:	Neutered		
	Weight:	38.1 Kilogram		
	Age:	10 Years		
	Assessment of Prior Health:	Excellent		
	Number of Animals Given the Product:	2		
	Number of Animals Reacted:	2		
	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	

			<b>Phone:</b> (508) 887-4523
			<b>Email:</b> lisa.freeman@tufts.edu
		<b>Address:</b>	200 Westboro Rd North Grafton Massachusetts 01536 United States
<b>Sender Information:</b>	<b>Name:</b>	Lisa Freeman	
	<b>Address:</b>	200 Westboro Rd North Grafton Massachusetts 01536 United States	
	<b>Contact:</b>	<b>Phone:</b>	5088874523
		<b>Email:</b>	lisa.freeman@tufts.edu
	<b>Permission To Contact Sender:</b>	Yes	
	<b>Preferred Method Of Contact:</b>	Email	
<b>Additional Documents:</b>	<b>Attachment:</b>	36 medical records.pdf	
	<b>Description:</b>	Medical records	
	<b>Type:</b>	Medical Records	



B6

PET OWNER: **B6**  
 SPECIES: Canine  
 BREED: Doberman Pinscher  
 GENDER: Female  
 AGE: **B6**  
 PATIENT ID:

Tufts University Attn: Lisa Freeman  
 200 Westboro Rd.  
 North Grafton, MA 01536  
 508-899-5395  
 ACCOUNT #: **B6**  
 ATTENDING VET: **B6**

LAB ID: 2301638777  
 ORDER ID: 689337  
 COLLECTION DATE: 6/10/19  
 DATE OF RECEIPT: 6/11/19  
 DATE OF RESULT: 6/12/19

## IDEXX Services:

## Chemistry



6/11/19 (Order Received)  
 6/12/19 10:33 AM (Last Updated)

TEST	RESULT	REFERENCE VALUE
Cardiopet proBNP (Canine)	<sup>a</sup> <b>B6</b>	0 - 900 pmol/L

**B6**

**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.



**B6**

PET OWNER: **B6**  
 SPECIES: Canine  
 BREED: Doberman Pinscher  
 GENDER: Female  
 AGE: 10 Years  
 PATIENT ID:

Tufts University Attn: Lisa Freeman  
 200 Westboro Rd.  
 North Grafton, MA 01536  
 508-839-5395  
 ACCOUNT #: **B6**  
 ATTENDING VET: **B6**

LAB ID: 2301638777  
 ORDER ID: 889337  
 COLLECT ON DATE: 6/10/19  
 DATE OF RECEIPT: 6/11/19  
 DATE OF RESULT: 6/12/19

IDEXX Services:

## Chemistry



6/11/19 (Order Received)  
 6/12/19 10:33 AM (Last Updated)

TEST

RESULT

REFERENCE VALUE

Cardiopet  
 proBNP (Canine)

a

**B6**

0 - 900 pmol/L

**B6**

a

**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.



**B6**

PET OWNER: **B6**  
 SPECIES: Canine  
 BREED: Doberman Pinscher  
 GENDER: Female  
 AGE: 10 Years  
 PATIENT ID:

Tufts University Attn: Lisa Freeman  
 200 Westboro Rd.  
 North Grafton, MA 01536  
 508-899-5395  
 ACCOUNT #: **B6**  
 ATTENDING VET: **B6**

LAB ID: 2301638777  
 ORDER ID: 889337  
 COLLECT ON DATE: 6/10/19  
 DATE OF RECEIPT: 6/11/19  
 DATE OF RESULT: 6/12/19

IDEXX Services:

## Chemistry



6/11/19 (Order Received)  
 6/12/19 10:33 AM (Last Updated)

TEST	RESULT	REFERENCE VALUE
Cardiopet proBNP (Canine)	<b>B6</b>	0 - 900 pmol/L

**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.

<b>Report Details - EON-366516</b>				
ICSR:	2055229			
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:	2018-09-22 18:33:37 EDT			
Reported Problem:	Problem Description:	DCM and CHF Probably primary DCM in predisposed breed but given diet history, some possibility of diet-associated DCM Taurine WNL		
	Date Problem Started:	09/08/2018		
	Concurrent Medical Problem:	No		
	Outcome to Date:	Stable		
Product Information:	Product Name:	Taste of the Wild Last 1-2 bags (for 2 dogs) before diagnosis were Southwest Canyon flavor Before that, fed 3-4 bags of Pine Forest Before that, had been feeding Pacific Stream for several years		
	Product Type:	Pet Food		
	Lot Number:			
	Package Type:	BAG		
	Product Use Information:	Description:	Owner has given consent to have FDA contact her for any additional questions	
	Manufacturer /Distributor Information:			
	Purchase Location Information:			
Animal Information:	Name:	B6		
	Type Of Species:	Dog		
	Type Of Breed:	Doberman Pinscher		
	Gender:	Male		
	Reproductive Status:	Neutered		
	Weight:	34.2 Kilogram		
	Age:	B6 Years		
	Assessment of Prior Health:	Excellent		
	Number of Animals Given the Product:	2		
	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	

		<b>Email:</b> lisa.freeman@tufts.edu
	<b>Address:</b>	200 Westboro Rd North Grafton Massachusetts 01536 United States
<b>Sender Information:</b>	<b>Name:</b>	Lisa Freeman
	<b>Address:</b>	200 Westboro Rd North Grafton Massachusetts 01536 United States
	<b>Contact:</b>	<b>Phone:</b> 5088874523
		<b>Email:</b> lisa.freeman@tufts.edu
	<b>Permission To Contact Sender:</b>	Yes
	<b>Preferred Method Of Contact:</b>	Email
<b>Additional Documents:</b>	<b>Attachment:</b>	discharge: B6 pdf
	<b>Description:</b>	Discharge
	<b>Type:</b>	Medical Records
	<b>Attachment:</b>	bnp.pdf
	<b>Description:</b>	BNP
	<b>Type:</b>	Laboratory Report
	<b>Attachment:</b>	cardio appointment 9-20-18.pdf
	<b>Description:</b>	Cardio appt 9-20-18
	<b>Type:</b>	Echocardiogram
	<b>Attachment:</b>	cardio consult 9-8-18.pdf
	<b>Description:</b>	cardio consult 9-8-18
	<b>Type:</b>	Echocardiogram
	<b>Attachment:</b>	discharge: B6 pdf
	<b>Description:</b>	Discharge
	<b>Type:</b>	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)

Home Phone: **B6**

Work Phone: ( ) -

Cell Phone: **B6**

**B6**

### Referring Information

**B6**

Client:  
Patient:

**B6**

### 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**

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Client:  
Patient:

**B6**



**Foster Hospital for Small Animals**

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

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

Patient:	<b>B6</b>
Species:	Canine
Breed:	Pit Bull
Sex:	Male (Neutered)
Age:	<b>B6</b>

**Lab Results Report**

**Accession ID:**

Test	Results	Reference Range	Units
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3/53

**B6**

Printed Tuesday, January 15, 2019

Client:  
Patient:

**B6**

**B6**

History 9/2018-12/29/18

**B6**

Client:  
Patient:

**B6**

**B6**

History 9/2018-12/29/18

**B6**

Client:  
Patient:

**B6**

**B6**

History 9/2018-12/29/18

**B6**

Client:  
Patient:

**B6**

**B6**

**History 9/2018-12/29/18**

**B6**

Client:  
Patient:

**B6**

**B6**

History 9/2018-12/29/18

**B6**

Client:  
Patient:

**B6**

**B6**

History 9/2018-12/29/18

**B6**

Client:  
Patient:

**B6**

**B6**

**3/17/18 3 year Rabies Cert**

**B6**

Client:  
Patient:

**B6**

diet history 1/3/19

**B6**

Client:  
Patient:

**B6**

diet history 1/3/19

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**B6**

Client:  
Patient:

**B6**

**RDVM**

**B6**

**hospital records**

**B6**

Client: **B6**  
Patient:

**RDVM** **B6** hospital records

**B6**

Client:  
Patient:

**B6**

RDVM

**B6**

hospital records

**B6**

Client:  
Patient:

**B6**

RDVM

**B6**

hospital records

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**B6**

Client:  
Patient:

**B6**

RDVM

**B6**

hospital records

**B6**

Client:  
Patient:

**B6**

RDVM

**B6**

hospital records

**B6**

Client: **B6**  
Patient:

**RDVM** **B6** hospital records

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**B6**

Client:  
Patient:

**B6**

RDVM

**B6**

hospital records

**B6**

Client:  
Patient:

**B6**

RDVM

**B6**

hospital records

**B6**

Client:  
Patient:

**B6**

RDVM

**B6**

hospital records

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**B6**

Client:  
Patient:

**B6**

**RDVM**

**B6**

hospital records

**B6**

Client:  
Patient:

**B6**

RDVM

**B6**

hospital records

**B6**

Client:  
Patient:

**B6**

**RDVM**

**B6**

hospital records

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**B6**

Client:  
Patient:

**B6**

RDVM

**B6**

hospital records

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**B6**

Client:  
Patient:

**B6**

**RDVM**

**B6**

hospital records

**B6**

Client: **B6**  
Patient:

**RDVM** **B6** hospital records

**B6**

Client:  
Patient:

**B6**

**RDVM**

**B6**

ospital records

**B6**

Client:  
Patient:

**B6**

**IDEXX BNP - 1/3/2019**

**B6**

Client:  
Patient:

**B6**

**CBC/CHEM - 1/3/2019**

**B6**

Client: **B6**  
Patient:

**CBC/CHEM - 1/3/2019**

**B6**

**B6**

**B6**

Client:  
Patient:

**B6**

**Diet history 1/3/19**

**B6**

Client:  
Patient:

**B6**

**Diet history 1/3/19**

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**B6**

Client:  
Patient:

**B6**

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

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**B6**

Client:  
Patient:

**B6**

**B6**

hospital UA results- 1/7/19

**B6**

Client: **B6**  
Patient:

**B6** hospital UA results- 1/7/19

**B6**

Client:  
Patient:

**B6**

**IDEXX Chemistry 1/8/19**

**B6**

Client:  
Patient:

**B6**

**IDEXX Chemistry 1/8/19**

**B6**

Client: **B6**  
Patient:

**Taurine Panel send out 1/3/2019**

**B6**

Client: **B6**  
Patient:

### Vitals Results

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

**B6**

### 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

**B6**

# Cummings

## Veterinary Medical Center

AT TUFTS UNIVERSITY

Forster Hospital for Small Animals  
55 Wiliam Street  
North Grafton, MA 01536  
Telephone: (508) 829-5000  
Fax: (508) 829-7951  
<http://forster.hus.edu/>

### Discharge Instructions

Patient:

Name: B6

Species: Canine

Breed/Type: Male (Neutered) Pit Bull

Birthdate: B6

Owner:

B6

Patient ID: B6

Attending Cardiologist:

☐ John L. Rush DVM, MS, DACVIM (Cardiology), DACVCP

B6

Cardiology Resident:

B6

Cardiology Technician:

B6

Student:

B6

B6

**B6**

**B6**

**Cummings**  
**Veterinary Medical Center**  
AT TUFTS UNIVERSITY

Foster Hospital for Small Animals  
55 Wilbur Street  
North Carolina, MA 01536  
Telephone: (508) 859-5295  
Fax: (508) 859-7951  
<http://vetcare.tufts.edu/>

**B6**

**B6**

B6

Patient ID: B6

B6

Gender:

B6

(Neutered) P4 Spd

Primary/Blue

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

B6

**B6**

**B6**

**B6**

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

LVIdN

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

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cm

ml

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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) !

(0.600 - 0.890) !

(0.640 - 0.960) !

cm

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LVEDV MOD LAX  
LVLs LAX  
LVA<sub>s</sub> 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

Drop/Sec  
MR Vmax  
MR maxPG  
MV E Vel  
MV DecT  
MV Dec Slope  
MV A 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

ml/s  
mmHg  
ml/s  
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m/s  
mmHg  
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mmHg

**Cummings**  
**Veterinary Medical Center**  
AT TUFTS UNIVERSITY

Forster Hospital for Small Animals  
35 Willard Street  
North Grafton, MA 01526  
Telephone: (508) 829-5395  
Fax: (508) 829-7951  
<http://vet.med.tufts.edu/>

**B6**

**B6**

Male (Neutered)

Cover: F4 Bull Breeds/White

**B6**

1/4/2019

Dear I **B6**

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

If you have any questions, or concerns, please contact us at 508-829-1991.

Thank you,

**B6**

**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:	Dental disease, kidney disease, anxiety, history of cruciate tear	
	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:	7.5 Years	
	Assessment of Prior Health:	Good	
	Number of Animals Given the Product:	3	
	Number of Animals Reacted:	1	

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

**Report Details - EON-378184**

ICSR:	2062004																	
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:	2019-01-31 11:24:47 EST																	
Reported Problem:	<p><b>Problem Description:</b> [B6] a 1-year-old intact male Yorkshire terrier mix, was presented to the NCSU ER in the early morning hours of [B6] and was subsequently transferred to the NCSU Cardiology Service for respiratory distress and suspected congestive heart failure. [B6] was observed to have labored breathing the morning of [B6] although his owner is unsure exactly when it started. He vomited clear frothy foam after coughing multiple times throughout the day and he had a decreased appetite. [B6] was taken to [B6] that evening for further evaluation. At [B6], a CBC showed a marked thrombocytopenia (automated, no smear performed) and thoracic radiographs showed an enlarged heart, a moderate diffuse unstructured interstitial pattern perihilar and caudodorsal lung lobes, and a mildly distended cranial lobar vein. Congestive heart failure was suspected and [B6] [B6] was subsequently referred to NCSU for further cardiac workup. [B6] other medical problems include recent vomiting and diarrhea. He vomits every once in a while, most recently a couple of weeks ago after eating houseplants. He also had a bad bout of diarrhea after eating the plants. He was taken to his primary veterinarian who prescribed medications and a probiotic. The vomiting resolved and his feces normalized until about 2 days ago when they became soft again.</p> <p><b>Date Problem Started:</b> [B6]</p> <p><b>Concurrent Medical Problem:</b> No</p> <p><b>Outcome to Date:</b> Died Euthanized</p> <p><b>Date of Death:</b> [B6]</p>																	
Product Information:	<p><b>Product Name:</b> Primal Freeze Dried Nuggets for dogs</p> <p><b>Product Type:</b> Pet Food</p> <p><b>Lot Number:</b></p> <p><b>Package Type:</b> BAG</p> <p><b>Package Size:</b> 14 Ounce</p> <p><b>Possess Unopened Product:</b> No</p> <p><b>Possess Opened Product:</b> No</p> <p><b>Storage Conditions:</b> Unknown</p> <table><tr><td rowspan="7"><b>Product Use Information:</b></td><td><b>Description:</b></td><td>Oral</td></tr><tr><td><b>Last Exposure Date:</b></td><td>09/08/2018</td></tr><tr><td><b>Time Interval between Product Use and Adverse Event:</b></td><td>3 Months</td></tr><tr><td><b>Product Use Stopped After the Onset of the Adverse Event:</b></td><td>Yes</td></tr><tr><td><b>Adverse Event Abate After Product Stop:</b></td><td>No</td></tr><tr><td><b>Product Use Started Again:</b></td><td>No</td></tr><tr><td><b>Perceived</b></td><td>Definitely related</td></tr></table>			<b>Product Use Information:</b>	<b>Description:</b>	Oral	<b>Last Exposure Date:</b>	09/08/2018	<b>Time Interval between Product Use and Adverse Event:</b>	3 Months	<b>Product Use Stopped After the Onset of the Adverse Event:</b>	Yes	<b>Adverse Event Abate After Product Stop:</b>	No	<b>Product Use Started Again:</b>	No	<b>Perceived</b>	Definitely related
<b>Product Use Information:</b>	<b>Description:</b>	Oral																
	<b>Last Exposure Date:</b>	09/08/2018																
	<b>Time Interval between Product Use and Adverse Event:</b>	3 Months																
	<b>Product Use Stopped After the Onset of the Adverse Event:</b>	Yes																
	<b>Adverse Event Abate After Product Stop:</b>	No																
	<b>Product Use Started Again:</b>	No																
	<b>Perceived</b>	Definitely related																

		<b>Relatedness to Adverse Event:</b>		
		<b>Other Foods or Products Given to the Animal During This Time Period:</b>	No	
	<b>Manufacturer /Distributor Information:</b>			
	<b>Purchase Location Information:</b>			
	<b>Product Name:</b>	Castor & Pollux Organix Grain Free		
	<b>Product Type:</b>	Pet Food		
	<b>Lot Number:</b>			
	<b>Package Type:</b>	BAG		
	<b>Number Purchased:</b>	1		
	<b>Possess Unopened Product:</b>	No		
	<b>Possess Opened Product:</b>	No		
	<b>Storage Conditions:</b>	Unknown		
	<b>Product Use Information:</b>	<b>Description:</b>	Oral administration	
		<b>First Exposure Date:</b>	07/01/2017	
		<b>Last Exposure Date:</b>	B6	
		<b>Time Interval between Product Use and Adverse Event:</b>	9 Months	
		<b>Product Use Stopped After the Onset of the Adverse Event:</b>	Yes	
<b>Adverse Event Abate After Product Stop:</b>		No		
<b>Product Use Started Again:</b>		No		
<b>Perceived Relatedness to Adverse Event:</b>		Definitely related		
<b>Other Foods or Products Given to the Animal During This Time Period:</b>		Yes		
	<b>Manufacturer /Distributor Information:</b>			
	<b>Purchase Location Information:</b>			
<b>Animal Information:</b>	<b>Name:</b>	B6		
	<b>Type Of Species:</b>	Dog		
	<b>Type Of Breed:</b>	Terrier - Yorkshire		
	<b>Gender:</b>	Male		
	<b>Reproductive Status:</b>	Intact		
	<b>Weight:</b>	3.51 Kilogram		
		1 Years		

	Age:			
	Assessment of Prior Health:	Good		
	Number of Animals Given the Product:	1		
	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:	NC State College of Veterinary Medicine		
		Contact:	Name:	B6
			Phone:	
			Email:	
		Address:	1060 William Moore Dr Raleigh North Carolina 27607 United States	
		Practice Name:	B6	
		Contact:	Name:	B6
			Phone:	
			Email:	
		Address:	B6	
		United States		
	Type of Veterinarian:	Referred veterinarian		
	Date First Seen:	04/02/2018		
	Permission to Release Records to FDA:	Yes		
Sender Information:	Name:	B6		
	Address:	1060 William Moore Dr Raleigh North Carolina 27607 United States		
	Contact:	Phone:	B6	
		Email:		
	Permission To Contact Sender:	Yes		
	Preferred Method Of Contact:	Email		

**Additional Documents:****Attachment:** [B6] - Necropsy.pdf**Description:** Necropsy report**Type:** Necropsy Report**Attachment:** [B6] - Chest Radiographs.pdf**Description:** Chest x-ray reports**Type:** Radiographs**Attachment:** [B6] - Echo Reports.pdf**Description:** Echo Reports (3)**Type:** Echocardiogram**Attachment:** [B6] - rDVM Medical Record.pdf**Description:** Medical record**Type:** Medical Records**Attachment:** [B6] - Discharges.pdf**Description:** Medical records**Type:** Medical Records

NC State University  
Veterinary Hospital  
1052 William Moore Drive  
Raleigh, NC 27607  
Discharge Comments

Fax: Admin  
Fax: Referral

**B6**

Small Animal (919) 513-6500  
Large Animal (919) 513-6630

Client <b>B6</b>	Patient <b>B6</b> YORKSHIRE TERRIER M MIX CANINE	Case # <b>B6</b> 3.8 kg	Attending DVM Student Discharging DVM Referring DVM <b>B6</b>
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Admission Date/Time **B6** 01:02 AM Discharge Date/Time **B6** 01:03:00 PM Discharge Status:

## CASE SUMMARY

## DIAGNOSIS:

1. Dilated cardiomyopathy - suspect dietary induced
2. Congestive heart failure **B6**
3. Chronic intermittent diarrhea

## HISTORY:

**B6** a 1-year-old intact male Yorkshire terrier mix, was presented to the NCSU ER in the early morning hours of **B6** and was subsequently transferred to the NCSU Cardiology Service for respiratory distress and suspected congestive heart failure.

**B6** was observed to have labored breathing the morning of **B6** although his owner is unsure exactly when it started. He vomited clear frothy foam after coughing multiple times throughout the day and he had a decreased appetite. **B6** was taken to **B6** that evening for further evaluation. At **B6** a CBC showed a marked thrombocytopenia (automated, no smear performed) and thoracic radiographs showed an enlarged heart, a moderate diffuse unstructured interstitial pattern perihilar and caudodorsal lung lobes, and a mildly distended cranial lobar vein. Congestive heart failure was suspected and **B6** and **B6** was subsequently referred to NCSU for further cardiac workup.

**B6** other medical problems include recent vomiting and diarrhea. He vomits every once in a while, most recently a couple of weeks ago after eating houseplants. He also had a bad bout of diarrhea after eating the plants. He was taken to his primary veterinarian who prescribed medications and a probiotic. The vomiting resolved and his feces normalized until about 2 days ago when they became soft again.

**B6** was obtained in July from friends who were rehoming him due to moving. He is reportedly up to date on vaccines and receives monthly heartworm prevention, albeit not regularly. Since July, his diet has been Castor & Pollux Organix grain free small breed formula kibble and canned chicken/veggie recipe.

## PHYSICAL EXAM FINDINGS (as reported by owner)

**B6**

Hydration: adequate

**B6**

## RESULTS OF DIAGNOSTIC TESTS:

**B6**

3. A/T FAST: No pericardial, pleural, or peritoneal effusion. Increased B-lines bilaterally.

4. Echocardiogram (4/2/18)

- a. Dilated cardiomyopathy
- b. Severe LV dilation with severely reduced systolic function
- c. Moderate mitral regurgitation
- d. Moderate to severe LA enlargement
- e. Moderate RV dilation
- f. Moderate tricuspid regurgitation
- g. Mild to moderate RA enlargement
- h. ECG: Sinus rhythm with frequent supraventricular premature complexes

5. Chest radiographs (4/2/18): \*final report pending\*

- a. Severe generalized cardiomegaly
- b. Prior unstructured interstitial pattern resolved - consistent with response to therapy for LCHF

**B6**

8. Whole blood taurine: results pending

#### ASSESSMENT:

**B6** has been diagnosed with a heart condition known as dilated cardiomyopathy (DCM). DCM is a disease of unknown cause affecting the muscle of the heart and is most commonly seen in large breed dogs (such as Dobermanis, Great Danes, and Labrador Retrievers). Although the exact mechanism of DCM is currently unknown, dietary taurine/carnitine deficiencies, genetics and toxins have all been linked to DCM. The overall effect of DCM is a decrease in the contractility (pumping ability) of the heart. Because the heart is unable to pump with enough vigor to move blood adequately forward into circulation, a volume overload occurs and the heart dilates to accommodate it. As a result, the chambers of the heart become very large, and the walls of the heart become very thin. Ultimately, the heart is unable to accommodate and dilate further; the result is back-up of blood from the heart and into the lungs, known as congestive heart failure ("fluid on the lungs").

It is important to know that this disease is progressive, and ultimately those patients affected with it will experience congestive heart failure. Based on the results of **B6** diagnostics, it appears that he has experienced an episode of congestive heart failure secondary to DCM. He has responded well to heart failure medications in the hospital, and the fluid accumulation in his lungs has resolved. We will be sending him home on medications to help prevent further fluid accumulation, and improve the function of his heart. We will also be sending him home on a supplement called taurine - that has been shown to improve heart function in DCM cases caused by nutritional deficiencies.

Changes in the muscle of the heart in dogs with DCM can lead to fibrosis and remodeling of the myocardium (heart muscle), which can lead to secondary arrhythmias (abnormal heart rhythm) caused by abnormal impulse conduction. Normally, electrical signals are sent through conductive pathways that signal the heart to contract in a synchronous manner. The diseased heart muscle can also initiate abnormal electrical impulses that do not utilize the normal conduction pathways of the heart. As we discussed, arrhythmias occur commonly in dogs with DCM, with some dogs experiencing sudden death as a result. **B6** ECG shows evidence of mild arrhythmias at this time. In the future, we would like to perform a test called a holter monitor. This is a 24 hour ECG that **B6** would wear home to analyze his heart rhythm.

Although we cannot cure DCM, we hope to manage **B6** clinical signs with medical therapy as outlined below. The average survival for DCM patients after an episode of heart failure is 6-12 months. However, as we discussed, given **B6** young age and small breed - we suspect his DCM is secondary to his diet. If this is the case, his heart structure and function may show improvement with taurine supplementation and diet change.

Please monitor him for signs of worsening of heart failure such as increased exercise intolerance, labored breathing, increased coughing or fainting. Call NCSU Cardiology or your referring veterinarian if any of these signs occur. Also, please learn to take a respiratory (breathing) rate when your pet is resting. This can be done by counting the number of breaths your pet takes in 15 seconds and multiplying by 4 (to get the total breaths per minute). This number should remain less than 40 at rest.

#### INSTRUCTIONS FOR CARE

#### MEDICATIONS:

**B6**

# B6

**MONITORING**

1. Please monitor [B6] for signs of congestive heart failure. This would include lethargy, change and worsening of the cough, difficulty breathing (increased respiratory rate/effort), and episodes of collapse or fainting. If you note any of these signs, please contact us and have [B6] evaluated by a veterinarian.

2. Please begin to monitor [B6] resting respiratory rate. This should be performed when [B6] is resting or sleeping. You can count his respiratory rate by counting the number of breaths he takes over 15 seconds - then multiplying that number by 4 to obtain the number of breaths per minute. A normal respiratory rate is less than 30-40 breaths per minute. If you note that his respiratory rate is increasing, please contact us.

**ACTIVITY:**

Please avoid strenuous exercise or situations which place undue stress on [B6]. In general, pets with congestive heart failure will self-regulate their exercise. Please monitor for any change in exercise capability.

**DIET:**

As we discussed, we would like to change [B6] diet due to a concern for dietary induced DCM. We would recommend feeding him a commercial brand (Purina, Hills, Iams) diet going forward.

**NEXT APPOINTMENT:**

1. We would like [B6] to have a recheck appointment in 1-2 weeks for a recheck exam, blood pressure, renal panel, chest radiographs and holter monitor. A holter monitor is a 24 hours ECG monitor that will be worn home with a vest.

2. We will contact you with the results of the taurine levels.

3. We would otherwise like to see [B6] back in 3-4 months for a recheck exam, blood pressure, renal panel, and echocardiogram. A repeat echocardiogram will tell us if [B6] heart function has improved.

**COMMENTS:**

If you have any concerns with how your pet is doing, or to schedule an appointment, please contact the NC State Veterinary Hospital at 919-513-6694. There is a veterinarian on call 24 hours a day.

**NOTE:** If your pet is in need of emergency aid and you are not able to get to the NC State Veterinary Hospital quickly, please seek care at the nearest veterinary emergency facility. Take these discharge instructions and current medications with you so that the treating veterinarian will know as much as possible regarding your pet's medical condition.

Owner: [B6]

Clinician: [B6]

Student: [B6]

Clinicians:  
Dr. Darcy Adin

Residents:

Clinical Technicians:

Client Services:

**B6****B6****B6****B6**

Research Technician

**B6**

In order to help expedite medication refills, please visit us online at [www.ncstatevets.org](http://www.ncstatevets.org) and select Pet Owners, Pharmacy Refills.

**NC State University**  
**Veterinary Hospital**  
**1052 William Moore Drive**  
**Raleigh, NC 27607**  
**Discharge Comments**

Fax: Admin  
 Fax: Referral

Small Animal (919) 513-6500  
 Large Animal (919) 513-6630

<b>Client</b> <b>B6</b>	<b>Patient</b> <b>B6</b> YORKSHIRE TERRIER M MIX CANINE	<b>Case #</b> <b>B6</b>  3.8 kg	<b>Attending DVM</b> <b>Student</b> <b>Discharging DVM</b> <b>Referring DVM</b>	<b>B6</b>
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Admission Date/Time: APR 16, 2018 09:30 AM

Discharge Date/Time: APR 16, 2018 11:23 AM

Discharge Status:

**CASE SUMMARY****DIAGNOSIS:**

1. Dilated cardiomyopathy - suspect dietary induced
2. Congestive heart failure **B6**
3. Chronic intermittent diarrhea

**HISTORY:**

**B6** is a 1-year-old male Yorkshire terrier mix who presented to NCSU Cardiology on 4/16/18 for a recheck of his previously diagnosed dilated cardiomyopathy. **B6** first presented to NCSU ER's on **B6** and was subsequently transferred to the NCSU Cardiology Service for respiratory distress and suspected congestive heart failure. **B6** was observed to have labored breathing the morning of **B6** vomited after coughing multiple times throughout the day and he had a decreased appetite. Prior to presentation at NCSU, **B6** where they performed thoracic radiographs which showed an enlarged heart, a moderate diffuse unstructured interstitial pattern perihilar and caudodorsal lung lobes, and a mildly distended cranial lobar vein. Congestive heart failure was suspected and **B6** was given **B6** **B6** was subsequently referred to NCSU for further cardiac workup. **B6** was hospitalized at NCSU in the ICU and treated with **B6** Thoracic radiographs were performed the next day which showed moderate cardiomegaly and left auricular enlargement with resolution of the prior caudodorsal unstructured interstitial pattern. An echocardiogram was performed which showed changes consistent with severe dilated cardiomyopathy. **B6** ECG showed sinus rhythm with frequent supraventricular premature complexes. **B6** responded well to medications and was discharged the following day. The cause of DCM is unknown, but given his history of eating grain-free diets this was presumed a top differential. Additionally, he was not found to be taurine deficient.

Since discharge **B6** has been doing great at home. He has been able to go on walks and tolerates them well. He has a great appetite, and his diet has been switched to Royal Canin wet food, as well as a tablespoon of Organix grain-free that he was fed prior to his admission to the ER (as he is transitioning to a grain based diet). He also receives a plethora of fruit and vegetables. **B6** had a few episodes of mucoid diarrhea since being discharged, and has a history of chronic diarrhea. His current medications include **B6** mg tablets 0.5 tablet by mouth every 12 hours, **B6** 25 mg tablets, 1 tablet by mouth every 12 hours.

**B6****PHYSICAL EXAM FINDINGS:****B6**

## 4. HOLTER MONITOR - Pending

## ASSESSMENT:

Thank you for bringing [B6] back to NCSU, he was an absolute sweetheart to work with today! As you know, [B6] has been previously diagnosed with dilated cardiomyopathy and today we wanted to assess his response to the medications he was discharged with.

[B6] blood pressure was within normal limits today. Additionally, his kidneys appear to be handling the heart medications appropriately which is great news. The chest x-rays today show that [B6] heart remains enlarged (which is expected) but fortunately there is no evidence of congestive heart failure today. Overall, we are very happy with how [B6] is doing at home and with the results of tests today! We are, however, starting a new medication called [B6] today. This medication has a few benefits, including cardioprotective effects that can be useful for congestive heart failure and heart disease.

While we are thrilled that [B6] is doing well, we know that the underlying disease may be progressive. Because of this, continued monitoring is critical and please continue to monitor [B6] for signs of worsening of heart failure such as increased exercise intolerance, labored breathing, increased coughing or fainting. Call NCSU Cardiology or your referring veterinarian if any of these signs occur. Also, please continue to take a respiratory (breathing) rate when he is resting. This can be done by counting the number of breaths he takes in 15 seconds and multiplying by 4 (to get the total breaths per minute). This number should remain less than 40 at rest.

## INSTRUCTIONS FOR CARE/MEDICATIONS:

# B6

## NEXT APPOINTMENT:

1. Please have [B6] kidney values and electrolytes checked in 1-2 weeks after starting the new [B6] medication. This can be with NCSU as a quick test or with your primary veterinarian.
2. We would like [B6] to have a recheck appointment in 3-4 months for a recheck exam, blood pressure, renal panel, chest radiographs and echocardiogram. Additionally, if [B6] current pending Holter has concerns this may be changed. If you notice signs of worsening heart disease as described above, please contact us or have him seen sooner.

## COMMENTS:

If you have any concerns with how your pet is doing, or to schedule an appointment, please contact the NC State Veterinary Hospital at 919-513-6694. There is a veterinarian on call 24 hours a day.

NOTE: If your pet is in need of emergency aid and you are not able to get to the NC State Veterinary Hospital quickly, please seek care at the nearest veterinary emergency facility. Take these discharge instructions and current medications with you so that the treating veterinarian will know as much as possible regarding your pets' medical condition.

[B6]	[B6]	[B6]	
Clinicians: Dr. Darcy Adin	Residents: [B6]	Clinical Technicians: [B6]	Client Services: [B6]
[B6]		Research Technician [B6]	

In order to help expedite medication refills, please visit us online at [www.ncstatevets.org](http://www.ncstatevets.org) and select Pet Owners, Pharmacy Refills.

**NC State University**  
**Veterinary Hospital**  
**1052 William Moore Drive**  
**Raleigh, NC 27607**  
**Discharge Comments**

Fax: Admin  
 Fax: Referral

Small Animal (919) 513-6500  
 Large Animal (919) 513-6630

<b>Client</b> <b>B6</b>	<b>Patient</b> <b>B6</b> YORKSHIRE TERRIER M MIX CANINE	<b>Case #</b> <b>B6</b>  3.8 kg	<b>Attending DVM</b> <b>Student</b> <b>Discharging DVM</b> <b>Referring DVM</b>	<b>B6</b>
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Admission Date/Time: SEP 08, 2018 08:18 AM

Discharge Date/Time: SEP 09, 2018 04:00 PM

Discharge Status:

## CASE SUMMARY

## DIAGNOSIS:

1. Dilated cardiomyopathy - suspect dietary induced
2. Congestive heart failure **B6** recurrence 9/8/18)
3. Chronic intermittent diarrhea

## HISTORY:

**B6** is a 1 year old male intact Yorkshire Terrier mix that presented to NCSU SAES on 9/8/18 for evaluation of coughing and increased respiratory effort. **B6** has a history of diet induced cardiomyopathy and congestive heart failure that were originally diagnosed in April 2018. Based on **B6** history, clinical signs, and initial diagnostics, he was diagnosed with progressive heart disease and congestive heart failure. **B6** was stabilized with oxygen therapy as well as aggressive treatment with **B6**. He was subsequently transferred to the Cardiology service 9/9/18 for continued care and evaluation.

**B6** was first diagnosed with dilated cardiomyopathy in April 2018. He was found to be in congestive heart failure at that time. He was initiated on triple therapy **B6**. Due to the severe degree of cardiac dilation, poor systolic function, signalment, and a history of a grain free diet, diet-induced cardiomyopathy was the primary differential. **B6** responded well to medications in the hospital and was discharged on **B6** **B6** **B6** taurine supplementation, and recommendations for a grain-containing diet.

He had tolerated these medications well. However, **B6** did not consistently show interest in the new diet. Therefore, **B6** has been on a different diet. Primal is a raw, freeze-dried grain-free formula for the past several months. Since **B6** last discharge, he has reportedly been doing well. He is a picky eater, but drinks plenty of water. The owner notices that **B6** sleeps a lot at home but this is not necessarily abnormal for him. The week of presentation to the NCSU SAES, **B6** was playing vigorously with a visiting dog the owner was pet-sitting. On 9/7 the owner took both dogs out on a walk on which they ran intermittently for short bursts, but **B6** was stopping intermittently and was breathing heavily. That night, **B6** was coughing and had increased respiratory effort, and had a few episodes of standing, swaying, and closing eyes, but no actual collapse. **B6** was presented to the NCSU SAES on the morning of 9/8/2018.

**B6** was obtained in July 2017 from friends who were rehoming him due to moving. He is reportedly up to date on vaccines (received Rabies last week at **B6**), and intermittently receives monthly heartworm prevention. Current medications include: **B6**

## PHYSICAL EXAM FINDINGS 9/8/18:

**B6**

## DIAGNOSTICS 9/8/18:

**B6**

# B6

4. Thoracic radiographs: Markedly enlarged globoid heart with evidence of perihilar edema, pulmonary venous distention and elevation of the carina, consistent with congestive heart failure. \*Final radiology report pending.

## PHYSICAL EXAM FINDINGS 9/9/18:

# B6

4. Thoracic radiographs: Markedly enlarged globoid heart with slight decrease in size and decrease in elevation of the carina from previous, decreased perihilar edema, decreased pulmonary venous distention, consistent with significant improvement of previously documented congestive heart failure. \*Final radiology report pending.

## ASSESSMENT:

Thank you for entrusting us with [B6] care. He was in respiratory distress and diagnostic tests provided evidence that he had progression of his heart disease and recurrence of left-sided congestive heart failure. The goal of a hospital stay during this crisis is to alleviate the fluid build up in the lungs. [B6] responded well to oxygen therapy, diuretics, anti-anxiety medications, as well as medications to improve heart function and forward pumping. Our goal before sending him home is to reduce the fluid in his lungs, make sure he is comfortable and maintaining a normal heart rate and breathing pattern, and gradually decrease the in-hospital interventions.

Overall he has tolerated our interventions very well. Today's radiographs showed significant improvement in his lungs and even some improvement in his heart size, and [B6] is maintaining a normal breathing pattern and heart rate. As [B6] progressed into congestive heart failure on his current medications, this indicates we need to increase his dosages of diuretic and [B6]. It is also concerning that [B6] heart is further dilated than in April. The only variable that has not changed in his treatment was the diet. As we discussed, we are still learning about the grain-free diets and their apparent link to dilated cardiomyopathy. [B6] is a very young, small breed dog. It is older, large breed dogs that normally get dilated cardiomyopathy. There is no other underlying condition known to cause a heart to appear as [B6]. Therefore, we believe his heart disease is caused by the diet. We do not know if the grain-free diet is lacking essential elements for normal and healthy heart function, or rather these diets contain ingredients that are in some way harmful. Therefore, we recommend complete transition to any commercially available diet that is grain-containing. You can make the transition over the course of a week or so, but we would strongly encourage [B6] not be on his current diet as his heart disease has continued to progress.

Overnight, both these parameters increased suddenly while he was resting, and he responded well to the injection of [B6] followed by reinstating a constant rate infusion of [B6]. T-fast ultrasound and chest radiographs taken this morning revealed marked improvement of the fluid patterns in his lungs. Since his heart rate and respirations had been stable for several hours, his was transitioned from his constant infusion of [B6] and started on [B6]. As he remained stable over the next hours, we subsequently discontinued his oxygen supplementation and continue to monitor him. We are happy to see that he is maintaining well with oral medications and breathing room air (no extra oxygen).

While we are thrilled that [B6] is doing well, we know that the underlying disease may be progressive. As [B6] has experienced recurrent congestive heart failure, we are increasing the frequency of the [B6] and the [B6] three times a day. We will keep the [B6] and the taurine at the same doses and frequencies. And we would like to implement the [B6] medication once daily. (More details on medication directions below.) At this time, we need to balance the needs of [B6] heart with those of his kidneys. This can be a delicate task, but overall, his heart disease is the one which puts him at the most risk at this time. This drug regimen (including the [B6]) will have the most helpful impact on his heart disease, and poses only slight risks to his kidneys.

## INSTRUCTIONS FOR CARE MEDICATIONS:

# B6

**B6****DIET**

It is imperative that **B6** be fed a grain-containing diet in order to fully help this disease from progressing. Any brand-name food you can purchase at a grocery or pet store is acceptable, as long as it is not advertised to be grain free. We do not yet know exactly what about these diets is causing DCM in young, non-predisposed breeds, but there has been a significant increase of this diagnosis across the country in breeds who are not genetically disposed to getting it, and the single correlation between these cases is a "grain-free" diet. At this point we do not know whether, or how much, **B6** heart will improve, but other dogs in his same situation who have switched to a grain-containing diet have had improvement.

We can also discuss a personalized nutrition consult with our Nutrition Service if you are interested in a home cooked diet. If you would like to pursue this option, please reach out to **B6**. A consultation for homemade diets costs around **B6**.

**MONITORING**

Please continue to monitor **B6** for signs of worsening of heart disease or of failure such as increased exercise intolerance, labored breathing, increased coughing or fainting. Please avoid strenuous exercise or situations which place undue stress on **B6**. Call NCSU Cardiology or your referring veterinarian if any of these signs occur. Also, please continue to take a respiratory (breathing) rate when he is resting. This can be done by counting the number of breaths he takes in 15 seconds and multiplying by 4 (to get the total breaths per minute). This number should remain less than 40 at rest.

