



**PATIENT PRESENTING CLINICAL SIGNS**

Trooper Henderson

History: Grade 2/6 murmur, frequent urination  
 Abnormal PE/Chem/CBC/UA Results: BP 185/97(104), 185/94(107), 183/96(117). Urine normal

**SPECIES**

Canine

**BREED**

Boxer

**SEX**

Neutered male

**AGE**

6 years

**WEIGHT**

76 lbs

**INTERPRETED BY**

Eric Lindquist, DMV  
 DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

JK

**HOSPITAL NAME**

Hamburg VC

**REFERRING VET**

Dr. Martens

**INVOICE**

42901

**DATE**

2/21/23

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. The cranial and caudal **mitral** valve leaflets presented normal linear structure, extension in systole, and union in diastole with normal kinesis. The **left ventricle** presented thicknesses with linear contour and was not dilated nor restricted. The **myocardium** presented normal echogenicity without subjective evidence of significant fibrotic or ischemic disease. **Contractility** of the ventricular walls was adequate and in normal range for this patient evidenced by the fractional shortening measurement and subjective evaluation of the different regions of the myocardium. **Left ventricular outflow tract** revealed excessive velocity. This is consistent with mild subaortic stenosis. This appears to be compensated at this time. The **right atrium** and auricle revealed normal size, structure and content. No evidence of masses was noted. **Tricuspid** valvular assessment demonstrated adequate linear morphology and kinesis. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonary outflow** tract assessment revealed normal valve structure, laminar flow, and diameter (approx.1:1 pa/ao ratio). No visible **pericardial** or free pleura fluid was noted. The cranial **mediastinum and pericardial and extra-cardiac regions** were free of masses in the visible window.

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base;)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	NM	NM	1.15	1.16	37	68	0.1
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT	LA (2D short axis Base view) (cm)	LVIDd (Avg; 2D and m-mode short axis) (cm)	LVIDs (Avg; 2D and m-mode short axis) (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	98	2.8	1.0	76 lbs	3.5	3.12	



**PATIENT**

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

Trooper Henderson

**Urinary System**

**SPECIES**

The **urinary bladder**, trigone, and pelvic urethra presented normal thicknesses and normal tone. The ureters were not visible which is normal. No uroliths or sediment were visualized and anechoic urine was present. No evidence of inflammatory or neoplastic changes was noted. Ureteral papillae were normal.

Canine

**BREED**

The **kidneys** revealed normal size and structure, corticomedullary definition and ratio for this age. The cortices presented largely uniform texture with normal echogenic relationship to liver and spleen. Medullary structure differed distinctly from the cortex and no evidence of pelvic dilation was present. The capsules were acceptably uniform without significant irregularities. The right kidney measured 7.02 cm.

Boxer

**SEX**

Neutered male

**AGE**

**Adrenal Glands**

6 years

The left **adrenal gland** was visualized and recognized as having normal shape, size, position and echogenicity for this breed. The phrenic vasculature, glandular echogenicity and detail were unremarkable. Capsule, cortex, and medullary definition were normal for this age patient. The left adrenal gland measured 2.16 x 0.3 cm. The region of the right adrenal gland was imaged with no evidence of pathology.

**WEIGHT**

76 lbs

**INTERPRETED BY**

**Spleen**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

The **spleen** presented a smooth homogeneous parenchyma hyperechoic to liver and renal cortical parenchyma. The capsule was smooth without noticeable expansion or deviation from within the spleen or adjacent pathology. The splenic vasculature demonstrated normal volume without signs of congestion or thrombosis. No sonographic evidence of acute or chronic inflammatory, neoplastic, or infarctual changes was noted.

**IMAGING PERFORMED BY**

JK

**Liver**

**HOSPITAL NAME**

Hamburg VC

The **liver** images submitted revealed subjectively normal liver size, contour, and structure. Parenchymal echogenicity was naturally coarse and hypoechoic to the spleen. Vascular and biliary tracts were of normal volume with no evidence of congestion. The gallbladder presented acceptably thin walls with primarily anechoic content. The cystic and common bile ducts were normal. No pathological hepatic lymphadenopathy was evident. No overt structural evidence of inflammatory, infiltrative or regenerative pathology was evident.

**REFERRING VET**

Dr. Martens

**INVOICE**

**Gastrointestinal**

42901

Examination of the **gastrointestinal tract** revealed a stomach and intestine free of stasis, of normal wall thickness, acceptable curvilinear mural detail, and peristaltic activity. Small and large intestine demonstrated normal luminal chyme and stool consistency respectively. No obstructive or overt infiltrative disease was noted. No associated abnormal lymphatic activity was noted.

**DATE**

2/21/23



**PATIENT**

**Pancreas**

Trooper Henderson

The base and limbs of the **pancreas** were observed to be largely isoechoic to surrounding omental fat. Pancreatic duct and capsular contour were acceptably normal and parenchyma respected normal curvilinear patterns. No overt evidence of active inflammatory or neoplastic disease was noted.

**SPECIES**

Canine

**ULTRASONOGRAPHIC FINDINGS**

**BREED**

Boxer

Mild subaortic stenosis/ increased LVOT velocity, compensated at this time.

Unremarkable abdomen.

**SEX**

Neutered male

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

The cause of urinary signs is not evident. Orthopedic issues such as spinal disease should be considered. This may be creating a pudendal neuropathy. Behavioral issues should also be considered. The cause of hypertension is unclear assuming no white coat effect is present the aortic velocity may be influenced by concurrent hypertension. No treatment is recommended for the heart; however, anti-hypertensives would be warranted if the blood pressure parameters are solid and not induced by white coat effect.

