



**PATIENT PRESENTING CLINICAL SIGNS**

Frank Wallace

History: Not eating, lethargic, seems underweight. Last visit was about 2 years ago. (weakness outside for about a week). new murmur. pale mm, faint pulse, moderate amount of abdominal fluid. On B12 injections.

**SPECIES**

FelLV/FIV neg, FIP pending. slight monocytopenia, PCV 28, K+ 3.6. Fluid analysis pending

Feline

**BREED**

Domestic Shorthair

**ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN**

**Urinary System**

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.

**SEX**

Neutered male

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 4.32 cm. The left kidney measured 4.07 cm.

**AGE**

2 years

**WEIGHT**

7.3 lbs

**Adrenal Glands**

Both **adrenal glands** were 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 right adrenal gland measured 0.36 cm. The left adrenal gland measured 1.18 x 0.38 cm.

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**Spleen**

**IMAGING**

**PERFORMED BY**

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.

Diane McFadden, RVT

**HOSPITAL NAME**

Chester AH

**INVOICE**

96886

**Liver**

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. Pleural effusion was noted through the diaphragm.

**DATE**

3/11/22



**PATIENT** *Gastrointestinal*

Frank Wallace 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. The mesenteric lymph nodes are also enlarged.

**SPECIES**

Feline

**BREED**

Domestic Shorthair

*Pancreas*

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.

**SEX**

Neutered male

*Free Abdomen*

Ascites was noted with mixed echogenic debris.

**AGE**

2 years

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART**

**WEIGHT**

7.3 lbs

The echocardiogram in this patient demonstrated volume overload of the **left atrium and right atrium**. Septal and free wall thicknesses were normal. Contractility was adequate. **Mitral** and **tricuspid** insufficiency was noted. Mitral insufficiency measured at 5.08 m/sec and tricuspid measured at 2.5 m/sec. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. The **right atrial** size was normal to slightly enlarged. The **right ventricle** was of normal size (1/3 diameter of LV), chordae structure, myocardial echogenicity and thickness. **Pulmonic** 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 or extra cardiac pathology in the visible planes. Shower curtain lung pattern was noted with trace pericardial effusion.

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Diane McFadden, RVT

**HOSPITAL NAME**

Chester AH

**INVOICE**

96886

**DATE**

3/11/22

FELINE CARDIAC PARAMETERS	BODY WEIGHT (kg)	HR (BPM)	IVSd (cm)	LVIDd (cm)	LVWd (cm)	FS (%)	EF (%)
NORMAL PARAMETER	-----	150-240	0.3-0.6	1.0-2.1	0.25-0.6	35-67	80-100
PATIENT		186	0.38	1.52	0.39	43	78
FELINE CARDIAC PARAMETERS	LA/AO (Boon)	LA/AO HEART BASE (Sisson)	LA 2D 4-chamber long axis AS to FW (Sisson) (cm)	LVOT VEL. (m/s)	RVOT VEL. (m/s)	IVRT (m/)	
NORMAL PARAMETER	<1.5	0.88-1.79	0.7-1.7	<1.6	<1.3	40-60	
PATIENT	1.9	1.62	1.9 max	1.21	1.0	NM	
Adapted from June Boon, Veterinary Echocardiography, 1998 Sisson D et al. Jvim 1991; 5: 232, Jacobs et al. Am J Vet Res 1985; 46:1705							



**PATIENT                      ULTRASONOGRAPHIC FINDINGS**

Frank Wallace                      Mitral and tricuspid insufficiency.

Pleural effusion and ascites.

**SPECIES**

Feline

Left-sided heart failure with unexplained ascites. Pleural effusion from left-sided failure.

**BREED**

Domestic Shorthair

**INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

I believe there is more than one acting pathology in this patient as the hepatic veins are not dilated. Therefore, the ascites is not owing to right sided heart failure. However, left sided failure is present. Underlying FIP may be an issue. Myocarditis may also be an issue. I recommend Lasix at 6.25-12.5 mg/kg b.i.d. and Enalapril at 0.5 mg/kg s.i.d. Further treatment is recommended based on cytology results. Recheck echocardiogram is recommended in a week. CBC path review +/- bone marrow aspirates are all indicated. Broad spectrum antibiotics such as Zithromax or Clindamycin are also indicated.