**PLAN FOR REEVALUATION:****B6**

If you have any concerns with how your pet is doing, or to schedule an appointment, please contact the NC State Veterinary Hospital at 919-513-6694. There is a veterinarian on call 24 hours a day.

NOTE: If your pet is in need of emergency aid and you are not able to get to the NC State Veterinary Hospital quickly, please seek care at the nearest veterinary emergency facility. Take these discharge instructions and current medications with you so that the treating veterinarian will know as much as possible regarding your pets' medical condition.

**B6**

Owner

**B6**

DVM

**B6**

2019

Clinicians:

**B6**

Residents:

**B6**

Clinical Technicians:

**B6**

Client Services:

**B6**

Research Technician

**B6**

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**Discharge Comments**

Fax: Admin  
 Fax: Referral

Small Animal (919) 513-6500  
 Large Animal (919) 513-6630

<b>Client</b> <b>B6</b>	<b>Patient</b> <b>B6</b> YORKSHIRE TERRIER M MIX CANINE	<b>Case #</b> <b>B6</b>  3.8 kg	<b>Attending DVM</b> Student <b>B6</b> <b>Discharging DVM</b> <b>Referring DVM</b>
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Admission Date/Time: SEP 17, 2018 10:25 AM

Discharge Date/Time: SEP 17, 2018 01:13 PM

Discharge Status:

**CASE SUMMARY****DIAGNOSIS:**

1. Dilated cardiomyopathy - suspect dietary induced - progressive
2. Congestive heart failure: **B6** (recurrent 9/8/18)
3. Chronic intermittent diarrhea and varying appetite

**HISTORY:**

**B6** is a 1.5 year old male Yorkshire Terrier mix that was presented to the NCSU Cardiology Service on 9/17/18 for a 1 week recheck evaluation after recurrent congestive heart failure secondary to diet induced DCM.

**B6** was first diagnosed with dilated cardiomyopathy and congestive heart failure in April 2018. Due to the severe degree of cardiac dilation, poor systolic function, signalment, and a history of a grain free diet - diet-induced cardiomyopathy was the primary differential. **B6** responded well to medications in the hospital and was discharged on **B6**. His owners were also instructed to transition him to a balanced diet containing grains. A recheck evaluation 1 week later showed resolution of congestive heart failure, and **B6** was doing well at home. A holter monitor showed no ventricular ectopy. His medications were continued at their prior doses, and the addition of **B6** was recommended.

From April through September 2018 **B6** overall did well at home. He was taking his medications well (with the exception of **B6** which was not started). **B6** had a great energy level at home. **B6** was initially eating a Royal Canin diet, however due to lack of interest his owners transitioned him to a raw/grain free diet called Primal (raw, freeze-dried, grain free). He was eating this diet from May-September 2018. On 9/7/18 **B6** was noted to stop intermittently while walking, and was breathing heavily. That night, **B6** was coughing and had increased respiratory effort, and had a few episodes of standing, swaying, and closing eyes, but no actual collapse. **B6** was presented to the NCSU SAES on the morning of 9/8/2018. He was diagnosed with progressive DCM, and recurrent congestive heart failure. He was managed overnight and responded well to treatment. He was discharged the following morning on **B6**, **B6**, **B6**, **B6**, **B6**, **B6**, **B6**.

Over the past week **B6** has overall been doing well at home. He was initially lethargic after returning home, but returned to normal by the afternoon of 9/10/18. He has been active throughout the week, with minimal coughing. His respiratory rate while sleeping is around 36-40 bpm. His owners have transitioned him to FROMM Gold Adult small breed dog food (contains grains). He has shown moderate interest in this food, but remains picky. He receives his medications in cooked chicken, which he eats readily. Current medications included **B6**, **B6**, **B6**, **B6**.

**PHYSICAL EXAM FINDINGS:**

**B6**

**B6****RESULTS OF DIAGNOSTIC TESTS:****B6****2. CHEST RADIOGRAPHS - \*final report pending\***

a. Similar marked left-sided cardiomegaly and left atrial enlargement with perihilar and right caudal lung lobe unstructured interstitial pattern; consistent with dilated cardiomyopathy and recurrent left-sided congestive heart failure.

3. BRIEF ECHO - Progressive dilated cardiomyopathy with severe LV dilation and severely reduced systolic function, moderate to severe mitral regurgitation, severe left atrial enlargement

**B6****ASSESSMENT:**

Thank you for bringing **B6** back to NCSU, he is such a sweet boy.

As you know, **B6** has been previously diagnosed with diet induced dilated cardiomyopathy (DCM) and congestive heart failure. Today we performed chest radiographs, a brief cardiac ultrasound, and kidney bloodwork to evaluate his heart disease and response to treatment.

As we discussed, **B6** echocardiogram (heart ultrasound) showed evidence of disease progression. His heart has continued to enlarge over the past 5 months, and is more dilated today than it was in April. Additionally, his heart function remains severely decreased. These findings are not surprising, considering **B6** continued to eat a grain free diet over the past 4 months, and we suspect the diet is causing his heart disease. **B6** chest radiographs showed evidence of a small amount of fluid accumulation in his lungs today - indicating recurrent congestive heart failure. Given this finding, we would like to increase his heart failure medications further, in an attempt to clear the remaining fluid from his lungs. Please see below for the dosing instructions.

We are hopeful the new dose of medications will be adequate to resolve and control the fluid accumulation. As we have previously discussed, cases of diet induced dilated cardiomyopathy will typically improve with a diet change. However, it is possible **B6** heart could continue to worsen, or fail to show improvement. We strongly recommend **B6** continue to eat a diet containing grains. We are hopeful his heart size and function will show improvement in the coming months after this diet change. We will evaluate his heart structure and function in 3 months at his next recheck evaluation.

**B6** kidney values showed a slight increase over the past week. This is not surprising given the increased dose of medications. The increase is mild, and overall not worrisome. However, we will continue to monitor these values going forward.

Please continue to monitor **B6** for signs of worsening of heart failure such as increased exercise intolerance, labored breathing, increased coughing or fainting. Call NCSU Cardiology or your referring veterinarian if any of these signs occur. Also, please continue to take a respiratory (breathing) rate when he is resting. This can be done by counting the number of breaths he takes in 15 seconds and multiplying by 4 (to get the total breaths per minute). This number should remain less than 40 at rest.

**INSTRUCTIONS FOR CARE****MEDICATIONS:****B6**

**ACTIVITY:** Please avoid strenuous exercise or situations which place undue stress on **B6**. In general, pets with congestive heart failure will self-regulate their exercise. Please monitor for any change in exercise capability.

**DIET:** Please continue **B6** new diet (grain-based) and avoid highly salty treats. Given **B6** picky appetite, you may need to offer him multiple varieties of food (grain based diets) to see what he likes. We can also discuss a personalized nutrition consult with our Nutrition Service if you are interested in a home cooked diet. If you would like to pursue this option, please let us know. A consultation

for homemade diets costs around **B6**

**NEXT APPOINTMENT:**

1. Ideally, we would like **B6** to have his kidney values and chest radiographs rechecked in 1-2 weeks after increasing his heart failure medications (approximate cost of **B6**)

**B6**

2. We would otherwise like **B6** to have a recheck appointment in 3-4 months for a recheck exam, blood pressure, renal panel, chest radiographs and echocardiogram. If you notice signs of worsening heart disease as described above, please contact us or have him seen sooner.

**COMMENTS:**

If you have any concerns with how your pet is doing, or to schedule an appointment, please contact the NC State Veterinary Hospital at 919-513-6694. There is a veterinarian on call 24 hours a day.

**NOTE:** If your pet is in need of emergency aid and you are not able to get to the NC State Veterinary Hospital quickly, please seek care at the nearest veterinary emergency facility. Take these discharge instructions and current medications with you so that the treating veterinarian will know as much as possible regarding your pets' medical condition.

**B6**

**B6**

Senior student

Clinicians:

**B6**

Residents:

**B6**

Clinical Technicians:

**B6**

Client Services:

**B6**

Research Technician

**B6**

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**Discharge Comments**

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Small Animal (919) 513-6500  
 Large Animal (919) 513-6630

<b>Client</b> <b>B6</b>	<b>Patient</b> <b>B6</b> YORKSHIRE TERRIER M MIX CANINE	<b>Case #</b> <b>B6</b>  3.8 kg	<b>Attending DVM</b> <b>Student</b> <b>Discharging DVM</b> <b>Referring DVM</b>	<b>B6</b>
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Admission Date/Time: DEC 18, 2018 10:31 AM

Discharge Date/Time: DEC 18, 2018 12:34 PM

Discharge Status:

## CASE SUMMARY

## DIAGNOSES:

1. Dilated cardiomyopathy - suspect dietary induced - progressive
2. Congestive heart failure **B6** recurrent 9/8/18)
3. Chronic intermittent diarrhea and varying appetite - improved

## HISTORY:

**B6** is a 1.5 year old male Yorkshire Terrier mix who was presented to the NCSU Cardiology Service on 12/18/18 for a recheck evaluation of suspected diet-induced DCM and recurrent heart failure.

**B6** was first diagnosed with dilated cardiomyopathy and congestive heart failure in April 2018. Due to the severe degree of cardiac dilation, poor systolic function, signalment, and a history of a grain free diet - diet-induced cardiomyopathy was the primary differential. **B6** responded well to medications in the hospital and was discharged on **B6**. His owners were also instructed to transition him to a balanced diet containing grains. A recheck evaluation 1 week later showed resolution of congestive heart failure, and **B6** was doing well at home. A holter monitor showed no ventricular ectopy. His medications were continued at their prior doses, and the addition of **B6** was recommended. From April through September 2018, **B6** overall did well at home, and had a great energy level. He was taking his medications well (with the exception of **B6** which was prescribed but not started).

**B6** was initially eating a Royal Canin diet, however due to lack of interest his owners transitioned him to a raw/grain free diet called Primal (raw, freeze-dried, grain free), and continued to feed this diet from May-September 2018. On 9/7/18 **B6** was noted to stop intermittently while walking, and was breathing heavily. That night, **B6** was coughing, had increased respiratory effort, and had a few episodes of standing, swaying, and closing eyes, but no true collapse. **B6** was presented to the NCSU SAES on the morning of 9/8/2018. He was diagnosed with progressive DCM, and recurrent congestive heart failure. He was managed overnight and responded well to treatment. He was discharged the following morning on:

**B6****B6****B6****B6****B6**

Since his last visit, **B6** has been doing very well at home. He is noted to generally sleep while he is alone with his owner, but be very playful when around other dogs. He has has no recent coughing, vomiting, or changes to urination, though he does occasionally have loose stools. When counted, his respiratory rate while sleeping is around 25-35 brpm.

Since his episode of CHF in September 2018, **B6** has been transitioned to a diet of Fromm Adult Gold Small Breed food (contains grains), supplemented with boiled chicken and brown rice. The owner reports that since his last visit, his appetite has been great, and she has not been concerned about his food intake. He receives his medications in cooked chicken, which he eats readily. **B6**

**B6****B6****B6****B6****B6**

## PHYSICAL EXAM FINDINGS:

**B6**

## RESULTS OF DIAGNOSTIC TESTS:

B6

Z: ECHOCARDIOGRAM - Dilated cardiomyopathy with severe LV dilation and severely reduced systolic function, progressively decreased contractility, mild mitral regurgitation, severe left atrial enlargement

B6

## ASSESSMENT:

Thank you for bringing B6 in to see us today! As always, he is completely adorable.

Today we saw B6 for a recheck evaluation of previously diagnosed DCM with episodes of heart failure that were suspected to be secondary to a grain-free diet. We performed an echocardiogram, to look inside his heart to evaluate its function. We saw today that B6 heart has not further enlarged from the last time he was seen in September 2018, and his mitral valve regurgitation is also relatively static to improved. Unfortunately, another measure of heart function, his contractility, is somewhat decreased from the last time he was seen. Although we have not seen improvements to his cardiac structure or function yet, we are still hopeful, as B6 has only been off of a grain free diet for 3 months, and he is doing very well clinically at home, with no episodes of labored breathing or weakness. Some patients take longer to recover. There is also a very real possibility that his heart will be permanently damaged since he was affected at such a young age while he was still growing. We elected to hold on chest x-rays today as they were unlikely to change our plan and B6 is doing so well clinically. They should be performed immediately if B6 has signs such as decreased activity, cough, or most importantly, increased resting respiratory rate.

Today we also ran some bloodwork to evaluate his renal function, which can often be impacted by heart medications. Although one value is slightly elevated (BUN), this has remained relatively unchanged since his last visit with us in September. Given the severity of his heart disease, we will continue him on his current dose of all his heart medications, but continue to monitor his renal function through regular blood work.

Ideally we would like to eventually see improvements in B6 heart size and function. Since we did not see this today, we are planning to start him on some supplements that all support cardiac function. These are listed below under "medications," and can all be purchased online or at most grocery stores and pharmacies. We hope that B6 continues to feel better, and that his heart may start to improve with more time on a grain diet.

## INSTRUCTIONS FOR CARE

## MEDICATIONS:

# B6

ACTIVITY: B6 can continue to set his own activity level.

DIET: Please continue B6 on his current diet, Fromm Adult Gold Small Breed (with grains) with chicken and brown rice supplemented.

MONITORING: Please continue to monitor B6 at home for signs related to heart failure, including increased respiratory effort and rate, increased coughing, weakness, collapse, lethargy, and decreased appetite.

## RECOMMENDATIONS FOR FURTHER EVALUATION:

We would like to see B6 back for a recheck echocardiogram, chest radiographs, and renal panel in 3-6 months. If B6 should develop signs of congestive heart failure or progressive disease prior to his next appointment, including exercise intolerance, weakness, lethargy, coughing, or increased respiratory rate or effort, please have him seen by a veterinarian immediately.

## COMMENTS:

If you have any concerns with how your pet is doing, or to schedule an appointment, please contact the NC State Veterinary Hospital at 919-513-6694. There is a veterinarian on call 24 hours a day.

NOTE: If your pet is in need of emergency aid and you are not able to get to the NC State Veterinary Hospital quickly, please seek

care at the nearest veterinary emergency facility. Take these discharge instructions and current medications with you so that the treating veterinarian will know as much as possible regarding your pets' medical condition.

**B6** Owner

**B6** DVM

**B6** Senior Student

Clinicians:

**B6**

Residents:

**B6**

Clinical Technicians:

**B6**

Client Services:

**B6**

Research Technician

**B6**

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**Veterinary Hospital**  
**1052 William Moore Drive**  
**Raleigh, NC 27607**  
**Discharge Comments**

Fax: Admin  
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 Large Animal (919) 513-6630

<b>Client</b> <b>B6</b>	<b>Patient</b> <b>B6</b> YORKSHIRE TERRIER M MIX CANINE	<b>Case #</b> <b>B6</b>  3.8 kg	<b>Attending DVM</b> <b>Student</b> <b>Discharging DVM</b> <b>Referring DVM</b>	<b>B6</b>
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**Admission Date/Time** **B6** 05:37 AM **Discharge Date/Time** **B6** 07:15 AM **Discharge Status:** EUTHANIZE  
D

\*\*\*\*\*NOTICE OF EUTHANASIA\*\*\*\*\*

**CASE SUMMARY**

**Diagnoses/Problems:**

1. Presumed dietary induced dilated cardiomyopathy
2. Suspected congestive heart failure
3. Cardiogenic shock

**History:**

**B6** a 1.5-year-old male Yorkie who presented to the NCSU Small Animal Emergency Service in respiratory distress. **B6** was previously diagnosed with dilated cardiomyopathy and congestive heart failure in April 2018. Due to the severe degree of cardiac dilation, poor systolic function, signalment, and history of a grain-free diet, dietary induced DCM was suspected. **B6** was started on a Royal Canin diet after transition to a balanced diet containing grains was recommended; however, due to lack of interest he was switched to a raw/grain free diet called Primal, which he received from May-September 2018. **B6** re-presented to NCSU on 9/7/18 for his second episode of congestive heart failure. He was treated and discharged.

About a week ago **B6** began having an increased respiratory rate. **B6** was instructed to give him an extra dose of his **B6** and **B6** improved. Last night **B6** began breathing a little heavier again. Around 3 am this morning his respiratory rate worsened, so he was given **B6**. At 5 am **B6** awoke to commotion under her bed and found **B6** flailing and rolling. His respiratory rate and effort were significantly increased. She gave him an additional tab **B6** and subsequently brought him to NCSU for further evaluation.

**B6** has been eating a FROMM dry dog food that contains grains. He has not had any vomiting recently, but last week he experienced a couple of non-productive episodes where he looked like he wanted to cough something up.

**Physical Exam Findings:**

**B6**

**B6** was laterally recumbent and dyspneic on initial presentation. His pulse quality was fair. Right-sided crackles were appreciated on pulmonary auscultation.

**Results of Diagnostic Tests:**

**B6**

**Assessment:**

**B6** presented to the NCSU Small Animal Emergency Service in severe respiratory distress and cardiogenic shock. Hospitalization with mechanical ventilation was discussed; however, due to poor prognosis and quality of life considerations, humane euthanasia was elected. **B6** received **B6** followed by **B6**.

**B6**

B6

DVM

B6

Faculty:

B6

Residents/Fellows:

B6

Interns:

B6

Supervisor:

B6

Technicians:

B6

Client Services:

B6

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B6

NC STATE UNIVERSITY  
CARDIOLOGY

1052 William Moore Drive  
Raleigh, NC 27607  
Phone: 919.513.6694 Fax: 919.513.6712

Canine Echocardiography Report

Patient Name: B6  
Medical Rec #: B6  
DOB: B6  
Age: 20 months  
Sex: Mc  
Sonographer: B6

Date of Exam: 12/18/2018  
Breed: Yorkshire  
Weight: 4 kg  
BSA: 0.23 m<sup>2</sup>  
HR:  
BP-sys:

Report Status: READ  
Ref. Clinician: B6  
Diagnosis: Dilated cardiomyopathy  
Study Details: 2D Echo/Doppler/Color Doppler. The images were of adequate diagnostic quality. The patient was awake.

2D Diastole Systole  
IVS B6 %FTIvs B6 LV EF, B6  
LV %FS  
LVPW %FTW

2D  
LA Long Axis B6  
LA d  
Ao s  
LA/Ao  
LAA Velocity  
PDA Diam  
PDA ampulla  
PV Ann

M-mode Diastole Systole  
RV cm B6  
IVS %FS  
LV MRSIm  
LVPW MRSI  
LV normalized EDVI  
LA ESVI  
Ao EGWS/ESV  
LA/Ao wAo  
TAPSE  
LV EF  
LV SV  
LV CO B6  
EPSS  
LV-IVRT

Normal Canine M-mode values (in cm) for 3 kg dogs.

LVIDd LVPWd IVSd LA AO %FS  
B6

Normal Canine M-mode values (in cm) for 5 kg dogs.

LVIDd LVPWd IVSd LA AO %FS  
B6

Tissue Doppler: Medial

E'  
A'  
E'/E'  
E'/A'  
B6

**Aortic Valve:**

AoV

VMax

B6

Pk Grad

**Mitral Valve:**

Mn Grad

E Vmax

P1/2T

A Vmax

B6

MV Area

E/A

**Mitral Regurgitation:**

MR Vmax

B6

MR Peak Gradient

Est SBP by MR

**Tricuspid valve:**

TV E Max

TR Vmax

TV Mn Grad

TR Pk Grad

P 1/2 T

RA Pressure:

TV VTI

RVSP

B6

**Pulmonic valve:**

PV

Vmax

B6

Pk Grad

**CLINICIAN INTERPRETATION:**

**Left Ventricle:** The left ventricular cavity size is severely increased. LV ejection fraction is moderately decreased. LV basal fractional shortening is moderate to severely decreased. Spectral Doppler shows normal pattern of LV diastolic filling.

**Left Atrium:** The left atrium is severely dilated. The left atrial A/P dimension is 2.45 cm.

**Right Atrium:** The right atrium is mildly dilated.

**Right Ventricle:** The right ventricular size is mildly enlarged.

**Mitral Valve:** The E-point septal separation is increased. Mild mitral valve regurgitation. The MR jet is centrally-directed.

**Tricuspid Valve:** There is mild tricuspid regurgitation, with a jet that is directed centrally.

**Pulmonic Valve:** The pulmonic valve is normal.

**Pericardium/Effusions:** No pericardial effusion is seen.

**Aorta:** The aortic sinuses, arch, ascending and descending aorta appear all normal.

**Pulmonary Artery:** The pulmonary artery is of normal size and origin. The tricuspid regurgitant velocity is 1.63 m/s, and with an assumed right atrial pressure of 10 mmHg, the estimated right ventricular systolic pressure is normal at 20.6 mmHg.

**ECHO SUMMARY:**

1. Moderately decreased LV ejection fraction.
2. The left ventricular cavity size is severely increased.
3. Severely dilated left atrium.
4. Mildly dilated right atrium.
5. Mild mitral valve regurgitation.
6. Mild tricuspid regurgitation.

**CV Exam:**

Body condition was normal. Normal respirations. The mucous membranes appeared pink, with a normal capillary refill time. Femoral pulse quality was normal. Pulmonary auscultation revealed increased lung sounds.

**ECG:**

The eeg was either not available at the time of the report or was not done. The heart rate measured at 176 beats/minute. The ECG rhythm is sinus tachycardia. Single VPC and occasional supraventricular

**B6**

12/18/2018

**B6**

premature complexes was/were noted.

**Recommendations:** This study was performed 3 months after a transition to a grain containing diet. The patient has had 2 episodes of CHF (4/2018 and 9/2018) secondary to suspect diet-induced DCM. The patient is starting to have more activity and a much better appetite since his last recheck.

The left ventricle and left atrium are still severely dilated. There is mild mitral regurgitation (that is subjectively improved). While there is slight improvement in the dimensions of the LA and LV, there is significantly decreased systolic function of LV.

While there is minimal improvement in the chamber size, the decrease in systolic function is concerning. Diet induced DCM still remains the top differential. It could take longer for remodeling to occur, or the heart may be permanently dilated.

**B6**

**B6**

Electronically signed on 12/13/2018 on 6:16:07 PM

**B6**

**NC STATE UNIVERSITY**  
**CARDIOLOGY**

1052 William Moore Drive  
 Raleigh, NC 27607  
 Phone: 919.513.6694 Fax: 919.513.6712

**Canine Echocardiography Report**

Patient Name: **B6**  
 Medical Rec #: **B6**  
 DOB: **B6**  
 Age: **B6**  
 Sex: **Mc**  
 Sonographer: **B6**

Date of Exam: 9/17/2018  
 Breed: Yorkshire  
 Weight: 4 kg  
 BSA: 0.24 m<sup>2</sup>  
 HR: **B6**  
 BP-sys: **B6**

Report Status: **READ**  
 Ref. Clinician: **B6**  
 Diagnosis: Dilated cardiomyopathy - diet induced  
 Study Details: 2D Echo/Doppler/Color Doppler. The images were of adequate diagnostic quality. The patient was awake.

2D  
 IVS **B6** %FTIvs **B6** LV EF **B6**  
 LV %FS **B6**  
 LVPW %FTIw **B6**

2D  
 LA Long Axis **B6**  
 LA d  
 Ao s  
 LA/Ao  
 LAA Velocity  
 PDA Diam  
 PDA ampulla  
 PV Ann

M-mode  
 RV **B6** LV EF **B6**  
 IVS **B6** LV SV **B6**  
 LV **B6** LV CO **B6**  
 LVPW **B6**  
 LV normalized **B6**  
 LA **B6**  
 Ao **B6**  
 LA/Ao **B6**  
 EPSS **B6**  
 LV-IVRT

Normal Canine M-mode values (in cm) for 3 kg dogs.

LVdD LVPWd IVSd LA AO %FS  
**B6**

Tricuspid valve:  
 P **B6** RA Pressure: **B6**

**CLINICIAN INTERPRETATION:**

**Left Ventricle:** The left ventricular cavity size is severely increased. Ventricular wall thickness is decreased. LV basal fractional shortening is moderate to severely decreased.  
**Left Atrium:** The left atrium is severely dilated. The left atrial A/P dimension is 2.81 cm.  
**Mitral Valve:** The E-point septal separation is normal. Moderate to severe mitral valve regurgitation. The MR jet is centrally-directed.

**Pericardium/Effusions:** No pericardial effusion is seen.

**ECHO SUMMARY:**

1. The left ventricular cavity size is severely increased.
2. Ventricular wall thickness is decreased.
3. Severely dilated left atrium.
4. Moderate to severe mitral valve regurgitation.

**Recommendations:** This is a brief echocardiogram - and is compared to the prior study dated [B6] [B6] was diagnosed with diet induced DCM and CHF in April 2013. His diet was initially changed to a Royal Canin formulation, but was then transitioned back to a grain-free diet in May 2013. He developed an additional episode of heart failure on 9/3/13. He was hospitalized and responded well. Today he is presenting for a 1 week recheck exam.

This study shows evidence of progressive heart disease. The LV has further increased in size, and continues to show poor systolic function. There is moderate centrally directed mitral regurgitation - secondary to annular dilation. The left atrium has increased in size and is severely dilated.

These changes are evidence of continued cardiac deterioration secondary to a grain-free diet. [B6] has been transitioned to a diet containing grains, and his owners plan to continue this diet. Recommend a recheck echocardiogram in 3-4 months to evaluate for improvement.

[B6]

Electronically signed on 9/17/2018 on 2:43:08 PM

**B6**

**NC STATE UNIVERSITY**  
**CARDIOLOGY**

1052 William Moore Drive  
 Raleigh, NC 27607  
 Phone: 919.513.6694 Fax: 919.513.6712

### Canine Echocardiography Report

Patient Name: **B6**  
 Medical Rec #: **B6**  
 DOB: **B6**  
 Age: **B6**  
 Sex: **Mc**  
 Sonographer: **B6**

Date of Exam: **B6**  
 Breed: **Mixed breed**  
 Weight: **4 kg**  
 BSA: **0.23 m<sup>2</sup>**  
 HR: **B6**  
 BP-sys: **B6**

Report Status: **READ**  
 Ref. Clinician: **B6**  
 Diagnosis: **Dilated Cardiomyopathy - suspect dietary induced**  
 Study Details: **2D Echo/Doppler/Color Doppler. The images were of adequate diagnostic quality. The patient was awake.**

**2D**  
 IVS **B6** %FTivs **B6** LV EF **B6**  
 LV **B6** %FS **B6** LV CO **B6**  
 LVPW **B6** %FTfw **B6**

**2D**  
 LA Long Axis **B6** LAA Velocity  
 LA d PDA Diam  
 Ao s PDA ampulla  
 LA/Ao PV Ann

**M-mode**  
 RV **B6** %FS **B6** LV EF **B6**  
 IVS **B6** MRSIm **B6** LV SV **B6**  
 LV **B6** MRSI **B6** LV CO **B6**  
 LVPW **B6** EDVI **B6**  
 LV normalized **B6** ESVI **B6**  
 LA **B6** ESWS/ESV **B6**  
 Ao **B6** wAo **B6**  
 LA/Ao **B6** TAPSE **B6** EPSS **B6**  
 LV-IVRT **B6**

Normal Canine M-mode values (in cm) for 3 kg dogs.

LVIDd LVPWd IVSd LA AO %FS  
**B6**

Aortic Valve: **AoV**  
 VMax **B6**  
 Pk Grad **B6**

Mitral Valve:  
 Mn Grad **E Vmax**  
 P1/2T **A Vmax**  
 MV Area **E/A** **B6**

Mitral Regurgitation:

**B6****B6**

MR Vmax  
MR Peak Gradient  
Est SBP by MR

**B6****Tricuspid valve:**

TV E Max  
TV Mn Grad  
P 1/2 T  
TV VTI

TR Vmax  
TR Pk Grad  
RA Pressure:  
RVSP

**B6****Pulmonic valve:**

Vmax  
Pk Grad

**PV****B6****CLINICIAN INTERPRETATION:**

**Left Ventricle:** The left ventricular cavity size is severely increased. Ventricular wall thickness is decreased. LV basal fractional shortening is severely decreased. Spectral Doppler shows impaired relaxation pattern of LV diastolic filling.

**Left Atrium:** The left atrium is moderately dilated. The left atrial A/P dimension is 1.72 cm.

**Right Atrium:** The right atrium is mildly dilated.

**Right Ventricle:** The right ventricular size is moderately enlarged. RV wall thickness is normal. Global RV systolic function is moderately reduced.

**Aortic Valve:** No degree of aortic stenosis is present. Trivial aortic valve regurgitation.

**Mitral Valve:** The E-point septal separation is increased. Moderate mitral valve regurgitation. The MR jet is centrally-directed.

**Pulmonic Valve:** The pulmonic valve is normal. Trace pulmonary valve regurgitation.

**Pericardium/Effusions:** No pericardial effusion is seen.

**Aorta:** The aortic sinuses, arch, ascending and descending aorta appear all normal.

**Pulmonary Artery:** The pulmonary artery is of normal size and origin. The tricuspid regurgitant velocity is 2.79 m/s, and with an assumed right atrial pressure of 10 mmHg, the estimated right ventricular systolic pressure is mildly elevated at 41.2 mmHg.

**ECHO SUMMARY:**

1. Dilated cardiomyopathy
2. Impaired relaxation pattern of LV diastolic filling.
3. The left ventricular cavity size is severely increased.
4. Ventricular wall thickness is decreased.
5. Moderately enlarged right ventricle.
6. Moderately reduced RV systolic function.
7. Moderately dilated left atrium.
8. Mildly dilated right atrium.
9. Moderate mitral valve regurgitation.
10. Moderate tricuspid regurgitation.
11. Mildly elevated pulmonary artery systolic pressure.

**CV Exam:**

Body condition was normal. The animal was tachypneic. The mucous membranes appeared pink, with a normal capillary refill time. Femoral pulse quality was normal. Cardiac auscultation revealed a systolic murmur of grade II/VI intensity loudest at the left apex. Pulmonary auscultation revealed normal lung sounds.

**ECG:**

The heart rate measured at 140 beats/minute. The ECG rhythm is regular sinus rhythm. Frequent supraventricular premature complexes was/were noted.

**Recommendations:** [B6] was presented to the NCSU ER for evaluation of respiratory distress and

suspected CHF. He was given [B6] orally prior to referral.

This echocardiogram shows evidence of dilated cardiomyopathy. The LV is severely dilated with thin walls and severely reduced systolic function. The mitral valve is structurally normal - however there is moderate centrally directed mitral regurgitation. The left atrium is moderately to severely dilated. The aorta and aortic outflow profile are normal.

The right heart is moderately dilated as well, with poor systolic function. There is moderate tricuspid regurgitation, and the right atrium is mildly to moderately dilated. The TR velocity is mildly elevated at 2.8m/sec - indicating mild pulmonary hypertension. The caudal vena compresses normally with respiration. The pulmonic valve and pulmonic outflow profile are normal.

There is no evidence of a patent ductus arteriosus or other congenital defects.

Thoracic radiographs show severe generalized cardiomegaly, and a mild diffuse unstructured interstitial pattern - consistent with CHF. The underlying ECG shows a sinus rhythm with frequent atrial premature beats.

In summary, [B6] has been diagnosed with dilated cardiomyopathy and congestive heart failure. Given the young age and atypical breed - DCM secondary to diet, or secondary to prior myocarditis are the top differentials. [B6] currently eats a grain free diet - and has since he was a puppy. Recommend obtaining a whole blood taurine level, supplementing taurine, and changing the diet. The prognosis is ultimately poor - however, if the changes seen today are dietary induced - a change in diet may result in improved cardiac function.

#### Recommendations

**B6**

B6

Electronically signed on 4/2/2018 on 3:07:23 AM

Report Date  
JAN-31-19 09:23 AM

**NCSU, COLLEGE OF VETERINARY MEDICINE**  
**ANATOMIC PATHOLOGY LABORATORY**  
<http://www.cvm.ncsu.edu/dphp/labs/histologylab.htm>  
Room B104H 1060 William Moore Drive  
RALEIGH, NC 27607  
Phone #: 919-513-6390 Fax #: 919-513-6703

Page 1 of 2

Owner:

**B6**

Accession Number: **B6**

Reference Number:

Case Coordinator: **B6**

Received: **L6**

Finalized: 01/28/2019

Sampled:

To:

**B6**

**Final Report**

**ANATOMIC PATHOLOGY RESULTS**

**SMALL ANIMAL NECROPSY**

ANIMAL ID

**B6**

REF CASE NO

SPECIES

Canine

BREED

Yorkshire Terrier

SEX

M

AGE

2y

SPECIMEN DESC

Body

GROSS

**B6**

Report Date  
JAN-31-19 09:23 AM

NCSU, COLLEGE OF VETERINARY MEDICINE  
ANATOMIC PATHOLOGY LABORATORY  
<http://www.cvm.ncsu.edu/dphp/labs/histologylab.htm>  
Room B104H 1060 William Moore Drive  
RALEIGH, NC 27607  
Phone #: 919-513-6360 Fax #: 919-513-6703

Page 2 of 2

Final Report

Accession Number: B6

ANATOMIC PATHOLOGY RESULTS

B6

**GROSS DIAGNOSIS**  
Heart: Moderate cardiomegaly with biventricular dilation (see comment)  
Lungs: Moderate, diffuse, pulmonary edema (presumptive)  
Liver: Moderate hepatomegaly with an enhanced reticular pattern  
(consistent with chronic passive congestion)  
Testicle: Unilateral inguinal cryptorchid

**REPORT STATUS**  
**COMMENTS**  
PRELIMINARY REPORT-HISTOLOGY PENDING  
Evaluation of the heart is somewhat limited because post-mortem sampling by Cardiology has already been performed prior to the time of autopsy, but heart measurements support a diagnosis of dilated cardiomyopathy. Pulmonary edema is consistent with left-sided congestive heart failure, and evidence of chronic passive congestion in the liver is consistent with right-sided congestive heart failure. Unilateral cryptorchidism is considered an incidental finding. Histopathology is pending.

**PATH RESIDENT**  
**SENIOR PATH**  
**DATE**

B6

**B6****B6****B6**Dear **B6**This letter is regarding **B6** male Yorkie/chihuahua, owned by **B6** seen by **B6****B6**examined: **B6**discharged: **B6****Diagnosis:** tachypnic with heart murmur and enlarged heart - suspect congestive heart failure**History:****B6**

08:51 PM

**B6** and Examination

**B6** presented for Labored breathing since this morning. Pt has had D+ for a few days. Today he has had faster breathing with a grunt at the end of the resps. O did report that he went on a long walk and was not as peppy as usual but did ok on the walk. O noted the breathing to be the same all day and not worsening much with activity or time. **B6**

**B6**

meds: none

preventions: yes

vaccines: UTD per O

**Physical Exam:****B6****B6**

09:31 PM Admitting Doctor:

**B6****B6**

**B6****Diagnostic Imaging - Radiographs & Ultrasounds:**

B6 10:05 PM Radiology

Radiographs, Initial, 3-view

Area Radiographed: Whole Body

Views Taken: Right/Left lateral, V/D

Interpretation: The cardiac silhouette is severely enlarged with no left atrial enlargement. The cranial lobar artery is larger in diameter than the vein. There is moderate diffuse unstructured interstitial pattern perihilar and in the caudodorsal lung lobes.

**Lab Work:****Chemistry Data (HSZ)****B6**

09:52 PM

Test	Result	Flag	Normal Range	Indicator
WBC	<b>B6</b>		6-17 (10 <sup>3</sup> /uL)	<b>B6</b>
NEU			3.82-12.3 (10 <sup>3</sup> /uL)	
LYM			0.03-4.91 (10 <sup>3</sup> /uL)	
MONO			0.14-1.07 (10 <sup>3</sup> /uL)	
EOS			0.04-1.82 (10 <sup>3</sup> /uL)	
BAS			0.0-1.2 (10 <sup>3</sup> /uL)	
NEU %			52-81 (%)	
LYM %			12-33 (%)	
MONO %			2-13 (%)	
EOS %			0.5-10 (%)	
BAS %			0-1.3 (%)	
RBC			5.1-9.5 (10 <sup>6</sup> /uL)	
HGB			11-19 (g/dL)	
HCT			23-36 (%)	
MCV			60-76 (fL)	
MCH			20-27 (pg)	
MCHC			30-38 (g/dL)	
RDW %			12.5-17.2 (%)	
PLT			117-400 (10 <sup>3</sup> /uL)	
MPV			8-14.1 (fL)	
Thrombocytopenia				

**WBC DIFFERENTIAL (manual)**

Total Leukocytes: (from HM5) B6

Neutrophils: B6

Absolute:

Bands: 0 %

Absolute:

Lymphocytes: B6

Absolute:

Monocytes: B6

Absolute:

Eosinophils: B6

Absolute:

**B6****B6**

B6

9:03AM (GMT-04:00)

B6

Assessment: P is tachypnic with a heart murmur and an enlarged heart and caudal dorsal pulmonary edema on rads (no LAE). Suspect heart failure. Recommended that P be seen by a cardiologist ASAP and that transfer to NC State is the best option.

B6

B6

Plan:

B6

Prescriptions:

B6

11:25 PM

B6

Client Discharge Instructions:

B6

Normally blood flows in one direction. If the valves fail to close completely when the heart contracts, blood moves forward but some leaks backward. The clinical signs vary depending on whether the right and/or left side

B6

MON 8:55 FAX

B6

0001/004

of the heart is affected and whether heart enlargement presses on the windpipe (trachea). Fluid accumulates when the heart fails to pump enough blood is transmitted backward from the heart to the lung or body.

Thank you for allowing us to participate in the care of this patient. If you have any questions about his case or we can be of assistance in the future, please do not hesitate to contact us.

