



**PATIENT**

Sacha Heros

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Neutered Male

**AGE**

4 Years 5 Months

**WEIGHT**

12.3 lbs

**INTERPRETED BY**

Eric Lindquist, DMV,  
DABVP(CFM), Cert.  
IVUSS

**IMAGING PERFORMED BY**

Dr. Julie Kang

**HOSPITAL NAME**

Sabino Veterinary Care

**REFERRING VET**

Dr. Julie Kang

**INVOICE**

15677

**DATE**

05/01/26

**PRESENTING CLINICAL SIGNS**

AUS and Echo to evaluate for internal pathology that could be contributing to persistent lethargy.

Abnormal PE/Chem/CBC/UA Results: 3/18/2026: CBC - WNL. Chem10 - WNL (IRIS stage 1, ALT liver enzyme back in normal range from mildly elevated in January 2026). PT/APTT - WNL. Cocci - 1:2 <-- 1:2 stable 1/2026 and 9/2025. Stable weight over the last year. 4/30/2026: Thoracic rads - unremarkable thorax.

**ULTRASONOGRAPHIC EXAMINATION OF THE HEART & ABDOMEN**

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (M-Mode)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	Up to 1.6	28-40	40-100	<0.6
PATIENT	--	--	1.0	--	16	36	0.36
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (lbs)	LAD LA MAX 4 Chamber	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				
PATIENT	NM	0.7	0.5	12.3	1.93	2.53	--

**Cardiac Presentation**

The echocardiogram in this patient demonstrated normal **left atrial** size based on 3 separate methods of LA evaluation. Mitral valve insufficiency was noted. The **left ventricle** presented normal 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 subnormal likely owing to sedation. The **left ventricular outflow** tract demonstrated normal laminar flow and subjective structural integrity. 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. **Pulmonic** insufficiency was noted at 2.0 m/s. The aortic and pulmonic doppler velocities are likely underestimated, possibly owing to sedation or weak signal. 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.

**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



## PATIENT

Sacha Heros

## SPECIES

Canine

## BREED

Shih Tzu

## SEX

Neutered Male

## AGE

4 Years 5 Months

## WEIGHT

12.3 lbs

## INTERPRETED BY

Eric Lindquist, DMV,  
DABVP(CFM), Cert.  
IVUSS

## IMAGING PERFORMED BY

Dr. Julie Kang

## HOSPITAL NAME

Sabino Veterinary Care

## REFERRING VET

Dr. Julie Kang

## INVOICE

15677

## DATE

05/01/26

was present. No evidence of inflammatory or neoplastic changes were noted. Ureteral papillae were normal.

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 left kidney measured 3.58 cm in length. The right kidney measured 4.3 cm in length.

### **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 left adrenal gland measured 1.8 cm x 0.34 cm width at the caudal pole and 0.28 cm width at the cranial pole. The right adrenal gland measured 2.26 cm x 0.46 cm width at the cranial pole and 0.29 cm width at the caudal pole.

### **Spleen**

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 were noted.

### **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.

### **Gastrointestinal**

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.

### **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.

## ULTRASONOGRAPHIC FINDINGS

- Stage B1 valvular disease. No evidence of volume overload.
- Mitral and pulmonic insufficiency.
- Normal abdomen.