Recheck echocardiogram is recommended in 6-12 months.

**WEIGHT**

76 lbs

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

JK

**HOSPITAL NAME**

Hamburg VC

**REFERRING VET**

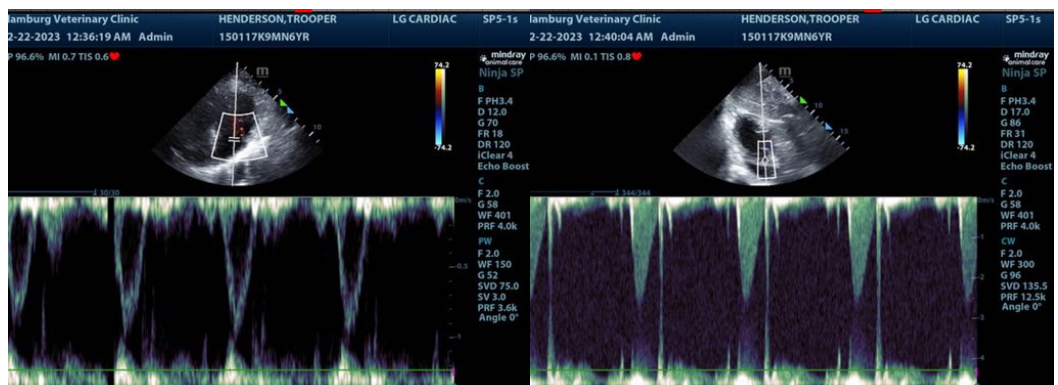
Dr. Martens

**INVOICE**

42901

**DATE**

2/21/23





**PATIENT**

Trooper Henderson

**SPECIES**

Canine

**BREED**

Boxer

**SEX**

Neutered male

**AGE**

6 years

**WEIGHT**

76 lbs

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

JK

**HOSPITAL NAME**

Hamburg VC

**REFERRING VET**

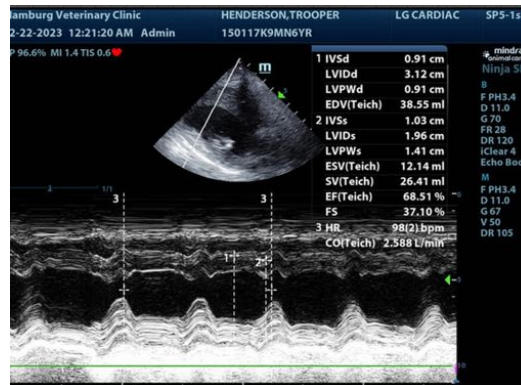
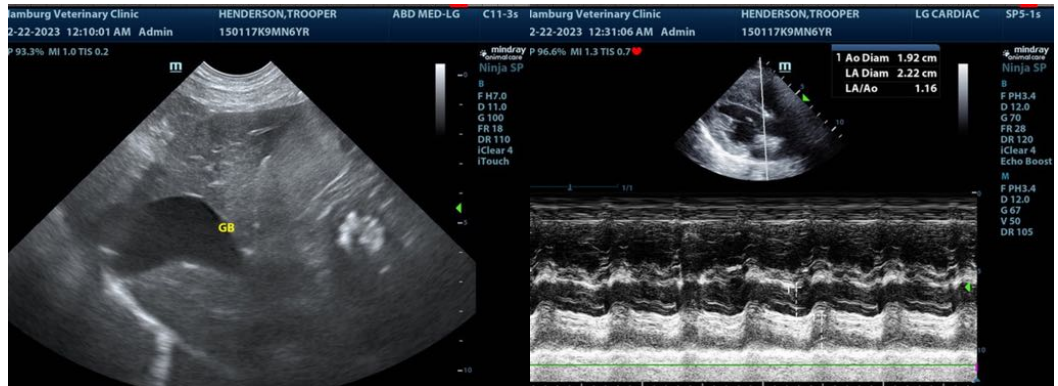
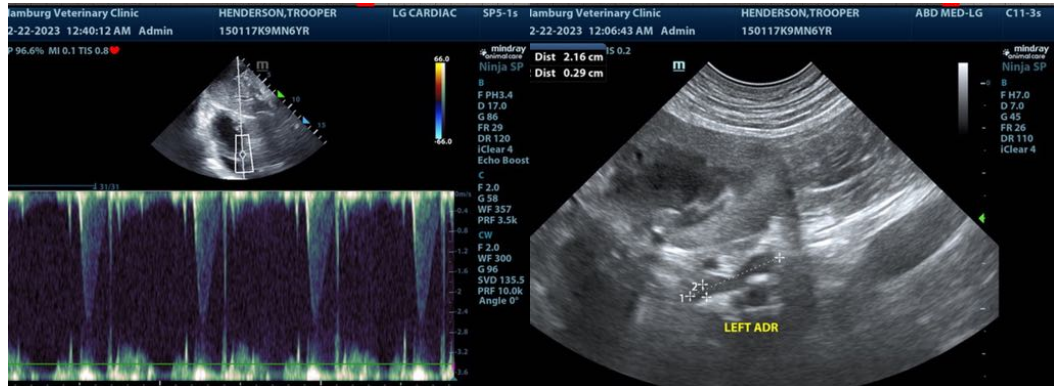
Dr. Martens

**INVOICE**

42901

**DATE**

2/21/23



The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

**Eric Lindquist, DMV, DABVP, Cert. IVUSS, CEO of SonoPath.com**  
info@SonoPath.com