Same great team, brand new name & location. We are serving you from our new facility. B6

B6

The facility is located at B6

near the

B6

We are happy to host your veterinarians for a tour, or have the staff come for a lunch n learn session - please email B6

B6

B6

9:03AM (GMT-04:00)

**Report Details - EON-390201**

ICSR:	2068094																																													
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:	2019-06-11 14:32:32 EDT																																													
Initial Report Date:	02/25/2019																																													
Parent ICSR:	2063133																																													
Follow-up Report to FDA Request:	Yes																																													
Reported Problem:	<table><tr><td>Problem Description:</td><td colspan="2">DCM and CHF diagnosed 1/15/19 Eating BEG diet. 6 dogs being fed this diet - so far, 4 have been diagnosed with DCM/ARVC. One other had a normal NT-proBNP and 2 others will be tested Diet has been changed to Royal Canin Early Cardiac and we will recheck in 3 months. I have sample of dry and canned food. <b>B6</b> Owners elected humane euthanasia due to worsening heart failure. Samples of heart muscle were submitted to FDA from rDVM.</td></tr><tr><td>Date Problem Started:</td><td colspan="2">01/15/2019</td></tr><tr><td>Concurrent Medical Problem:</td><td colspan="2">Yes</td></tr><tr><td>Pre Existing Conditions:</td><td colspan="2"><b>B6</b></td></tr><tr><td>Outcome to Date:</td><td colspan="2">Died Euthanized</td></tr><tr><td>Date of Death:</td><td colspan="2"><b>B6</b></td></tr></table>			Problem Description:	DCM and CHF diagnosed 1/15/19 Eating BEG diet. 6 dogs being fed this diet - so far, 4 have been diagnosed with DCM/ARVC. One other had a normal NT-proBNP and 2 others will be tested Diet has been changed to Royal Canin Early Cardiac and we will recheck in 3 months. I have sample of dry and canned food. <b>B6</b> Owners elected humane euthanasia due to worsening heart failure. Samples of heart muscle were submitted to FDA from rDVM.		Date Problem Started:	01/15/2019		Concurrent Medical Problem:	Yes		Pre Existing Conditions:	<b>B6</b>		Outcome to Date:	Died Euthanized		Date of Death:	<b>B6</b>																										
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Product Information:	<table><tr><td>Product Name:</td><td colspan="2">Wellness Core grain-free ocean fish dry Wellness core grain free turkey, chicken liver &amp; turkey liver canned Wellness Hearty Cuts grain-free in gravy chicken and turkey recipe</td></tr><tr><td>Product Type:</td><td colspan="2">Pet Food</td></tr><tr><td>Lot Number:</td><td colspan="2"></td></tr><tr><td>Product Use Information:</td><td>Description:</td><td>Please see diet history</td></tr><tr><td>Manufacturer /Distributor Information:</td><td colspan="2"></td></tr><tr><td>Purchase Location Information:</td><td colspan="2"></td></tr></table>			Product Name:	Wellness Core grain-free ocean fish dry Wellness core grain free turkey, chicken liver & turkey liver canned Wellness Hearty Cuts grain-free in gravy chicken and turkey recipe		Product Type:	Pet Food		Lot Number:			Product Use Information:	Description:	Please see diet history	Manufacturer /Distributor Information:			Purchase Location Information:																											
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Animal Information:	<table><tr><td>Name:</td><td colspan="2"><b>B6</b></td></tr><tr><td>Type Of Species:</td><td colspan="2">Dog</td></tr><tr><td>Type Of Breed:</td><td colspan="2">Bulldog</td></tr><tr><td>Gender:</td><td colspan="2">Female</td></tr><tr><td>Reproductive Status:</td><td colspan="2">Neutered</td></tr><tr><td>Weight:</td><td colspan="2">19.8 Kilogram</td></tr><tr><td>Age:</td><td colspan="2">8.5 Years</td></tr><tr><td>Assessment of Prior Health:</td><td colspan="2">Excellent</td></tr><tr><td>Number of Animals Given the Product:</td><td colspan="2">6</td></tr><tr><td>Number of Animals Reacted:</td><td colspan="2">4</td></tr><tr><td>Owner Information:</td><td colspan="2"><table><tr><td>Owner Information provided:</td><td>Yes</td></tr><tr><td>Contact:</td><td><table><tr><td>Name:</td><td><b>B6</b></td></tr><tr><td>Phone:</td><td></td></tr><tr><td>Email:</td><td></td></tr></table></td></tr></table></td></tr></table>			Name:	<b>B6</b>		Type Of Species:	Dog		Type Of Breed:	Bulldog		Gender:	Female		Reproductive Status:	Neutered		Weight:	19.8 Kilogram		Age:	8.5 Years		Assessment of Prior Health:	Excellent		Number of Animals Given the Product:	6		Number of Animals Reacted:	4		Owner Information:	<table><tr><td>Owner Information provided:</td><td>Yes</td></tr><tr><td>Contact:</td><td><table><tr><td>Name:</td><td><b>B6</b></td></tr><tr><td>Phone:</td><td></td></tr><tr><td>Email:</td><td></td></tr></table></td></tr></table>		Owner Information provided:	Yes	Contact:	<table><tr><td>Name:</td><td><b>B6</b></td></tr><tr><td>Phone:</td><td></td></tr><tr><td>Email:</td><td></td></tr></table>	Name:	<b>B6</b>	Phone:		Email:	
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Name:	<b>B6</b>																																													
Phone:																																														
Email:																																														

		Address:	<b>B6</b> 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:	Follow-up med records pt 2.pdf	
	Description:	Med records	
	Type:	Medical Records	
	Attachment:	Follow-up med records pt 1.pdf	
	Description:	Med records	
	Type:	Medical Records	



**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* 1997;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 2hrs. 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](mailto:sterngenetics@ucdavis.edu)

This document last updated: Aug. 20, 2018

Page 3 of 3

**Report Details - EON-380742**

ICSR:	2063133																																																											
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:	2019-02-25 07:43:42 EST																																																											
Reported Problem:	<table><tr><td>Problem Description:</td><td colspan="2">DCM and CHF diagnosed 1/15/19 Eating BEG diet. 6 dogs being fed this diet - so far, 3 have been diagnosed with DCM/ARVC. One other had a normal NT-proBNP and 2 others will be tested Diet has been changed to Royal Canin Early Cardiac and we will recheck in 3 months. I have sample of dry and canned food</td></tr><tr><td>Date Problem Started:</td><td colspan="2">01/15/2019</td></tr><tr><td>Concurrent Medical Problem:</td><td colspan="2">Yes</td></tr><tr><td>Pre Existing Conditions:</td><td colspan="2">B6</td></tr><tr><td>Outcome to Date:</td><td colspan="2">Stable</td></tr></table>			Problem Description:	DCM and CHF diagnosed 1/15/19 Eating BEG diet. 6 dogs being fed this diet - so far, 3 have been diagnosed with DCM/ARVC. One other had a normal NT-proBNP and 2 others will be tested Diet has been changed to Royal Canin Early Cardiac and we will recheck in 3 months. I have sample of dry and canned food		Date Problem Started:	01/15/2019		Concurrent Medical Problem:	Yes		Pre Existing Conditions:	B6		Outcome to Date:	Stable																																											
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Name:	B6																																																											
Type Of Species:	Dog																																																											
Type Of Breed:	Bulldog																																																											
Gender:	Female																																																											
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		<b>Address:</b> 200 Westboro Rd North Grafton Massachusetts 01536 United States
<b>Sender Information:</b>	<b>Name:</b>	Lisa Freeman
	<b>Address:</b>	200 Westboro Rd North Grafton Massachusetts 01536 United States
	<b>Contact:</b>	
	<b>Phone:</b>	5088874523
	<b>Email:</b>	lisa.freeman@tufts.edu
	<b>Permission To Contact Sender:</b>	Yes
<b>Additional Documents:</b>	<b>Preferred Method Of Contact:</b>	Email
	<b>Attachment:</b>	rot_medical_record_preview.pdf
	<b>Description:</b>	Med records
	<b>Type:</b>	Medical Records

<b>Report Details - EON-380743</b>							
ICSR:	2063134						
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:	2019-02-25 07:58:43 EST						
Reported Problem:	<p><b>Problem Description:</b> Housemate (half sister; [B6]) (ICSR) of 2063133) diagnosed with DCM and CHF so screened by RDVM for BNP which was elevated. Evaluated at Tufts 2/1/19. ARVC/diet-induced DCM with ventricular arrhythmia. Diet changed to Royal Canin Early Cardiac and will re-evaluate in 3 months I have diet sample. 3 other dogs in household (1 had normal BNP, other 2 not yet evaluated)</p> <p><b>Date Problem Started:</b> 02/01/2019</p> <p><b>Concurrent Medical Problem:</b> Yes</p> <p><b>Pre Existing Conditions:</b> [B6]</p> <p><b>Outcome to Date:</b> Stable</p>						
Product Information:	<p><b>Product Name:</b> Wellness CORE Grain-Free Ocean Whitefish dry Wellness Core grain free turkey, chicken liver, and turkey liver formula canned Wellness Core Hearty Cuts grain-free in gravy chicken and turkey recipe</p> <p><b>Product Type:</b> Pet Food</p> <p><b>Lot Number:</b></p> <p><b>Product Use Information:</b> <b>Description:</b> Please see diet history for more info (and refer to [B6] diet history for more complete info - all dogs eat same diets)</p> <p><b>Manufacturer /Distributor Information:</b></p> <p><b>Purchase Location Information:</b></p>						
Animal Information:	<p><b>Name:</b> [B6]</p> <p><b>Type Of Species:</b> Dog</p> <p><b>Type Of Breed:</b> Bulldog</p> <p><b>Gender:</b> Male</p> <p><b>Reproductive Status:</b> Neutered</p> <p><b>Weight:</b> 22.1 Kilogram</p> <p><b>Age:</b> 8 Years</p> <p><b>Assessment of Prior Health:</b> Good</p> <p><b>Number of Animals Given the Product:</b> 6</p> <p><b>Number of Animals Reacted:</b> 3</p> <p><b>Owner Information:</b></p> <table border="1"> <tr> <td><b>Owner Information provided:</b></td> <td>Yes</td> </tr> <tr> <td><b>Contact:</b></td> <td> <p><b>Name:</b> [B6]</p> <p><b>Phone:</b> [B6]</p> <p><b>Email:</b> [B6]</p> </td> </tr> <tr> <td><b>Address:</b></td> <td> <p>[B6]</p> <p>United States</p> </td> </tr> </table> <p><b>Healthcare Professional Practice Name:</b> Tufts Cummings School of Veterinary Medicine</p>	<b>Owner Information provided:</b>	Yes	<b>Contact:</b>	<p><b>Name:</b> [B6]</p> <p><b>Phone:</b> [B6]</p> <p><b>Email:</b> [B6]</p>	<b>Address:</b>	<p>[B6]</p> <p>United States</p>
<b>Owner Information provided:</b>	Yes						
<b>Contact:</b>	<p><b>Name:</b> [B6]</p> <p><b>Phone:</b> [B6]</p> <p><b>Email:</b> [B6]</p>						
<b>Address:</b>	<p>[B6]</p> <p>United States</p>						

	<b>Information:</b>	<b>Contact:</b>	<b>Name:</b> Lisa Freeman
			<b>Phone:</b> (508) 887-4523
			<b>Email:</b> lisa.freeman@tufts.edu
		<b>Address:</b>	200 Westboro Rd North Grafton Massachusetts 01536 United States
<b>Sender Information:</b>	<b>Name:</b>	Lisa Freeman	
	<b>Address:</b>	200 Westboro Rd North Grafton Massachusetts 01536 United States	
	<b>Contact:</b>	<b>Phone:</b>	5088874523
		<b>Email:</b>	lisa.freeman@tufts.edu
	<b>Permission To Contact Sender:</b>	Yes	
	<b>Preferred Method Of Contact:</b>	Email	
<b>Additional Documents:</b>	<b>Attachment:</b>	rpt_medical_record_preview.pdf	
	<b>Description:</b>	Medical record	
	<b>Type:</b>	Medical Records	

<b>Report Details - EON-380745</b>																	
ICSR:	2063135																
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:	2019-02-25 08:12:41 EST																
Reported Problem:	<p><b>Problem Description:</b> Eating BEG diet - 2 other dogs in household diagnosed with DCM [B6] (and [B6] already reported) RDVM screened this dog with NT-proBNP which was elevated so we evaluated at Tufts 2/20/19 Probable ARVC/diet-associated DCM but no arrhythmia detected (enlarged right ventricle, reduced contractility) Changing diet to Royal Canin Early Cardiac and will re-evaluate in 3 months. Taurine and troponin pending</p> <p><b>Date Problem Started:</b> 02/20/2019</p> <p><b>Concurrent Medical Problem:</b> Yes</p> <p><b>Pre Existing Conditions:</b> [B6]</p> <p><b>Outcome to Date:</b> Stable</p>																
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Animal Information:	<p><b>Name:</b> [B6]</p> <p><b>Type Of Species:</b> Dog</p> <p><b>Type Of Breed:</b> Bulldog</p> <p><b>Gender:</b> Female</p> <p><b>Reproductive Status:</b> Neutered</p> <p><b>Weight:</b> 24.2 Kilogram</p> <p><b>Age:</b> [B6] Years</p> <p><b>Assessment of Prior Health:</b> Good</p> <p><b>Number of Animals Given the Product:</b> 6</p> <p><b>Number of Animals Reacted:</b> 3</p> <p><b>Owner Information:</b></p> <table border="1"> <tr> <td><b>Owner Information provided:</b></td> <td>Yes</td> </tr> <tr> <td><b>Contact:</b></td> <td> <table border="1"> <tr> <td><b>Name:</b></td> <td>[B6]</td> </tr> <tr> <td><b>Phone:</b></td> <td></td> </tr> <tr> <td><b>Email:</b></td> <td></td> </tr> </table> </td> </tr> <tr> <td><b>Address:</b></td> <td> <table border="1"> <tr> <td>[B6]</td> <td></td> </tr> <tr> <td colspan="2">United States</td> </tr> </table> </td> </tr> </table>	<b>Owner Information provided:</b>	Yes	<b>Contact:</b>	<table border="1"> <tr> <td><b>Name:</b></td> <td>[B6]</td> </tr> <tr> <td><b>Phone:</b></td> <td></td> </tr> <tr> <td><b>Email:</b></td> <td></td> </tr> </table>	<b>Name:</b>	[B6]	<b>Phone:</b>		<b>Email:</b>		<b>Address:</b>	<table border="1"> <tr> <td>[B6]</td> <td></td> </tr> <tr> <td colspan="2">United States</td> </tr> </table>	[B6]		United States	
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	<b>Healthcare Professional Information:</b>	<b>Practice Name:</b>	Tufts Cummings School of Veterinary Medicine	
		<b>Contact:</b>	<b>Name:</b>	Lisa Freeman
			<b>Phone:</b>	(508) 887-4523
			<b>Email:</b>	lisa.freeman@tufts.edu
		<b>Address:</b>	200 Westboro Rd North Grafton Massachusetts 01536 United States	
<b>Sender Information:</b>	<b>Name:</b>	Lisa Freeman		
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<b>Additional Documents:</b>	<b>Attachment:</b>	rpt_medical_record_preview.pdf		
	<b>Description:</b>	Med records		
	<b>Type:</b>	Medical Records		

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**From:** PFR Event <pfpreventcreation@fda.hhs.gov>  
**To:** Cleary, Michael \*; HQ Pet Food Report Notification; usha.gulati@doveltech.com  
**Sent:** 5/20/2019 4:09:00 PM  
**Subject:** Health Extension Grain Free Chicken and Turkey Dry Dog Food - EON-388261 B6  
**Attachments:** 2067185-report.pdf; 2067185-attachments.zip

A PFR Report has been received and PFR Event [EON-388261] has been created in the EON System.

A "PDF" report by name "2067185-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 "2067185-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

**EON Key:** EON-388261

**ICSR #:** 2067185

**EON Title:** PFR Event created for Health Extension Grain Free Chicken and Turkey Dry Dog Food; 2067185

<b>AE Date</b>	<span style="border: 1px dashed black; padding: 2px;">B6</span>	<b>Number Fed/Exposed</b>	1
<b>Best By Date</b>		<b>Number Reacted</b>	1
<b>Animal Species</b>	Dog	<b>Outcome to Date</b>	Died Euthanized
<b>Breed</b>	Boxer (German Boxer)		
<b>Age</b>	<span style="border: 1px dashed black; padding: 2px;">B6</span> Years		
<b>District Involved</b>	PFR-New England DO		

**Product information**

**Individual Case Safety Report Number:** 2067185

**Product Group:** Pet Food

**Product Name:** Health Extension Grain Free Chicken and Turkey Dry Dog Food

**Description:** Patient was switched to a boutique grain-free diet in January 2017. B6 presented to local ER facility for lethargy, wheezing, coughing, polydipsia, and a distended abdomen. An echo was performed and patient was diagnosed with DCM, TVD, 3+ TR, 2+ MR, ventricular arrhythmias (isolated VPCs, ventricular bigeminy), R-CHF (mild ascites w/ hepatic vein distension). Patient was referred to Tufts for further evaluation. Cardiac examination at Tufts revealed similar findings - during echo and ECG patient was having isolated VPCs

and one 8 beat run of ventricular tachycardia. A supraventricular arrhythmia was also observed which was believed to be atrial fibrillation d/t no clear P waves with some irregularity. Patient did very well during exam and owners were brought into treatment area to review findings with the cardiologist. Upon owners entering the room, [B6] became very excited and about 2 minutes later he collapsed, paddling all four limbs and respiratory arrested. Suspected to have either sustained ventricular tachycardia or ventricular fibrillation but it was clear patient had resp arrested d/t pale white mucous membranes w/ no pulses. Patient was rushed to ER where CPR w/ chest compressions were started, ECG was attached to patient and IVC was placed. ROSC was achieved within minutes and patient was noted to be back in a normal sinus rhythm. Upon resuscitation patient was aware of surroundings. [B6] was started as well as multiple [B6] Owners elected humane euthanasia due to very poor prognosis. Owner's gave permission to obtain cardiac organs/tissues for research purposes.

**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:** Died Euthanized

**Number of Animals Treated With Product:** 1

**Number of Animals Reacted With Product:** 1

Product Name	Lot Number or ID	Best By Date
Health Extension Grain Free Chicken and Turkey Dry Dog Food		

**Sender information**

**B6**

USA

**Owner information**

**B6**

USA

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

<https://eon.fda.gov/eon//browse/EON-388261>

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=405438>

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# Report Details - EON-388261

ICSR:	2067185		
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:	2019-05-20 11:59:16 EDT		
Reported Problem:	<b>Problem Description:</b> Patient was switched to a boutique grain-free diet in January 2017. [B6] presented to local ER facility for lethargy, wheezing, coughing, polydipsia, and a distended abdomen. An echo was performed and patient was diagnosed with DCM, TVD, 3+ TR, 2+ MR, ventricular arrhythmias (isolated VPCs, ventricular bigeminy), R-CHF (mild ascites w/ hepatic vein distension). Patient was referred to Tufts for further evaluation. Cardiac examination at Tufts revealed similar findings - during echo and ECG patient was having isolated VPCs and one 8 beat run of ventricular tachycardia. A supraventricular arrhythmia was also observed which was believed to be atrial fibrillation d/t no clear P waves with some irregularity. Patient did very well during exam and owners were brought into treatment area to review findings with the cardiologist. Upon owners entering the room, [B6] became very excited and about 2 minutes later he collapsed, paddling all four limbs and respiratory arrested. Suspected to have either sustained ventricular tachycardia or ventricular fibrillation but it was clear patient had resp arrested d/t pale white mucous membranes w/ no pulses. Patient was rushed to ER where CPR w/ chest compressions were started, ECG was attached to patient and IVC was placed. ROSC was achieved within minutes and patient was noted to be back in a normal sinus rhythm. Upon resuscitation patient was aware of surroundings. [B6] was started as well as multiple [B6]. Owners elected humane euthanasia due to very poor prognosis. Owner's gave permission to obtain cardiac organs/tissues for research purposes.		
	<b>Date Problem Started:</b>	[B6]	
	<b>Concurrent Medical Problem:</b>	Yes	
	<b>Pre Existing Conditions:</b>	Feb 2017 - Patient was diagnosed with dietary hypersensitivity and mild-moderate IBD characterized by frequent regurgitation, low B12 and consistent w/ findings on surgical biopsies of the stomach and duodenum. Patient's diet was switched to a grain-free boutique diet, Health Extension turkey and chicken in January 2017. Patient has been otherwise very healthy with no other health issues or concerns.	
	<b>Outcome to Date:</b>	Died Euthanized	
	<b>Date of Death:</b>	[B6]	
Product Information:	<b>Product Name:</b>	Health Extension Grain Free Chicken and Turkey Dry Dog Food	
	<b>Product Type:</b>	Pet Food	
	<b>Lot Number:</b>		
	<b>Package Type:</b>	BAG	
	<b>Package Size:</b>	23.5 Pound	
	<b>Possess Unopened Product:</b>	No	
	<b>Possess Opened Product:</b>	Yes	
	<b>Product Use Information:</b>	<b>First Exposure Date:</b> 01/01/2017 <b>Time Interval between Product Use and Adverse Event:</b> 29 Months <b>Product Use Stopped After the Onset of the Adverse Event:</b> No <b>Other Foods or</b> Yes	

		Products Given to the Animal During This Time Period:	
	Manufacturer /Distributor Information:		
	Purchase Location Information:		
Animal Information:	Name:		
	Type Of Species:	Dog	
	Type Of Breed:	Boxer (German Boxer)	
	Gender:	Male	
	Reproductive Status:	Neutered	
	Weight:	32 Kilogram	
	Age:	B6 years	
	Assessment of Prior Health:	Excellent	
	Number of Animals Given the Product:	1	
	Number of Animals Reacted:	1	
	Owner Information:	Owner Information provided:	Yes
		Contact:	Name: B6 Phone: <input type="text"/>
		Address:	B6 United States
	Healthcare Professional Information:	Practice Name:	Tufts Cummings School of Veterinary Medicine
		Contact:	Name: B6 Phone: <input type="text"/> Email: <input type="text"/>
		Address:	200 Westboro Road North Grafton Massachusetts 01536 United States
		Practice Name:	Tufts Univeristy - Cummings School of Veterinary Medicine
		Contact:	Name: Lisa Freeman Phone: 508 887 4523
		Type of Veterinarian:	Referred veterinarian
		Permission to Release Records to FDA:	Yes
Sender Information:	Name:		
	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:	med rec 1.pdf	
	Description:	medical record pt 1	
	Type:	Medical Records	
	Attachment:	ECG: B6.pdf	
	Description:	ECG	
	Type:	Medical Records	
	Attachment:	IDEXX Results B6	
	Description:	lab results	
	Type:	Laboratory Report	
	Attachment:	med rec 2.pdf	
	Description:	medical record pt 2	
	Type:	Medical Records	
	Attachment:	Diet Hx: B6.pdf	
	Description:	diet history	
	Type:	Medical Records	

IDEXX VetConnect 1-888-433-9387

Client: B6  
Patient:  
Species: CANINE  
Breed: BOXER  
Gender: MALE NEUTERED  
Age: 4Y

Date: B6  
Requisition #: 1A  
Accession #: B6  
Ordered by: RUSH

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

Account: B6

## CARDIOFET proBNP - CANINE

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

## Comments:



Please note: Complete interpretive comments for all concentrations of Cardiotest proBNP are available in the online directory of services. Serum specimens received at room temperature may have decreased NT-proBNP concentrations.

B6

Client:

**B6**

Patient:

**B6**

ref center records

**B6**

Patient Chart

Printed: **B6** at 5:44p

CLIENT INFORMATION

Name  
Address

**B6**

PATIENT INFORMATION

Name  
Sex  
Birthday  
ID  
Color  
Reminded

**B6**

Fawn  
(none)

Species  
Breed  
Age  
Rabies  
Weight  
Codes  
Canine  
Boxer  
4y  
72.50 lbs

MEDICAL HISTORY

Date By Code Description Qty (Variance)

**B6**

Drug Name  
Quantity  
Instruction  
Pharmacy  
Pharm. Loc  
# Refills

**B6**

Age: 4y Weight: 72.50

History

**B6**

Presenting complaint: lethargic, drinking water and vomiting it up

Significant medical conditions: Sensitive stomach (vomiting)

NO S/M/D/P/U coughs, wheezing last night, polydipsic  
Appetite: good  
Current Diet: Healthy extension dry food (grain free)  
Current Medications: no  
Current supplements: probiotic  
Heartworm preventative: yes  
Up to date on vaccinations? yes  
Cardiac Exam  
BAR/ambious, BCS 4/9, apparently adequate hydration

Client:  
Patient:

**B6**

**B6**

f center records

**B6**

Patient Chart for **B6**  
Date **B6** Time 5:44p

Client: **B6**

Page: 2

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

**B6**

42

M-Mode

**B6**

**Xray Findings**

Single lateral reveals mild to moderate cardiomegaly without any evidence of pulmonary edema.

**ECG Findings**

Rhythm strip reveals ventricular bigeminy (VPCs conducted with left bundle branch block morphology consistent with right-sided focus).

**Final Diagnosis**

1. Tricuspid valve dysplasia: Moderate TR, marked RAE, moderate to severe RVE.
2. Aortic stenosis: Mild LVOT obstruction without any visible obstructive lesion (likely noncontributory).
3. Dilated cardiomyopathy: Rule out nutritional cardiomyopathy versus AVRC related

Client:  
Patient

**B6**

**B6** ref center records

**B6**

Patient Chart for **B6**

Date **B6** Time: 5:44p

Client **B6**

Page: 3

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

4. Ventricular bigeminy (right-sided ventricular focus): Rule out arrhythmogenic right ventricular cardiomyopathy.
5. Right-sided congestive heart failure.

#### Diagnostic Plan

**B6**

-Submit whole blood taurine level (UC Davis) if patient is not admitted for the nutritional cardiomyopathy study.

#### Therapeutic rec

**B6**

#### Prognosis

-The prognosis is fairly guarded given the combination of problems facing this patient but if the cardiomyopathy is nutritional and a diet change free results in significant improvement the prognosis may be more favorable than it currently seems.  
-The significance of the ventricular arrhythmias is currently unknown but on 2 separate occasions patient had ventricular bigeminy which appears to be a relatively stable rhythm

#### Follow-up

-5-7 days (renal panel, fluid check, EKG)

Performed by:

**B6**

**B6**

**B6**

CHECKIN Patient check-in

Age: 4y

#### SUBJECTIVE SECTION

consult/Echo

FNOTES  
FNOTES  
IM154  
FNOTES

**B6**

Client: **B6**  
Patient:

Research CBC/Chem **B6**



**Tufts Cummings School Of Veterinary Medicine**

200 Westboro Road  
North Grafton, MA 01536

Name/DOB: <b>B6</b>	Sex: CM	Provider: Dr. John Rush
Patient ID: 358549	Age: 4	Order Location: V320559: Investigation into
Phone number:	Species: Canine	Sample ID: 1905170090
Collection Date: <b>B6</b> 51 PM	Breed: Boxer	
Approval date:		

**CBC, Comprehensive, Sm Animal (Research)**

ABLASOTTO	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
CHCM	
MCHC (ADVIA)	31.9-34.3 g/dL
RDW (ADVIA)	11.9-15.2
Platelet Count (Advia)	173-486 K/uL
<b>B6</b> 2:43 PM	
Mean Platelet Volume (Advia)	8.29-13.20 fl
<b>B6</b> 2:13 PM	
Platelet Cnt	0.129-0.403 %
"08/17/19" 2:13 PM	
PDW	
Reticulocyte Count (Advia)	0.20-1.60 %
Absolute Reticulocyte Count (Advia)	14.7-113.7 K/uL
CHr	
MCVr	

**Microscopic Exam of Blood Smear (Advia)**

ABLASOTTO	Ref. Range/Males
Seg Neuts (%)	43-80 %
Lymphocytes (%)	7-47 %
Monocytes (%)	1-15 %
Eosinophils (%)	0-16 %
Nucleated RBC	0-1 /100 WBC
<b>B6</b> 2:13 PM	
Seg Neutrophils (Abs) Advia	2.800-11.500 K/uL
Lymphs (Abs) Advia	1.00-4.30 K/uL
Mono (Abs) Advia	0.10-1.50 K/uL
Eosinophils (Abs) Advia	0.00-1.40 K/uL
WBC Morphology	

Sample ID: 1905170090/1  
This report continues... (Final)

Reviewed by: \_\_\_\_\_

Client:  
Patient:

**B6**

Research CBC/Chem

**B6**



**Tufts Cummings School Of Veterinary Medicine**

200 Westboro Road  
North Grafton, MA 01536

Name/DOB:

**B6**

Patient ID: 358549

Phone number:

Collection Date:

Approval date:

**B6**

1:51 PM

2:43 PM

Sex: CM

Age: 4

Species: Canine

Breed: Boxer

Provider: Dr. John Rush

Order Location: V320559: Investigation into

Sample ID: 1905170090

**Microscopic Exam of Blood Smear (Advia) (cont'd)**

ABLASOTTO

Poikilocytosis

**B6**

Ref. Range/Males

**Research Chemistry Profile - Small Animal (Cobas)**

CSTCYR

Glucose

Urea

Creatinine

Phosphorus

Calcium 2

Magnesium 2+

Total Protein

Albumin

Globulins

A/G Ratio

Sodium

Chloride

Potassium

tCO2(Bicarb)

AGAP

NA/K

Total Bilirubin

Alkaline Phosphatase

GGT

ALT

AST

Creatine Kinase

Cholesterol

Triglycerides

Amylase

Osmolality (calculated)

**B6**

Ref. Range/Males

67-135 mg/dL

8-30 mg/dL

0.6-2.0 mg/dL

2.6-7.2 mg/dL

9.4-11.3 mg/dL

1.8-3.0 mEq/L

5.5-7.8 g/dL

2.8-4.0 g/dL

2.3-4.2 g/dL

0.7-1.6

140-150 mEq/L

106-116 mEq/L

3.7-5.4 mEq/L

14-28 mEq/L

8.0-19.0

29-40

0.10-0.30 mg/dL

12-127 U/L

0-10 U/L

14-86 U/L

9-54 U/L

22-422 U/L

82-355 mg/dL

30-338 mg/dL

409-1250 U/L

291-315 mmol/L

Sample ID: 1905170090/2

END OF REPORT (Final)

Reviewed by: \_\_\_\_\_

Page 2

<b>Report Details - EON-386301</b>			
ICSR:	2066404		
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:	2019-04-29 16:02:28 EDT		
Reported Problem:	<b>Problem Description:</b>	Patient presented to rDVM in March of 2019 for acute onset of a non-productive cough, exercise intolerance and decreased appetite. Patient was diagnosed in CHF secondary to DCM - suspect diet-related. Patient was placed on <b>B6</b> and taurine. Taurine levels prior to supplementation was WNL.	
	<b>Date Problem Started:</b>	03/01/2019	
	<b>Concurrent Medical Problem:</b>	No	
	<b>Outcome to Date:</b>	Stable	
Product Information:	<b>Product Name:</b>	NutriSource Adult Chicken and Rice formula	
	<b>Product Type:</b>	Pet Food	
	<b>Lot Number:</b>		
	<b>UPC:</b>	9B15P 18581	
	<b>Package Type:</b>	BAG	
	<b>Package Size:</b>	30 Pound	
	<b>Possess Opened Product:</b>	Yes	
	<b>Product Use Information:</b>		
	<b>Manufacturer /Distributor Information:</b>		
	<b>Purchase Location Information:</b>		
	<b>Product Name:</b>	PureVita Venison & Red Lentils Grain-Free Dry Dog Food	
	<b>Product Type:</b>	Pet Food	
	<b>Lot Number:</b>		
	<b>Package Type:</b>	BAG	
	<b>Product Use Information:</b>		
	<b>Manufacturer /Distributor Information:</b>		
	<b>Purchase Location Information:</b>		
	Animal Information:	<b>Name:</b>	<b>B6</b>
		<b>Type Of Species:</b>	Dog
		<b>Type Of Breed:</b>	American Pit Bull Terrier
<b>Gender:</b>		Male	
<b>Reproductive Status:</b>		Neutered	
<b>Weight:</b>		32 Kilogram	
<b>Age:</b>		<b>B6</b> years	
<b>Assessment of Prior Health:</b>		Excellent	
<b>Number of Animals Given the Product:</b>		1	
<b>Number of Animals Reacted:</b>		1	
<b>Owner Information:</b>		<b>Owner</b> Yes	

		<b>Information provided:</b>					
		<b>Contact:</b>	<table border="1"> <tr> <td><b>Name:</b></td><td>B6</td></tr> <tr> <td><b>Phone:</b></td><td>B6</td></tr> <tr> <td><b>Email:</b></td><td>B6</td></tr> </table>	<b>Name:</b>	B6	<b>Phone:</b>	B6
<b>Name:</b>	B6						
<b>Phone:</b>	B6						
<b>Email:</b>	B6						
<b>Address:</b>	<table border="1"> <tr> <td>B6</td></tr> </table> United States	B6					
B6							
<b>Healthcare Professional Information:</b>	<b>Practice Name:</b>	Tufts Cummings School of Veterinary Medicine					
	<b>Contact:</b>	<table border="1"> <tr> <td><b>Name:</b></td><td>B6</td></tr> <tr> <td><b>Phone:</b></td><td>B6</td></tr> <tr> <td><b>Email:</b></td><td>B6</td></tr> </table>	<b>Name:</b>	B6	<b>Phone:</b>	B6	<b>Email:</b>
<b>Name:</b>	B6						
<b>Phone:</b>	B6						
<b>Email:</b>	B6						
<b>Address:</b>	200 Westboro Road North Grafton Massachusetts 01536 United States						
<b>Practice Name:</b>	Tufts University						
<b>Contact:</b>	<table border="1"> <tr> <td><b>Name:</b></td><td>Lisa Freeman</td></tr> <tr> <td><b>Phone:</b></td><td>(508) 887-4523</td></tr> <tr> <td><b>Email:</b></td><td>lisa.freeman@tufts.edu</td></tr> </table>	<b>Name:</b>	Lisa Freeman	<b>Phone:</b>	(508) 887-4523	<b>Email:</b>	lisa.freeman@tufts.edu
<b>Name:</b>	Lisa Freeman						
<b>Phone:</b>	(508) 887-4523						
<b>Email:</b>	lisa.freeman@tufts.edu						
<b>Type of Veterinarian:</b>	Referred veterinarian						
<b>Permission to Release Records to FDA:</b>	Yes						
<b>Sender Information:</b>		<b>Name:</b>	B6				
		<b>Address:</b>	200 Westboro Road North Grafton Massachusetts 01536 United States				
		<b>Contact:</b>	<table border="1"> <tr> <td><b>Phone:</b></td><td>B6</td></tr> <tr> <td><b>Email:</b></td><td>B6</td></tr> </table>	<b>Phone:</b>	B6	<b>Email:</b>	B6
<b>Phone:</b>	B6						
<b>Email:</b>	B6						
<b>Permission To Contact Sender:</b>	Yes						
<b>Preferred Method Of Contact:</b>	Email						
<b>Reported to Other Parties:</b>	None						
<b>Additional Documents:</b>		<b>Attachment:</b>	Med records pt 2.pdf				
		<b>Description:</b>	Medical Records				
		<b>Type:</b>	Medical Records				
		<b>Attachment:</b>	Med records pt 1 4-29-2019.pdf				
		<b>Description:</b>	Medical Records				
		<b>Type:</b>	Medical Records				

**Report Details - EON-390034**

ICSR:	2067994																																											
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:	2019-06-10 11:03:47 EDT																																											
Initial Report Date:	11/09/2018																																											
Parent ICSR:	2058683																																											
Follow-up Report to FDA Request:	Yes																																											
Reported Problem:	<table><tr><td>Problem Description:</td><td colspan="2">Older housemate diagnosed with DCM and CHF. Screening: B6 because he has been eating the same diet. Does not have clearcut DCM on echo but has reduced cardiac contractility. Taurine pending and owner has changed diet and started taurine supplementation</td></tr><tr><td>Date Problem Started:</td><td colspan="2">11/07/2018</td></tr><tr><td>Concurrent Medical Problem:</td><td colspan="2">No</td></tr><tr><td>Outcome to Date:</td><td colspan="2">Better/Improved/Recovering</td></tr></table>			Problem Description:	Older housemate diagnosed with DCM and CHF. Screening: B6 because he has been eating the same diet. Does not have clearcut DCM on echo but has reduced cardiac contractility. Taurine pending and owner has changed diet and started taurine supplementation		Date Problem Started:	11/07/2018		Concurrent Medical Problem:	No		Outcome to Date:	Better/Improved/Recovering																														
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Concurrent Medical Problem:	No																																											
Outcome to Date:	Better/Improved/Recovering																																											
Product Information:	<table><tr><td>Product Name:</td><td colspan="2">Zignature trout &amp; salmon dry</td></tr><tr><td>Product Type:</td><td colspan="2">Pet Food</td></tr><tr><td>Lot Number:</td><td colspan="2"></td></tr><tr><td>Package Type:</td><td colspan="2">BAG</td></tr><tr><td>Product Use Information:</td><td colspan="2">Description: B6, is four and was born on B6. He ate Zignature trout &amp; salmon from 09/30/15-10/01/18. 1.25 cups twice daily of Zignature. The primary cookies he ate was Earthborn Holistic Grain-Free, all varieties, and he might have had 3-4 cookies per day. The only other cookies he would have eaten were misc. varieties brought by misc. delivery people (propane, UPS, etc.) and not regularly. If we ever had to give medication, we always used the Greenies Pill Pockets.</td></tr><tr><td>Manufacturer /Distributor Information:</td><td colspan="2"></td></tr><tr><td>Purchase Location Information:</td><td colspan="2"></td></tr></table>			Product Name:	Zignature trout & salmon dry		Product Type:	Pet Food		Lot Number:			Package Type:	BAG		Product Use Information:	Description: B6, is four and was born on B6. He ate Zignature trout & salmon from 09/30/15-10/01/18. 1.25 cups twice daily of Zignature. The primary cookies he ate was Earthborn Holistic Grain-Free, all varieties, and he might have had 3-4 cookies per day. The only other cookies he would have eaten were misc. varieties brought by misc. delivery people (propane, UPS, etc.) and not regularly. If we ever had to give medication, we always used the Greenies Pill Pockets.		Manufacturer /Distributor Information:			Purchase Location Information:																						
Product Name:	Zignature trout & salmon dry																																											
Product Type:	Pet Food																																											
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Manufacturer /Distributor Information:																																												
Purchase Location Information:																																												
Animal Information:	<table><tr><td>Name:</td><td colspan="2">B6</td></tr><tr><td>Type Of Species:</td><td colspan="2">Dog</td></tr><tr><td>Type Of Breed:</td><td colspan="2">Retriever - Labrador</td></tr><tr><td>Gender:</td><td colspan="2">Male</td></tr><tr><td>Reproductive Status:</td><td colspan="2">Neutered</td></tr><tr><td>Weight:</td><td colspan="2">25.9 Kilogram</td></tr><tr><td>Age:</td><td colspan="2">3 Years</td></tr><tr><td>Assessment of Prior Health:</td><td colspan="2">Excellent</td></tr><tr><td>Number of Animals Given the Product:</td><td colspan="2">3</td></tr><tr><td>Number of Animals Reacted:</td><td colspan="2">2</td></tr><tr><td>Owner Information:</td><td colspan="2"><table><tr><td>Owner Information provided:</td><td>Yes</td></tr><tr><td>Contact:</td><td><table><tr><td>Name:</td><td>B6</td></tr><tr><td>Phone:</td><td>B6</td></tr></table></td></tr></table></td></tr></table>			Name:	B6		Type Of Species:	Dog		Type Of Breed:	Retriever - Labrador		Gender:	Male		Reproductive Status:	Neutered		Weight:	25.9 Kilogram		Age:	3 Years		Assessment of Prior Health:	Excellent		Number of Animals Given the Product:	3		Number of Animals Reacted:	2		Owner Information:	<table><tr><td>Owner Information provided:</td><td>Yes</td></tr><tr><td>Contact:</td><td><table><tr><td>Name:</td><td>B6</td></tr><tr><td>Phone:</td><td>B6</td></tr></table></td></tr></table>		Owner Information provided:	Yes	Contact:	<table><tr><td>Name:</td><td>B6</td></tr><tr><td>Phone:</td><td>B6</td></tr></table>	Name:	B6	Phone:	B6
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		<b>Email:</b>	<b>B6</b>
		<b>Address:</b>	<b>B6</b>
			United States
<b>Healthcare Professional Information:</b>	<b>Practice Name:</b>	Tufts Cummings School of Veterinary Medicine	
	<b>Contact:</b>	<b>Name:</b>	Lisa Freeman
		<b>Phone:</b>	(508) 887-4523
		<b>Email:</b>	lisa.freeman@tufts.edu
		<b>Address:</b>	200 Westboro Rd North Grafton Massachusetts 01536 United States
<b>Sender Information:</b>	<b>Name:</b>	Lisa Freeman	
	<b>Address:</b>	200 Westboro Rd North Grafton Massachusetts 01536 United States	
	<b>Contact:</b>	<b>Phone:</b>	5088874523
		<b>Email:</b>	lisa.freeman@tufts.edu
	<b>Permission To Contact Sender:</b>	Yes	
	<b>Preferred Method Of Contact:</b>	Email	
<b>Additional Documents:</b>	<b>Attachment:</b>	Med Records pt 2.pdf	
	<b>Description:</b>	Medical Records	
	<b>Type:</b>	Medical Records	
	<b>Attachment:</b>	Med Records pt 1.pdf	
	<b>Description:</b>	Medical Records	
	<b>Type:</b>	Medical Records	

**Report Details - EON-382951**

ICSR:	2064360																																																		
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:	2019-03-21 11:55:12 EDT																																																		
Initial Report Date:	12/03/2018																																																		
Parent ICSR:	2059540																																																		
Follow-up Report to FDA Request:	Yes																																																		
Reported Problem:	<table><tr><td>Problem Description:</td><td colspan="2">Littermate diagnosed with DCM. Initial taurine level (plasma only) was B6; WB taurine submitted = B6; Eats BEG diet Mildly reduced contractile function on echo NT-proBNP = B6; troponin mildly elevated at B6 (istat) and B6 at Texas A&amp;M Will recheck in 3-4 months Follow-up - NT-proBNP, troponin, echo and ECG</td></tr><tr><td>Date Problem Started:</td><td colspan="2">11/08/2018</td></tr><tr><td>Concurrent Medical Problem:</td><td colspan="2">Yes</td></tr><tr><td>Pre Existing Conditions:</td><td colspan="2">B6</td></tr><tr><td>Outcome to Date:</td><td colspan="2">Stable</td></tr></table>			Problem Description:	Littermate diagnosed with DCM. Initial taurine level (plasma only) was B6; WB taurine submitted = B6; Eats BEG diet Mildly reduced contractile function on echo NT-proBNP = B6; troponin mildly elevated at B6 (istat) and B6 at Texas A&M Will recheck in 3-4 months Follow-up - NT-proBNP, troponin, echo and ECG		Date Problem Started:	11/08/2018		Concurrent Medical Problem:	Yes		Pre Existing Conditions:	B6		Outcome to Date:	Stable																																		
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Product Information:	<table><tr><td>Product Name:</td><td colspan="2">Acana Lamb and Apple singles</td></tr><tr><td>Product Type:</td><td colspan="2">Pet Food</td></tr><tr><td>Lot Number:</td><td colspan="2"></td></tr><tr><td>Package Type:</td><td colspan="2">BAG</td></tr><tr><td>Product Use Information:</td><td>Description:</td><td>Fed since 2016</td></tr><tr><td>Manufacturer /Distributor Information:</td><td colspan="2"></td></tr><tr><td>Purchase Location Information:</td><td colspan="2"></td></tr></table>			Product Name:	Acana Lamb and Apple singles		Product Type:	Pet Food		Lot Number:			Package Type:	BAG		Product Use Information:	Description:	Fed since 2016	Manufacturer /Distributor Information:			Purchase Location Information:																													
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		<b>B6</b>	United States
<b>Healthcare Professional Information:</b>	<b>Practice Name:</b>	Tufts Cummings School of Veterinary Medicine	
	<b>Contact:</b>	<b>Name:</b>	Lisa Freeman
		<b>Phone:</b>	(508) 887-4523
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		<b>Email:</b>	lisa.freeman@tufts.edu
	<b>Permission To Contact Sender:</b>	Yes	
	<b>Preferred Method Of Contact:</b>	Email	
<b>Additional Documents:</b>	<b>Attachment:</b>	Medical Record 2.pdf	
	<b>Description:</b>	Follow-up medical records	
	<b>Type:</b>	Medical Records	
	<b>Attachment:</b>	Medical Record 1.pdf	
	<b>Description:</b>	Follow-up medical records	
	<b>Type:</b>	Medical Records	

Client:  
Patient:

B6

IDEXX ENP - 3/5/2019

IDEXX Reference Laboratory

Client

B6

Patient

B6

Client

B6

Patient

Species CANINE

Breed

Gender MALE

Age 3Y

Date 03/05/2019

Requisition # 237344

Accession #

Ordered by

B6

IDEXX VetConnect 1-888-433-9967

TUFTS UNIVERSITY

200 WESTBORO RD

NORTH GRAFTON, Massachusetts 01536

508-839-5395

Account

B6

CARDIOET proBNP - CANINE

Test	Result	Reference Range	Low	Normal	High
------	--------	-----------------	-----	--------	------

CARDIOET proBNP - CANINE

B6

0-920 pmol/L

HIGH

B6

Comments

1.