**AGE**

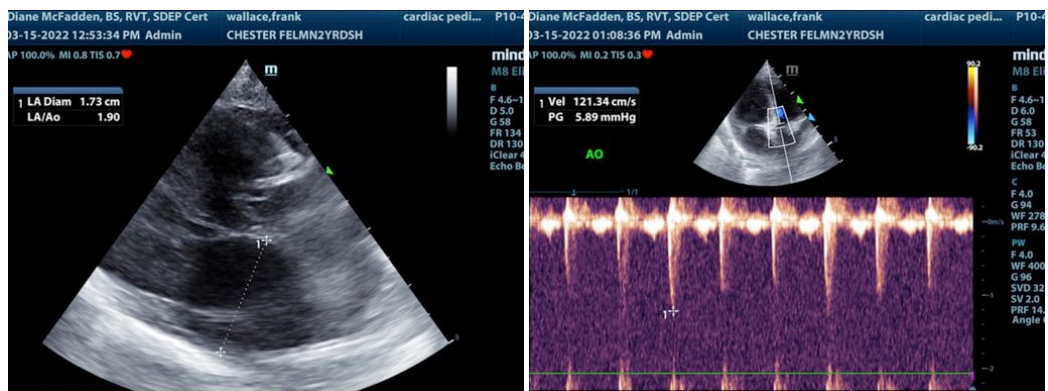
2 years

**WEIGHT**

7.3 lbs

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS



**IMAGING PERFORMED BY**

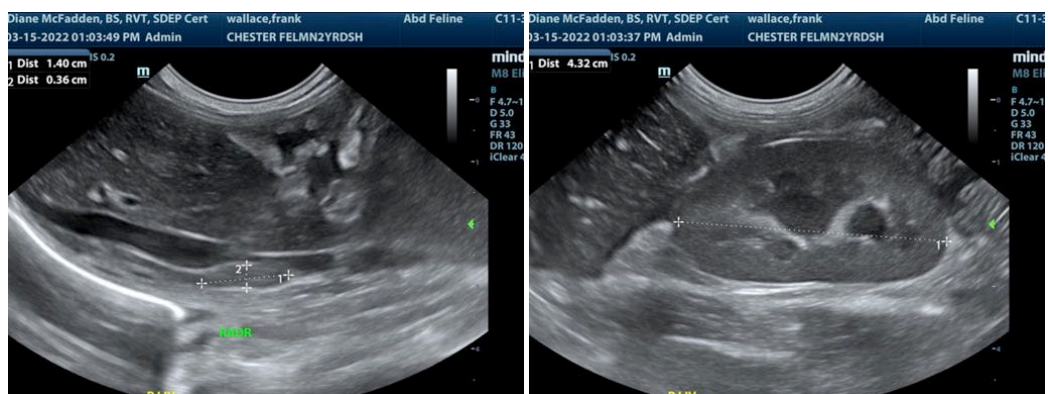
Diane McFadden, RVT

**HOSPITAL NAME**

Chester AH

**INVOICE**

96886



**DATE**

3/11/22



**PATIENT**

Frank Wallace

**SPECIES**

Feline

**BREED**

Domestic Shorthair

**SEX**

Neutered male

**AGE**

2 years

**WEIGHT**

7.3 lbs

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUS

**IMAGING PERFORMED BY**

Diane McFadden, RVT

**HOSPITAL NAME**

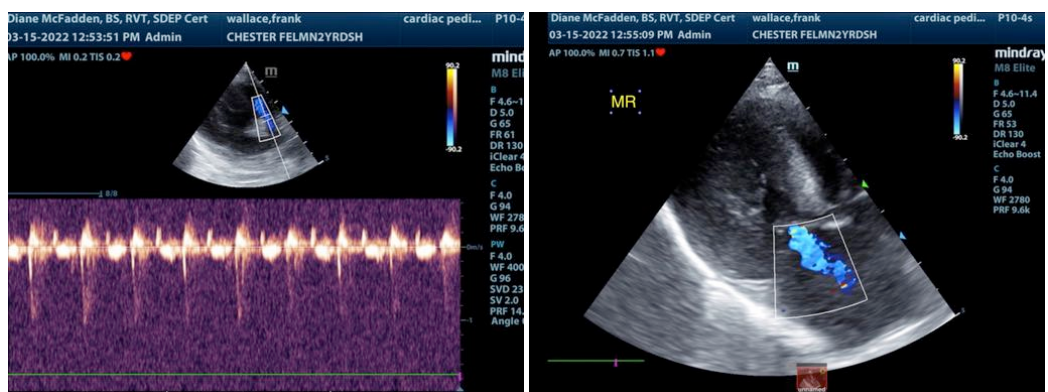