## PATIENT

Sacha Heros

## SPECIES

Canine

## BREED

Shih Tzu

## SEX

Neutered Male

## AGE

4 Years 5 Months

## WEIGHT

12.3 lbs

## INTERPRETED BY

Eric Lindquist, DMV,  
DABVP(CFM), Cert.  
IVUSS

## IMAGING PERFORMED BY

Dr. Julie Kang

## HOSPITAL NAME

Sabino Veterinary Care

## REFERRING VET

Dr. Julie Kang

## INVOICE

15677

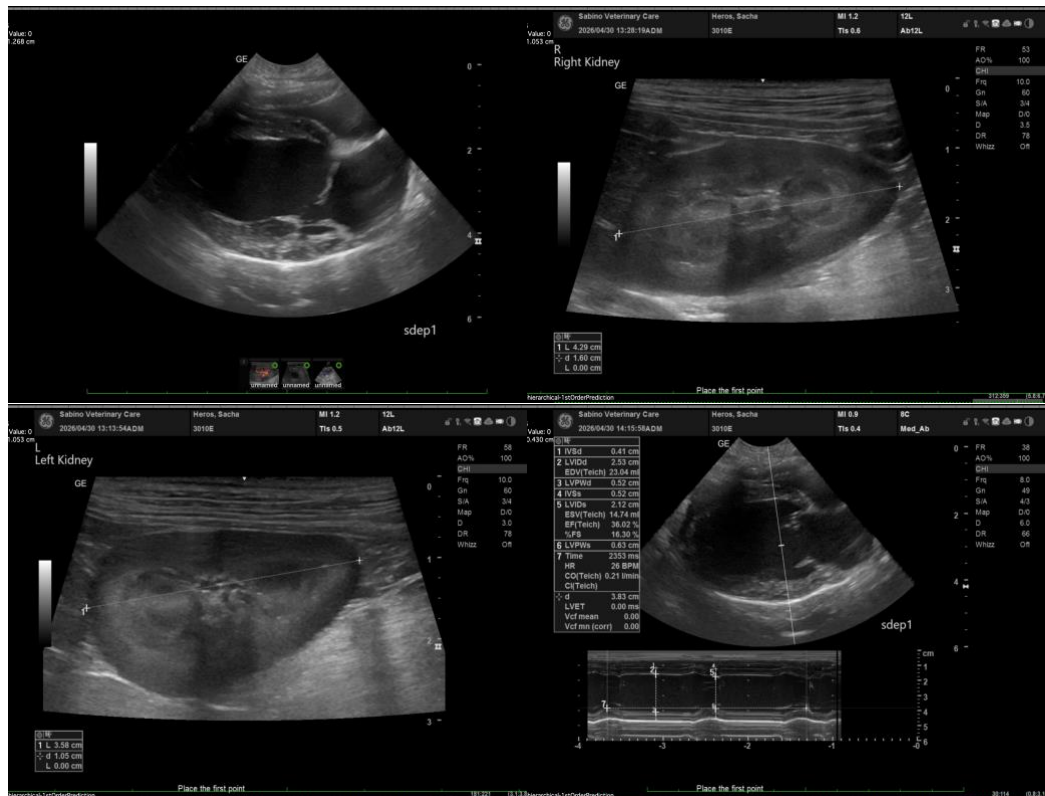
## DATE

05/01/26

## INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

The heart is stable without clinical disease. No overt contraindication for anesthesia of brief to moderate duration. I suggest Torbutrol premed, Propofol induction, Isoflor maintenance or similar protocol if anesthesia is desired. Blood pressure, EKG and chest radiographs are recommended if not already performed. Target white coat negative systolic pressure of < 160 mmHg. If higher than this ACE-inhibitor is suggested to reach this level. Recheck echocardiogram is recommended in 6-12 months, earlier if murmur grade increases or clinical signs initiate.

If sedated, this may be artifactual. No evidence of a structural disease responsible for the lethargy. Screening for occult Addison's is indicate with assessment for CNS, thoracic or orthopedic disease/ pain related disease that may be contributing.