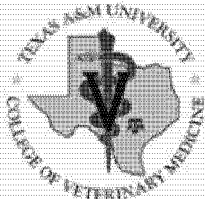
B6

Please note: complete interpretive comments for all concentrations of cardioet proBNP are available in the online directory of services. Serum specimens received at room temperature may have decreased NT-proBNP concentrations.

Client:  
Patient:

**B6**

**Texas A and M Troponin**



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@tamu.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 4869  
Fax: 9 508 839 7936  
Animal Name:  
Owner Name:  
Species: Canine  
Date Received: Mar 06, 2019

**B6**

Tufts University-Clinical Pathology Lab  
Tracking Number: 837144

GI Lab Accession: **B6**

Test	Result	Reference Interval	Assay Date
Ultra-Sensitive Troponin I Fasting	<b>B6</b> ng/mL	≤0.06	<b>B6</b>

**B6**

Comments:

**GI Lab Contact Information**

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

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

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

Diet Hx 3/5/19

### CARDIOLOGY DIET HISTORY FORM

Please answer the following questions about your pet

Pet's name: **B6** Owner's name: **B6** Today's date: **3/5/19**

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

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 2016-present
Hills Prescription Diet i/d digestive Care chicken & vegetable				
Stew Carned		1/2 can	2x/day	Since 11/18
Hills Presc diet 1/2 chicken				
Howar dry dog food		3 cups	2x/day	Since 11/18
2 months prior to above I was training him on several types of food due to diarrhea (raw diet chicken or beef) but continued with diarrhea so went to Hills				

\*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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Shipped 2 months ago</b>	<b>1000 2x/day</b>
Carnitine	<input type="checkbox"/> Yes <input type="checkbox"/> No	<b>84 months</b>
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

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's food **when needed**  
☐ I put them in a Pill Pocket or similar product  
☐ I put them in foods (list foods): \_\_\_\_\_

Client: 

B6

  
Patient:

Vitals Results

<div>B6</div>	3:47:44 PM	Nursing note	<div>B6</div>
	4:41:36 PM	Heart Rate (/min)	
	4:41:37 PM	Respiratory Rate	
	4:41:38 PM	Temperature (F)	
11/8/2018 10:04:53 AM		Weight (kg)	
3/5/2019 10:04:41 AM		Weight (kg)	

Client:  
Patient:

**B6**

ECC from Cardio

**B6**

11/3/2018 12:00:47 PM

Page 1 of 2

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

12 lead: Standard Placement

**B6**

Client:  
Patient:

**B6**

ECC from Cardio

**B6**

11/3/2018 12:00:47 PM

Page 2 of 2

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

**B6**

Client:  
Patient:

B6

ECG from Cardio

B6

11/3/2018 12:00:59 PM

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

12 Lead: Standard Placement

B6

Client:  
Patient:

B6

## Patient History

03/28/2016 08:35 PM	UserForm
03/28/2016 08:36 PM	Purchase
03/28/2016 10:53 PM	Treatment
03/28/2016 10:55 PM	Prescription
03/28/2016 11:03 PM	UserForm
03/28/2016 11:04 PM	Purchase
06/07/2017 10:45 PM	Prescription
06/07/2017 10:48 PM	Purchase
06/07/2017 10:48 PM	Purchase
06/08/2017 06:01 AM	UserForm
06/08/2017 06:01 AM	Email
06/08/2017 01:12 PM	Purchase
06/08/2017 02:15 PM	UserForm
06/08/2017 03:18 PM	Purchase
06/08/2017 03:18 PM	Treatment
06/08/2017 03:30 PM	UserForm
06/08/2017 03:45 PM	Treatment
06/08/2017 03:45 PM	Deleted Reason
06/08/2017 03:47 PM	Treatment
06/08/2017 03:47 PM	Vitals
06/08/2017 04:41 PM	Vitals
06/08/2017 04:41 PM	Vitals
06/08/2017 04:41 PM	Vitals
06/09/2017 02:38 AM	UserForm
06/09/2017 02:38 AM	Email
10/05/2018 10:40 AM	Appointment
11/08/2018 10:04 AM	UserForm
11/08/2018 10:04 AM	Vitals
11/08/2018 11:07 AM	Treatment
11/08/2018 11:14 AM	UserForm
11/08/2018 11:30 AM	Purchase
11/08/2018 03:31 PM	Labwork
11/08/2018 03:34 PM	Purchase
11/08/2018 03:34 PM	Purchase
11/08/2018 03:34 PM	Purchase
01/15/2019 01:04 PM	Appointment
02/19/2019 06:07 PM	Appointment

B6

Client:  
Patient:

B6

### Patient History

03/05/2019 09:51 AM	Purchase
03/05/2019 09:55 AM	UserForm
03/05/2019 09:59 AM	Treatment
03/05/2019 10:04 AM	Vitals
03/05/2019 10:28 AM	UserForm
03/05/2019 11:12 AM	Appointment
03/05/2019 11:12 AM	Email
03/05/2019 03:03 PM	Purchase

B6

Patient Account History	Description	Qty	price	Extended	Disc	Pmt
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**Report Details - EON-384837**

ICSR:	2065714																																													
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:	2019-04-11 17:17:15 EDT																																													
Initial Report Date:	02/24/2019																																													
Parent ICSR:	2063114																																													
Follow-up Report to FDA Request:	Yes																																													
Reported Problem:	<table><tr><td>Problem Description:</td><td colspan="2">DCM and CHF diagnosed Aug 2018 We saw 1/11/19 - CHF still not well controlled Eating Purina Lamb and Rice - unlikely to be associated with DCM but reporting just in case Owner is now changing to different diet and will recheck in 3 months 2 other dogs eating same diet - we have not screened them yet. BNP = <b>B6</b> troponin <b>B6</b> but taurine normal (<b>B6</b> plasma <b>B6</b> whole blood)</td></tr><tr><td>Date Problem Started:</td><td colspan="2">08/01/2018</td></tr><tr><td>Concurrent Medical Problem:</td><td colspan="2">No</td></tr><tr><td>Outcome to Date:</td><td colspan="2">Died Other</td></tr><tr><td>Date of Death:</td><td colspan="2"><b>B6</b></td></tr></table>			Problem Description:	DCM and CHF diagnosed Aug 2018 We saw 1/11/19 - CHF still not well controlled Eating Purina Lamb and Rice - unlikely to be associated with DCM but reporting just in case Owner is now changing to different diet and will recheck in 3 months 2 other dogs eating same diet - we have not screened them yet. BNP = <b>B6</b> troponin <b>B6</b> but taurine normal ( <b>B6</b> plasma <b>B6</b> whole blood)		Date Problem Started:	08/01/2018		Concurrent Medical Problem:	No		Outcome to Date:	Died Other		Date of Death:	<b>B6</b>																													
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Date of Death:	<b>B6</b>																																													
Product Information:	<table><tr><td>Product Name:</td><td colspan="2">Purina One Smart Blend Lamb and Rice dry</td></tr><tr><td>Product Type:</td><td colspan="2">Pet Food</td></tr><tr><td>Lot Number:</td><td colspan="2"></td></tr><tr><td>Product Use Information:</td><td>Description:</td><td>1/2 cup twice daily since a puppy See diet history for additional details</td></tr><tr><td>Manufacturer /Distributor Information:</td><td colspan="2"></td></tr><tr><td>Purchase Location Information:</td><td colspan="2"></td></tr></table>			Product Name:	Purina One Smart Blend Lamb and Rice dry		Product Type:	Pet Food		Lot Number:			Product Use Information:	Description:	1/2 cup twice daily since a puppy See diet history for additional details	Manufacturer /Distributor Information:			Purchase Location Information:																											
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Manufacturer /Distributor Information:																																														
Purchase Location Information:																																														
Animal Information:	<table><tr><td>Name:</td><td colspan="2"><b>B6</b></td></tr><tr><td>Type Of Species:</td><td colspan="2">Dog</td></tr><tr><td>Type Of Breed:</td><td colspan="2">Doberman Pinscher</td></tr><tr><td>Gender:</td><td colspan="2">Male</td></tr><tr><td>Reproductive Status:</td><td colspan="2">Neutered</td></tr><tr><td>Weight:</td><td colspan="2">29.9 Kilogram</td></tr><tr><td>Age:</td><td colspan="2"><b>B6</b> Years</td></tr><tr><td>Assessment of Prior Health:</td><td colspan="2">Excellent</td></tr><tr><td>Number of Animals Given the Product:</td><td colspan="2">3</td></tr><tr><td>Number of Animals Reacted:</td><td colspan="2">1</td></tr><tr><td>Owner Information:</td><td colspan="2"><table><tr><td>Owner Information provided:</td><td>Yes</td></tr><tr><td>Contact:</td><td><table><tr><td>Name:</td><td rowspan="3"><b>B6</b></td></tr><tr><td>Phone:</td></tr><tr><td>Email:</td></tr></table></td></tr><tr><td>Address:</td><td><b>B6</b></td></tr></table></td></tr></table>			Name:	<b>B6</b>		Type Of Species:	Dog		Type Of Breed:	Doberman Pinscher		Gender:	Male		Reproductive Status:	Neutered		Weight:	29.9 Kilogram		Age:	<b>B6</b> Years		Assessment of Prior Health:	Excellent		Number of Animals Given the Product:	3		Number of Animals Reacted:	1		Owner Information:	<table><tr><td>Owner Information provided:</td><td>Yes</td></tr><tr><td>Contact:</td><td><table><tr><td>Name:</td><td rowspan="3"><b>B6</b></td></tr><tr><td>Phone:</td></tr><tr><td>Email:</td></tr></table></td></tr><tr><td>Address:</td><td><b>B6</b></td></tr></table>		Owner Information provided:	Yes	Contact:	<table><tr><td>Name:</td><td rowspan="3"><b>B6</b></td></tr><tr><td>Phone:</td></tr><tr><td>Email:</td></tr></table>	Name:	<b>B6</b>	Phone:	Email:	Address:	<b>B6</b>
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Name:	<b>B6</b>																																													
Phone:																																														
Email:																																														
Address:	<b>B6</b>																																													

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

<b>Report Details - EON-380848</b>				
ICSR:	2063189			
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:	2019-02-25 19:07:14 EST			
Reported Problem:	<b>Problem Description:</b>	Arrhythmia dx at RDVM July 2018 (had been "wheezing") Started wheezing again 1 week before admission. Diagnosed with DCM, CHF, and ventricular tachycardia 2/22/19 Was fed Wellness diet until 6/2018 then changed to Royal Canin Boxer (current diet). Taurine and troponin pending. Owner has another Boxer eating same diets - has not been screened Enrolled in DCM study. Changing to different diet (although Boxer diet is probably fine) and will recheck in 7 days and 3 months.		
	<b>Date Problem Started:</b>	02/22/2019		
	<b>Concurrent Medical Problem:</b>	No		
	<b>Outcome to Date:</b>	Stable		
Product Information:	<b>Product Name:</b>	Wellness Complete Health Fish and Sweet Potato dry		
	<b>Product Type:</b>	Pet Food		
	<b>Lot Number:</b>			
	<b>Product Use Information:</b>	<b>Description:</b>	Fed this diet 2012 - June, 2018 Currently, fed Royal Canin Boxer See diet history	
	<b>Manufacturer /Distributor Information:</b>			
	<b>Purchase Location Information:</b>			
Animal Information:	<b>Name:</b>	B6		
	<b>Type Of Species:</b>	Dog		
	<b>Type Of Breed:</b>	Boxer (German Boxer)		
	<b>Gender:</b>	Male		
	<b>Reproductive Status:</b>	Neutered		
	<b>Weight:</b>	23.3 Kilogram		
	<b>Age:</b>	B6 Years		
	<b>Number of Animals Given the Product:</b>	2		
	<b>Number of Animals Reacted:</b>	1		
	<b>Owner Information:</b>	<b>Owner Information provided:</b>	Yes	
		<b>Contact:</b>	<b>Name:</b>	B6
			<b>Phone:</b>	
			<b>Email:</b>	
		<b>Address:</b>	B6 United States	
<b>Healthcare Professional Information:</b>	<b>Practice Name:</b>	Tufts Cummings School of Veterinary Medicine		
	<b>Contact:</b>	<b>Name:</b>	Lisa Freeman	
		<b>Phone:</b>	(508) 887-4523	
		<b>Email:</b>	lisa.freeman@tufts.edu	
	<b>Address:</b>			

			200 Westboro Rd North Grafton Massachusetts 01536 United States
<b>Sender Information:</b>	<b>Name:</b>	Lisa Freeman	
	<b>Address:</b>	200 Westboro Rd North Grafton Massachusetts 01536 United States	
	<b>Contact:</b>	<b>Phone:</b>	5088874523
		<b>Email:</b>	lisa.freeman@tufts.edu
	<b>Permission To Contact Sender:</b>	Yes	
	<b>Preferred Method Of Contact:</b>	Email	
<b>Additional Documents:</b>	<b>Attachment:</b>	rpt_medical_record_preview_small.pdf	
	<b>Description:</b>	Med records	
	<b>Type:</b>	Medical Records	

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

Archived Records 10/1/13-10/4/13 (PART TWO)



Tufts University  
School of Veterinary Medicine

Owner: **B6**  
Patient Name: **B6**  
S227632  
Clinician: **B6** / Rush  
Student: **B6**

October 2, 2013

Signalment: **B6** CM Boxer was referred to Tufts **B6** yesterday for bradycardia. **B6** has a week-long history of

**B6**

CV: HR = 64, normal sinus rhythm, 3<sup>rd</sup> degree AV block, III/VI systolic murmur and gallop heard on left side, snappy femoral pulses (synchronous), no jugular vein distension *6 of week occasional up to week*

**B6**

Recent diagnostic tests:

4dx - all negative

CBC - no abnormal findings

Chem - slight hypoproteinemia (5.4 g/dl), hypoglobulinemia (1.9 g/dl), elevated ALT (99)

A1: 3<sup>rd</sup> degree AV block - r/o myocarditis vs. fibrosis

A2: alopecia - r/o allergic skin disease vs. endocrine

A3: hypoglobulinemia - hepatic insufficiency vs. PLE vs. hemorrhage

A4: elevated ALT - artifact (hemolysis) vs. liver disease vs. endocrine vs. drug-induced vs. reduced CO

P:

**B6**

**B6**

Client:  
Patient:

**B6**

**Archived Records 10/1/13-10/4/13 (PART TWO)**

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

Archived Records 10/1/13-10/4/13 (PART TWO)



Tufts University  
School of Veterinary Medicine

Owner: **B6**  
Patient Name: **B6**  
S227632  
Clinician: **B6** / Rush  
Student: **B6**

October 3, 2013

Signalment: **B6** CM Boxer was referred to Tufts **B6** 10/1/13 for bradycardia. **B6** had a week-long history of

**B6**

CV: HR = 66, paced, III/VI systolic murmur heard on left side, slight hyperdynamic femoral pulses (synchronous), no jugular vein distension observed

**B6**

Recent diagnostic tests:

A1: 3<sup>rd</sup> degree AV block - resolved

A2: alopecia - r/o allergic skin disease vs. endocrine

A3: short runs of v-tach - r/o irritation to ventricle from pacemaker placement vs.

A4: seroma under ch:n

P:

**B6**

**B6**

Client: **B6**  
Patient:

**Archived Records 10/1/13-10/4/13 (PART TWO)**

Client: **B6**  
Patient:

Archived Records 10/1/13-10/4/13 (PART TWO)



Tufts University  
School of Veterinary Medicine

October 4, 2013

Signalment: **B6** CM Boxer was referred to Tufts **B6** 10/1/13 for bradycardia. **B6** had a week-long history of

**B6**

CV: HR = 112, paced, II/VI systolic murmur heard on left side, strong synchronous femoral pulses, no jugular vein distention observed

**B6**

A1: 3<sup>rd</sup> degree AV block - resolved  
A2: alopecia - r/o allergic skin disease vs. endocrine  
A3: short runs of v-tach - resolved  
A4: seroma formation under chin

P:

**B6**

**B6**

Client:  
Patient:

**B6**

**Archived Records 10/1/13-10/4/13 (PART TWO)**

Client: **B6**  
Patient:

Archived Records 10/1/13-10/4/13 (PART TWO)

Released Patient Result

Patient ID: 1310010089  
Patient Name:  
Time Analyzed: 10/01/2013 04:19:51 PM  
Analyzer ID: Z31C12020  
Sample Type: Venous  
Panel: Critical Care  
Analyzed By: 123456  
Released By: auto



1310010089 B6 Canine  
10/1/2013 4:13 PM  
NOVA PANEL-ER  
Lithium Heparin

Required Fields:

Patient ID: 1310010089

Optional Fields:

Accession #:

Measured

Test	Value	Units	Reference Range	Flags
pH	<b>B6</b>		-	
PCO2		mmHg	-	
PO2		mmHg	-	
SO2%(ABG)			-	
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	-	

**B6**

Wt: 25.6 kg

Calculated

Test	Value	Units	Reference Range	Flags
nCa	<b>B6</b>	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	-	
O2Cap		mL/dL	-	
O2Ct		mL/dL	-	
A		mmHg	-	
Osm		mOsm/kg	-	

Client:  
Patient:

**B6**

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**Archived Records 10/1/13-10/4/13 (PART TWO)**

---

Client:  
Patient:

B6

Archived Records 10/1/13-10/4/13 (PART TWO)

 <b>TUFTS UNIVERSITY</b> Foster Hospital for Small Animals 200 Westboro Road North Grafton, MA 01536-1895 1-508-839-5395		<b>Document</b> Cardiology Report <b>Copy To:</b> MedRec <b>Status:</b> FINAL <b>Finalized:</b> by B6 on 10/1/2013	
<b>Client Information</b>		<b>Patient Information</b>	
<b>Client#:</b>	<b>B6</b>	<b>Case#:</b>	<b>B6</b>
<b>Name:</b>		<b>Name:</b>	
<b>Address:</b>		<b>Species:</b> CANINE	<b>Breed:</b> BOXER
<b>City:</b>		<b>Sex:</b> CM	<b>DOB:</b> B6
<b>Zip:</b>		<b>RVet:</b>	<b>B6</b>
<b>Home#:</b>			
<b>Work#:</b>			

Dates

Description	Date
Date of Study	10/1/2013

Personnel

Name	Title
<b>B6</b>	Attending (Faculty) Cardiologist
	Cardiology Technician
	Primary Clinician
	Senior Student

Case Abstract

B6 CM boxer presenting from rDVM for slow heart rate. Owner reports dog has slightly less energy than normal. He has had B6 over the past week. On presentation his heart rate was 50 and he was QAR. EKG analysis showed possible 3rd degree heart block.

Request Specifics

Location: B6  
Weight (required) in pounds: 56  
Anesthesia/Sedation to follow consultation (Y/N): N  
RDVM Radiographs: Film(Y/N): N CD(Y/N): N  
Current Medications and Dosages: no medications  
Reason for Consultation: Concern for heart block  
History: B6: No syncopal episodes. Only slightly decreased energy.

Findings

WAO WTVSd wLVHd increased wLVWd wTVSS wLVHd wLVWS wLA wLA wLVODd wLVODS wVId wVTS WDA wMAJ	<b>B6</b>
---	-----------

10/1/2013 5:27:26 PM

S227632/Cardiology Report/MedRec Copy

B6

Client:

**B6**

Patient:

---

**Archived Records 10/1/13-10/4/13 (PART TWO)**

---

Client:  
Patient:

**B6**

Archived Records 10/1/13-10/4/13 (PART TWO)

S227632/Cardiology Report/MedRec Copy

**B6**

Page 2 of 2

**B6**

**Cardiology Findings**

Type	Findings
Heart murmur	<b>B6</b>
Transient heart sounds	
Other auscultatory findings	
Pulses	
Jugular veins	
Mucous membranes	
Abdomen	
Echocardiogram	
Doppler echocardiography	
ECG / rhythm	
Body condition score (/9)	
Heart rate (/min)	

**Assessment and Recommendations**

3rd degree AV block with all cardiac chambers appearing dilated. The chamber dilation is consistent with the bradycardia. Pacemaker placement is recommended to prevent syncope or sudden death. We should also check for tick-borne diseases as given that the dog is younger than most others presenting with 3rd degree AV block, there may be a higher chance that this may be a result of myocarditis. Start minocycline or doxycycline while we wait for the 4DX test to return. CBC/chemistry is also recommended prior to anesthesia. If we cannot place a pacemaker, then try an atropine response test while the dog is on telemetry to see if medical treatment may be an option.

**Cardiology Conclusions**

Type	Conclusion
Heart Failure Classification	ISACHC Ib Evidence of heart disease with mild - moderate cardiac remodeling
Final diagnoses	3rd degree AV block

**B6**

10/1/2013 7:26 PM

S227632/Cardiology Report/MedRec Copy

**B6**

Client:

Patient:

**B6**

**Archived Records 10/1/13-10/4/13 (PART TWO)**

Client: **B6**  
Patient:

Archived Records 10/1/13-10/4/13 (PART TWO)

LABORATORY REPORTS	
<div><div><div><b>B6</b></div><div>TUFTS CARDIOLOGY    MSS    MLLT 10/01/13 4:37:38 P    JFR DVGLO    T16 0.5</div></div><div><div>PORT #3 HERE</div><div></div></div></div>	
<div><div><div><b>B6</b></div><div><b>2D</b> SALA Ao Diam</div></div><div><div><b>B6</b></div><div><b>M-Mode</b> LVd LVdd LVPWd VSo LVds LVPWs EF(Cube) %FS Ao Diam LA Diam LAAo Max LA EPSS</div></div><div><div><b>B6</b></div><div><b>Doppler</b> MR Vmax MR maxPG AVVmax AVVmaxPG PVVmax PVVmaxPG TR Vmax TR maxPG</div></div><div><div><b>B6</b></div><div></div></div></div>	<div><div>PORT #2 HERE</div><div></div></div>
<div><div><b>B6</b></div></div>	<div><div>PORT #1 HERE</div><div></div></div>
<p>INSTRUCTIONS: TO ATTACH REPORT, REMOVE PROTECTIVE TAPE BACKING, ALIGN REPORT AND PRESS DOWN FIRMLY. REPEAT PROCEDURE FOR SUBSEQUENT REPORTS.</p>	
<p>FORM VT-3</p>	
<b>LABORATORY REPORTS</b>	

Client:

Patient:

**B6**

**Archived Records 10/1/13-10/4/13 (PART TWO)**

Client:  
Patient:

**B6**

Archived Records 10/1/13-10/4/13 (PART TWO)

12 lead, standard placement

**B6**

**B6**

10/4/2013 9:35:47 AM  
Tufts University  
Tufts Vet School  
Cardiology

Client:

Patient:

**B6**

**Archived Records 10/1/13-10/4/13 (PART TWO)**

Client:  
Patient:

**B6**

Archived Records 10/1/13-10/4/13 (PART TWO)

**B6**

10/4/2013 9:35:42 AM

Tufts University

Cardiology

Tufts Vet School

Client:

Patient:

**B6**

**Archived Records 10/1/13-10/4/13 (PART TWO)**

**B6**

10/4/2013 9:35:31 AM

Tufts University

Cardiology

Tufts Vet School

Client:  
Patient:

**B6**

**Archived Records 10/1/13-10/4/13 (PART TWO)**

Client:  
Patient:

**B6**

Archived Records 10/1/13-10/4/13 (PART TWO)

227632

**B6**

**B6**

10/1/2013 4:23:43 PM  
Tufts University  
Tufts Vet School  
Cardiology

Client: **B6**  
Patient:

**Archived Records 10/1/13-10/4/13 (PART TWO)**

227632

10/1/2013 4:24:26 PM

**B6**

Tufts University

Cardiology

Tufts Vet School

227632

Cardiology

Tufts Vet S

**B6**

Client:

Patient:

**B6**

**Archived Records 10/1/13-10/4/13 (PART TWO)**

Client: **B6**  
Patient:

Archived Records 10/1/13-10/4/13 (PART TWO)

**B6**

10/1/2013 4:24:40 PM

Tufts University

227632

7

Cardiology

Tufts Vet School

School

**B6**

Client:

**B6**

Patient:

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**Archived Records 10/1/13-10/4/13 (PART TWO)**

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Archived Records 10/1/13-10/4/13 (PART TWO)

227632	10/1/2013 4:24:51 PM	<b>B6</b>	10/1/2013 4:25:03 PM
Cardiology	Tufts University	Cardiology	Tufts University
Tufts Vet School		Tufts Vet School	

**B6**

Client:

Patient:

**B6**

**Archived Records 10/1/13-10/4/13 (PART TWO)**

Client:  
Patient:

**B6**

Archived Records 10/1/13-10/4/13 (PART TWO)

**B6**

10/1/2013 4:25:05 PM

Tufts University

227632

Cardiology

Tufts Vet School

**B6**

**B6**

Client: **B6**  
Patient:

**Archived Records 10/1/13-10/4/13 (PART TWO)**

Client:  
Patient:

**B6**

Archived Records 10/1/13-10/4/13 (PART TWO)

10/1/2013 4:25:03 PM  
Tufts University  
Tufts Vet School  
Cardiology

One Minute Full Disclosure

**B6**

227632

**B6**

Client:  
Patient:

**B6**

**Archived Records 10/1/13-10/4/13 (PART TWO)**

Client: **B6**  
Patient:

Archived Records 10/1/13-10/4/13 (PART TWO)

Tufts University Cummings School of Veterinary Medicine

ANESTHESIA RECORD

Date <b>10/2/13</b>	Weight <b>15</b> Kg	Clinician/Resident <b>B6</b>
Cage/Staff <b>104 AS</b>		
Procedures <b>1. Pacemaker placement</b>	Pre-Anesthesia Disposition <input checked="" type="checkbox"/> Alert <input type="checkbox"/> Excited <input type="checkbox"/> Depressed <input type="checkbox"/> Anxious	Hydration <b>Adip.</b> Renal Function <b>4/0.8</b> Blood Type
Pre-anesthesia Values Temp. <b>100.1</b> H.R. <b>14</b> R.R. <b>20</b> M.M. Color/CRT <b>pink/1.2</b> P.C.V. <b>44</b> T.P. <b>5.4</b>	LAC <b>1.6</b> BG <b>112</b> ASA Status <b>I II III IV V E</b>	
DRUGS IN THE LAST 24 HOURS <b>minocycline</b>		

Page **1** of **1**

PRE-ANESTHETIC DRUGS:				Pre-Med. Results		
Drug	Dose	Route	Time	Sedation	Resistance	Vomited
<b>Hydromorphone 3.3mg IV</b>			<b>2:14 PM</b>	<input type="checkbox"/> None <input type="checkbox"/> Slight <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Marked	<input checked="" type="checkbox"/> None <input type="checkbox"/> Slight <input type="checkbox"/> Moderate <input type="checkbox"/> Marked	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<b>Midazolam 5mg IV</b>						

ANESTHETIC INDUCTION:			
Drug	Dose	Route	Time
<b>Etomidate 18mg IV</b>			<b>2:14 PM</b>

Time	
Isocurane (%)	
Sevoflurane (%)	
O <sub>2</sub> (L/M)	
CODE	
• Pulse Rate	
• Respiratory Rate	
v. Systolic B.P.	
- Mean B.P.	
a. Diastolic B.P.	
C. IPPV	
* ET CO <sub>2</sub>	
Blood Pressure measured by:	
<input checked="" type="checkbox"/> Oscillometric	
<input type="checkbox"/> Doppler	
<input type="checkbox"/> Direct	
Depth of Anes.	Light Med. Deep
Fluids	<b>LSS</b>
SpO <sub>2</sub>	
Temperature	

**B6**

Non-reb <input type="checkbox"/>	Semi-closed <input checked="" type="checkbox"/>
Mask <input type="checkbox"/>	Intubated <input checked="" type="checkbox"/>
Size Tube <b>10</b> mm	
Recumbency:	<b>Left lateral</b>
Post Op	Times
<b>1:58 PM</b>	Start anes:
<b>2:10 PM</b>	Start proc. 1:
<b>2:31 PM</b>	Start proc. 2:
<b>3:42 PM</b>	Start proc. 3:
<b>3:42 PM</b>	End Surgery:
<b>3:42 PM</b>	End anes:
<b>4:09 PM</b>	Extubated:
Recovery	STERNAL:
<input checked="" type="checkbox"/> Smooth	
<input type="checkbox"/> Rough	
<input type="checkbox"/> Prolonged	
<input type="checkbox"/> Other	
STANDING:	
Epistaxis	Initials:
Dysmorph	Attempts:
Eupivacine	Success:
Needle size	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> U

REMARKS: ☒ 0.5mg/kg midazolam, 0.2mg/kg IV hydromorphone, 18mg IV etomidate, 3mg/kg 3rd degree AV block, persistent ECG unable to detect due to bradycardia. Pacer placed. Placement of lead, pacing at respiratory rate of 10. Recovery smooth, normal extubation. Quiet/comfortable following continued monitoring in ICU.

Blood Gas Values	pH	PCO <sub>2</sub>	PO <sub>2</sub>	Na <sup>+</sup>	K <sup>+</sup>	Cl <sup>-</sup>	HCO <sub>3</sub> <sup>-</sup>	BE	Signature Anesthetist/Resident
									<b>B6</b>

Form AN-01 (Rev. 05/12/13)

WHITE - BLOOD

CANARY - ANESTHESIA

Client:

Patient:

**B6**

---

**Archived Records 10/1/13-10/4/13 (PART TWO)**

---

Client:  
Patient:

**B6**

Archived Records 10/1/13-10/4/13 (PART TWO)

**Tufts University  
Foster Hospital for Small Animals**  
North Grafton, MA 01536  
(508) 839-5395



**B6**

**TREATMENT PLAN**

DATE: 10/1/13 CLINICIAN: **B6**  
ESTIMATED COST: **B6** DEPOSIT: 3000-

**B6** **B6** **B6**

*This estimate is based upon our preliminary examination. The final fee may vary considerably from this estimated cost. Every effort will be made to keep you informed of the current status of your bill throughout your animal's hospitalization.*

OFFICE EVALUATION	COST	SPECIAL PROCEDURES (CONTINUED)	COST	ANESTHESIA	COST
<input checked="" type="checkbox"/> Examination		<input type="checkbox"/> Proctoscopy		<input checked="" type="checkbox"/> Sedation	
<input checked="" type="checkbox"/> Recheck Examination		<input type="checkbox"/> Skin Biopsy		<input type="checkbox"/> General Anesthesia	
<input checked="" type="checkbox"/> Emergency Fee		<input type="checkbox"/> Skin Testing		Hrs. Day	
<input type="checkbox"/> ICU Examination		<input type="checkbox"/> Thoracentesis		Hrs. Night	
<input type="checkbox"/> Consultation		<input type="checkbox"/> Tracheal Aspirate			
<input checked="" type="checkbox"/> Registration		<input type="checkbox"/> Other:			
<b>HOSPITALIZATION: (# OF DAYS)</b>		<b>LABORATORY</b>		<b>DIAGNOSTIC IMAGING</b>	
<input type="checkbox"/> Day Board		<input type="checkbox"/> ACTH Plasma Level		<input type="checkbox"/> Barium Enema	
<input type="checkbox"/> Cat Ward		<input type="checkbox"/> ACTH Response Test		<input type="checkbox"/> Cardiac Catheterization	
<input type="checkbox"/> General Ward Small		<input type="checkbox"/> Aerobic Culture		<input type="checkbox"/> CT Scan	
<input type="checkbox"/> General Ward Large		<input type="checkbox"/> Anaerobic Culture		<input type="checkbox"/> Cystourethrogram	
<input type="checkbox"/> Intermediate Care Ward		<input type="checkbox"/> Bile Acids - Single		<input type="checkbox"/> Intravenous Urogram	
<input type="checkbox"/> Exotic		<input type="checkbox"/> Blood Ammonia		<input type="checkbox"/> Met Check	
<input type="checkbox"/> Isolation		<input type="checkbox"/> Blood Gas		<input type="checkbox"/> Myelogram	
<input checked="" type="checkbox"/> ICU		<input type="checkbox"/> Chemistry Profile		<input type="checkbox"/> Nuclear Scan:	
<input type="checkbox"/> ICU Exotic		<input type="checkbox"/> Coagulation Profile		Type:	
<b>DAILY PATIENT CARE (# OF DAYS)</b>		<input type="checkbox"/> CBC/Platelet		<input type="checkbox"/> Upper GI Series	
<input type="checkbox"/> Cat Ward		<input type="checkbox"/> Complete Blood Count		<input type="checkbox"/> Radiographs: #	
<input type="checkbox"/> General Ward		<input type="checkbox"/> Creatinine		<input type="checkbox"/> Ultrasound: Inpatient	
<input type="checkbox"/> Intermediate Care Ward		<input type="checkbox"/> Cytology		<input type="checkbox"/> Ultrasound Guided Biopsy	
<input type="checkbox"/> Exotic		<input type="checkbox"/> Dermatophyte Culture		<input type="checkbox"/> Other:	
<input type="checkbox"/> Isolation		<input type="checkbox"/> Dexa Response - High Dose		<b>SURGERY</b>	
<input checked="" type="checkbox"/> ICU		<input type="checkbox"/> Dexa Response - Low Dose		<input checked="" type="checkbox"/> Procedure <u>Proctocolitis</u>	
<input type="checkbox"/> ICU Exotic		<input type="checkbox"/> Ehrlichia Canis		<input type="checkbox"/> Package Procedure	
<b>ICU LEVEL TREATMENTS</b>		<input type="checkbox"/> Fecal Flotation		<input type="checkbox"/> Implant Fee	
<input type="checkbox"/> ICU Level I - Basic Treatment		<input type="checkbox"/> Feline Leukemia Virus		<input type="checkbox"/> Emergency After Hrs. Surgery	
<input type="checkbox"/> ICU Level II - General Treatment		<input type="checkbox"/> Feline Screen		<input type="checkbox"/> Bandage Change	
<input type="checkbox"/> ICU Level III - Standard Treatment		<input type="checkbox"/> FIP		<input type="checkbox"/> Splint Change	
<input type="checkbox"/> ICU Level IV - Extensive Treatment		<input type="checkbox"/> FIV		<input type="checkbox"/> Other:	
<input type="checkbox"/> ICU Level V - Ultra Treatment		<input type="checkbox"/> Fluid Analysis		<b>OTHER</b>	
<b>SPECIAL PROCEDURES</b>		<input type="checkbox"/> Fungal Culture		<input type="checkbox"/> Oxygen Therapy:	
<input type="checkbox"/> Abdominocentesis		<input type="checkbox"/> Heartworm Test (Micro)		Days	
<input type="checkbox"/> Blood Crossmatch		<input type="checkbox"/> Heartworm Test (Occult)		Hours	
<input type="checkbox"/> Blood Transfusion		<input type="checkbox"/> Histopath		<input type="checkbox"/> IV Catheter:	
<input type="checkbox"/> Whole Blood		<input type="checkbox"/> Immune Profile		<input type="checkbox"/> Jelco	
<input type="checkbox"/> Plasma		<input type="checkbox"/> Kidney Profile		<input type="checkbox"/> Intracath	
<input type="checkbox"/> 50cc Direct		<input type="checkbox"/> Lipase		<input type="checkbox"/> TPN	
<input type="checkbox"/> Packed RBC		<input type="checkbox"/> Liver Profile		<input checked="" type="checkbox"/> Fluids: IV or SQ	
<input type="checkbox"/> Blood Typing		<input type="checkbox"/> Lyme Disease		<input type="checkbox"/> Medication	
<input type="checkbox"/> Bone Marrow: aspirate		<input type="checkbox"/> PCV, TS, AZO, BG No.		<input type="checkbox"/> Supplies	
<input type="checkbox"/> Bone Marrow: core		<input type="checkbox"/> Platelet Count		<input type="checkbox"/> Miscellaneous	
<input type="checkbox"/> CSF Tap		<input type="checkbox"/> Reticulocyte Count		<input type="checkbox"/> Pharmacy	
<input type="checkbox"/> Echocardiogram		<input type="checkbox"/> Rocky Mountain Spotted Fever			
<input type="checkbox"/> EEG		<input type="checkbox"/> Toxoplasmosis			
<input type="checkbox"/> EKG		<input type="checkbox"/> TSH Stimulation Test			
<input type="checkbox"/> EMG		<input type="checkbox"/> T3 & T4			
<input type="checkbox"/> Endoscopy		<input type="checkbox"/> T3 Only or T4 Only			
<input type="checkbox"/> Joint Tap		<input type="checkbox"/> Urinalysis			
		<input type="checkbox"/> Other:			

I understand that no guarantee of successful treatment is made. I also certify that I have read and fully understand the authorization for medical and/or surgical treatment. The reason 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 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 patient is released.

Procedural billing is inclusive up to and including the estimated duration of hospitalization. There will be additional expenses incurred if hospitalization extends beyond the specified duration.

I have read, understood and agree to accept the contents of this treatment plan.

**B6**

**B6**

\_\_\_\_\_  
Clinician Signature

10/1/13  
Date

WHITE MEDICAL RECORDS

CANARY CLIENT

PINK ACCOUNTING

Form #011 Revised 02/12

Client:  
Patient:

**B6**

**Archived Records 10/1/13-10/4/13 (PART TWO)**

Client:  
Patient:

**B6**

Archived Records 10/1/13-10/4/13 (PART TWO)



**Tufts University**  
**Foster Hospital for Small Animals**  
200 Westboro Road,  
N. Grafton, MA 01536

## STANDARD CONSENT FORM

**B6**

**B6**

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

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

TCSVM 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 TCSVM students under the supervision and assistance of TCSVM 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 TCSVM 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 Tufts Cummings School of Veterinary Medicine, its officers and employees (collectively referred to herein as TCSVM), and its agents and assigns the irrevocable rights to: (1) photograph/videotape the operation or procedure to be performed, including appropriate portions of the animal's body, and (2) reproduce, distribute, display, create derivative works of and otherwise use such photographs and images for, and in connection with, the University's medical, scientific, educational, and publicity purposes, for all but third-party commercial purposes, by any means, methods and media (print and electronic) now known or, in the future, developed that the University deems appropriate.