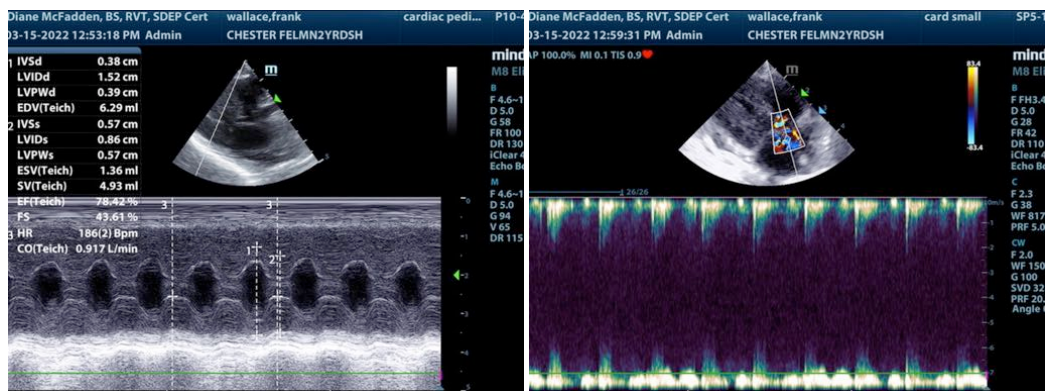
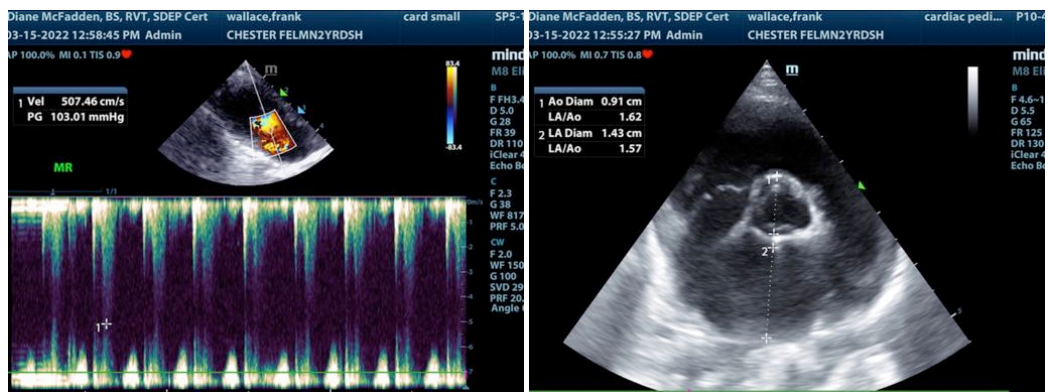
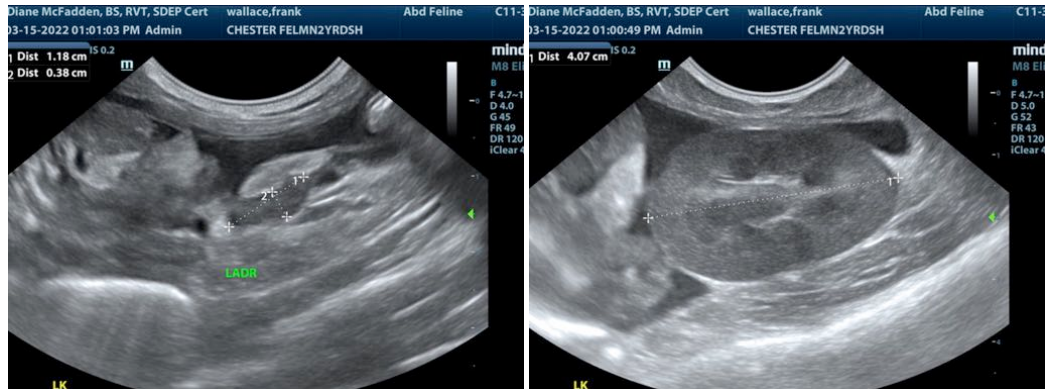
Chester AH

**INVOICE**

96886

**DATE**

3/11/22





**PATIENT**

Frank Wallace

**SPECIES**

Feline

**BREED**

Domestic Shorthair

**SEX**

Neutered male

**AGE**

2 years

**WEIGHT**

7.3 lbs

**INTERPRETED BY**

Eric Lindquist, DMV  
DABVP, Cert. IVUSS

**IMAGING PERFORMED BY**

Diane McFadden, RVT

**HOSPITAL NAME**

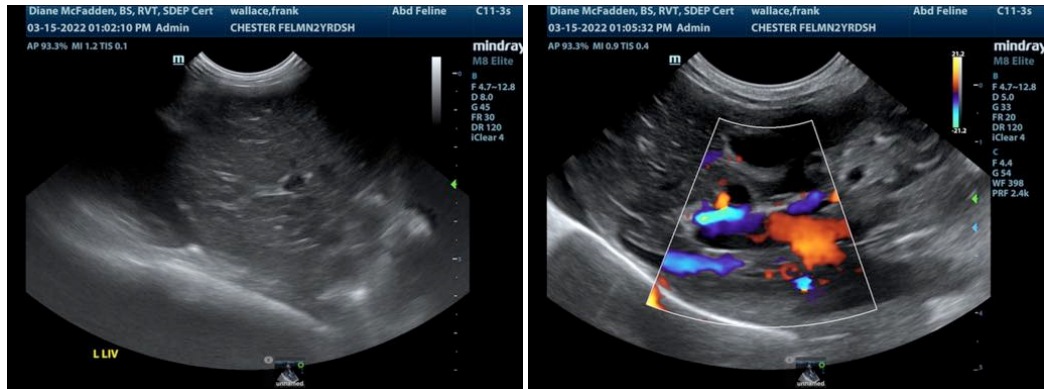
Chester AH

**INVOICE**

96886

**DATE**

3/11/22



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