**PATIENT**

Sacha Heros

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Neutered Male

**AGE**

4 Years 5 Months

**WEIGHT**

12.3 lbs

**INTERPRETED BY**

Eric Lindquist, DMV,  
DABVP(CFM), Cert.  
IVUSS

**IMAGING PERFORMED BY**

Dr. Julie Kang

**HOSPITAL NAME**

Sabino Veterinary Care

**REFERRING VET**

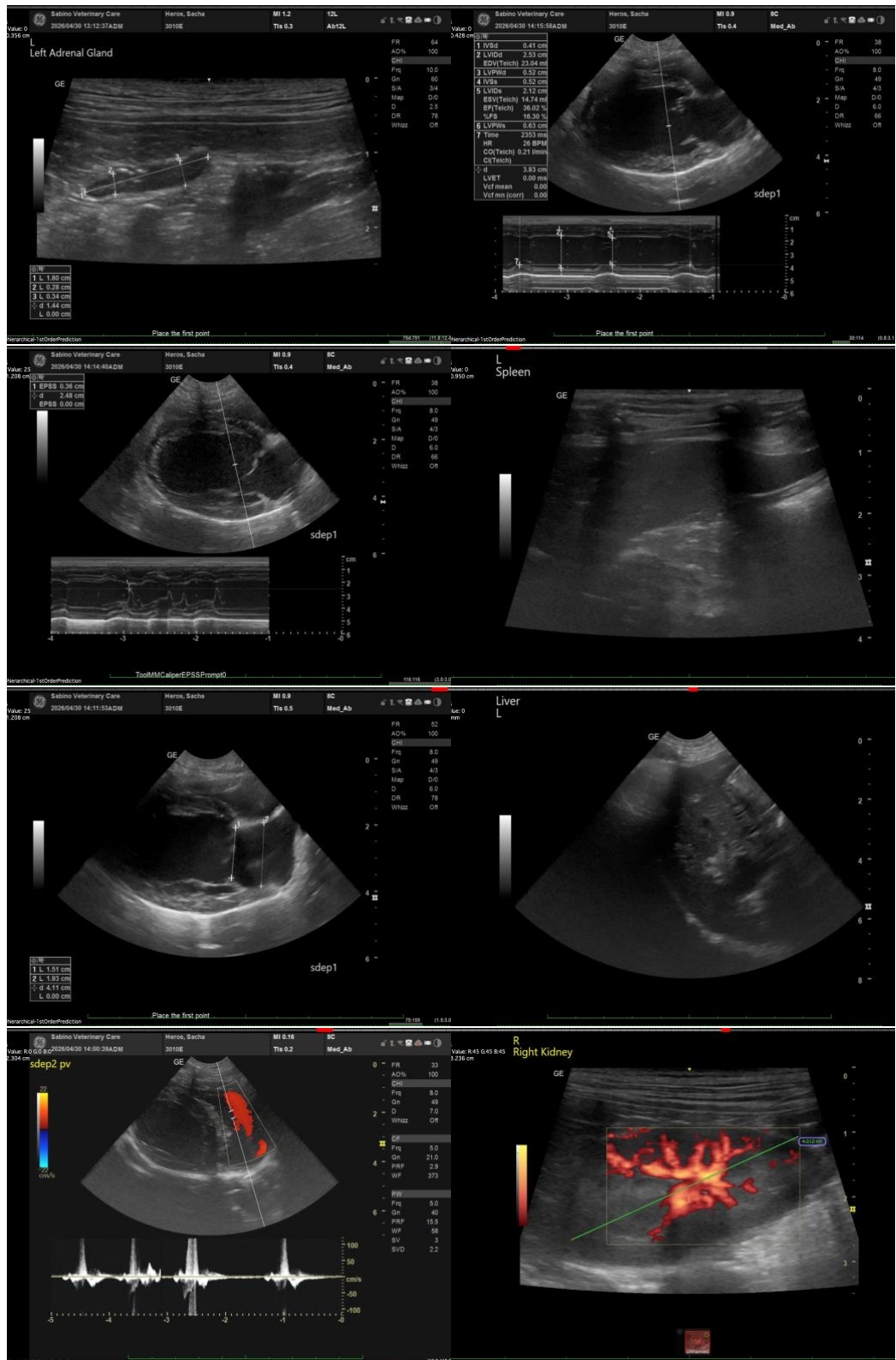
Dr. Julie Kang

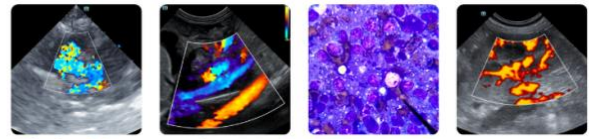
**INVOICE**

15677

**DATE**

05/01/26





**PATIENT**

Sacha Heros

**SPECIES**

Canine

**BREED**

Shih Tzu

**SEX**

Neutered Male

**AGE**

4 Years 5 Months

**WEIGHT**

12.3 lbs

**INTERPRETED BY**

Eric Lindquist, DMV,  
DABVP(CFM), Cert.  
IVUSS

**IMAGING PERFORMED BY**

Dr. Julie Kang

**HOSPITAL NAME**

Sabino Veterinary Care