Form #006/C.C.-Rev. 1/29/07

Client:  
Patient:

**B6**

Archived Records 10/1/13-10/4/13 (PART TWO)

As surgical treatment necessitates the removal of tissue or body parts of my animal, I authorize TCSVM to dispose of or use this tissue for scientific 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.

**B6**  
Date  
**B6**  
Owner's Signature

10/1/13  
Date  
**B6**  
Owner's Address  
**B6**  
Town/City State Zip

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 TCSVM pursuant to the terms and conditions described above.

Authorized Agent - Please Print

Agent's Signature

Street Address

Date

Town/City

State

Zip

Client: **B6**  
Patient:

**IDEXX Cardiopet proBNP 3/15/16**



1-888-433-9987  
Click the RED BANNER on  
VetConnect.com for a new view

TUFTS: GRAFTON SMALL ANIM HOSPITAL  
200 WESTBORO ROAD  
GRAFTON MA 01536

508-887-4669

Account: 80735

Owner: **B6**  
Patient:  
Species: CANINE  
Breed: BOXER  
Age: **B6**  
Gender: M

Requisition #: 154111  
Accession #: **B6**  
Order rec'd: 03/15/2016  
Ordered by: **B6**  
Reported: 03/15/2016

CARDIOPET proBNP - CANINE				
Test	Result	Reference Range	Flag	Bar Graph
CARDIOPET proBNP - CANINE	<b>B6</b>	0 - 900 pmol/L	H	<b>B6</b>
Cardiopet proBNP >1800pmol/L				
<div><b>B6</b></div>				
<p>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.</p>				

**B6**  
03/15/2016

FINAL REPORT

PAGE 1 OF 1

Patient:

**B6**

**Holter ECG Patient Diary 3/18/16**[illegible]

Client: **B6**  
Patient:

## Holter ECG Patient Diary 3/18/16

### PATIENT INFORMATION AND INSTRUCTIONS

Before leaving, you should read this booklet entirely to see if you have any questions regarding this procedure.

Your physician has recommended a Holter Electrocardiogram for the purpose of determining how your heart functions during your normal every day activities. Your physician will require you to log your activities in this diary while you are wearing the Holter Recorder. Use this diary to record the following:

**Time of day:** Record the time from the clock on the recorder. **Do Not Use Your Watch or Other Timepieces.**

**Activity:** For anything you do during this procedure; sitting, eating, taking medication, walking, strenuous exercise, smoking, bowel movements, urinating, sexual intercourse, etc.

**Symptoms:** During your activity make sure to write down any abnormalities that may occur, such as pains in your chest, neck, arm or face. Include any dizziness, heart pounding, nausea, or shortness of breath. Only make a notation if you feel something abnormal, otherwise, leave the "symptom" column blank.

### IMPORTANT NOTES TO PATIENT

1. To insure an accurate evaluation of this recording, it is necessary that you keep a continual diary for 24 hours. This diary must include your activities, the time of these activities as shown on the recorder clock, and how you feel at the time. If you are unsure of the significance of a feeling, write it down.

2. Do not get the recorder wet. Do not bathe, shower, or swim during this monitoring period.

3. Do not open the recorder or tamper with it, or the lead wires. If you should notice any disconnection of the cable or wires into the recorder, please call the technician.

*Following these instructions will help your physician analyze the results of your recording using specially designed equipment.*

#### - SAMPLE DIARY -

TIME	ACTIVITY	SYMPTOMS
9:20	Mowing Lawn	Chest pain
10:30	To bathroom to urinate	
12:00	Driving	Heart beats faster
9:00	To bed	

**B6**

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

Letter from client with rDVM sx estimate

04/10/2018 12:32PM FAX

**B6**

☒ 0001/0002

**B6**

**B6**

**B6**

### FAX COVER SHEET

DELIVER TO:

FROM:

**B6**

COMPANY:

DATE:

ATTN: CARDIOLOGY

April 10, 2018

FAX NUMBER:

TOTAL NO. OF PAGES INCLUDING COVER:

**B6**

2

FILE NUMBER:

N/A

IF YOU DO NOT RECEIVE ALL PAGES:

PLEASE CALL BACK AS SOON AS POSSIBLE AT

**B6**

NOTES/COMMENTS:

Attn: Cardiology Service

Re:

**B6**

**B6**

Attached is an estimate for the procedure. The plan is to do the procedure under a dose of buprenorphine and lidocaine to avoid general anesthesia give **B6** cardiac conditions. While under the effect of those medications, **B6** also recommended removal of a wart in the ear via cryosurgery (the leg growth is too big to be frozen off).

Would you kindly review the estimate and advise of any concerns from a cardiac perspective? I am happy to obtain additional documentation from **B6** if necessary.

Very much appreciated,

**B6**

This document included with this fax cover sheet contain information from the law firm **B6**. Such is confidential information privileged. This information is intended to be used for the use of the addressee named on this cover sheet. If you are not the addressee, note that any disclosure, photocopying, distribution or use of this hard information is prohibited. If you have received this fax in error, please notify us by telephone (collect) immediately so that we can arrange for the retrieval of the original documents and to you.

Client: **B6**  
Patient:

**Letter from client with rDVM sx estimate**

04/10/2018 12:33PM FAX

**B6**

0002/0002

**B6**

4/9/2018  
Page 1 / 1

**B6**

Client ID: **B6**  
Estimate ID: 10090  
Expiration Date: 7/6/2018

Patient ID:	<b>B6</b>	Species:	Canine	Weight:	73.50 pounds	Sex:	Neutered Male
Patient Name:		Breed:	Boxer	Birthday:	11/16/2010		

**B6**

Low Subtotal:

Tax:

Low Total:

**B6**

This document lists procedures to be performed on your animal. This estimate only approximates the cost of this visit and can vary upon results of further examination and test results. You are responsible for all fees incurred in this visit included or not in this estimate. Be assured that your animal's health is our highest concern and we will do everything to maintain that health. I accept and agree to the terms of this estimate:

Client: **B6**  
Patient:

rDVM: **B6** hx 5/5/11-6/9/18

### Patient History Report

Client:	<b>B6</b>	Patient:	<b>B6</b>	Breed:	Boxer
Phone:		Species:	Canine	Sex:	Neutered Male
Address:		Age:	<b>B6</b>	Color:	Fawn

Date	Type	Staff	History																																				
6/9/2018	L		<div>Microbiology results from IDEXX Reference Laboratory Requisition ID: 111882485</div> <table><tr><th>Test</th><th>Result</th><th>Posted</th><th>Final</th></tr><tr><td>GIARDIA</td><td rowspan="5"><div>B6</div></td><td rowspan="5">Reference Range</td><td rowspan="5"></td></tr><tr><td>OVA&amp;PARA</td></tr><tr><td>HOOKWORM</td></tr><tr><td>ROUNDWORM</td></tr><tr><td>WHIPWORM</td></tr><tr><td>Asc</td><td><div>B6</div></td><td></td><td></td></tr><tr><td colspan="4"><div>OVA &amp; PARASITES</div><div>NO OVA OR PARASITES SEEN</div><div>The IDEXX Fecal Dx antigen tests detect worm antigen and a positive indicates infection. Antigen-positive and egg-negative specimens can be seen during the pre-patent period, with single sex infections and due to intermittent egg shedding. Identification of eggs microscopically in antigen-negative specimens may be due to ingestion of infected feces (coprophagy) or because the amount of antigen is below the level of detection. Treatment should be considered for patients positive by either antigen or egg-detection. In cases of acute or chronic diarrhea also consider testing for viral, bacterial and protozoal infectious agents using RealPCR (canine diarrhea panel: test code 2625; feline diarrhea panel: test code 2627).</div></td></tr><tr><td>6/8/2018</td><td>P</td><td></td><td><div>B6</div></td></tr><tr><td>6/7/2018</td><td>C</td><td></td><td>aTelephone - FINAL 06/07/2018</td></tr><tr><td>6/7/2018</td><td>13:54</td><td></td><td></td></tr><tr><td colspan="2"></td><td><div>B6</div></td><td></td></tr></table>	Test	Result	Posted	Final	GIARDIA	<div>B6</div>	Reference Range		OVA&PARA	HOOKWORM	ROUNDWORM	WHIPWORM	Asc	<div>B6</div>			<div>OVA &amp; PARASITES</div> <div>NO OVA OR PARASITES SEEN</div> <div>The IDEXX Fecal Dx antigen tests detect worm antigen and a positive indicates infection. Antigen-positive and egg-negative specimens can be seen during the pre-patent period, with single sex infections and due to intermittent egg shedding. Identification of eggs microscopically in antigen-negative specimens may be due to ingestion of infected feces (coprophagy) or because the amount of antigen is below the level of detection. Treatment should be considered for patients positive by either antigen or egg-detection. In cases of acute or chronic diarrhea also consider testing for viral, bacterial and protozoal infectious agents using RealPCR (canine diarrhea panel: test code 2625; feline diarrhea panel: test code 2627).</div>				6/8/2018	P		<div>B6</div>	6/7/2018	C		aTelephone - FINAL 06/07/2018	6/7/2018	13:54					<div>B6</div>	
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B: Billing; C: Med note; CD: Call back; CR: Check-in; CM: communications; D: Diagnosis; DL: Declined to history; EE: Examination; ES: Estimates; IL: Imaging; IR: Lab result; M: Minor notes; P: Prescription; PA: PVL Accepted; PR: problems; PP: PVL Performed; PP: PVL Recommended; R: correspondence; T: Images; T: Tentative med note; V: Vitals/signs

**B6**

Page 1 of 54

Date: 6/20/2018 10:38 AM

Client: **B6**  
Patient:

rDVM: **B6** hx 5/5/11-6/9/18

### Patient History Report

Client:	<b>B6</b>	Patient:	<b>B6</b>	Breed:	Boxer
Phone:		Species:	Canine	Sex:	Neutered Male
Address:		Age:	<b>B6</b>	Color:	Fawn

Date	Type	Staff	History
4/21/2018	C		Default Comments - CLOSED 04/23/2018 <b>B6</b>
4/21/2018	P	<b>B6</b>	<b>B6</b>
4/21/2018	C		<b>B6</b>

- B6** may be fed normally starting tonight.
- Restrict **B6** activity for the next 10-14 days. During this time **B6** should not be allowed outside, except for brief trips on a leash for elimination purposes.
- B6** should not be allowed to run, jump or have access to stairs.
- Please keep **B6** from licking or chewing at his incision site(s). Please keep other pets away from **B6** incision site until fully healed.
- Do not give **B6** a bath for the next 10 days. Keep the incision area(s) clean and dry.
- Give medications as directed.

**B6**

B: Billing, C: Medical, CD: Call back, CR: Checking, CM: communications, D: Diagnosis, DL: Declined to history, EL: Examination, ES: Estimates, L: Spaying/ovary, LL: Lab result, M: Image notes, P: Prescription, PA: PVL Accepted, PD: problems, PP: PVL Performed, PR: PVL Recommended, R: correspondence, T: Images, T: Tentative med/note, V: Vital signs

**B6**

Page 2 of 54

Date: 6/26/2018 10:38 AM

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

rDVM: **B6** hx 5/5/11-6/9/18

### Patient History Report

Client:	<b>B6</b>	Patient:	<b>B6</b>	Breed:	Boxer
Phone:	<b>B6</b>	Species:	Canine	Sex:	Neutered Male
Address:	<b>B6</b>	Age:	<b>B6</b>	Color:	Fawn

Date	Type	Staff	History
------	------	-------	---------

7. Monitor **B6** surgery site(s) daily. If you notice any redness, swelling or excessive discharge, or if the incision opens up, please call our office.

8. Please monitor **B6** and call our office if you observe any of the following: Loss of appetite for more than 2 days, excessive discomfort, repeated vomiting, excessive bleeding, refusal to move/depression.

9. Bandage change every three days.

10. Schedule suture removal with a technician in two weeks.

It has been our pleasure having **B6** as our patient. Please do not hesitate to call us **B6** with any questions or concerns.

4/21/2018 V	<b>B6</b>	Apr 21, 2018 08:55 AM Staff: <b>B6</b>
		Weight : 73.10 pounds
4/21/2018 T 4/20/2018 P	<b>B6</b>	

4/20/2018 C **B6** aTelephone - FINAL 04/20/2018 - \*\*\*ADDENDUM 4/20/2018  
4/20/2018 13:10 **B6**

ADDENDUM on 4/20/2018 at 13:57:47 from **B6**  
Call in rx to CVS in **B6**

4/16/2018 P	<b>B6</b>	<b>B6</b>
4/16/2018 P	<b>B6</b>	<b>B6</b>

B: Billing, C: Med note, CB: Call be, ck-in, CM: Communications, D: Diagnosis, DH: Declined to history, E: Examination, ES: Estimates,  
I: Departing instr, L: Lab result, M: Image uses, P: Prescription, PA: PVL Accepted, PB: problems, PP: PVL Performed, PR: PVL Recommended,  
R: Correspondence, T: Images, TC: Tentative medl note, V: Vital signs

**B6**

Page 3 of 54

Date: 6/20/2018 10:38 AM

Client: **B6**  
Patient:

rDVM: **B6** hx 5/5/11-6/9/18

### Patient History Report

Client: **B6**  
Phone:  
Address:

Patient: **B6**  
Species: Canine  
Age: **B6**  
Color: Fawn

Breed: Boxer  
Sex: Neutered Male

Date	Type	Staff	History
<b>B6</b>			

4/12/2018 C **B6** aTelephone - FINAL 04/12/2018 - \*\*\*ADDENDUM 4/13/2018  
4/12/2018 10:46 **B6** O called to schedule a growth removal for **B6** wondering if because it is being done with a local because of his having a pacemaker, would it be a drop off in the am or scheduled as an appointment  
**ADDENDUM on 4/13/2018 at 16:43:16 from** **B6** **B6**  
Called O to tell them to drop off **B6** between 7:30-8am of the

**ADDENDUM on 4/13/2018 at 16:44:06 from** **B6**  
27th was unable to leave message on machine mail box was full

**ADDENDUM on 4/13/2018 at 16:58:28 from** **B6**  
Called o to state that **B6** able to do the growth removal on Saturday the 21st if the O is able to.

**ADDENDUM on 4/13/2018 at 16:58:49 from** **B6**  
Mail box was full unable to leave a message

4/9/2018 C WC aa Recheck - CLOSED 04/10/2018 - \*\*\*ADDENDUM 4/17/2018

Doctor: **B6** Tech: **B6**

**B6**

B: Billing, C: Med note, CB: Call back, CK: Check-in, CM: Communications, D: Diagnosis, DH: Declined to history, E: Examination, ES: Estimates, I: Departing instr, L: Lab result, M: Image cases, P: Prescription, PA: PVL Accepted, PB: problems, PP: PVL Performed, PR: PVL Recommended, R: Correspondence, T: Images, TC: Tentative medl note, V: Vital signs

**B6**

Page 4 of 54

Date: 6/20/2018 10:38 AM

**rDVM** **B6** **hx 5/5/11-6/9/18**

Client: \_\_\_\_\_ Patient: **B6**  
Phone: \_\_\_\_\_ Species: **Canine**  
Address: \_\_\_\_\_ Age: **B6** Breed: **Boxer**  
Color: **Fawn** Sex: **Neutered Male**

Date	Type	Staff	History
------	------	-------	---------

Q:

A:

P:

ADDENDUM on 4/17/2018 at 15:02:35 from: B6  
Schedule removal under locals.

4/9/2018 V

Apr 9, 2018 04:38 PM Staff: HS

Weight : 73.50 pounds

3/24/2018 P

**B6**

3/24/2018 C  
3/24/2018 09:14

aTelephone - FINAL 03/24/2018 - \*\*\*ADDENDUM 3/24/2018

~~B6~~

-B6-

-----  
-als

ADDENDUM on 3/24/2018 at 13:30:36 from B6  
please call o at B6 when B6 filled

3/2/2018 P

**B6**

B: Billing, C: Med note, CB: Call back, CK: Check-in, CM: Communications, D: Diagnosis, DH: Declined to history, E: Examination, ES: Estimates, I: Departing instr, L: Lab result, M: Image cases, P: Prescription, P.A/P.V: Accepted, P.B: problems, PP: P.V.L Performed, PP: P.V.L Recommended, R: Correspondence, T: Images, T.O: Tentative medl note, V: Vital signs

**B6**

Page 5 of 54

Date: 6/20/2018 10:38 AM

Client: **B6**  
Patient:

rDVM **B6** hx 5/5/11-6/9/18

### Patient History Report

Client:	<b>B6</b>	Patient:	<b>B6</b>	Breed:	Boxer
Phone:		Species:	Canine	Sex:	Neutered Male
Address:		Age:	<b>B6</b>		
		Color:	Fawn		

Date	Type	Staff	History
------	------	-------	---------

3/2/2018 C	<b>B6</b>	aTelephone - FINAL 03/02/2018 - ***ADDENDUM 3/2/2018
3/2/2018 17:18		
o called for a refill of <b>B6</b> Best <b>B6</b>		
ADDENDUM on 3/2/2018 at 18:40:41 from <b>B6</b>		
<b>B6</b>		tating that the pt's medication is ready to be picked up.

1/26/2018 P	<b>B6</b>	<b>B6</b>

1/24/2018 C	<b>B6</b>	aTelephone - FINAL 01/24/2018 - ***ADDENDUM 1/27/2018
1/24/2018 14:59		

<b>B6</b>		
ADDENDUM on 1/26/2018 at 10:25:43 from <b>B6</b>		
Owner called waiting for a call to get the approval for the refill.		

ADDENDUM on 1/27/2018 at 12:07:02 from <b>B6</b>	
LMOM letting O know that <b>B6</b>	is ready to be picked up.

1/11/2018 C	<b>B6</b>	Default Comments - CLOSED 01/12/2018
-------------	-----------	--------------------------------------

<b>B6</b>
-----------

B: Billing, C: Med note, CB: Call back, CK: Check-in, CM: Communications, D: Diagnosis, DH: Declined to history, E: Examination, ES: Estimates, I: Departing instr, L: Lab result, M: Image cases, P: Prescription, PA: PVL Accepted, PB: problems, PP: PVL Performed, PR: PVL Recommended, R: Correspondence, T: Images, TC: Tentative medl note, V: Vital signs

**B6**

Page 6 of 54

Date: 6/20/2018 10:38 AM

Client: **B6**  
Patient:

rDVM: **B6** hx 5/5/11-6/9/18

### Patient History Report

Client:	<b>B6</b>	Patient:	<b>B6</b>	Breed:	Boxer
Phone:		Species:	Canine	Sex:	Neutered Male
Address:		Age:	<b>B6</b>		
		Color:	Fawn		

Date	Type	Staff	History
------	------	-------	---------

**B6**

AP

1/10/2018 C **B6** aTelephone - FINAL 01/10/2018  
1/10/2018 14:42

**B6**

1/6/2018 P	<b>B6</b>	<b>B6</b>
1/6/2018 P		
1/6/2018 C Enter Office Visit:		aSOAP - CLOSED 01/09/2018

**B6**

Current Medications: **B6**

WBAR PDS=1/10

B: Billing, C: Medical, CD: Call back, CR: Checking, CM: communications, D: Diagnosis, DL: Declined to history, EL: Examination, ES: Estimates,  
IL: Imaging, L: Lab results, M: Management, P: Prescription, PA: PVL Accepted, PD: problems, PFI: PVL Performed, PFI: PVL Recommended,  
E: correspondence, E: Images, E: End of medical note, V: Vital signs

**B6** Page 7 of 54 Date: 6/20/2018 10:38 AM

<b>Report Details - EON-369322</b>									
ICSR:	2057941								
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:	2018-10-25 07:21:15 EDT								
Reported Problem:	Problem Description:	DCM and CHF Euthanized for worsening heart failure and arrhythmia in September							
	Date Problem Started:	02/09/2018							
	Concurrent Medical Problem:	No							
	Outcome to Date:	Died Euthanized							
	Date of Death:	B6							
Product Information:	Product Name:	Merrick LID Grain Free dry (salmon, duck, or chicken)							
	Product Type:	Pet Food							
	Lot Number:								
	Package Type:	BAG							
	Product Use Information:	Description:	Merrick for ~1 year Please see diet history for other foods and previous diets (Canidae LID grain free)						
	Manufacturer /Distributor Information:								
	Purchase Location Information:								
Animal Information:	Name:	B6							
	Type Of Species:	Dog							
	Type Of Breed:	Retriever - Labrador							
	Gender:	Male							
	Reproductive Status:	Neutered							
	Weight:	47 Kilogram							
	Age:	9 Years							
	Assessment of Prior Health:	Excellent							
	Number of Animals Given the Product:	1							
	Number of Animals Reacted:	1							
	Owner Information:	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:	<table border="1"> <tr> <td>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								

		<b>Address:</b>	200 Westboro Rd North Grafton Massachusetts 01536 United States
<b>Sender Information:</b>	<b>Name:</b>	Lisa Freeman	
	<b>Address:</b>	200 Westboro Rd North Grafton Massachusetts 01536 United States	
	<b>Contact:</b>	<b>Phone:</b>	5088874523
		<b>Email:</b>	lisa.freeman@tufts.edu
	<b>Permission To Contact Sender:</b>	Yes	
	<b>Preferred Method Of Contact:</b>	Email	
<b>Additional Documents:</b>	<b>Attachment:</b>	<b>B6</b>	compiled record.pdf
	<b>Description:</b>	Compiled medical record	
	<b>Type:</b>	Medical Records	

## Client Diet History Form

Submitted: 07/21/2018

### PET INFORMATION

Pet Name

B6

Pet Last Name

Pet Species/Breed

Dog / Miniature Schnauzer

Pet's Color

Pepper & Salt

Pet's Birthdate

B6

Pet's Sex

Male

Spayed or Neutered?

No

### CLIENT INFORMATION

Client Name

Client Address

Client Phone

Client Email

Co-Owner Name

Co-Owner Phone

Co-Owner Email

B6

### CONSULT INFORMATION

Type of Consult

In person

HCD Being Requested?

Yes

Reasons & Goals for Consult

REASONS:

B6

refuses to eat any dry food anymore.  
was diagnosed by cardiologist with dilated cardiomyopathy (DCM).  
- As FDA reported dogs fed grain-free food based on peas, lentils or potatoes developing unusual condition that may cause DCM. We fed Canidae Canidae dry dog food containing all these 3 ingredients (peas, lentils and potatoes). We also fed him Instinct dry food containing chickpeas and peas. We guess that it could cause DCM.

GOALS:

- We would like to switch to natural home cooked food.  
- Improve B6 health and quality of life.  
- Reverse DCM.

**Attachments**

[01-CANIDAE-BAG-FRONT.jpg](#)  
[02-CANIDAE-BAG-BACK.jpg](#)  
[03-CANIDAE-INGREDIENTS.jpg](#)  
[04-INSTINCT-FRONT.jpg](#)  
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[12-ROYAL-CANIN-EARLY-CARDIAC-INGREDIENTS.jpg](#)  
[13-GREENIES-PILL-POCKETS-FRONT.jpg](#)  
[14-GREENIES-PILL-POCKETS-BACK.jpg](#)

**PRIMARY VETERINARIAN INFORMATION**

rDVM Name

rDVM Clinic

rDVM Phone

rDVM Fax

rDVM Email

**B6**

**Diet History Form - updated**

**Agree to Terms**

**Date Submitted**

07/21/2018

**Information to Gather**

**About You, Your Veterinarian(s) and Your Pet**

**What type of appointment are you requesting?**

In person

**Has your pet been seen at Tufts in the last 6 months?**

No

**About the Pet Owner**

**Pet owner name**

B6

**Pet owner email**

B6

**Address**

B6

**Preferred Phone**

B6

**Preferred Phone Type**

Mobile

**Alternate Phone**

**Is there another phone number you would like to give us in case we can't reach you at one of the above?**

No

**Spouse/partner/co-owner's name**

B6

**Spouse/partner/co-owner's email**

B6

**Spouse/partner/co-owner's phone**

B6

**How did you hear about our service?**

- Recommended by your veterinarian

### Your Pet's Primary Veterinarian

Primary veterinarian

B6

Primary veterinarian's clinic name

B6

Primary veterinarian's clinic phone

B6

Primary veterinarian's clinic fax

B6

Primary veterinarian's clinic email

B6

Is your pet currently being (or has your pet been) seen by any other veterinarians in relation to her/his current health issues or other health issues that you'd like to discuss with us?

Yes

### Information About Your Second Veterinarian

Name of 2nd veterinarian

B6

Clinic name of 2nd veterinarian

B6

Phone for 2nd veterinarian's clinic

B6

Fax for 2nd veterinarian's clinic

B6

Email for 2nd veterinarian's clinic

What is this second veterinarian's role in your pet's care?

Cardiologist

Should this 2nd veterinarian receive a copy of any written reports that result from working with our service?

Yes

Is your pet being seen by a 3rd veterinarian?

No

### About Your Pet

Pet's name

B6

What is your pet's species?

Dog

<b>Breed</b>	Miniature Schnauzer
<b>Color</b>	Pepper & Salt
<b>Sex</b>	Male
<b>Spayed/neutered?</b>	No
<b>Do you know your pet's exact birthdate?</b>	Yes
<b>Pet's Birthdate</b>	B6
<b>What is your pet's current weight</b>	21
<b>Pounds or kilograms?</b>	lbs
<b>Has your pet gained or lost weight within the past 6 months?</b>	Stayed the same
<b>Which category best describes your pet?</b>	ideal weight
<b>Reason and goals for consultation</b>	<p>REASONS:</p> <ul style="list-style-type: none"> <li>- B6 refuses to eat any dry food anymore.</li> <li>- B6 was diagnosed by cardiologist with dilated cardiomyopathy (DCM).</li> <li>- As FDA reported dogs fed grain-free food based on peas, lentils or potatoes developing unusual condition that may cause DCM. We fed Canidae Canidae dry dog food containing all these 3 ingredients (peas, lentils and potatoes). We also fed him Instinct dry food containing chickpeas and peas. We guess that it could cause DCM.</li> </ul> <p>GOALS:</p> <ul style="list-style-type: none"> <li>- We would like to switch to natural home cooked food.</li> <li>- Improve B6 health and quality of life.</li> <li>- Reverse DCM.</li> </ul>
<b>Details About Your Pet's Habits</b>	
<b>Questions about your pet</b>	
<b>Is your pet housed:</b>	<ul style="list-style-type: none"> <li>- Indoors</li> </ul>
<b>Please describe your pet's activity level:</b>	Moderate
<b>Do you have any other pets?</b>	

No								
<b>How many people (including yourself) live in your household?</b> 2								
<b>Who feeds your pet?</b> Both owners								
<b>How many times per day do you feed your pet?</b> Three								
<b>Does your pet finish all food that is offered?</b> It depends								
<b>Depends on what?</b> He don't want to eat dry food anymore. We have to ask him to eat. He may reject the dry food or leave some food. If we give him rice with boiled chicken tenders he finish all food. Apples or carrots as treats he eats everything with pleasure.								
<b>Does your pet have any difficulty with the following?</b>								
<b>Does your pet have any of the following?</b>								
<b>Have you observed any changes in any of the following?</b> <ul style="list-style-type: none"><li>• Appetite</li><li>• Activity level</li></ul>								
<b>Please explain the changes you have observed</b> B6 used to be a very active dog. We were walking him 3 times per day for 1 hour. From February 2018 he is not as active as before. He don't play much. He don't walk as much as before.								
<b>Have you made any recent changes in diet (last 4 weeks)?</b> Yes								
<b>Please explain the changes in your pet's diet</b> B6 didn't want to eat the dry food. We switched to boiled chicken tenders and rice.								
<b>Your Pet's Diet</b>								
<b>Do you feed your pet DRY (e.g., kibble) pet food?</b> Yes								
<b>Please list each kind of DRY pet food individually</b>								
<table><thead><tr><th>Brand or name</th><th>Amount per serving</th><th>How often given?</th><th>Fed since (mo/yr)?</th></tr></thead><tbody><tr><td>Royal Canin Veterinary Diet Canine Early Cardiac Dry Dog Food</td><td>About 3/4 cup (about 60 grams)</td><td>2x/day</td><td>MAY 2018</td></tr></tbody></table>	Brand or name	Amount per serving	How often given?	Fed since (mo/yr)?	Royal Canin Veterinary Diet Canine Early Cardiac Dry Dog Food	About 3/4 cup (about 60 grams)	2x/day	MAY 2018
Brand or name	Amount per serving	How often given?	Fed since (mo/yr)?					
Royal Canin Veterinary Diet Canine Early Cardiac Dry Dog Food	About 3/4 cup (about 60 grams)	2x/day	MAY 2018					
<b>Do you feed your pet WET (e.g., canned or pouched) pet food?</b> No								
<b>Do you feed your pet HOME-COOKED food?</b>								

Yes

**Please list each kind of HOME-COOKED petfood individually**

Food/Ingredient	Amount per serving	How often given?	Fed since (mo/yr)?
Boiled chicken tenders and rice	About 3/4 cup	2x/day	18 JUL 2018

**Do you feed your pet TREATS?**

Yes

**Please list each kind of TREAT individually**

Brand or name	Amount per serving	How often given?	Fed since (mo/yr)?
Apple	1/2 of apple (about 60g)	2-3 times per week	Feb 2015
Pear	1/2 of apple (about 60g)	1 time per week	May 2018
Carrot	1/2 of carrot (about 30g)	1 time per two weeks	Feb 2015
Cheese	10 grams	1-2 time per week	May 2014

**Is there any OTHER kind of food you feed your pet?**

No

**Do you give any dietary supplements to your pet (for example: vitamins, glucosamine, fatty acids, herbs, or any other supplements)?**

Yes

**Please list any dietary supplements**

Product Name	Amount	Frequency
Fish Oil	1 bottle course, 1 teaspoon per day	Once in March 2017 and once in March 2018

**Is your pet receiving any medications?**

Yes

**Please list your pet's medications**

Drug Name	Dosage
<div>B6</div>	

**Do you use food (e.g., Pill Pockets, cheese, bread, peanut butter, etc.) to administer medications?**

Yes

**Lists foods used to administer medication**

What kind?	Amount?	How often?
Greenies Pill Pockets Canine Chicken Flavor	2.5 pockets	2 times per day

**Regarding commercial diets (pet foods and treats not made in your home) your pet may have received in the past, please select the following statement that is most accurate:**

I have fed my pet other commercial diets in the past.

**Please list all other commercial diets you are not currently feeding but have fed to your pet in the past.**

Food	Approximate Dates	Reason for discontinuing
CANIDAE Grain Free PURE Fields Small Breed Fresh Chicken Dog Food	NOV 2016 - APR 2017	B6 didn't want to eat this food anymore
Blue Buffalo Blue Life Protection Formula Adult Small Breed Chicken & Brown Rice Recipe Dry Dog Food	MAY 2016 - NOV 2017	B6 didn't want to eat this food anymore
CANIDAE Grain Free PURE Fields Small Breed Fresh Chicken Dog Food	NOV 2017 - DEC 2017	B6 didn't want to eat this food anymore, protesting and running away
Instinct Original Small Breed Grain Free Recipe with Real Chicken Natural Dry Dog Food by Nature's Variety	DEC 2017 - APRIL 2018	1) B6 didn't want to eat it anymore; 2) Switched to Royal Canin Veterinary Diet Canine Early Cardiac recommended by cardiologist
Hill's Prescription Diet Hypoallergenic Canine Treats	FEB 2017 - FEB 2018	

  
**Home-cooked Diets**

Is a home-cooked diet being requested? (Please note that this option is only available for phone or in-person consults, not for consults directly with veterinarians.)  
Yes

Does your pet have kidney disease?  
No

  
**Protein Sources**

- Chicken
- Ground beef
- Egg

What is your pet's preferred protein?  
Chicken

  
**Carbohydrate Sources**

- Barley
- Oats
- Rice

What is your pet's preferred carbohydrate?  
Rice

  
**Medical Records & Test Results**

Requested Items

- Complete blood count, biochemistry profile and urinalysis
- Additional relevant diagnostics (e.g., urine culture, T4, ultrasound reports)
- Last 6 months' medical records or as appropriate (all consults)

Do you have any of the above in electronic format?  
No

Would you like to upload and attach anything else to this form?

- [01-CANIDAE-BAG-FRONT.jpg](#)
- [02-CANIDAE-BAG-BACK.jpg](#)
- [03-CANIDAE-INGREDIENTS.jpg](#)
- [04-INSTINCT-FRONT.jpg](#)
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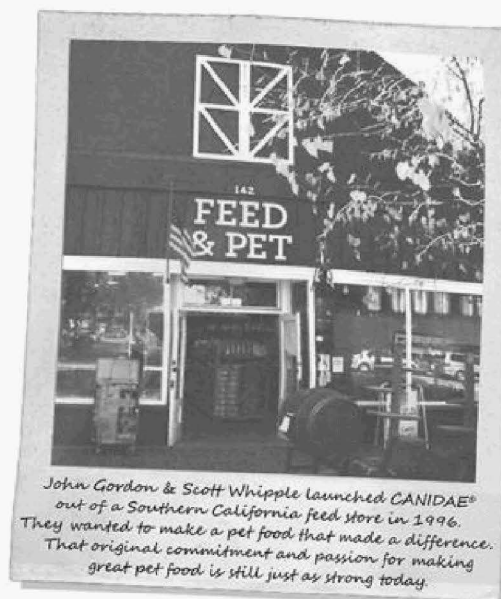
# GRAIN FREE PURE ridge™

LIMITED INGREDIENT DIET

## 8 key INGREDIENTS

Fresh Chicken  
Chicken Meal  
Lentils  
Peas  
Chicken Fat  
Chickpeas  
Suncured Alfalfa  
Flaxseed

**PLUS** Natural Flavor, Vitamins,  
Minerals, and Probiotics Mix



## A SIMPLE RECIPE MADE WITH FRESH CHICKEN AND WHOLE FOODS



### FRESH CHICKEN IS ALWAYS FIRST

This recipe is made with fresh chicken as the first ingredient for great taste your dog is sure to love.



### WITH WHOLE FOODS FOR GENTLE DIGESTION

We use ingredients like lentils, peas, and chickpeas in their whole form whenever possible.



### SIMPLE RECIPE FOR SENSITIVE DOGS

This limited ingredient diet is made with quality, easily recognizable ingredients you can feel good about.



### HEALTHPLUS SOLUTIONS IN EVERY BITE®

Probiotics added to every kibble after cooking to help support healthy digestion, antioxidants to help support a healthy immune system, and omega 6&3 fatty acids to help support beautiful skin and coat.



### ETHOS PET NUTRITION COMMITTED TO QUALITY

CANIDAE's own Brownwood, Texas facility. Find out more about ETHOS and our commitment to pets and their people at [canidae.com](http://canidae.com).

**THE CANIDAE® GUARANTEE**  
If you are not completely satisfied with this product, please return the unused portion along with your sales receipt to the place of purchase for a full refund or replacement.

**GUARANTEED BY**  
CANIDAE® Corporation, San Luis Obispo, CA 93403-3610  
800-398-1600 within USA | 909-599-5190 outside USA  
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f t g p

## OUR NUTRITIOUS INGREDIENTS

Chicken, menhaden fish meal, peas, lentils, potatoes, dried whole egg, chicken fat (preserved with mixed tocopherols), sun-dried alfalfa, flaxseed, natural flavor, minerals (iron proteinate, zinc proteinate, copper proteinate, ferrous sulfate, zinc sulfate, copper sulfate, potassium iodide, manganese proteinate, manganous oxide, manganese sulfate, sodium selenite), vitamins (vitamin E supplement, thiamine mononitrate, ascorbic acid, vitamin A supplement, biotin, niacin, calcium pantothenate, pyridoxine hydrochloride, vitamin B12 supplement, riboflavin, vitamin D3 supplement, folic acid), salt, choline chloride, mixed tocopherols (a preservative), dried enterococcus faecium fermentation product, dried lactobacillus acidophilus fermentation product, dried lactobacillus casei fermentation product, dried lactobacillus plantarum fermentation product, dried trichoderma longibrachiatum fermentation extract

## GUARANTEED ANALYSIS

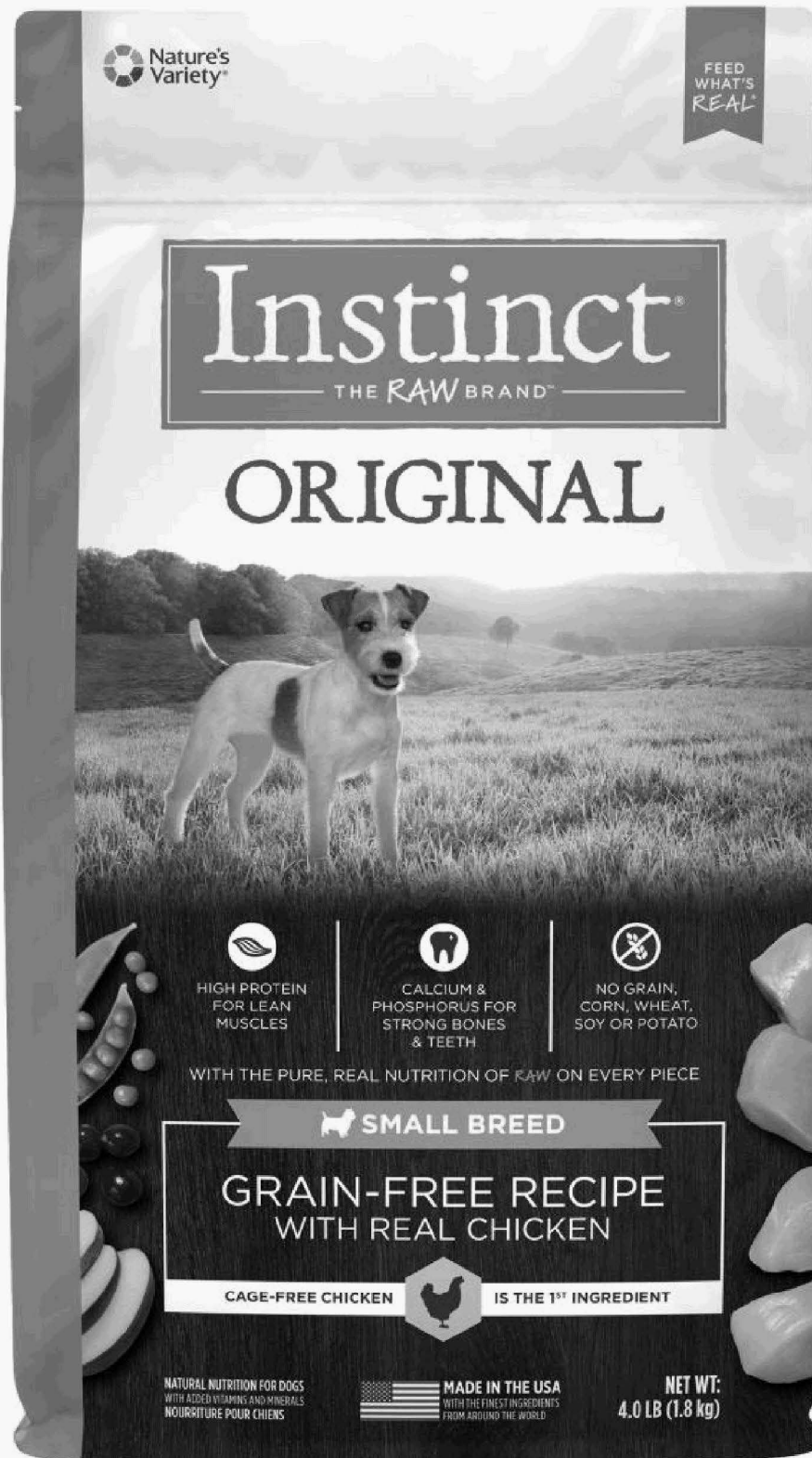
Crude Protein	(min.).....	30.00%
Crude Fat	(min.).....	12.00%
Crude Fiber	(max.).....	4.00%
Moisture	(max.).....	10.00%
Linoleic Acid (omega 6)	(min.).....	3.00%
Vitamin E	(min.).....	50.00 IU/kg
Alpha Linolenic Acid (omega 3)**	(min.).....	0.40%
Lactobacillus Acidophilus**	(min.).....	100 million CFU/lb
Cellulase** (a)	(min.).....	100 CMCU/kg

\*\*Not recognized as an essential nutrient by the AAFCO Dog Food Nutrient Profiles

(a) One Carboxymethyl Cellulose Unit (CMCU) liberates one micromole of reducing sugar (expressed as glucose equivalents) in one minute under the conditions of the assay.