**REFERRING VET**

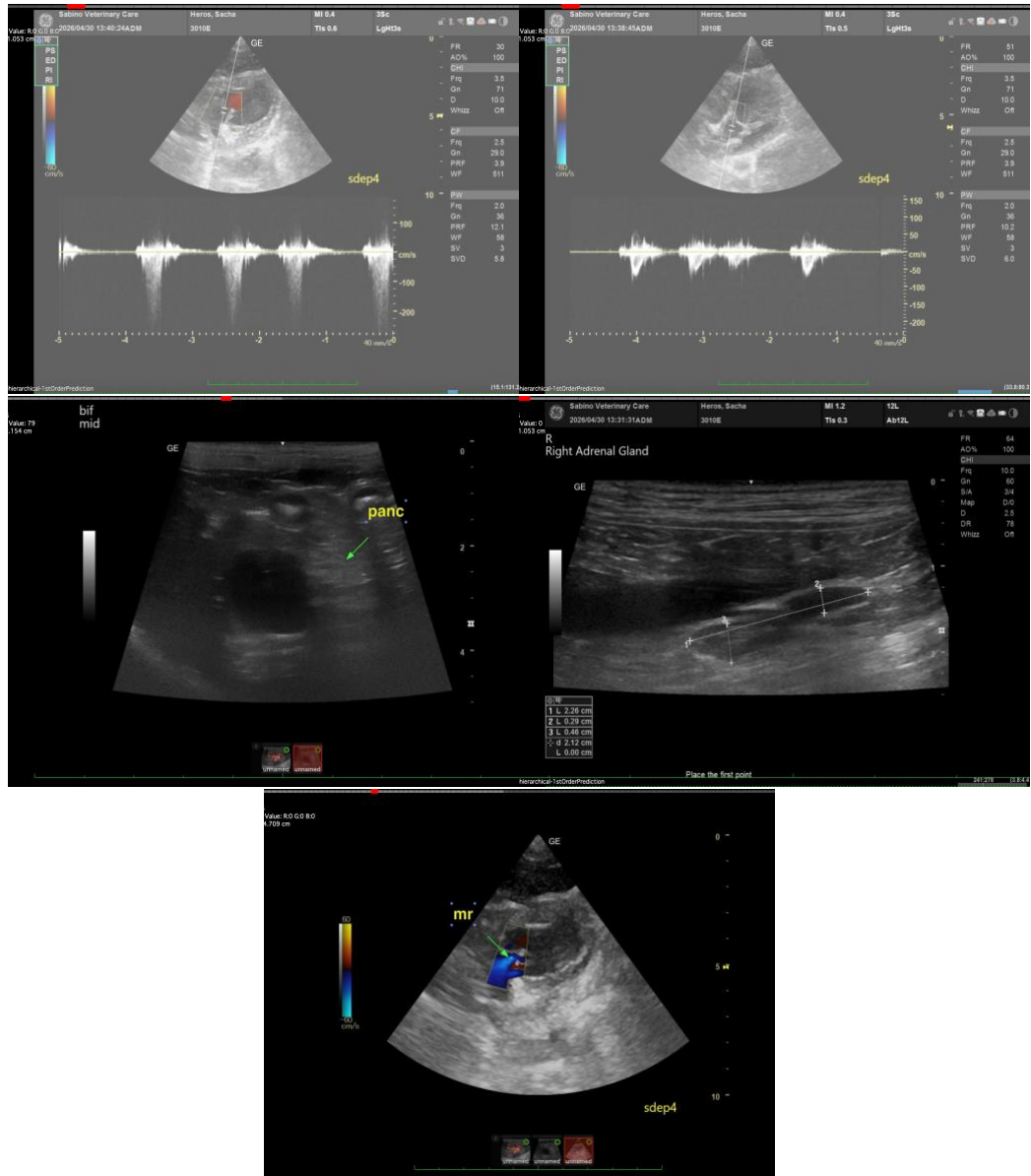
Dr. Julie Kang

**INVOICE**

15677

**DATE**

05/01/26



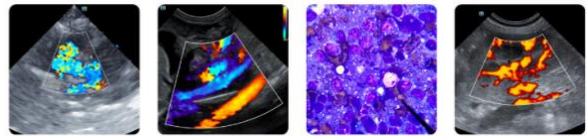
The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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(CFM), Cert. IVUSS,

CEO, Owner, Founder -- SonoPath.com

[info@SonoPath.com](mailto:info@SonoPath.com)



## PATIENT

Sacha Heros

## SPECIES

Canine

## BREED

Shih Tzu

## SEX

Neutered Male

## AGE

4 Years 5 Months

## WEIGHT

12.3 lbs

## INTERPRETED BY

Eric Lindquist, DMV,  
DABVP(CFM), Cert.  
IVUSS

## IMAGING PERFORMED BY

Dr. Julie Kang

## HOSPITAL NAME

Sabino Veterinary Care

## REFERRING VET

Dr. Julie Kang

## INVOICE

15677

## DATE

05/01/26