## CALORIE CONTENT (Calculated)

<b>ME (kcal/kg)</b>	<b>3,470</b>	<b>ME (kcal/lb)</b>	<b>1,573</b>
<b>ME (kcal/g)</b>	<b>3.47</b>	<b>ME (kcal/cup)</b>	<b>520</b>



WE'RE ON A MISSION TO TRANSFORM THE LIVES OF PETS.

We believe that all pets deserve the best life possible. And if you ask us—it starts with food. Let's satisfy our pets' need for real food. Let's stick with what's natural and keep it simple. And as pure as possible. Let's follow nature's lead and give them more raw and stay free from filler, by-product and artificial preservatives. Let's redefine better. And put the pure, real nutrition of raw into more bowls. Let's do our part.

**FEED WHAT'S REAL®**

**PERFECTLY TAILORED NUTRITION FOR SMALL BREEDS GUIDED BY OUR BELIEF IN RAW**

Real, natural, whole-food ingredients, purposefully chosen for the nutrition they provide for your small breed. All with the pure, real nutrition of raw on every piece.

**LEAN MUSCLES**  
Packed with animal protein—cage-free chicken is the first ingredient

**DIGESTIVE & IMMUNE HEALTH**  
Guaranteed levels of probiotics, omegas and antioxidants

**JOINT HEALTH**  
Naturally occurring glucosamine and chondroitin

**HEALTHY BODY WEIGHT**  
Ideal balance of protein, fat and calories

**STRONG BONES AND TEETH**  
Guaranteed levels of calcium and phosphorus

**OUR FIRST FOUR INGREDIENTS**

- ✓ CHICKEN
- ✓ CHICKEN MEAL
- ✓ CHICKPEAS
- ✓ TURKEY MEAL

**MADE WITHOUT**

- ✗ GRAIN OR POTATO
- ✗ CORN, WHEAT, SOY
- ✗ BY-PRODUCT MEAL
- ✗ ARTIFICIAL COLORS OR PRESERVATIVES

**THE PURE, REAL NUTRITION OF RAW ON EVERY PIECE**

We believe in the power of raw, because we know the good it can do. So we asked ourselves—how can we incorporate this into every food that we make? And eventually, we found a way—raising the bar in nutrition and taste.

We make our raw frozen recipes then freeze-dry them—removing the moisture and locking in the nutrients.

Then the freeze-dried raw is crushed and tumbled with our kibble—putting the pure, real nutrition of raw on every piece.

ACTUAL SIZE

**ONE MILLION MEALS**

We think all pets deserve food that's real, nutrient-rich, grain-free and natural. That's why Instinct® provides over one million meals annually to the dogs and cats at Best Friends Animal Society® adoption centers nationwide. Because what we feed them can make all the difference.

## NATURAL NUTRITION

WITH ADDED VITAMINS, MINERALS & OTHER TRACE NUTRIENTS

### OUR INGREDIENTS

Chicken, Chicken Meal (source of Glucosamine and Chondroitin Sulfate), Chickpeas, Turkey Meal, Tapioca, Herring Meal, Chicken Fat (preserved with Mixed Tocopherols and Citric Acid), Peas, Dried Tomato Pomace, Natural Flavor, Coconut Oil, Montmorillonite Clay, Salt, Chicken Eggs, Potassium Chloride, Vitamins (Vitamin E Supplement, L-Ascorbyl-2-Polyphosphate, Niacin Supplement, Thiamine Mononitrate, d-Calcium Pantothenate, Vitamin A Supplement, Riboflavin Supplement, Pyridoxine Hydrochloride, Vitamin B12 Supplement, Folic Acid, Vitamin D3 Supplement, Biotin), Carrots, Apples, Cranberries, Choline Chloride, Minerals (Zinc Proteinates, Iron Proteinates, Copper Proteinates, Manganese Proteinates, Sodium Selenite, Ethylenediamine Dihydrochloride), Freeze Dried Chicken, Freeze Dried Chicken Liver, Pumpkinseeds, Freeze Dried Chicken Heart, Dried Bacillus coagulans Fermentation Product, Rosemary Extract.

*This is a naturally preserved product. Contains a source of live, naturally occurring microorganisms.*

### DAILY FEEDING GUIDELINES

Ideal feeding amounts will vary by age, weight and activity level so the guide below should be used as an initial recommendation. Divide the cups per day by the number of feedings per day. Be sure to always provide clean, fresh water. Along with dry food, we recommend feeding raw or wet food to help increase the amount of water in your dog's diet.

WEIGHT OF DOG	2-8 lb	9-12 lb	13-20 lb	21-30 lb
ADULT MAINTENANCE (cups per day*)	¾-1	1-1 ¼	1 ¼-1 ½	1 ½-1 ¾
WEIGHT LOSS (cups per day*)	¾-¾	¾-¾	¾-¾	¾-1

\*Standard 8 oz dry measuring cup  
**PUPPIES:** Feed up to twice the adult maintenance amount shown above.  
**PREGNANT/NURSING FEMALES:** Feed up to three times the adult maintenance amount shown above.

**TRANSITIONING TO INSTINCT:** Always introduce a new food over a period of 5 to 7 days, mixing increasing amounts of Instinct with the current food each day.

Visit [instinctpetfood.com/feeding-guide](http://instinctpetfood.com/feeding-guide) for more specific feeding recommendations and information on how to easily combine different forms of food.

### GUARANTEED ANALYSIS

Crude Protein (min):	36.0%
Crude Fat (min):	15.5%
Crude Fiber (max):	3.0%
Moisture (max):	10.0%
Calcium (min):	1.4%
Phosphorus (min):	1.1%
Vitamin E (min):	200 IU/kg
*Ascorbic Acid (Vitamin C) (min):	100 mg/kg
*Omega 3 Fatty Acids (min):	0.25%
*Omega 6 Fatty Acids (min):	2.0%
*Glucosamine (min):	300 mg/kg
*Chondroitin Sulfate (min):	525 mg/kg
*Bacillus coagulans (min):	60,000,000 CFU/lb

\*Not recognized as an essential nutrient by the AAFCO Dog Food Nutrient Profiles.

**CALORIE CONTENT (FED):** Metabolizable Energy  
4,140 kcal/kg; 463 kcal/cup

### COMPLETE & BALANCED

Instinct® Original Grain-Free Recipe with Real Chicken for Small Breed Dogs is formulated to meet the nutritional levels established by the AAFCO Dog Food Nutrient Profiles for all life stages except for growth of large size dogs (70 lbs or more as an adult).

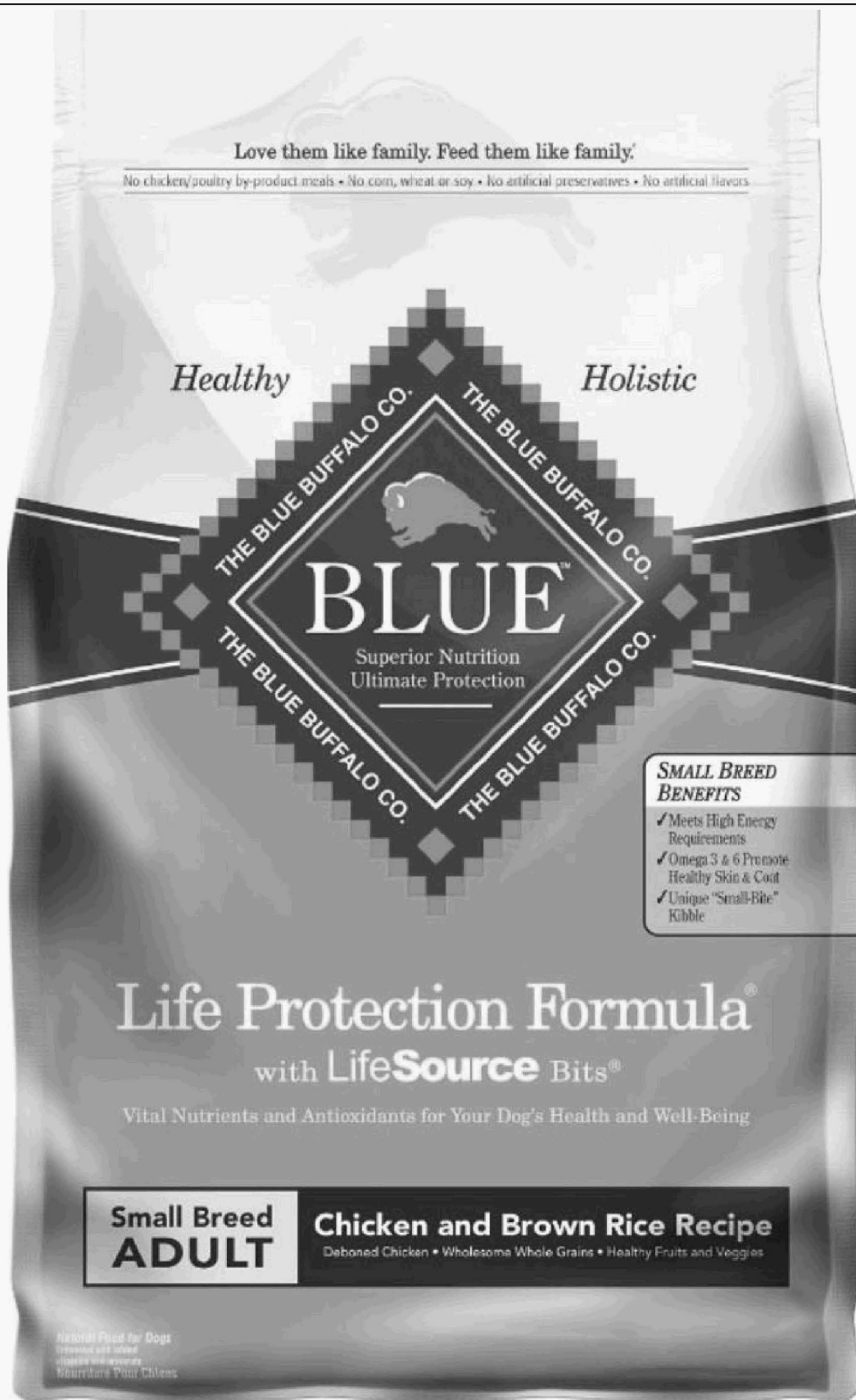
### SATISFACTION GUARANTEED


If you or your pet are not completely satisfied with this product, simply return the unused portion, along with the original sales receipt, back to the retailer and receive a full refund or exchange.

**WE'D LOVE TO HEAR FROM YOU!**

Call 1-888-519-7387 or learn more at  
[www.instinctpetfood.com](http://www.instinctpetfood.com)

Store in a cool, dry place. Keep package sealed to maintain freshness.  
Distributed by: Nature's Variety®, Saint Louis, MO 63146  
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*Healthy*  *Holistic*

**Love them like family. Feed them like family.\***

Like you, we think of our dogs as family members. We want them to enjoy every meal, and we do all we can to help them live long, happy and healthy lives. That's why we take great care in selecting the finest natural ingredients for every one of our BLUE dog foods. Our starting point is always delicious protein rich, deboned chicken, fish or lamb, and we never use any chicken (or poultry) by-product meals.

When you add the potent nutrient and antioxidant support of our exclusive LifeSource Bits to the superior nutrition of the finest natural ingredients, you get BLUE healthy and holistic dog food. It's the perfect food for your furry family members.

**The Finest Natural Ingredients**  
**Enhanced with Vitamins and Minerals**

Nothing beats natural when it comes to providing your dog with the nutrition he needs to stay healthy and happy. Every one of BLUE's tasty recipes has just the right balance of high-quality protein, whole grains, garden vegetables and fruit in every bite.

- High-Quality Protein**  
Delicious deboned chicken
- Wholesome Whole Grains**  
Brown rice, oatmeal and barley
- Healthy Garden Veggies**  
Whole peas, sweet potatoes, carrots and more
- Antioxidant-Rich Fruit**  
Blueberries and cranberries



**Enhanced Supplementation**  
**of LifeSource Bits®**

BLUE's exclusive LifeSource Bits are a precise blend of antioxidants, vitamins and minerals selected by holistic veterinarians and animal nutritionists. LifeSource Bits include ingredients that have been shown to help support:

- Immune system health
- Life stage requirements
- Healthy oxidative balance

And LifeSource Bits are "cold formed" to help maintain the potency of their ingredients by minimizing their exposure to heat during processing.

Learn more at [BlueBuffs.com/LifeSourceBits](http://BlueBuffs.com/LifeSourceBits).



**BLUE Small Breed Adult Dog**  
**Chicken & Brown Rice Recipe Benefits**

**Healthy Muscle Development**  
High-quality protein from Deboned Chicken, plus Chicken Meal helps build and maintain strong muscles.

**Higher Energy Needs**  
Increased levels of protein and carbohydrates help meet higher energy requirements.

**Dental Health**  
Unique "small-bite" kibble is the perfect size for smaller jaws and is shaped to help promote tartar removal with chewing.

**Joint Health**  
Glucosamine helps support joint function and overall mobility.

**Healthy Skin & Coat**  
An optimal balance of Omega 3 & 6 Fatty Acids helps promote a shiny coat and healthy skin.


**Immune System Health**  
Essential vitamins, chelated minerals and important antioxidants help support the immune system.



**Inspired by Blue Himself**

Blue, our large breed Airedale, is the good pal who inspired us to develop BLUE. A tireless pursuer of squirrels, Blue always enjoyed sharing the yard with his favorite canine companions Molly, Emma & Zack.

**Follow Us**


[@bluebuffalo](https://www.instagram.com/bluebuffalo)

Best If Used By:

For more information on BLUE™ visit [BlueBuffalo.com](http://BlueBuffalo.com) or call us at **1.800.919.2833**

## Ingredients

Deboned Chicken, Chicken Meal, Brown Rice, Oatmeal, Barley, Menhaden Fish Meal (source of Omega 3 Fatty Acids), Chicken Fat (preserved with Mixed Tocopherols), Flaxseed (source of Omega 6 Fatty Acids), Natural Flavor, Pea Starch, Dried Tomato Pomace, Peas, Pea Protein, Dried Egg Product, Salt, Potassium Chloride, Dehydrated Alfalfa Meal, Potatoes, Dried Chicory Root, Pea Fiber, Alfalfa Nutrient Concentrate, Calcium Carbonate, Choline Chloride, DL-Methionine, Preserved with Mixed Tocopherols, Sweet Potatoes, Carrots, Garlic, Zinc Amino Acid Chelate, Zinc Sulfate, Vegetable Juice for color, Ferrous Sulfate, Vitamin E Supplement, Iron Amino Acid Chelate, Blueberries, Cranberries, Barley Grass, Parsley, Turmeric, Dried Kelp, Yucca Schidigera Extract, Glucosamine Hydrochloride, Niacin (Vitamin B3), Calcium Pantothenate (Vitamin B5), L-Carnitine, L-Ascorbyl-2-Polyphosphate (source of Vitamin C), L-Lysine, Copper Sulfate, Biotin (Vitamin B7), Vitamin A Supplement, Copper Amino Acid Chelate, Manganese Sulfate, Taurine, Manganese Amino Acid Chelate, Thiamine Mononitrate (Vitamin B1), Riboflavin (Vitamin B2), Vitamin D3 Supplement, Vitamin B12 Supplement, Pyridoxine Hydrochloride (Vitamin B6), Calcium Iodate, Dried Yeast, Dried Enterococcus faecium fermentation product, Dried Lactobacillus acidophilus fermentation product, Dried Aspergillus niger fermentation extract, Dried Trichoderma longibrachiatum fermentation extract, Dried Bacillus subtilis fermentation extract, Folic Acid (Vitamin B9), Sodium Selenite, Oil of Rosemary.

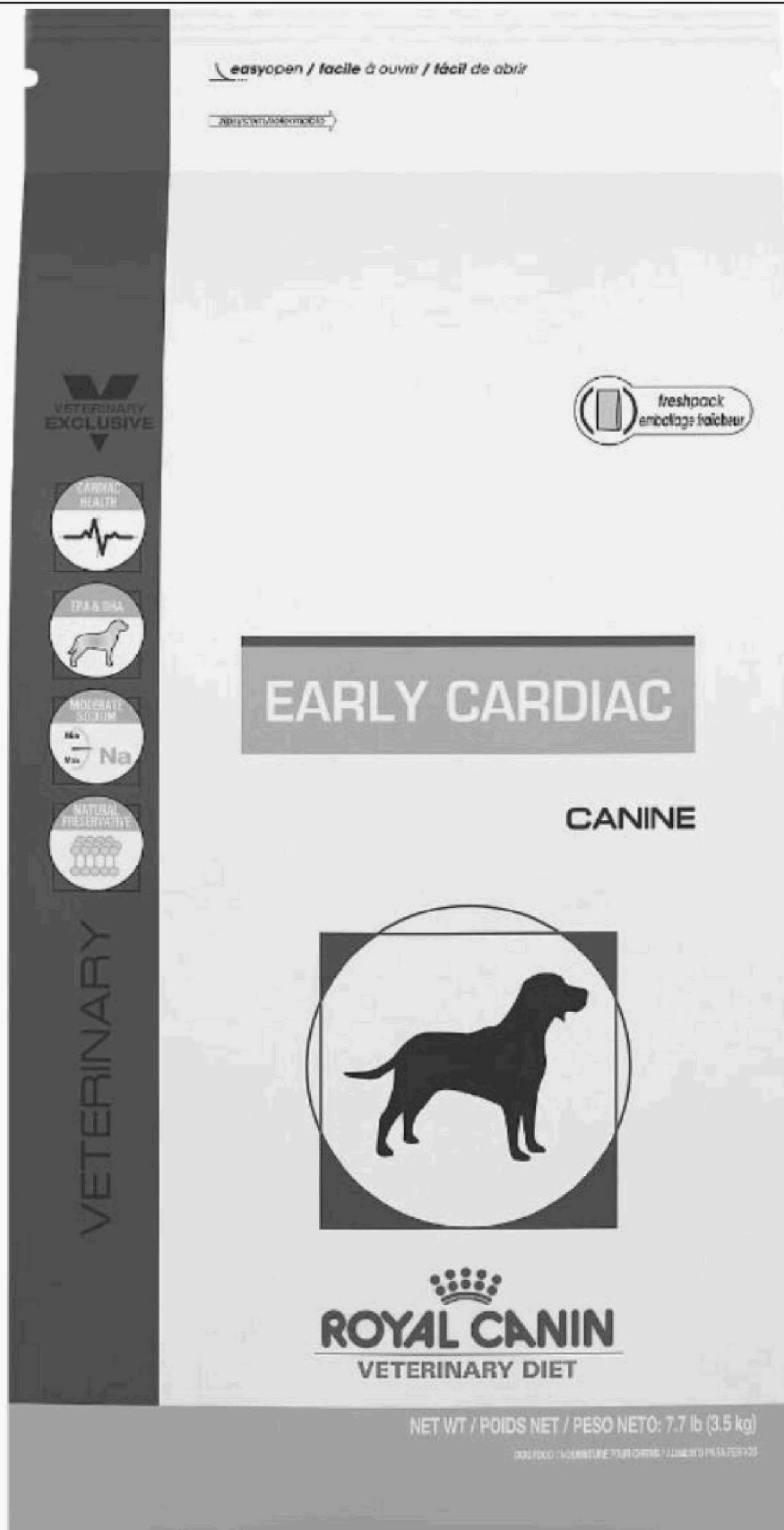
## Guaranteed Analysis

Crude Protein	26.0% min
Crude Fat	15.0% min
Crude Fiber	4.0% max
Moisture	10.0% max
Calcium	1.2% min
Phosphorus	0.9% min
Omega 3 Fatty Acids*	0.5% min
Omega 6 Fatty Acids*	3.0% min
Glucosamine*	400 mg/kg min

\*Not recognized as an essential nutrient by the AAFCO Dog Food Nutrient Profiles.

## Nutrition Statement

BLUE Life Protection Formula Chicken and Brown Rice Recipe for Small Breed Adult Dogs is formulated to meet the nutritional levels established by the AAFCO Dog Food Nutrient Profiles for maintenance.



**FUNDADA POR UN VETERINARIO, ROYAL CANIN** tiene más de 40 años de experiencia en salud animal. Our work with nutritionists, breeders, and veterinarians from around the world has produced a high knowledge of the specific nutritional requirements of dogs. This knowledge allows us to formulate the optimal diet for your dog's special needs.

**FUNDADA POR UN VETERINARIO, ROYAL CANIN** cuenta con más de 40 años de experiencia en alimentación animal. Nos rodeamos de los nutricionistas animales, criadores y veterinarios de todo el mundo de la jauría de la que somos el punto de contacto de las recomendaciones específicas para las dietas nutricionales de los perros. Este conocimiento nos permite formular la dieta óptima para las necesidades específicas de su perro.

**FUNDADA POR UN VETERINARIO, ROYAL CANIN** tiene más de 40 años de experiencia en nutrición para la salud. Nuestro trabajo con nutricionistas de mascotas, criadores y veterinarios de todo el mundo, nos ha proporcionado el conocimiento de las necesidades nutricionales específicas de los perros. Este conocimiento nos permite formular la dieta óptima para las necesidades específicas de su perro.



**Cardiac Health / Santé Cardiaque / Salud Cardíaca:**  
Certains arginine, carnitine, and taurine.  
Certains de l'arginine, de la carnitine et de la taurine.  
Certains arginina, carnitina y taurina.



**Moderate Sodium / Tenues Modérées en Sodium / Sódio Moderado:**  
Moderate, rather than severe, sodium restriction to reduce the workload on the heart.  
Restricção moderada, e não severa, de sódio para diminuir o trabalho do coração.  
Restriccións de sodio moderadas, más que rigorosas, para disminuir el trabajo del corazón.



**EPA and DHA / EPA et DHA / EPA y DHA:**  
Eicosapentaenoic and docosahexaenoic acids are long chain omega-3 fatty acids for healthy cardiovascular function.  
Les acides eicosapentaénoïque et docosahexaénoïque sont de longues chaînes d'acides gras omega-3 qui aident à un fonctionnement sain du système cardiovasculaire.  
El ácido eicosapentaénoico y el docosahexaénoico son ácidos grasos omega-3 de cadena larga para lograr un funcionamiento cardiovascular sano.



Natural Preservation / Agent de Conservation Naturel / Conservante Natural  
Naturally preserved to ensure freshness and quality.  
Agent de conservation naturel pour garantir la fraîcheur et la qualité.  
Conservante de origen natural para asegurar la frescura y calidad.

Daily feeding recommendations may be divided into two to four meals. Individual requirements may vary. Consult your veterinarian for specific feeding guidelines for your pet. This feeding guide does not apply to puppies or pregnant/lactating dogs. Ensure fresh drinking water is available at all times. Store product in a cool, dry place.

Les portions quotidiennes recommandées peuvent être réparties en deux à quatre repas. Les besoins individuels peuvent varier. Consultez votre vétérinaire pour obtenir des recommandations spécifiques pour votre animal. Le présent guide alimentaire ne s'applique pas aux chiots ni aux chienne enceintes ou qui allaitent. Fournir de l'eau fraîche en tout temps. Conserver le produit dans un endroit frais et sec.

Las recomendaciones de alimentación marinos pueden dividirse en dos o cuatro comidas. Los requerimientos particulares pueden variar. Consulte al médico veterinario. Esta guía de alimentación no se aplica a cachorros ni perras gestantes o en período de lactancia. Asegúrese de que su mascota siempre tenga agua fresca disponible para beber. Guarde el producto en un lugar fresco y seco.

ROYAL CANIN Canada Company  
100 Belber Rd, RR 3  
Guelph, ON N1H 6N5, Canada  
1-800-527-2672, [www.royalcanin.ca](http://www.royalcanin.ca)

ROYAL CANIN MEXICO SA de CV  
Lago Zürich No. 245 Int. 1204  
Colonia Ampliación Granada  
C. P. 11529 Delegación Miguel Hidalgo  
México, D.F.

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Recommended Daily Feeding Portion			
Alimentación quodidiana recomendada / Porciones diarias recomendadas			
Weight of dog (lb) Peso del perro (lb)	Weight of dog (kg) Peso del perro (kg)	Days (granulated dog food) Días (comida granulada para perros)	Days (puppy dog food) Días (comida para cachorros)
4.4	2	1 (1/2 cup)	1 (1/2 cup)
11.5	5	3 (1/2 cups)	3 (1/2 cups)
22.0	10	5 (1/2 cups)	5 (1/2 cups)
33.1	15	7 (1/2 cups)	7 (1/2 cups)
44.1	20	9 (1/2 cups)	9 (1/2 cups)
55.1	25	11 (1/2 cups)	11 (1/2 cups)
66.1	30	13 (1/2 cups)	13 (1/2 cups)
77.2	35	15 (1/2 cups)	15 (1/2 cups)
88.2	40	17 (1/2 cups)	17 (1/2 cups)
99.2	45	19 (1/2 cups)	19 (1/2 cups)
110.2	50	21 (1/2 cups)	21 (1/2 cups)
121.3	55	23 (1/2 cups)	23 (1/2 cups)
132.3	60	25 (1/2 cups)	25 (1/2 cups)
143.3	65	27 (1/2 cups)	27 (1/2 cups)
154.3	70	29 (1/2 cups)	29 (1/2 cups)
165.3	75	31 (1/2 cups)	31 (1/2 cups)
176.3	80	33 (1/2 cups)	33 (1/2 cups)
187.3	85	35 (1/2 cups)	35 (1/2 cups)
198.3	90	37 (1/2 cups)	37 (1/2 cups)
209.3	95	39 (1/2 cups)	39 (1/2 cups)
220.3	100	41 (1/2 cups)	41 (1/2 cups)

1 Day = 4 Meals/Comidas = 94 Grams / 1 Tasse = 8 Ounces/Ounces = 94 Grammes /  
 1 Tasse = 8 Ounces/Ounces = 94 Grammes

**Calorie Content / Contenido Calorífico / Contenido Calórico**  
 Consists/Contiene/Contiene 3600 kcal/Méj (kcal/medida de 3600 kcal)  
 Consists/Contiene/Contiene 268 kcal/Méj (kcal/medida de 268 kcal)

Best by • Meilleur avant • F. expirabile / Verbrauchsdatum • Expiry date • Verfallsdatum



**INGREDIENTS:** Brewers rice, chicken fat, chicken meal, fish meal, soy protein isolate, natural flavors, powdered cellulose, potassium chloride, fish oil, L-arginine, choline chloride, taurine, monosodium phosphate, L-carnitine, vitamins [DL-alpha tocopherol acetate (source of vitamin E), L-ascorbyl-2-polyphosphate (source of vitamin C), niacin supplement, biotin, riboflavin supplement, D-calcium pantothenate, pyridoxine hydrochloride (vitamin B6), vitamin A acetate, thiamine mononitrate (vitamin B1), folic acid, vitamin B12 supplement, vitamin D3 supplement], trace minerals (zinc oxide, ferrous sulfate, copper sulfate, manganous oxide, calcium iodate, sodium selenite), rosemary extract, preserved with mixed tocopherols and citric acid.





TEAR TO OPEN  
DÉCHIRER POUR OUVRIR

### Why GREENIES™ PILL POCKETS™ treats?

Getting your dog to take their medicine can be difficult and can leave you feeling frustrated and your dog angry, scared or confused.

#### GREENIES™ PILL POCKETS™ treats:

- Offer a proven solution for administering medication.
- Contain a built-in pouch suited for hiding the medicine.
- Makes taking medicine a positive experience for your dog.
- Dogs love them!

### Pourquoi les gâteries GREENIES™ PILL POCKETS™?

Donner des médicaments à votre chien peut être difficile, ce qui risque de vous frustrer et de rendre votre chien contrarié, anxieux ou confus.

#### Les gâteries PILL POCKETS™ de la gamme GREENIES™ :

- Offrent une solution éprouvée lorsqu'il est difficile d'administrer un médicament.
- Comportent une pochette intégrée, idéale pour cacher le médicament.
- Transforment la prise de médicament en une expérience positive pour votre chien.
- Les chiens en raffolent!

**FEEDING GUIDELINES** Feed as a treat.  
**GUIDE ALIMENTAIRE** Offrir comme une gâterie

- 1 FILL:** Hold PILL POCKETS™ treat with your thumb and forefinger; insert tablet.  
**GARNIR :** Tenez la gâterie PILL POCKETS™ entre le pouce et l'index, insérez le comprimé.
- 2 PINCH:** Using the same hand holding the PILL POCKETS™ treat, squeeze the top half closed.  
**PINÇER :** Avec la main qui tient la gâterie PILL POCKETS™, refermez en pinçant la moitié supérieure.
- 3 GIVE:** The PILL POCKETS™ treat is now sealed, feed to your dog.  
**DONNER :** Donnez la gâterie PILL POCKETS™ ainsi refermée à votre chien.



**IMPORTANT:** To prevent transfer of medicine smell or taste, do not touch PILL POCKETS™ treat with the hand that held the medicine. **IMPORTANT :** Afin d'éviter de conférer à la gâterie l'odeur ou le goût de médicament, ne touchez pas la gâterie PILL POCKETS™ avec la main qui a tenu le médicament.

**INGREDIENTS** Rehydrated chicken, glycerin, wheat flour, dried corn syrup, dried cheese, vegetable oil, wheat gluten, dried cultured skim milk, natural cheddar cheese flavor, sodium bisulfate, water, natural flavors, preserved with mixed tocopherols.

**INGRÉDIENTS** Poulet réhydraté, glycérine, farine de blé, sirop de maïs déshydraté, fromage séché, huile végétale, gluten de blé, lait écrémé de culture en poudre, arôme naturelle de fromage cheddar, bisulfate de sodium, eau, arômes naturels, mélange de tocophérols comme agent de conservation.

#### GUARANTEED ANALYSIS / ANALYSE GARANTIE

Crude Protein / Protéines brutes	.....Min. 11.0%
Crude Fat / Matières grasses brutes	.....Min. 10.0%
Crude Fiber / Fibres brutes	.....Max. 1.5%
Moisture / Humidité	.....Max. 31.0%

#### CALORIE CONTENT / (CALCULATED) VALEUR CALORIGÈNE / (CALCULÉE)

(kcal/kg) ME /	.....2,941
(kcal/kg) Énergie métabolisable	.....
Calories (kcal) ME per treat /	.....9
Calories (kcal) par gâterie	.....
Servings per package (approx.) /	.....30
Portions par paquet (approx.)	.....

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\*Data on File 2017,  
Mars Petcare US, Inc.  
\*Données en dossiers chez  
2017, Mars Petcare US, Inc.

Comments or Questions? Call 1-866-GREENIES (1-866-473-3643) or visit our website at [www.greenies.com](http://www.greenies.com)  
Commentaires ou questions? Composez le 1-866-473-3643 ou visitez notre site Web au [www.greenies.com](http://www.greenies.com)



140226

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

BNP 3/28/19

**B4**

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

Client: **B6**  
Patient: **B6**  
Species: CANINE  
Breed:  
Gender: MALE  
Age: 8Y

Date: 03/27/2019  
Requisition #: 1A  
Accession #: **B6**  
Ordered by: **B6**

**B4**  
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	<b>B6</b>	0 - 900 pmol/L	HIGH		<b>B6</b>

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: **B6**

Diet Hx 3/27/19

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

Pet's name: **B6** Owner's name: **B6** Today's date: **B6**

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 \_\_\_\_\_

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
Royal Canine	dry	1 1/2 cup	1x/day	OCT 2018
Hills Science Diet – Chick stew	wet	1/2 can	1x/day	OCT 2018

\*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 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

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  
☐ I put them in a Pill Pocket or similar product  
☐ I put them in foods (list foods): \_\_\_\_\_

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

**T4 - 3/27/19**



**Tufts Cummings School Of Veterinary Medicine**

200 Westboro Road  
North Grafton, MA 01536

**DUPLICATE**

Name/DOB:	<b>B6</b>	Sex: U	Provider: <b>B6</b>
Patient ID:	<b>B6</b>	Age: 8	Order Location: V320559: Investigation into
Phone number:		Species: Canine	Sample ID: <b>B6</b>
Collection Date:	3/27/2019 12:55 PM	Breed: Boxer	
Approval date:	3/27/2019 3:15 PM		

**T4/Clin Path (Research)**

ABLASOTTO  
T4/Tosoh

**B6**

Ref. Range/-  
1.00-4.10 ug/dl

Sample ID: **B6**  
REPRINT: Orig. printing on 3/27/2019 (Final)

Reviewed by: \_\_\_\_\_

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

Cbc/Chem 10/31/18



**Tufts Cummings School Of Veterinary Medicine**

200 Westboro Road  
North Grafton, MA 01536

**DUPLICATE**

Name/DOB:	<b>B6</b>	Provider:	<b>B6</b>
Patient ID:	<b>B6</b>	Sex: U	Order Location: V320422: Barkley Fund Lipitor Study
Phone number:		Age: 8	Sample ID: <b>B6</b>
Collection Date: 10/31/2018 10:45 AM		Species: Canine	
Approval date: 10/31/2018 12:58 PM		Breed: Boxer	

**CBC (Research) (Advia)**

SMACHUNSKI		Ref. Range/
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)	H	31.9-34.3 g/dL
RDW (ADVIA)		11.9-15.2
Comments (Hematology)	platelets/ 100x field (estimated count of 200,000-500,000/uL)	

**Microscopic Exam of Blood Smear (Advia)**

SMACHUNSKI		Ref. Range/
Seg Neuts (%)	H	43-86 %
Lymphocytes (%)	L	7-47 %
Monocytes (%)		1-15 %
Eosinophils (%)		0-16 %
Seg Neutrophils (Abs)	H	2.800-11.500 K/uL
Advia		
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		
Acanthocytes		
Poikilocytosis		

**Research Chemistry Profile - Small Animal (Cobas)**

TFRANK		Ref. Range/
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		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		8.0-19.0
NA/K		29-40

Sample ID: 1810310042/1  
This report continues... (Final)

Reviewed by: \_\_\_\_\_

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

Cbc/Chem 10/31/18



**Tufts Cummings School Of Veterinary Medicine**

200 Westboro Road  
North Grafton, MA 01536

**DUPLICATE**

Name/DOB:	<b>B6</b>	Sex:	U	Provider:	<b>B6</b>
Patient ID:	<b>B6</b>	Age:	8	Order Location:	V320422: Barkley Fund Lipitor Study
Phone number:		Species:	Canine	Sample ID:	<b>B6</b>
Collection Date:	10/31/2018 10:45 AM	Breed:	Boxer		
Approval date:	10/31/2018 12:58 PM				

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

TFRANK		Ref. Range/-
Total Bilirubin		0.10-0.30 mg/dL
Direct Bilirubin		0.00-0.10 mg/dL
Indirect Bilirubin		0.00-0.20 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	H	82-355 mg/dL
Triglycerides		30-338 mg/dL
Amylase		409-1250 U/L
Osmolality (calculated)	L	291-315 mmol/L
Comments (Chemistry)		

Sample ID: **B6**  
REPRINT: Orig. printing on 10/31/2018 (Final)

Reviewed by: \_\_\_\_\_  
Page 2

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

Cbc/Chem 10/7/18



**Tufts Cummings School Of Veterinary Medicine**

200 Westboro Road  
North Grafton, MA 01536

**DUPLICATE**

Name/DOB:	<b>B6</b>	Sex: U	Provider: <b>B6</b>
Patient ID:	<b>B6</b>	Age: 8	Order Location: Foster Hospital for Small Animals
Phone number:		Species: Canine	Sample ID: <b>B6</b>
Collection Date:	10/7/2018 10:31 AM	Breed: Boxer	
Approval date:	10/7/2018 4:14 PM		

**CBC, Comprehensive, Sm Animal**

TFRANK		Ref. Range/-
WBC (ADVIA)	H <b>B6</b>	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)	L <b>B6</b>	173-486 K/uL

10/07/18 4:11 PM

**B6**

Mean Platelet Volume  
(Advia)  
10/07/18 1:18 PM

**B6**

8.29-13.20 fl

**B6**

Platelet Cnt  
10/07/18 1:18 PM

**B6**

0.129-0.403 %

**B6**

Reticulocyte Count (Advia)  
Absolute Reticulocyte  
Count (Advia)

**B6**

0.20-1.60 %  
14.7-113.7 K/uL

**Microscopic Exam of Blood Smear (Advia)**

TFRANK		Ref. Range/-
Seg Neuts (%)	H <b>B6</b>	43-86 %
Lymphocytes (%)	L <b>B6</b>	7-47 %
Monocytes (%)		1-15 %
Eosinophils (%)		0-16 %
Seg Neutrophils (Abs)	H <b>B6</b>	2.800-11.500 K/uL
Advia		
Lymphs (Abs) Advia	L <b>B6</b>	1.00-4.80 K/uL
Mono (Abs) Advia		0.10-1.50 K/uL
Eosinophils (Abs) Advia		0.00-1.40 K/uL
Toxic Change		

10/07/18 4:14 PM

**B6**

Acanthocytes  
Keratocytes/Blister Cells  
Poikilocytosis

**B6**

Sample ID: **B6**  
This report continues... (Final)

Reviewed by: \_\_\_\_\_

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

Cbc/Chem 10/7/18



**Tufts Cummings School Of Veterinary Medicine**

200 Westboro Road  
North Grafton, MA 01536

**DUPLICATE**

Name/DOB:	<b>B6</b>	Sex:	U	Provider:	<b>B6</b>
Patient ID:	<b>B6</b>	Age:	8	Order Location:	Foster Hospital for Small Animals
Phone number:		Species:	Canine	Sample ID:	<b>B6</b>
Collection Date:	10/7/2018 10:31 AM	Breed:	Boxer		
Approval date:	10/7/2018 4:14 PM				

**Chemistry Profile - Small Animal (Package) (Cobas)**

TFRANK		Ref. Range/-
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		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		8.0-19.0
NA/K		29-40
Total Bilirubin		0.10-0.30 mg/dL
Direct Bilirubin		0.00-0.10 mg/dL
Indirect Bilirubin		0.00-0.20 mg/dL
Alkaline Phosphatase	H	12-127 U/L
GGT		0-10 U/L
ALT	H	14-86 U/L
AST	H	9-54 U/L
Creatine Kinase	H	22-422 U/L
Cholesterol	H	82-355 mg/dL
Triglycerides		30-338 mg/dl
Amylase		409-1250 U/L
Osmolality (calculated)		291-315 mmol/L

Sample ID: **B6**  
REPRINT: Orig. printing on 10/7/2018 (Final)

Reviewed by: \_\_\_\_\_  
Page 2

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

NOVA 10/6/18



**ICU/Emergency & Critical Care**

Foster Hospital for Small Animals, TCSVM  
200 Westboro Rd  
North Grafton, MA 01536

**DUPLICATE**

Name/DOB:	<b>B6</b>	Sex:	U	Provider:	<b>B6</b>
Patient ID:	<b>B6</b>	Age:	8	Order Location:	Foster Hospital for Small Animals
Phone number:		Species:	Canine	Sample ID:	<b>B6</b>
Collection Date:	10/6/2018 1:30 AM	Breed:	Boxer		
Approval date:	10/6/2018 1:58 AM				

**Nova Full Panel-ICU**

	10/06/18	1:58 AM	k (SO2%)	
RGREENWAY				Ref. Range/-
pH	L			7.337-7.467
pCO2				36.0-44.0 mmHg
pO2	L			80.0-100.0 mmHg
SO2%	L!			94.0-100.0 %
Hct (POC)				38-48 %
Hb (POC)				12.6-16.0 g/dL
Sodium (POC)				140.0-154.0 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, (ionized) (POC)	H			0.1-0.4 mmol/L
Glucose (POC)	L			80-120 mg/dL
Lactate	H			0.0-2.0 mmol/L
BUN (POC)				12.0-28.0 mg/dL
Creat (POC)	H			0.2-2.1 mg/dL
TCO2 (POC)				mmol/L
nCa				mmol/L
nMg				mmol/L
Gap				mmol/L
Ca/Mg				mol/mol
BEecf				mmol/L
BEb				mmol/L
HCO3	L			18.0-24.0 mmol/L
A				mmHg
NOVA Sample Source				
FiO2		<b>B6</b> (room air)		%

Sample ID: **B6**  
REPRINT: Orig printing on 10/6/2018 (Final)

Reviewed by: \_\_\_\_\_

Client:  
Patient:

**B6**

---

Client:  
Patient:

**B6**

ECG from cardio

**B6**

**B6**

9:39:52 AM

Page 1 of 2

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

**B6**

Client:  
Patient:

**B6**

**ECG from cardio**

**B6**

**B6**

9:39:52 AM

Page 2 of 2

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

**B6**

Client: **B6**  
Patient:

ECG from cardio

**B6**

**B6**

9:40:00 AM

Page 1 of 2

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

**B6**

Client: **B6**  
Patient:

**ECG from cardio**

**B6**

**B6**

9:40:00 AM

Page 2 of 2

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

**B6**

Client: **B6**  
Patient:

**ECG from cardio**

**B6**

**B6**

9:40:52 AM

Page 1 of 2

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

**B6**

Client: **B6**  
Patient:

**ECG from cardio**

**B6**

**B6**

9:40:52 AM

Page 2 of 2

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

**B6**

Client: **B6**  
Patient:

ECG from cardio

**B6**

**B6**

9:40:52 AM

Page 1 of 2

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

**B6**

Client: **B6**  
Patient:

ECG from cardio

**B6**

**B6**

9:40:52 AM

Page 2 of 2

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

**B6**

Client: **B6**  
Patient:

ECG from cardio

**B6**

**B6**

9:41:17 AM

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

**B6**

---

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

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

**Sent:** 1/23/2019 11:40:21 PM

**Subject:** Wellness Core Ocean Grain Free Protein-Rich Nutrition; [B6]  
EON-377321

**Attachments:** 2061666-report.pdf; 2061666-attachments.zip

A PFR Report has been received and PFR Event [EON-377321] has been created in the EON System.

A "PDF" report by name "2061666-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 "2061666-attachments.zip" and is attached to this email notification.

Below is the summary of the report:

**EON Key:** EON-377321

**ICSR #:** 2061666

**EON Title:** PFR Event created for Wellness Core Ocean Grain Free Protein-Rich Nutrition; 2061666

<b>AE Date</b>	02/15/2015	<b>Number Fed/Exposed</b>	2
<b>Best By Date</b>	10/24/2019	<b>Number Reacted</b>	2
<b>Animal Species</b>	Dog	<b>Outcome to Date</b>	Better/Improved/Recovering
<b>Breed</b>	Retriever - Golden		
<b>Age</b>	7 Years		
<b>District Involved</b>	PFR [B6] DO		

**Product information**

**Individual Case Safety Report Number:** 2061666

**Product Group:** Pet Food

**Product Name:** Wellness Core Ocean Grain Free Protein-Rich Nutrition

**Description:** Began feeding Wellness CORE Ocean Dry Kibble Feb. 2015 as main source of nutrition, fed 1 cup 2x per day. Submitted Whole Blood sample to UC Davis Amino Acid Lab for Taurine Testing 6/26/2018. Lab Result [B6] Whole Blood Taurine Results which per Dr. Joshua Stern UC Davis DVM Cardiologist is BELOW the 250 minimum range for a Golden Retriever Dog. Per Dr. Stern's order continue feedling this food and supplement each daily meal with taurine rich foods for 3 months then ReTest. Supplemented kibble with 1/2cup

pan fried Ground Sirloin, 1 Hardboiled Eggs and 3 Greek 2% Yogurt for 3months. ReTested Whole Blood Taurine Level October 24, 2018 sent to UC Davis Amino Acid Lab. 10/24/2018 Lab Result Whole Blood Taurine Results **B6** Improvement of **B6** putting him within the "normal" range Dr. Stern has identified for Golden Retriever Dogs.

**Submission Type:** Initial

**Report Type:** Both

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

**Number of Animals Treated With Product:** 2

**Number of Animals Reacted With Product:** 2

Product Name	Lot Number or ID	Best By Date
Wellness Core Ocean Grain Free Protein-Rich Nutrition	1228J22	10/24/2019

**Sender information**

**B6**

USA

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

<https://eon.fda.gov/eon//browse/EON-377321>

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=394330>

=====

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you received this email in error, please send an email to [FDAREportableFoods@fda.hhs.gov](mailto:FDAREportableFoods@fda.hhs.gov) immediately.

**Report Details - EON-377321**

<b>ICSR:</b>	2061666		
<b>Type Of Submission:</b>	Initial		
<b>Report Version:</b>	FPSR.FDA.PETF.V.V1		
<b>Type Of Report:</b>	Both		
<b>Reporting Type:</b>	Voluntary		
<b>Report Submission Date:</b>	2019-01-23 18:29:48 EST		
<b>Reporter is the Animal Owner:</b>	Yes		
<b>Reported Problem:</b>	<b>Problem Description:</b>	Began feeding Wellness CORE Ocean Dry Kibble Feb. 2015 as main source of nutrition, fed 1 cup 2x per day. Submitted Whole Blood sample to UC Davis Amino Acid Lab for Taurine Testing 6/26/2018. Lab Result: <b>B6</b> Whole Blood Taurine Results which per Dr. Joshua Stern UC Davis DVM Cardiologist is BELOW the 250 minimum range for a Golden Retriever Dog. Per Dr. Stern's order continue feeding this food and supplement each daily meal with taurine rich foods for 3 months then ReTest. Supplemented kibble with 1/2cup pan fried Ground Sirloin, 1 Hardboiled Eggs and 3 Greek 2% Yogurt for 3months. ReTested Whole Blood Taurine Level October 24, 2018 sent to UC Davis Amino Acid Lab. 10/24/2018 Lab Result Whole Blood Taurine Results: <b>B6</b> Improvement of <b>B6</b> , putting him within the "normal" range Dr. Stern has identified for Golden Retriever Dogs.	
	<b>Date Problem Started:</b>	02/15/2015	
	<b>Date of Recovery:</b>	10/24/2018	
	<b>Outcome to Date:</b>	Better/Improved/Recovering	
<b>Product Information:</b>	<b>Product Name:</b>	Wellness Core Ocean Grain Free Protein-Rich Nutrition	
	<b>Product Type:</b>	Pet Food	
	<b>Lot Number:</b>	<b>Lot Number:</b>	1228J22
		<b>Expiration Date:</b>	10/24/2019
	<b>UPC:</b>	076344884132	
	<b>Package Type:</b>	BAG	
	<b>Package Size:</b>	12 Pound	
	<b>Purchase Date:</b>	01/04/2019	
	<b>Number Purchased:</b>	1	
	<b>Possess Unopened Product:</b>	No	
	<b>Possess Opened Product:</b>	Yes	
	<b>Storage Conditions:</b>	Bag has a ziplock freshness seal which was opened and resealed after each use.	
	<b>Product Use Information:</b>	<b>Description:</b>	Fed 1 cup kibble soaked in warm water 2x per day to <b>B6</b>
		<b>Last Exposure Date:</b>	01/04/2019
		<b>Time Interval between Product Use and Adverse Event:</b>	3 Years
		<b>Product Use Stopped After the Onset of the Adverse Event:</b>	Yes
		<b>Adverse Event Abate After Product Stop:</b>	Yes
		<b>Product Use Started Again:</b>	No
		<b>Perceived</b>	Definitely related

		Relatedness to Adverse Event:	
		Other Foods or Products Given to the Animal During This Time Period:	Yes
	Manufacturer /Distributor Information:		
	Purchase Location Information:	Name:	Petco
		Address:	B6
			United States
Animal Information:	Name:	B6	
	Type Of Species:	Dog	
	Type Of Breed:	Retriever - Golden	
	Gender:	Male	
	Reproductive Status:	Neutered	
	Weight:	73 Pound	
	Age:	7 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:	06/26/2018
		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	Yes	

	<b>Sender:</b>	
	<b>Preferred Method Of Contact:</b>	Email
	<b>Reported to Other Parties:</b>	Other Store/Place of Purchase
<b>Additional Documents:</b>		
	<b>Attachment:</b>	<b>B6</b> Oct20182ndTaurineResults_23928.jpg.pdf
	<b>Description:</b>	Taurine Retest Lab Report after 3 months of adding Taurine Rich Foods to existing kibble which was causing the problem.
	<b>Type:</b>	Laboratory Report
	<b>Attachment:</b>	<b>B6</b> June2620181stTaurineResultsT_19251.pdf
	<b>Description:</b>	First Taurine Results, Per Dr. Stern: "Those taurine levels are ok. I would prefer to see over 250. My recommendation would be either diet change and retest after 3 months or add in taurine rich ingredients and retest in 3 months. "
	<b>Type:</b>	Laboratory Report
	<b>Attachment:</b>	DrStern Lab Taurine RecommendationsAug2018.pdf
	<b>Description:</b>	Aug 2018 Letter from Dr. Joshua Stern DVM Cardiologist explaining the Taurine Deficeincy results specifically to Golden Retriever owners with the correct range that Golden Retriever dogs are to be in.
	<b>Type:</b>	Letter

## Report Details - EON-377324

ICSR:	2061667																
Type Of Submission:	Initial																
Report Version:	FPSR.FDA.PETF.V.V1																
Type Of Report:	Both																
Reporting Type:	Voluntary																
Report Submission Date:	2019-01-23 18:59:19 EST																
Reporter is the Animal Owner:	Yes																
Reported Problem:	<p><b>Problem Description:</b> Began feeding Wellness CORE Ocean Dry Kibble Jan. 2017 as main source of nutrition, fed 1.5 cup 2x per day. Submitted Whole Blood sample to UC Davis Amino Acid Lab for Taurine Testing 6/26/2018. Lab Result: <b>B6</b> Whole Blood Taurine Results which per Dr. Joshua Stern UC Davis DVM Cardiologist is barely above the 250 minimum range for a Golden Retriever Dog. Per Dr. Stern's order continue feeding this food and supplement each daily meal with taurine rich foods for 3 months then ReTest. Supplemented kibble with 1/2cup pan fried Ground Sirloin, 1 Hardboiled Eggs and 3 Greek 2% Yogurt for 3months. ReTested Whole Blood Taurine Level October 24, 2018 sent to UC Davis Amino Acid Lab. 10/24/2018 Lab Result Whole Blood Taurine Results <b>B6</b> Improvement of <b>B6</b> putting him within the "normal" range Dr. Stern has identified for Golden Retriever Dogs.</p> <p><b>Date Problem Started:</b> 01/02/2017</p> <p><b>Date of Recovery:</b> 10/24/2018</p> <p><b>Concurrent Medical Problem:</b> No</p> <p><b>Outcome to Date:</b> Better/Improved/Recovering</p>																
Product Information:	<p><b>Product Name:</b> Wellness Core Ocean Grain Free Protein-Rich Nutrition</p> <p><b>Product Type:</b> Pet Food</p> <p><b>Lot Number:</b> <b>Lot Number:</b> 1228J22 <b>Expiration Date:</b> 10/24/2019</p> <p><b>UPC:</b> 076344884132</p> <p><b>Package Type:</b> BAG</p> <p><b>Package Size:</b> 12 Pound</p> <p><b>Purchase Date:</b> 12/04/2018</p> <p><b>Number Purchased:</b> 1</p> <p><b>Possess Unopened Product:</b> No</p> <p><b>Possess Opened Product:</b> Yes</p> <p><b>Storage Conditions:</b> Bag has a ziplock freshness seal which was opened and resealed after each use.</p> <p><b>Product Use Information:</b></p> <table border="1"> <tr> <td><b>Description:</b></td> <td>Fed 1.5 cups kibble soaked in warm water 2x per day to <b>B6</b></td> </tr> <tr> <td><b>Last Exposure Date:</b></td> <td>01/04/2019</td> </tr> <tr> <td><b>Time Interval between Product Use and Adverse Event:</b></td> <td>2 Years</td> </tr> <tr> <td><b>Product Use Stopped After the Onset of the Adverse Event:</b></td> <td>Yes</td> </tr> <tr> <td><b>Adverse Event Abate After Product Stop:</b></td> <td>Yes</td> </tr> <tr> <td><b>Product Use Started Again:</b></td> <td>No</td> </tr> <tr> <td><b>Perceived</b></td> <td>Definitely related</td> </tr> </table>			<b>Description:</b>	Fed 1.5 cups kibble soaked in warm water 2x per day to <b>B6</b>	<b>Last Exposure Date:</b>	01/04/2019	<b>Time Interval between Product Use and Adverse Event:</b>	2 Years	<b>Product Use Stopped After the Onset of the Adverse Event:</b>	Yes	<b>Adverse Event Abate After Product Stop:</b>	Yes	<b>Product Use Started Again:</b>	No	<b>Perceived</b>	Definitely related
<b>Description:</b>	Fed 1.5 cups kibble soaked in warm water 2x per day to <b>B6</b>																
<b>Last Exposure Date:</b>	01/04/2019																
<b>Time Interval between Product Use and Adverse Event:</b>	2 Years																
<b>Product Use Stopped After the Onset of the Adverse Event:</b>	Yes																
<b>Adverse Event Abate After Product Stop:</b>	Yes																
<b>Product Use Started Again:</b>	No																
<b>Perceived</b>	Definitely related																

		Relatedness to Adverse Event:		
		Other Foods or Products Given to the Animal During This Time Period:	Yes	
	Manufacturer /Distributor Information:	Name:	WellPet	
		Type(s):	Manufacturer	
		Address:	200 Ames Pond Drive Tewksbury Massachusetts 01876 United States	
		Contact:	Phone:	1-800-225-0904
			Web Address:	http://wellnesspetfood.com/contact-us
		Possess One or More Labels from This Product:	Yes	
	Purchase Location Information:	Name:	Petco	
		Address:	<div style="border: 1px dashed black; padding: 10px; text-align: center;"> <b>B6</b> </div> United States	
Animal Information:	Name:	B6		
	Type Of Species:	Dog		
	Type Of Breed:	Retriever - Golden		
	Gender:	Male		
	Reproductive Status:	Neutered		
	Weight:	65 Pound		
	Age:	B6		
	Assessment of Prior Health:	Excellent		
	Number of Animals Given the Product:	2		
	Number of Animals Reacted:	2		
	Owner Information:			
	Healthcare Professional Information:	Practice Name:	B6	
		Contact:	Name:	<div style="border: 1px dashed black; padding: 10px; text-align: center;"> <b>B6</b> </div>
			Phone:	
			Email:	
Address:		<div style="border: 1px dashed black; padding: 10px; text-align: center;"> <b>B6</b> </div> United States		
Type of Veterinarian:		Primary/regular veterinarian		
Date First Seen:		06/26/2018		
Permission to Release Records to FDA:		Yes		

<b>Sender Information:</b>	<b>Name:</b>	[Redacted]	
	<b>Address:</b>	[Redacted]	
		United States	
	<b>Contact:</b>	<b>Phone:</b>	[Redacted]
		<b>Email:</b>	[Redacted]
	<b>Reporter Wants to Remain Anonymous:</b>	No	
	<b>Permission To Contact Sender:</b>	Yes	
<b>Preferred Method Of Contact:</b>	Email		
<b>Reported to Other Parties:</b>	Store/Place of Purchase Other		
<b>Additional Documents:</b>	<b>Attachment:</b>	[Redacted] June20181stTaurineResults_19250.jpg.pdf	
	<b>Description:</b>	First Taurine Results Lab Report June 2018	
	<b>Type:</b>	Laboratory Report	
	<b>Attachment:</b>	[Redacted] Oct20182ndTaurineResults_23928.jpg.pdf	
	<b>Description:</b>	2nd Lab Results for Taurine from UC Davis Vet Amimno Acid Lab	
	<b>Type:</b>	Laboratory Report	
	<b>Attachment:</b>	DrStern Lab Taurine RecommendationsAug2018.pdf	
	<b>Description:</b>	Per email from Dr. Stern: "Those taurine levels are just ok. I would prefer to see it higher than [Redacted]. My recommendation would be either diet change & retest after 3 months or add in taurine rich ingredients & retest in 3 months."	
	<b>Type:</b>	Letter	

Client:

Address:

**B6**

**All Medical Records**

Patient:

**B6**

Breed:

Doberman Pinscher

DOB:

**B6**

Species: Canine

Sex: Male

Home Phone:

Work Phone:

Cell Phone:

**B6**

**Referring Information**

**B6**

Client:

Patient:

**B6**

**Initial Complaint:**

Emergency

SOAP Text

**B6**

9:28PM -

**B6**

**Subjective**

NEW VISIT (ER)

Doctor:

**B6**

Presenting complaint:

**B6**

**HISTORY:**

**B6**

**B6**

Client: B6  
Patient:

**B6**

SOAP approved (DVM to sign): B6

**Initial Complaint:**

Emergency

SOAP Text B6 4:46PM - B6

**Subjective**

NEW VISIT (ER)

Doctor: B6

Student: B6

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

Presenting complaint: Suspect CHF

Referral visit? Yes

Diagnostics completed prior to visit: 3 view CXR (in e-mail)

#### HISTORY:

Signalment: 3yo MI Doberman Pinscher

Current history: Presenting today for suspect CHF after visiting rDVM earlier today - according to O, 3 view CXR's showed evidence of pleural effusion. They were referred to Tufts at this time. O reports that **B6** began coughing last Thursday.

**B6**

#### ASSESSMENT:

A1: Increased respiratory rate and effort r/o: congestive heart failure (DCM vs other) vs pneumonia

A2: Tachycardic r/o: CHF vs stress

A3: Suspect acral lick dermatitis/granulomas on distal limbs

#### PLAN:

P1. NOVA

P2. TFAST

P3. O2 Cage

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

**B6**

**B6**

new diet

Diagnostics completed:

NOVA: HCT **B6** Lact **B6**

TFAST: B-lines, pleural effusion

Diagnostics pending:

CBC/Chem associated with DCM diet trial study

Client communication: strongly suspect heart failure secondary to DCM. discussed hospitalization in O2 to get under control. discussed diet study with them. lifelong medications, asked about cardiology consultation.

Deposit & estimate status: **B6**

Resuscitation code (if admitting to ICU): red

SOAP approved (DVM to sign): **B6** dvm

Addendum:

Starting at 2:32am, P started having atrial fibrillation >200bpm on telemetry, consistent with auscultation and pulse deficits on physical examination. P clinically well despite cardiac rhythm. rate slowed down for a period of time until re-starting >200bpm at 3:17am where it was sustained. At 4am started 45mg regular (not ER) **B6** PO q8. Converted to NSR at 6:30 am and discontinued further dilt tx pending cardiology assessment.

**B6**

SOAP Text Feb 26 2019 7:18AM - **B6**

### History:

4 y/o IM Doberman Pinscher presented yesterday to the Tufts ER for suspect CHF after visiting rDVM-3 view CXR's showed evidence of pulmonary edema/pleural effusion. O reports that **B6** began coughing last Thursday **B6**

**B6**

abx). The last dose of antibiotics was given 2/24. **B6** was having increased respiratory effort as well as difficulty getting comfortable while laying down.

Overnight: **B6** at ~5:30PM. Starting at 2:32am, P started having atrial fibrillation >200bpm on telemetry, consistent with auscultation and pulse deficits on physical examination. P clinically well despite cardiac rhythm. Rate slowed down for a period of time until re-starting >200bpm at 3:17am where it was sustained. At 4am started 45mg regular (not ER) **B6** PO q8. Converted to **B6** at 6:30 am and discontinued further **B6** tx pending cardiology assessment.

### Subjective:

T: 100.4 (Aural)

HR: 120

Client:  
Patient:

**B6**

RR: 16, sleeping, no increased effort

Wt: 60kg

MM: pink/moist, CRT<2

Mentation: QAR, woke up from sleeping

Hydration: Overhydrated

Overall impression since arrival or since last exam: Stable to improve since presentation. The RR and RE improved overnight and **B6** appears more comfortable this morning. He had new onset atrial fibrillation and converted back to sinus rhythm which is quite unusual but is still in sinus rhythm this morning.

Appetite: No interest in food since arrival

Diet History: Canidae All Life Stages dry food (grain free) - has been eating this for 1.5 - 2 years.

**Objective:**

**B6**

**Diagnostics:**

2/25/19:

**B6**

**Assessments**

A1: CHF secondary to DCM r/o diet related vs. genetic

A2: Atrial fibrillation secondary A1

A4: Granulomatous lesions on distal limbs: secondary to suspected acral lick dermatitis

**Plan**

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

P: Echocardiogram

P: Repeat blood chemistry

P: **B6**  
P: **B6**  
P: **B6**

P: Holter monitoring

P: Consider repeat radiographs tomorrow 2/27/19

P: Transition to Cardio safe diet TGH

Resuscitation code (if admitting to ICU): red

SOAP completed by: **B6**

SOAP reviewed by: **B6**

Addendum: added 400mg **B6** PO BID at 12PM and **B6** mg PO BID

SOAP Text Feb 27 2019 7:48AM **B6**

### History:

4 y/o IM Doberman Pinscher presented yesterday to the Tufts ER for suspect CHF after visiting rDVM-3 view CXR's showed evidence of pulmonary edema/pleural effusion. O reports that **B6** began coughing last Thursday **B6** was unsure of name/dose of abx). The last dose of antibiotics was given 2/24. **B6** was having increased respiratory effort as well as difficulty getting comfortable while laying down.

-2/25/19 (overnight) P given **B6** at ~5:30PM. Starting at 2:32am, P started having atrial fibrillation >200bpm on telemetry, consistent with auscultation and pulse deficits on physical examination. P clinically well despite cardiac rhythm. Rate slowed down for a period of time until re-starting >200bpm at 3:17am where it was sustained. At 4am started 45mg regular (not ER) **B6** PO q8. Converted to **B6** at 6:30 am and discontinued further **B6** pending cardiology assessment.

-2/26/19 (overnight): P remained stable overnight, converted to sinus rhythm ~11PM. No interest in food overnight, eager to drink water when bowl placed in front of him.

### Subjective:

T: 100.6 (Aural)

HR: 124

RR: 16, sleeping, no increased effort

Wt: 60kg

MM: pink/moist, CRT<2

Mentation: QAR, woke up from sleeping

Hydration: Euhydrated

Overall impression since arrival or since last exam: Stable to improved since presentation. The RR and RE have remained stable since removed from oxygen. No atrial fibrillation since 11PM and normal sinus rhythm this morning.

Appetite: No interest in food since arrival

Diet History: Canidae All Life Stages dry food (grain free) - has been eating this for 1.5 - 2 years.

### Objective:

**B6**

Client: **B6**  
Patient:

**B6**

**Diagnostics:**

2/25/19:

**B6**

**Assessments**

A1: CHF secondary to DCM r/o diet related vs. genetic

A2: Atrial fibrillation secondary A1

A4: Granulomatous lesions on distal limbs: secondary to suspected acral lick dermatitis

**Plan**

P: Repeat blood chemistry

P:  
P:  
P:  
P:  
P:

**B6**

P: Holter monitoring

P: Repeat radiographs today 2/27/19

P: Transition to Cardio safe diet TGH

Resuscitation code (if admitting to ICU): red

SOAP completed by: **B6**

SOAP reviewed by:

Client:

Patient:

**B6**

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**Disposition/Recommendations**

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Client:

Patient:

**B6**

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Client: **B6**  
Patient:

**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:	<b>B6</b>
Species:	Canine
Breed:	Doberman Pinscher
Sex:	Male
Age:	<b>B6</b> years Old

**Lab Results Report**

None	<b>B6</b>	12:19:34 AM	Accession ID: <b>B6</b>
Test	Results	Reference Range	Units
Anaplasma (4dx)	<b>B6</b>	0 - 0	
Ehrlichia (4dx)		0 - 0	
Heartworm (4DX) - FHSA		0 - 0	
Lyme (4dx)*		0 - 0	

None	2/25/2019 4:52:25 PM	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



10/50

**B6**

**B6**

Printed Wednesday, February 27, 2019

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

GAP	<b>B6</b>	0 - 0	mmol/L
CA/MG		0 - 0	mol/mol
BEecf		0 - 0	mmol/L
BEb		0 - 0	mmol/L
A		0 - 0	mmol/L
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

**None** 2/25/2019 4:59:11 PM Accession ID: **B6**

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

**None** 2/26/2019 9:37:18 AM Accession ID: **B6**

Test	Results	Reference Range	Units
GLUCOSE	<b>B6</b>	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
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
NA/K		29 - 40	
T BILIRUBIN		0.1 - 0.3	mg/dL
ALK PHOS		12 - 127	U/L
ALT		14 - 86	U/L
AST		9 - 54	U/L
CHOLESTEROL		82 - 355	mg/dL
OSMOLALITY (CALCULATED)		291 - 315	mmol/L

**None** 2/26/2019 10:10:37 AM Accession ID: **B6**



11/50

**B6**

**B6**

Printed Wednesday, February 27, 2019

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

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

**None** 2/27/2019 10:46:18 AM Accession ID: **B6**

Test	Results	Reference Range	Units
GLUCOSE	<b>B6</b>	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
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
86 Result(s) verified			
POTASSIUM		3.7 - 5.4	mEq/L
NA/K		29 - 40	
T BILIRUBIN		0.1 - 0.3	mg/dL
ALK PHOS		12 - 127	U/L
ALT		14 - 86	U/L
AST		9 - 54	U/L
CHOLESTEROL		82 - 355	mg/dL
OSMOLALITY (CALCULATED)		291 - 315	mmol/L

**None** 2/27/2019 10:46:09 AM Accession ID: **B6**

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

**None** 2/27/2019 11:17:25 AM Accession ID: **B6**

Test	Results	Reference Range	Units
GLUCOSE	<b>B6</b>	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



12/50

**B6**

**B6**

Printed Wednesday, February 27, 2019

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

ALBUMIN	<b>B6</b>	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
87 Result(s) verified			
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
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



13/50

**B6**

**B6**

Printed Wednesday, February 27, 2019

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

CBC/Chem - 2/25/2019



**Tufts Cummings School Of Veterinary Medicine**

200 Westboro Road  
North Grafton, MA 01536

**DUPLICATE**

Name/DOB: <b>B6</b>	Sex: M	Provider: <b>B6</b>
Patient ID: <b>B6</b>	Age: 3	Order Location: <b>B6</b> Investigation into
Phone number:	Species: Canine	Sample ID: 1902250140
Collection Date: 2/25/2019 6:09 PM	Breed: Doberman Pinscher	
Approval date: 2/25/2019 7:13 PM		

**CBC, Comprehensive, Sm Animal (Research)**

SMACHUNSKI		Ref. Range/Males
WBC (ADVIA)	<b>B6</b>	4.40-15.10 K/uL
RBC (Advia)	<b>B6</b>	5.80-8.50 M/uL
Hemoglobin (ADVIA)	<b>B6</b>	13.3-20.5 g/dL
Hematocrit (Advia)	<b>B6</b>	39-55 %
MCV (ADVIA)	<b>B6</b>	64.5-77.5 fL
MCH (ADVIA)	<b>B6</b>	21.3-25.9 pg
CHCM	<b>B6</b>	
MCHC (ADVIA)	<b>B6</b>	31.9-34.3 g/dL
RDW (ADVIA)	<b>B6</b>	11.9-15.2
Platelet Count (Advia)	<b>B6</b>	173-486 K/uL
02/25/19 6:51 PM	<b>B6</b>	
Mean Platelet Volume (Advia)	<b>B6</b>	8.29-13.20 fL
02/25/19 6:28 PM	<b>B6</b>	
Platelet Crit	<b>B6</b>	0.129-0.403 %
02/25/19 6:28 PM	<b>B6</b>	
Platelet Crit is invalid when clumped platelets are present. Interpretation of PltCt is unclear in species other than canines.		
PDW	<b>B6</b>	
Reticulocyte Count (Advia)	<b>B6</b>	0.20-1.60 %
Absolute Reticulocyte Count (Advia)	<b>B6</b>	14.7-113.7 K/uL
CHr	<b>B6</b>	
MCVr	<b>B6</b>	

**Microscopic Exam of Blood Smear (Advia)**

SMACHUNSKI		Ref. Range/Males
Seg Neuts (%)	<b>B6</b>	43-86 %
Lymphocytes (%)	<b>B6</b>	7-47 %
Monocytes (%)	<b>B6</b>	1-15 %
Nucleated RBC	<b>B6</b>	0-1 /100 WBC
02/25/19 6:28 PM	<b>B6</b>	
Seg Neutrophils (Abs)	<b>B6</b>	2.800-11.500 K/uL
Advia	<b>B6</b>	
Lymphs (Abs) Advia	<b>B6</b>	1.00-4.80 K/uL
Mono (Abs) Advia	<b>B6</b>	0.10-1.50 K/uL
WBC Morphology	<b>B6</b>	
Polychromasia	<b>B6</b>	

**Research Chemistry Profile - Small Animal (Cobas)**

Sample ID: 1902250140/1  
This report continues... (Final)

Reviewed by: \_\_\_\_\_

Client: **B6**  
Patient:

CBC/Chem - 2/25/2019



**Tufts Cummings School Of Veterinary Medicine**

200 Westboro Road  
North Grafton, MA 01536

**DUPLICATE**

Name/DOB:	<b>B6</b>	Sex: M	Provider: <b>B6</b>
Patient ID:		Age: 3	Order Location: <b>B6</b> ? Investigation into
Phone number:		Species: Canine	Sample ID: 1902250140
Collection Date: 2/25/2019 6:09 PM		Breed: Doberman Pinscher	
Approval date: 2/25/2019 7:13 PM			

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

SMACHUNSKI		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
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		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)	<b>B6</b>	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		409-1250 U/L
Osmolality (calculated)		291-315 mmol/L

Sample ID: 1902250140/2  
REPRINT: Orig. printing on 2/25/2019 (Final)

Reviewed by: \_\_\_\_\_  
Page 2

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

**IDEXX BNP - 2/25/2019**

IDEXX Reference Laboratories

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

Client: **B6**  
Patient: **B6**  
Species: CANINE  
Breed: DOBERMAN\_PINSCH  
Gender: MALE  
Age: 3Y

Date: 02/25/2019  
Requisition #: 1A  
Accession #: **B6**  
Ordered by: **B6**

IDEXX VetConnect 1-888-433-9967  
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	<b>B6</b>	0 - 900 pmol/L	HIGH		<b>B6</b>

**Comments**

1. **B6**

Please note: Complete interpretive comments for all concentrations of Cardiotest proBNP are available in the online directory of services. Serum specimens received at room temperature may have decreased NT-proBNP concentrations.

Client: **B6**  
Patient:

## Vitals Results

**B6**

10:00:27 PM	Heart Rate (/min)
10:00:29 PM	Temperature (F)
10:00:30 PM	Weight (kg)
2/25/2019 4:46:45 PM	Heart Rate (/min)
2/25/2019 4:46:46 PM	Temperature (F)
2/25/2019 4:46:47 PM	Respiratory Rate
2/25/2019 4:58:34 PM	Lasix treatment note
2/25/2019 5:23:00 PM	Lasix treatment note
2/25/2019 6:19:31 PM	FiO2 (%)
2/25/2019 6:19:38 PM	Respiratory Rate
2/25/2019 7:34:46 PM	Amount eaten
2/25/2019 8:11:13 PM	FiO2 (%)
2/25/2019 8:11:35 PM	Cardiac rhythm
2/25/2019 8:11:36 PM	Heart Rate (/min)
2/25/2019 8:11:47 PM	Respiratory Rate
2/25/2019 8:36:39 PM	FiO2 (%)
2/25/2019 8:36:47 PM	Respiratory Rate
2/25/2019 9:31:47 PM	FiO2 (%)
2/25/2019 9:32:00 PM	Eliminations
2/25/2019 9:32:13 PM	Cardiac rhythm
2/25/2019 9:32:14 PM	Heart Rate (/min)
2/25/2019 9:32:36 PM	Respiratory Rate
2/25/2019 9:40:39 PM	Lasix treatment note
2/25/2019 9:40:47 PM	Catheter Assessment
2/25/2019 10:49:51 PM	Cardiac rhythm
2/25/2019 10:49:52 PM	Heart Rate (/min)
2/25/2019 10:50:28 PM	Respiratory Rate
2/25/2019 10:50:37 PM	FiO2 (%)
2/25/2019 10:50:47 PM	Eliminations
2/25/2019 11:37:53 PM	Cardiac rhythm
2/25/2019 11:37:54 PM	Heart Rate (/min)
2/25/2019 11:38:31 PM	FiO2 (%)
2/25/2019 11:38:38 PM	Respiratory Rate
2/26/2019 12:48:55 AM	FiO2 (%)
2/26/2019 12:49:03 AM	Respiratory Rate
2/26/2019 12:49:20 AM	Cardiac rhythm
2/26/2019 12:49:21 AM	Heart Rate (/min)
2/26/2019 1:04:45 AM	Lasix treatment note
2/26/2019 1:04:55 AM	Catheter Assessment

**B6**

Client: **B6**  
Patient:

## Vitals Results

2/26/2019 1:21:13 AM	Eliminations
2/26/2019 1:21:57 AM	Eliminations
2/26/2019 1:22:08 AM	Cardiac rhythm
2/26/2019 1:22:09 AM	Heart Rate (/min)
2/26/2019 1:23:39 AM	FiO2 (%)
2/26/2019 1:23:48 AM	Respiratory Rate
2/26/2019 2:19:46 AM	Cardiac rhythm
2/26/2019 2:19:47 AM	Heart Rate (/min)
2/26/2019 2:21:02 AM	FiO2 (%)
2/26/2019 2:21:09 AM	Respiratory Rate
2/26/2019 3:27:16 AM	Respiratory Rate
2/26/2019 3:27:34 AM	Cardiac rhythm
2/26/2019 3:27:35 AM	Heart Rate (/min)
2/26/2019 3:27:56 AM	FiO2 (%)
2/26/2019 3:52:05 AM	Eliminations
2/26/2019 4:34:17 AM	FiO2 (%)
2/26/2019 4:34:34 AM	Cardiac rhythm
2/26/2019 4:34:35 AM	Heart Rate (/min)
2/26/2019 4:34:54 AM	Respiratory Rate
2/26/2019 5:23:41 AM	Lasix treatment note
2/26/2019 5:25:58 AM	Amount eaten
2/26/2019 5:26:39 AM	FiO2 (%)
2/26/2019 5:26:47 AM	Catheter Assessment
2/26/2019 5:27:00 AM	Eliminations
2/26/2019 5:27:30 AM	Respiratory Rate
2/26/2019 5:28:36 AM	Cardiac rhythm
2/26/2019 5:28:37 AM	Heart Rate (/min)
2/26/2019 6:33:22 AM	FiO2 (%)
2/26/2019 6:33:31 AM	Cardiac rhythm
2/26/2019 6:33:32 AM	Heart Rate (/min)
2/26/2019 6:33:44 AM	Respiratory Rate
2/26/2019 6:58:26 AM	FiO2 (%)
2/26/2019 6:58:41 AM	Respiratory Rate
2/26/2019 7:05:37 AM	Heart Rate (/min)
2/26/2019 7:06:38 AM	Cardiac rhythm
2/26/2019 7:06:39 AM	Heart Rate (/min)
2/26/2019 7:10:40 AM	Temperature (F)
2/26/2019 9:07:00 AM	Cardiac rhythm
2/26/2019 9:07:01 AM	Heart Rate (/min)
2/26/2019 9:07:59 AM	Respiratory Rate
2/26/2019 9:08:42 AM	FiO2 (%)

**B6**

Client: **B6**  
Patient:

## Vitals Results

2/26/2019 9:35:51 AM	Lasix treatment note
2/26/2019 9:36:07 AM	Catheter Assessment
2/26/2019 9:36:23 AM	Respiratory Rate
2/26/2019 9:36:40 AM	FiO2 (%)
2/26/2019 10:08:22 AM	Cardiac rhythm
2/26/2019 10:08:23 AM	Heart Rate (/min)
2/26/2019 10:36:31 AM	Cardiac rhythm
2/26/2019 10:36:58 AM	Heart Rate (/min)
2/26/2019 11:09:05 AM	Cardiac rhythm
2/26/2019 11:09:06 AM	Heart Rate (/min)
2/26/2019 11:09:54 AM	FiO2 (%)
2/26/2019 11:10:13 AM	FiO2 (%)
2/26/2019 12:19:00 PM	Cardiac rhythm
2/26/2019 12:19:01 PM	Heart Rate (/min)
2/26/2019 12:19:17 PM	FiO2 (%)
2/26/2019 1:05:19 PM	Cardiac rhythm
2/26/2019 1:05:20 PM	Heart Rate (/min)
2/26/2019 1:05:29 PM	FiO2 (%)
2/26/2019 1:15:27 PM	Respiratory Rate
2/26/2019 1:41:39 PM	FiO2 (%)
2/26/2019 1:41:52 PM	Catheter Assessment
2/26/2019 1:42:48 PM	Respiratory Rate
2/26/2019 1:56:11 PM	Cardiac rhythm
2/26/2019 1:56:12 PM	Heart Rate (/min)
2/26/2019 1:56:29 PM	Eliminations
2/26/2019 2:47:23 PM	FiO2 (%)
2/26/2019 2:47:35 PM	Cardiac rhythm
2/26/2019 2:47:36 PM	Heart Rate (/min)
2/26/2019 2:47:58 PM	Respiratory Rate
2/26/2019 3:38:55 PM	FiO2 (%)
2/26/2019 3:39:03 PM	Cardiac rhythm
2/26/2019 3:39:04 PM	Heart Rate (/min)
2/26/2019 3:40:32 PM	Respiratory Rate
2/26/2019 4:08:34 PM	Lasix treatment note
2/26/2019 4:56:17 PM	Cardiac rhythm
2/26/2019 4:56:18 PM	Heart Rate (/min)
2/26/2019 4:56:29 PM	Respiratory Rate
2/26/2019 5:07:18 PM	Catheter Assessment

**B6**

Client:  
Patient:

**B6**

## Vitals Results

2/26/2019 5:28:28 PM	Cardiac rhythm
2/26/2019 5:28:29 PM	Heart Rate (/min)
2/26/2019 5:28:53 PM	Amount eaten
2/26/2019 5:29:10 PM	Respiratory Rate
2/26/2019 5:36:02 PM	Eliminations
2/26/2019 7:03:18 PM	Cardiac rhythm
2/26/2019 7:03:19 PM	Heart Rate (/min)
2/26/2019 7:03:59 PM	Respiratory Rate
2/26/2019 7:28:32 PM	Cardiac rhythm
2/26/2019 7:28:33 PM	Heart Rate (/min)
2/26/2019 7:28:47 PM	Respiratory Rate
2/26/2019 8:40:39 PM	Cardiac rhythm
2/26/2019 8:40:40 PM	Heart Rate (/min)
2/26/2019 8:41:22 PM	Respiratory Rate
2/26/2019 9:25:13 PM	Cardiac rhythm
2/26/2019 9:25:14 PM	Heart Rate (/min)
2/26/2019 9:25:24 PM	Catheter Assessment
2/26/2019 9:25:35 PM	Respiratory Rate
2/26/2019 10:54:11 PM	Cardiac rhythm
2/26/2019 10:54:12 PM	Heart Rate (/min)
2/26/2019 10:55:00 PM	Respiratory Rate
2/26/2019 11:37:22 PM	Cardiac rhythm
2/26/2019 11:37:23 PM	Heart Rate (/min)
2/26/2019 11:37:58 PM	Respiratory Rate
2/26/2019 11:52:29 PM	Lasix treatment note
2/27/2019 12:36:51 AM	Cardiac rhythm
2/27/2019 12:36:52 AM	Heart Rate (/min)
2/27/2019 12:37:38 AM	Respiratory Rate
2/27/2019 1:11:31 AM	Catheter Assessment
2/27/2019 1:16:20 AM	Eliminations
2/27/2019 1:16:29 AM	Respiratory Rate
2/27/2019 1:35:41 AM	Cardiac rhythm
2/27/2019 1:35:42 AM	Heart Rate (/min)
2/27/2019 2:57:22 AM	Respiratory Rate
2/27/2019 2:58:12 AM	Cardiac rhythm
2/27/2019 2:58:13 AM	Heart Rate (/min)
2/27/2019 3:52:42 AM	Cardiac rhythm
2/27/2019 3:52:43 AM	Heart Rate (/min)
2/27/2019 3:52:55 AM	Respiratory Rate
2/27/2019 4:50:20 AM	Cardiac rhythm

**B6**

Client: **B6**  
Patient:

## Vitals Results

2/27/2019 4:50:21 AM	Heart Rate (/min)
2/27/2019 4:50:35 AM	Respiratory Rate
2/27/2019 5:48:38 AM	Catheter Assessment
2/27/2019 5:48:57 AM	Amount eaten
2/27/2019 5:49:04 AM	Eliminations
2/27/2019 5:49:11 AM	Cardiac rhythm
2/27/2019 5:49:12 AM	Heart Rate (/min)
2/27/2019 5:49:50 AM	Respiratory Rate
2/27/2019 6:32:36 AM	Cardiac rhythm
2/27/2019 6:32:37 AM	Heart Rate (/min)
2/27/2019 6:32:47 AM	Respiratory Rate
2/27/2019 6:33:46 AM	Eliminations
2/27/2019 7:17:14 AM	Cardiac rhythm
2/27/2019 7:17:15 AM	Heart Rate (/min)
2/27/2019 7:18:38 AM	Respiratory Rate
2/27/2019 7:40:44 AM	Lasix treatment note
2/27/2019 9:08:24 AM	Cardiac rhythm
2/27/2019 9:08:25 AM	Heart Rate (/min)
2/27/2019 9:08:38 AM	Eliminations
2/27/2019 9:09:00 AM	Catheter Assessment
2/27/2019 9:19:53 AM	Respiratory Rate
2/27/2019 10:15:37 AM	Cardiac rhythm
2/27/2019 10:15:38 AM	Heart Rate (/min)
2/27/2019 10:16:40 AM	Respiratory Rate
2/27/2019 11:06:38 AM	Cardiac rhythm
2/27/2019 11:06:39 AM	Heart Rate (/min)
2/27/2019 11:24:58 AM	Respiratory Rate
2/27/2019 11:51:00 AM	Cardiac rhythm
2/27/2019 11:51:01 AM	Heart Rate (/min)
2/27/2019 11:51:54 AM	Respiratory Rate
2/27/2019 12:30:30 PM	Eliminations
2/27/2019 1:18:22 PM	Cardiac rhythm
2/27/2019 1:18:23 PM	Heart Rate (/min)
2/27/2019 1:18:32 PM	Respiratory Rate
2/27/2019 1:22:54 PM	Eliminations
2/27/2019 1:23:50 PM	Catheter Assessment

**B6**

Client:

**B6**

Patient:

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**Telemetry ECG**

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**B6**

Client:

Patient:

**B6**

**Telemetry ECG**

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**B6**

Client:  
Patient:

**B6**

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**Telemetry ECG**

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**B6**

Client:  
Patient:

**B6**

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**Telemetry ECG**

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**B6**

Client: **B6**  
Patient:

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**ECG from Cardio**

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**B6**

2/26/2019 10:22:22 AM

Page 1 of 2

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

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12-Lead Standard Placement

**B6**

Client:

Patient:

**B6**

**ECG from Cardio**

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**B6**

2/26/2019 10:22:22 AM

Page 2 of 2

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

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**B6**

Client: **B6**  
Patient:

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**ECG from Cardio**

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**B6**

2/26/2019 10:25:49 AM

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

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12 Lead: Standard Placement

**B6**

Client: **B6**  
Patient:

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**ECG from Cardio**

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**B6**

2/26/2019 10:26:06 AM

Tufts University  
Tufts Cummings School of Vet Med  
Cardiology

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12 Lead: Standard Placement

**B6**

Client:  
Patient:

**B6**

**rDVM CXR - 2/25/2019**

**B6**

Client:  
Patient:

**B6**

**rDVM CXR - 2/25/2019**

**B6**

## Patient History

**B6**

09:01 PM UserForm  
10:00 PM Vitals  
10:00 PM Vitals  
10:00 PM Vitals  
10:35 PM UserForm  
  
10:44 PM Treatment  
11:39 PM Purchase  
11:59 PM Treatment  
12:04 AM Treatment  
12:41 AM Prescription  
12:41 AM Prescription  
12:53 AM Purchase  
01:00 AM Treatment  
06:06 AM UserForm  
06:15 AM Email  
11:30 AM Deleted Reason  
  
01:39 PM Appointment

02/12/2019 07:47 AM Appointment

02/25/2019 04:46 PM Vitals  
02/25/2019 04:46 PM Vitals  
02/25/2019 04:46 PM Vitals  
02/25/2019 04:46 PM Vitals  
02/25/2019 04:49 PM UserForm  
02/25/2019 04:51 PM Purchase  
02/25/2019 04:56 PM Purchase  
02/25/2019 04:56 PM Purchase  
02/25/2019 04:56 PM Purchase  
02/25/2019 04:58 PM Vitals

02/25/2019 04:58 PM Purchase  
02/25/2019 04:59 PM Labwork  
02/25/2019 05:11 PM Treatment

02/25/2019 05:19 PM Vitals  
02/25/2019 05:19 PM Vitals  
02/25/2019 05:23 PM Vitals  
02/25/2019 05:23 PM Vitals  
02/25/2019 05:23 PM Purchase  
02/25/2019 05:47 PM UserForm

02/25/2019 06:01 PM Treatment

02/25/2019 06:13 PM Prescription

**B6**

Client: **B6**  
Patient:

## Patient History

02/25/2019 06:19 PM	Purchase
02/25/2019 06:19 PM	Purchase
02/25/2019 06:19 PM	Treatment
02/25/2019 06:19 PM	Vitals
02/25/2019 06:19 PM	Treatment
02/25/2019 06:19 PM	Vitals
02/25/2019 06:33 PM	Purchase
02/25/2019 06:33 PM	Purchase
02/25/2019 07:34 PM	Treatment
02/25/2019 07:34 PM	Vitals
02/25/2019 07:34 PM	Vitals
02/25/2019 07:35 PM	Treatment
02/25/2019 08:11 PM	Treatment
02/25/2019 08:11 PM	Vitals
02/25/2019 08:11 PM	Treatment
02/25/2019 08:11 PM	Vitals
02/25/2019 08:11 PM	Vitals
02/25/2019 08:11 PM	Treatment
02/25/2019 08:11 PM	Vitals
02/25/2019 08:36 PM	Treatment
02/25/2019 08:36 PM	Vitals
02/25/2019 08:36 PM	Treatment
02/25/2019 08:36 PM	Vitals
02/25/2019 09:31 PM	Treatment
02/25/2019 09:31 PM	Vitals
02/25/2019 09:32 PM	Treatment
02/25/2019 09:32 PM	Vitals
02/25/2019 09:32 PM	Treatment
02/25/2019 09:32 PM	Vitals
02/25/2019 09:32 PM	Vitals
02/25/2019 09:32 PM	Treatment
02/25/2019 09:32 PM	Vitals
02/25/2019 09:33 PM	Treatment
02/25/2019 09:40 PM	Treatment
02/25/2019 09:40 PM	Vitals
02/25/2019 09:40 PM	Treatment
02/25/2019 09:40 PM	Vitals
02/25/2019 10:49 PM	Treatment
02/25/2019 10:49 PM	Vitals
02/25/2019 10:49 PM	Vitals

# B6

Client: **B6**  
Patient:

## Patient History

02/25/2019 10:50 PM	Treatment
02/25/2019 10:50 PM	Vitals
02/25/2019 10:50 PM	Treatment
02/25/2019 10:50 PM	Vitals
02/25/2019 10:50 PM	Vitals
02/25/2019 11:37 PM	Treatment
02/25/2019 11:37 PM	Vitals
02/25/2019 11:37 PM	Vitals
02/25/2019 11:38 PM	Treatment
02/25/2019 11:38 PM	Vitals
02/25/2019 11:38 PM	Treatment
02/25/2019 11:38 PM	Vitals
02/26/2019 12:48 AM	Treatment
02/26/2019 12:48 AM	Vitals
02/26/2019 12:49 AM	Treatment
02/26/2019 12:49 AM	Vitals
02/26/2019 12:49 AM	Treatment
02/26/2019 12:49 AM	Vitals
02/26/2019 12:49 AM	Vitals
02/26/2019 01:00 AM	Treatment
02/26/2019 01:04 AM	Treatment
02/26/2019 01:04 AM	Treatment
02/26/2019 01:04 AM	Vitals
02/26/2019 01:04 AM	Treatment
02/26/2019 01:04 AM	Vitals
02/26/2019 01:21 AM	Vitals
02/26/2019 01:21 AM	Treatment
02/26/2019 01:21 AM	Vitals
02/26/2019 01:22 AM	Treatment
02/26/2019 01:22 AM	Vitals
02/26/2019 01:22 AM	Vitals
02/26/2019 01:23 AM	Treatment
02/26/2019 01:23 AM	Vitals
02/26/2019 01:23 AM	Treatment
02/26/2019 01:23 AM	Vitals
02/26/2019 02:19 AM	Treatment
02/26/2019 02:19 AM	Vitals
02/26/2019 02:19 AM	Vitals
02/26/2019 02:21 AM	Treatment
02/26/2019 02:21 AM	Vitals

**B6**

Client: **B6**  
Patient:

## Patient History

02/26/2019 02:21 AM	Treatment
02/26/2019 02:21 AM	Vitals
02/26/2019 03:27 AM	Treatment
02/26/2019 03:27 AM	Vitals
02/26/2019 03:27 AM	Treatment
02/26/2019 03:27 AM	Vitals
02/26/2019 03:27 AM	Vitals
02/26/2019 03:27 AM	Treatment
02/26/2019 03:27 AM	Vitals
02/26/2019 03:52 AM	Vitals
02/26/2019 03:58 AM	Prescription
02/26/2019 04:04 AM	Treatment
02/26/2019 04:34 AM	Treatment
02/26/2019 04:34 AM	Vitals
02/26/2019 04:34 AM	Treatment
02/26/2019 04:34 AM	Vitals
02/26/2019 04:34 AM	Vitals
02/26/2019 04:34 AM	Treatment
02/26/2019 04:34 AM	Vitals
02/26/2019 05:18 AM	Treatment
02/26/2019 05:23 AM	Treatment
02/26/2019 05:23 AM	Vitals
02/26/2019 05:25 AM	Treatment
02/26/2019 05:25 AM	Vitals
02/26/2019 05:25 AM	Vitals
02/26/2019 05:26 AM	Treatment
02/26/2019 05:26 AM	Vitals
02/26/2019 05:26 AM	Treatment
02/26/2019 05:26 AM	Vitals
02/26/2019 05:27 AM	Treatment
02/26/2019 05:27 AM	Vitals
02/26/2019 05:27 AM	Treatment
02/26/2019 05:27 AM	Vitals
02/26/2019 05:27 AM	Treatment
02/26/2019 05:28 AM	Vitals
02/26/2019 05:28 AM	Vitals
02/26/2019 05:28 AM	Vitals
02/26/2019 06:01 AM	Purchase
02/26/2019 06:33 AM	Treatment
02/26/2019 06:33 AM	Vitals
02/26/2019 06:33 AM	Treatment
02/26/2019 06:33 AM	Vitals
02/26/2019 06:33 AM	Vitals

**B6**

Client: **B6**  
Patient:

## Patient History

02/26/2019 06:33 AM	Treatment
02/26/2019 06:33 AM	Vitals
02/26/2019 06:58 AM	Treatment
02/26/2019 06:58 AM	Vitals
02/26/2019 06:58 AM	Treatment
02/26/2019 06:58 AM	Vitals
02/26/2019 07:05 AM	Vitals
02/26/2019 07:06 AM	Treatment
02/26/2019 07:06 AM	Vitals
02/26/2019 07:06 AM	Vitals
02/26/2019 07:10 AM	Vitals
02/26/2019 07:13 AM	Treatment
02/26/2019 08:26 AM	UserForm
02/26/2019 09:07 AM	Treatment
02/26/2019 09:07 AM	Vitals
02/26/2019 09:07 AM	Vitals
02/26/2019 09:07 AM	Treatment
02/26/2019 09:07 AM	Vitals
02/26/2019 09:08 AM	Treatment
02/26/2019 09:08 AM	Vitals
02/26/2019 09:08 AM	Treatment
02/26/2019 09:35 AM	Treatment
02/26/2019 09:35 AM	Vitals
02/26/2019 09:36 AM	Treatment
02/26/2019 09:36 AM	Vitals
02/26/2019 09:36 AM	Treatment
02/26/2019 09:36 AM	Vitals
02/26/2019 09:36 AM	Treatment
02/26/2019 09:36 AM	Vitals
02/26/2019 09:37 AM	Purchase
02/26/2019 10:05 AM	Treatment
02/26/2019 10:08 AM	Treatment
02/26/2019 10:08 AM	Vitals
02/26/2019 10:08 AM	Vitals
02/26/2019 10:14 AM	Labwork
02/26/2019 10:27 AM	Purchase
02/26/2019 10:36 AM	Vitals
02/26/2019 10:36 AM	Vitals

**B6**

Client: **B6**  
Patient:

## Patient History

02/26/2019 11:01 AM	Prescription
02/26/2019 11:09 AM	Treatment
02/26/2019 11:09 AM	Vitals
02/26/2019 11:09 AM	Vitals
02/26/2019 11:09 AM	Treatment
02/26/2019 11:09 AM	Vitals
02/26/2019 11:10 AM	Treatment
02/26/2019 11:10 AM	Vitals
02/26/2019 11:31 AM	Purchase
02/26/2019 11:31 AM	Purchase
02/26/2019 11:35 AM	Treatment
02/26/2019 12:19 PM	Treatment
02/26/2019 12:19 PM	Vitals
02/26/2019 12:19 PM	Vitals
02/26/2019 12:19 PM	Treatment
02/26/2019 12:19 PM	Vitals
02/26/2019 01:05 PM	Treatment
02/26/2019 01:05 PM	Vitals
02/26/2019 01:05 PM	Vitals
02/26/2019 01:05 PM	Treatment
02/26/2019 01:05 PM	Vitals
02/26/2019 01:15 PM	Vitals
02/26/2019 01:41 PM	Treatment
02/26/2019 01:41 PM	Vitals
02/26/2019 01:41 PM	Treatment
02/26/2019 01:41 PM	Treatment
02/26/2019 01:41 PM	Vitals
02/26/2019 01:42 PM	Treatment
02/26/2019 01:42 PM	Vitals
02/26/2019 01:56 PM	Treatment
02/26/2019 01:56 PM	Vitals
02/26/2019 01:56 PM	Vitals
02/26/2019 01:56 PM	Treatment
02/26/2019 01:56 PM	Vitals
02/26/2019 02:47 PM	Treatment
02/26/2019 02:47 PM	Vitals
02/26/2019 02:47 PM	Treatment
02/26/2019 02:47 PM	Vitals
02/26/2019 02:47 PM	Vitals

**B6**

Client: **B6**  
Patient:

## Patient History

02/26/2019 02:47 PM	Treatment
02/26/2019 02:47 PM	Vitals
02/26/2019 03:38 PM	Treatment
02/26/2019 03:38 PM	Vitals
02/26/2019 03:39 PM	Treatment
02/26/2019 03:39 PM	Vitals
02/26/2019 03:39 PM	Vitals
02/26/2019 03:40 PM	Treatment
02/26/2019 03:40 PM	Vitals
02/26/2019 04:08 PM	Treatment
02/26/2019 04:08 PM	Vitals
02/26/2019 04:56 PM	Treatment
02/26/2019 04:56 PM	Vitals
02/26/2019 04:56 PM	Vitals
02/26/2019 04:56 PM	Treatment
02/26/2019 04:56 PM	Vitals
02/26/2019 05:07 PM	Treatment
02/26/2019 05:07 PM	Vitals
02/26/2019 05:07 PM	Treatment
02/26/2019 05:28 PM	Treatment
02/26/2019 05:28 PM	Treatment
02/26/2019 05:28 PM	Treatment
02/26/2019 05:28 PM	Vitals
02/26/2019 05:28 PM	Vitals
02/26/2019 05:28 PM	Treatment
02/26/2019 05:28 PM	Vitals
02/26/2019 05:29 PM	Treatment
02/26/2019 05:29 PM	Vitals
02/26/2019 05:36 PM	Treatment
02/26/2019 05:36 PM	Vitals
02/26/2019 06:03 PM	Purchase
02/26/2019 06:03 PM	Purchase
02/26/2019 06:39 PM	Prescription
02/26/2019 07:03 PM	Treatment
02/26/2019 07:03 PM	Vitals
02/26/2019 07:03 PM	Vitals
02/26/2019 07:03 PM	Treatment
02/26/2019 07:03 PM	Vitals
02/26/2019 07:28 PM	Treatment

**B6**

Client:  
Patient:

**B6**

## Patient History

02/26/2019 07:28 PM	Vitals
02/26/2019 07:28 PM	Vitals
02/26/2019 07:28 PM	Treatment
02/26/2019 07:28 PM	Vitals
02/26/2019 07:50 PM	Treatment
02/26/2019 08:40 PM	Treatment
02/26/2019 08:40 PM	Vitals
02/26/2019 08:40 PM	Vitals
02/26/2019 08:41 PM	Treatment
02/26/2019 08:41 PM	Vitals
02/26/2019 09:25 PM	Treatment
02/26/2019 09:25 PM	Vitals
02/26/2019 09:25 PM	Vitals
02/26/2019 09:25 PM	Treatment
02/26/2019 09:25 PM	Vitals
02/26/2019 09:25 PM	Treatment
02/26/2019 09:25 PM	Treatment
02/26/2019 09:25 PM	Vitals
02/26/2019 09:28 PM	Treatment
02/26/2019 10:54 PM	Treatment
02/26/2019 10:54 PM	Vitals
02/26/2019 10:54 PM	Vitals
02/26/2019 10:55 PM	Treatment
02/26/2019 10:55 PM	Vitals
02/26/2019 11:37 PM	Treatment
02/26/2019 11:37 PM	Vitals
02/26/2019 11:37 PM	Vitals
02/26/2019 11:37 PM	Treatment
02/26/2019 11:37 PM	Vitals
02/26/2019 11:52 PM	Treatment
02/26/2019 11:52 PM	Vitals
02/27/2019 12:36 AM	Treatment
02/27/2019 12:36 AM	Vitals
02/27/2019 12:36 AM	Vitals
02/27/2019 12:37 AM	Treatment
02/27/2019 12:37 AM	Vitals
02/27/2019 01:11 AM	Treatment
02/27/2019 01:11 AM	Vitals
02/27/2019 01:11 AM	Treatment
02/27/2019 01:16 AM	Treatment
02/27/2019 01:16 AM	Treatment

**B6**

Client:  
Patient:

**B6**

## Patient History

02/27/2019 01:16 AM	Vitals
02/27/2019 01:16 AM	Treatment
02/27/2019 01:16 AM	Vitals
02/27/2019 01:35 AM	Treatment
02/27/2019 01:35 AM	Vitals
02/27/2019 01:35 AM	Vitals
02/27/2019 02:57 AM	Treatment
02/27/2019 02:57 AM	Vitals
02/27/2019 02:58 AM	Treatment
02/27/2019 02:58 AM	Vitals
02/27/2019 02:58 AM	Vitals
02/27/2019 03:52 AM	Treatment
02/27/2019 03:52 AM	Vitals
02/27/2019 03:52 AM	Vitals
02/27/2019 03:52 AM	Treatment
02/27/2019 03:52 AM	Vitals
02/27/2019 04:50 AM	Treatment
02/27/2019 04:50 AM	Vitals
02/27/2019 04:50 AM	Vitals
02/27/2019 04:50 AM	Treatment
02/27/2019 04:50 AM	Vitals
02/27/2019 05:48 AM	Treatment
02/27/2019 05:48 AM	Treatment
02/27/2019 05:48 AM	Vitals
02/27/2019 05:48 AM	Treatment
02/27/2019 05:48 AM	Vitals
02/27/2019 05:49 AM	Treatment
02/27/2019 05:49 AM	Vitals
02/27/2019 05:49 AM	Treatment
02/27/2019 05:49 AM	Vitals
02/27/2019 05:49 AM	Treatment
02/27/2019 06:01 AM	Purchase
02/27/2019 06:32 AM	Treatment
02/27/2019 06:32 AM	Vitals
02/27/2019 06:32 AM	Vitals
02/27/2019 06:32 AM	Treatment
02/27/2019 06:32 AM	Vitals
02/27/2019 06:33 AM	Vitals
02/27/2019 07:17 AM	Treatment

**B6**

Client: **B6**  
Patient:

## Patient History

02/27/2019 07:17 AM	Vitals
02/27/2019 07:17 AM	Vitals
02/27/2019 07:18 AM	Treatment
02/27/2019 07:18 AM	Vitals
02/27/2019 07:40 AM	Treatment
02/27/2019 07:40 AM	Treatment
02/27/2019 07:40 AM	Vitals
02/27/2019 07:41 AM	Treatment
02/27/2019 09:08 AM	Treatment
02/27/2019 09:08 AM	Vitals
02/27/2019 09:08 AM	Vitals
02/27/2019 09:08 AM	Treatment
02/27/2019 09:08 AM	Vitals
02/27/2019 09:09 AM	Treatment
02/27/2019 09:09 AM	Vitals
02/27/2019 09:19 AM	Treatment
02/27/2019 09:19 AM	Vitals
02/27/2019 09:49 AM	Purchase
02/27/2019 10:12 AM	UserForm
02/27/2019 10:15 AM	Treatment
02/27/2019 10:15 AM	Vitals
02/27/2019 10:15 AM	Vitals
02/27/2019 10:16 AM	Treatment
02/27/2019 10:16 AM	Vitals
02/27/2019 10:26 AM	Purchase
02/27/2019 10:26 AM	Treatment
02/27/2019 10:46 AM	Purchase
02/27/2019 10:46 AM	Labwork
02/27/2019 10:51 AM	Treatment
02/27/2019 11:06 AM	Treatment
02/27/2019 11:06 AM	Vitals
02/27/2019 11:06 AM	Vitals
02/27/2019 11:17 AM	Purchase
02/27/2019 11:17 AM	Treatment
02/27/2019 11:24 AM	Treatment
02/27/2019 11:24 AM	Vitals
02/27/2019 11:51 AM	Treatment
02/27/2019 11:51 AM	Vitals
02/27/2019 11:51 AM	Vitals
02/27/2019 11:51 AM	Treatment

**B6**

## Patient History

02/27/2019 11:51 AM	Vitals
02/27/2019 12:30 PM	Vitals
02/27/2019 01:18 PM	Treatment
02/27/2019 01:18 PM	Vitals
02/27/2019 01:18 PM	Vitals
02/27/2019 01:18 PM	Treatment
02/27/2019 01:18 PM	Vitals
02/27/2019 01:22 PM	Treatment
02/27/2019 01:22 PM	Vitals
02/27/2019 01:23 PM	Treatment
02/27/2019 01:23 PM	Treatment
02/27/2019 01:23 PM	Vitals

**B6**









**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

Canine Doberman Pinscher Black

B6

**B6**

Dear

B6

B6 was seen at Tufts' ER for  
information.

**B6**

Please see attached discharge instructions for more

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

Thank you,

**B6**

**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/>  
Referring Vet Direct Line 508-887-4988

**Notice of Patient Admit**

**Date:** 2/25/2019 4:21:36 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:** DOM, CHF

If you have any questions regarding this particular case, please call 508-887-4988 to reach the Cardiology 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**

Male

Canine Doberman Pinscher Black

**B6**

**Daily Update From the Cardiology Service**

Today's date: 2/26/2019

Dear **B6**

Thank you for referring patients to the Foster Hospital for Small Animals at the Cummings School of Tufts University.

Your patient **B6** was admitted and is being cared for by the Cardiology Service.

Today, **B6**

- ☒ is in stable condition
- ☒ is still in the oxygen cage
- ☐ is critically ill
- ☐ might be discharged from the hospital today

Today's treatments include:

- ☒ bloodwork planned/pending
- ☒ echocardiography -
  - DCM with active CHF r/o breed-related vs. diet related.
- ☐ cardiac catheter procedure planned
- ☐ ongoing treatment for CHF
- ☐ ongoing treatment for thrombosis
- ☐ ongoing treatment for arrhythmia

Additional plans:

Please allow 3-5 business days for reports to be finalized upon patient discharge.

Please call (508) 887-4696 before 5pm or email us at [cardiovet@tufts.edu](mailto:cardiovet@tufts.edu) if you have any questions.  
Thank you!

Attending Clinician: **B6**

Faculty Clinician: **B6**

Senior student:

## 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**

**Lab Results Report**

Patient:

**B6**

Species:

Canine

Breed:

Pit Bull

Sex:

Male (Neutered)

Age:

**B6** years Old

**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

43.00

**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** Today's date: 1/3/19

**B6**

has been eating the health gran free (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
- 4 health

Client:  
Patient:

**B6**

**B6**

ospital records

**B6**

Patient Chart

CLIENT INFORMATION

**B6**

Client:  
Patient:

**B6**

**B6**

ospital records

**B6**

Client:  
Patient:

**B6**

**B6**

hospital records

**B6**

Client:

Patient:

**B6**

**B6**

hospital records

**B6**

Client:  
Patient:

**B6**

**B6**

hospital records

**B6**

Client:  
Patient:

**B6**

**B6**

hospital records

**B6**

Client:  
Patient:

**B6**

**B6**

hospital records

**B6**

Client:  
Patient:

**B6**

**B6**

hospital records

**B6**

Client:  
Patient:

**B6**

**B6**

hospital records

**B6**

Client:  
Patient:

**B6**

**B6**

hospital records

**B6**

Client:  
Patient:

**B6**

**B6**

hospital records

**B6**

Client:  
Patient:

**B6**

**B6**

hospital records

**B6**

Client:

Patient:

**B6**

**B6**

hospital records

**B6**

Client:  
Patient:

**B6**

**B6**

hospital records

**B6**

Client:  
Patient:

**B6**

**B6**

hospital records

**B6**

Client:  
Patient:

**B6**

**B6**

hospital records

**B6**

Client:  
Patient:

**B6**

**B6**

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  
100 Wetheroff Road  
North Grafton, MA 01133

DUPLICATE

**B6**

Client:  
Patient:

**B6**

CBC/CHEM - 1/3/2019



Tufts Cummings School Of Veterinary Medicine  
100 Wetherill Road  
South Oyster, MA 01906

DUPLICATE

**B6**

Sample ID: 1901030101  
ACD of REPORT (Final)

Signature: \_\_\_\_\_  
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**

**Diet history 1/3/19**

---

Has been eating 4health grain free (alternating proteins)  
for multiple years, just recently swapped 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
- 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, 1388 Veterinary Medicine Drive, Davis, Ca 95616

Telephone: 925-752-3655, Fax: 925-752-4598

Email: [aa@aminoacidlab.com](mailto:aa@aminoacidlab.com)

[www.aminoacidlab.com](http://www.aminoacidlab.com)

Veterinarian Contact:

B6

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

Address: 200 Western Road, North Andover, MA 01845

Email: [Drayton@Tufts.edu](mailto:Drayton@Tufts.edu)

Telephone: 800-887-4282

Fax: 800-887-4282

Billing Contact:

B6

Email:

B6

Billing Contact Phone: 800-887-4282

Tax ID:

Patient Name:

B6

Species: Canine

Breed: Lab

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
Taurine	40-80	100	450-600	200
Cysteine	40-100	100	200-300	100

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

**B6**

Discharge Instructions

Patient:

Owner:

B6

Attending Cardiologist:

☐ John F. Rush DVM, MS, DACVIM (Cardiology), DACVCP

B6

Cardiologist's Recommendation:

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's 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's diet and we provided some dietary recommendations below.

B6

**B6**

# B6

## Dry Food Options:

Royal Canin Early Cardiac (ventrinary 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 8+

## 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](mailto: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 Disclosure:

*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 (508-287-4679) to ensure the food is in stock. Alternatively, veterinary diets can be ordered from online retailers with a prescription/ventrinary 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/avet/clinical-trials](http://vet.tufts.edu/avet/clinical-trials)

Case

B6

Discharge Instructions

# Cummings

## Veterinary Medical Center

AT TUFTS UNIVERSITY

Foxley Hospital for Small Animals  
95 Willard Street  
North Grafton, MA 01536  
Telephone (508) 839-5095  
Fax (508) 839-7351  
<http://vetmed.tufts.edu/>

### ***AliveCor/Kardia Handbook***

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.alivacor.com](http://www.alivacor.com) or [www.amazon.com](http://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 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: [cardiacvet@tufts.edu](mailto:cardiacvet@tufts.edu) (only monitored Monday-Friday 9AM-5PM)

B6

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

General Medical History:

First episode occurred about a year ago - owner originally thought that she had given him too much trauma. 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 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 BHO  
Nupro powder

**B6**

# B6

## Problems:

Collapse

Arrhythmia

## Differential Diagnosis:

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

## Diagnostic plan:

- ☒ Echocardiogram
- ☐ Chemistry profile
- ☒ ECG
- ☐ Renal profile
- ☐ Blood pressure

- ☐ Oxygen profile
- ☒ Thoracic radiographs +/-
- ☒ NT-proBNP
- ☐ Troponin I
- ☐ 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:

- ☐ Ia
- ☒ Ib
- ☐ II

- ☐ IIIa
- ☐ IIIb

### ACVIM Classification:

- ☐ A
- ☐ B1
- ☒ B2

- ☐ C
- ☐ D

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

2D

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

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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

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LVEDV MOD LAX  
LVLs LAX  
LVA<sub>s</sub> 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  
cm  
cm  
ml  
ml  
BPM  
%%ml  
ml  
l/min  
l/min

m/s  
mmHg  
m/s  
ms  
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m/s  
mmHg  
m/s  
mmHg

Cummings  
Veterinary Medical Center  
AT TUFTS UNIVERSITY

Forster Hospital for Small Animals  
55 Willard Street  
North Grafton, MA 01526  
Telephone (508) 829-5395  
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 508-827-4981.

Thank you,

**B6**

(Cardiology)

Client:  
Patient:

**B6**

RDVM

**B6**

hospital records

**B6**

Client:  
Patient:

**B6**

RDVN

**B6**

hospital records

**B6**

Client:  
Patient:

**B6**

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 1-888-433-9967  
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	<b>B6</b>	0 - 900 pmol/L	HIGH		<b>B6</b>

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:	<b>B6</b>	Sex: CM	Provider: <b>B6</b>
Patient ID:		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			

**CBC, Comprehensive, Sm Animal (Research)**

DNOYES	<b>B6</b>	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	<b>B6</b>	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	<b>B6</b>	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		Reviewed by: _____
This report continues... (Final)		

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**

Patient ID:

Phone number:

Collection Date: 1/3/2019 3:35 PM

Approval date: 1/4/2019 10:42 AM

Sex: CM

Age: 7

Species: Canine

Breed: Pit Bull

Provider:

**B6**

Order Location: V320559: Investigation into

Sample ID: 1901030138

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

ABLASOTTO

Calcium 2

Magnesium 2+

Total Protein

Albumin

Globulins

A/G Ratio

Sodium

Chloride

Potassium

tCO<sub>2</sub>(Bicarb)

AGAP

NA/K

Total Bilirubin

Alkaline Phosphatase

GGT

ALT

AST

Creatine Kinase

Cholesterol

Triglycerides

Amylase

Osmolality (calculated)

H:

L:

H:

H:

H:

H:

**B6**

Ref. Range/Males

9.4-11.3 mg/dL

1.8-3.0 mEq/L

5.5-7.8 g/dL

2.8-4.0 g/dL

2.3-4.2 g/dL

0.7-1.6

140-150 mEq/L

106-116 mEq/L

3.7-5.4 mEq/L

14-28 mEq/L

8.0-19.0

29-40

0.10-0.30 mg/dL

12-127 U/L

0-10 U/L

14-86 U/L

9-54 U/L

22-422 U/L

82-355 mg/dL

30-338 mg/dl

409-1250 U/L

291-315 mmol/L

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)

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 your 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
↓ WHITERFISH + 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>dog powder</u>	_____	<u>1 tsp twice daily</u>
<u>CBD 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**

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	<b>B6</b>				
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
<b>B6</b>			

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

**SPECIAL URINE PRO/CREAT RATIO**

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

URINE CREATININE

URINE PROTEIN

URINE PRO/CREAT RATIO

COLOR

**B6**

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](http://www.vetconnectplus.com) or [www.iris-kidney.com](http://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

Page: 2

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 UA 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**

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

ACCOUNT #:  
ORDERED BY:

**B6**

ACCESSION # **B6**  
REQUISITION #: 115852762  
DATE OF COLLECTION: 01/08/2019  
DATE OF RECEIPT: 01/08/2019  
DATE OF REPORT: 01/08/2019

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

<sup>a</sup>

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](http://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](mailto:ucd.aminoacid.lab@ucdavis.edu)

[www.vetmed.ucdavis.edu/labs/amino-acid-laboratory](http://www.vetmed.ucdavis.edu/labs/amino-acid-laboratory)



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: 508-887-4669

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**

**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](mailto:ucd.aminoacid.lab@ucdavis.edu)

[www.vetmed.ucdavis.edu/labs/amino-acid-laboratory](http://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

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: Labrador

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](mailto: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

**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.

**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](mailto:sterngenetics@ucdavis.edu)

This document last updated: Aug. 20, 2018

Page 3 of 3



**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  
Attn: **B6**  
200 Westboro Road  
North Grafton, MA 01536  
USA

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

**B6**

**Tufts University-Clinical Pathology Lab**  
**Tracking Number:**

**GI Lab Accession:** **B6**

<u>Test</u>	<u>Result</u>	<u>Reference Interval</u>	<u>Assay Date</u>
Ultra-Sensitive Troponin I Fasting	<b>B6</b>	≤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  
Patient

**B6**

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

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Tufts University-Clinical Pathology Lab  
Tracking Number:

GI Lab Accession: **B6**

Test	Result	Reference Interval	Assay Date
Ultra-Sensitive Troponin I Fasting	<b>B6</b>	≤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:  
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** (yrs)  
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**

Copyright 2012 AliveCor, Inc. All rights reserved. This report is for informational purposes only and is not intended to be used for medical diagnosis or treatment. Please consult your physician for more information.

Page 2 of 3

Client:  
Patient:

**B6**

## Alivecor ECG

Patient: **B6**  
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**

Copyright 2012 AliveCor Inc. All rights reserved. Report ID: B6AD238C238F26E647350A7330126

Page 3 of 3

# 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

☒ FAXED ☐ EMAILED

3:25 p

Information to

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  
Vier

to form

**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

RY

**B6**

DATE 1-7-19 3:41P

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**

**FILE**

☒ FAXED ☐ EMAILED

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 #

**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

### Practice:

# 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:

- 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. 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**

12/11/2019

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

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**

**B6**

**B6**

B6

B6

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:

Phone:

B6

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:

Work Phone:

B6

## PATIENT INFORMATION

Pet's Name:

B6

Sex: ☐ M ☐ F ☐ OM ☐ OF ☐ OM/N ☒ F/S

Species:

KG

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 -

to 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

Additional Comments:

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,  
~~SABODOL~~ Bldwork  
~~Normal~~ Neg 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 4<sup>1+2</sup> ~~ok~~  
 seen w/ shoulders.

(B) Severe cardiomegaly - recommend  
 referral to cardiologist -

**B6**

FS 5/16

**B6**

**B6**

**ANTECH**  
DIAGNOSTICS

888-397-8378

**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	<b>B6</b>	4.0-15.5	$10^3/\mu\text{L}$
RBC		4.8-9.3	$10^6/\mu\text{L}$
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	$10^3/\mu\text{L}$
Platelet EST			
Differential			
Neutrophils		2060-10600	/ $\mu\text{L}$
Bands			
Lymphocytes (HIGH)		690-4500	/ $\mu\text{L}$
Monocytes		0-840	/ $\mu\text{L}$
Eosinophils		0-1200	/ $\mu\text{L}$
Basophils		0-150	/ $\mu\text{L}$

## Test Requested

## Results

## Reference Range

## Units

## ADULT WELLNESS CHEMISTRY

Total Protein	<b>B6</b>	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 WP

**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](mailto:ucd.aminoacid.lab@ucdavis.edu)[www.vetmed.ucdavis.edu/labs/amino-acid-laboratory](http://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:

**K9**

Breed:

**Lab Ret**

Current Diet:

**Purina Pro Plan Saver Adult Shredded Blend**

Preferred method of results reporting:

☒ Fax☒ Email

(Non-federal funds)

Bill to: ☐ Clinic☒ Owner

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 patient's results.

4:02P

DATE 1-7-19

FAXED

**B6**

BY

TEST Result Flag Normal Range Units

Hematology (HemaTrue) - Wednesday, November 14, 2018 5:52 PM

Dog ID **B6**

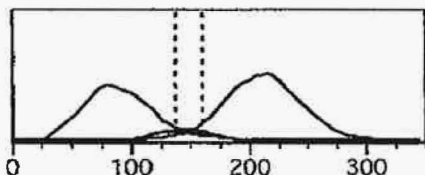
WBC	6.0 - 17.0	10 <sup>3</sup> /μl
LYM	0.9 - 5.0	10 <sup>3</sup> /μl
MONO	0.3 - 1.5	10 <sup>3</sup> /μl
GRAN	3.5 - 12.0	10 <sup>3</sup> /μl
LYM %		
MONO %		
GRAN %		
HCT	37.0 - 55.0	%
MCV	60.0 - 72.0	fl
RDW <sub>a</sub>	35.0 - 53.0	fl
RDW %	12.0 - 17.5	%
HGB	12.0 - 18.0	g/dl
MCHC	32.0 - 38.5	g/dl
MCH	19.5 - 25.5	pg
RBC	5.50 - 8.50	10 <sup>6</sup> /μl
PLT	200 - 500	10 <sup>3</sup> /μl
MPV	5.5 - 10.5	fl

**B6**

**B6**

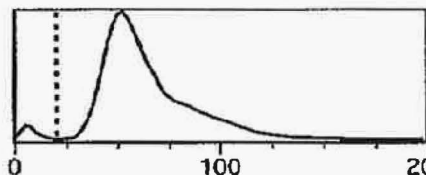
Asp Mode

WBC (fl)



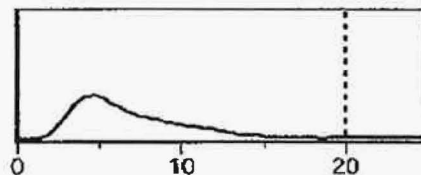
WBC Time: 9.6

RBC (fl)



RBC Time: 14.2

PLT (fl)



Asp Mode:

Asp Time: 0.4

TEST	Result	Flag	Normal Range	Units
<b>Chemistry (DRI-CHEM) - Wednesday, November 14, 2018 3:53 PM</b>				

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**

Patient

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 m<sup>2</sup>

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**

Page 3 of 3

**B6**

Date 03/13/2019

**B6**

03/13/2019

Print Date: 3/13/2019

HOLTER REPORT

Patient: **B6** ID: 27653  
Address: \_\_\_\_\_ Telephone: \_\_\_\_\_  
Labrador  
Sex: FS Age: 2y Ht: \_\_\_\_\_ Wt: \_\_\_\_\_ Pacer: \_\_\_\_\_  
Medications: **B6**  
Symptoms: Tricuspid valve dysplasia, Severe tricuspid insufficiency, Severe right heart volume load; Dilated cardiomyopathy  
ICD-10-CM: \_\_\_\_\_ Hookup By: \_\_\_\_\_  
Ref. Physician: **B6** ID: \_\_\_\_\_  
Address: \_\_\_\_\_ Telephone: \_\_\_\_\_  
Scanned By: \_\_\_\_\_  
Conclusions: \_\_\_\_\_  
Reviewed By: \_\_\_\_\_ Date: \_\_\_\_\_

## 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)

Holter Monitor Diary for **B6** on Nov. 20, 2018

TIME	Activity
11/20/18	11:00AM Started Hottel 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

Age 2

Birthdate: B6

Height 0.0 cm

Weight 25.3 kg

Sex Female

Date 11/20/2018

BSA 0.86 m<sup>2</sup>

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**

Page 2 of 3

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.

11/20/2018

Print Date: 11/21/2018

**B6**

Page 3 of 3

Image 1

Image 2

**B6**

Date 11/20/2018

**B6**

(sonographer)

(physician)

11/20/2018

Print Date: 11/21/2018

# B6

Client Details		Patient Details	
Name	<h1>B6</h1>	Name	B6
Address		Species	Canine
		Breed	Beagle
		Age	9 months
Phone(s)		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 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

## 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 **B5**

**B5**

**B5**

AN replied that t **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 **B5**

**B5**

Dr. Adin sent samples to a biochemist at **B4** for testing. I will need to ask Dr. Adin what she asked them to test for. We do not want to duplicate efforts. **B5**

**B5**

Vet-LIRN Plan:

- 
- 
- 

**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  
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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



STERN CARDIAC GENETICS LABORATORY  
JOSHUA A. STERN, DVM, PHD, DACVIM (CARDIOLOGY)  
[sterngenetics@ucdavis.edu](mailto: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* 1997;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](mailto:sterngenetics@ucdavis.edu)

This document last updated: Aug. 20, 2018

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