



## PATIENT

Derby Culley

## SPECIES

Canine

## BREED

Cavalier King Charles  
Spaniel

## SEX

Spayed Female

## AGE

13 Years

## WEIGHT

25.6 pounds

## INTERPRETED BY

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

## IMAGING PERFORMED BY

Dr. Wasserman

## HOSPITAL NAME

Insight Imaging

## REFERRING VET

Dr. Frankenberger

## INVOICE

13809

## DATE

02/14/26

## PRESENTING CLINICAL SIGNS

- Current Medications: None currently, Patient completed doxycycline 50 mg po bid for 2 weeks. Primary Reason for Sonogram: repeated UTI's over several years, declining renal function. Patient is new to Highlands AH. Reported UTI's are from initial hospital in Pennsylvania.

Abnormal PE/Chem/CBC/UA Results: HWT: Anaplasma Positive since 2023 Chemistry: mildly elevated creatinine, SDMA Urinalysis: 1/16 urine C+S neg for growth. UA 1/26 bacteria in urine. Vet (in Pennsylvania) started doxy. Follow up UA today (2/13) bacteria and wbc - free catch. Pet is asymptomatic Preliminary US Findings: POCUS of bladder, small bladder, floating debris, no stones seen. Suspicious that bladder wall irregular at trigone. Bladder was empty at time of POCUS Bladder by Dr. AF

## ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

### Urinary System

The **urinary bladder**, trigone, and pelvic urethra to a depth of 3.0 cm 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 were noted. Ureteral papillae were normal. No evidence of lower urinary tract pathology up to approximately 2.0 cm into the pelvic urethra.

The iliac trifurcation was unremarkable.

The **kidneys** in this patient presented increased cortical echogenicity and thickening with moderate, irregular contour. Microcystic cortical changes were noted. This is secondary cystic formation consistent with degenerative changes and remodeling. There was no suspicion or evidence of abscessation. There was no suspicion of neoplasia. The renal pelvises were acceptably closed. No obstructive disease was noted. Dystrophic mineralization was noted and non-obstructive at this time. The left kidney measured 3.87 cm in length. The right kidney measured 4.35 cm in length. The left kidney revealed multifocal cortical cysts. Minor pyelectasia was present in the left kidney.

### 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 2.01 cm x 0.41 cm width at the caudal pole and 0.43 cm width at the cranial pole. The right adrenal gland measured 2.13 cm x 0.54 cm width at the caudal pole and 0.46 cm width at the cranial 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



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The **liver** images from right and left intercostal as well as subcostal views revealed subjectively normal liver size, contour, and structure. Some mild age-related parenchymal remodeling was noted but likely not clinically significant at this time. Vascular and biliary tracts were of normal volume, and no evidence of congestion was noted. The gallbladder presented some dependent debris with essentially normal contour. The cystic and common bile ducts were normal. No overt evidence of active inflammatory, infiltrative or regenerative pathology was noted but should be paired with current or past LE elevations regarding any clinical significance to this presentation. The hepatic lymph nodes were unremarkable.

### **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**

- Moderate degenerative renal changes with mineralization and cortical cysts.
- Age-related hepatic changes.

### **INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS**

Given the recurrent UTI, embedded infection within the calculi or cysts and chronic changes of the kidneys is possible. The kidneys appear subjectively 50-60% compromised. Renal values should be monitored carefully in this patient as well as blood pressure and likely longer treatment or different antibiotic treatment for the UTI issues.

### **Canine Chronic UTI Protocol**

**To be utilized for UTI with chronic urinary tract changes found sonographically that may serve as nidus of infection and history of chronic or recurrent UTI is an issue.**

I recommend Clavamox as a first level approach to chronic UTI at 12.5-25 mg/kg bid owing to optimal urinary concentrations. If bacterial resistance is an issue then **Enrofloxacin** (5-10 mg/kg SID PO) (In patients > 1 year of age) in late pm after urination to maximize urinary concentrations overnight. This assumes that culture supports this use. Repeat **culture** at 3-4 weeks and continue treatment at least 7-10 days post negative urinary sediment and negative culture. *Note: Negative culture does not necessarily mean lack of UTI.* Other favorite antibiotics for chronic UTI include third generation Cefa (Ceftiafur or similar s.i.d. injectable) or Clavamox. If suspicion of occult urinary incontinence is present then **phenylpropanolamine (PPA)** (1-2 mg/kg BID) can be employed long term to enhance urethral tone.



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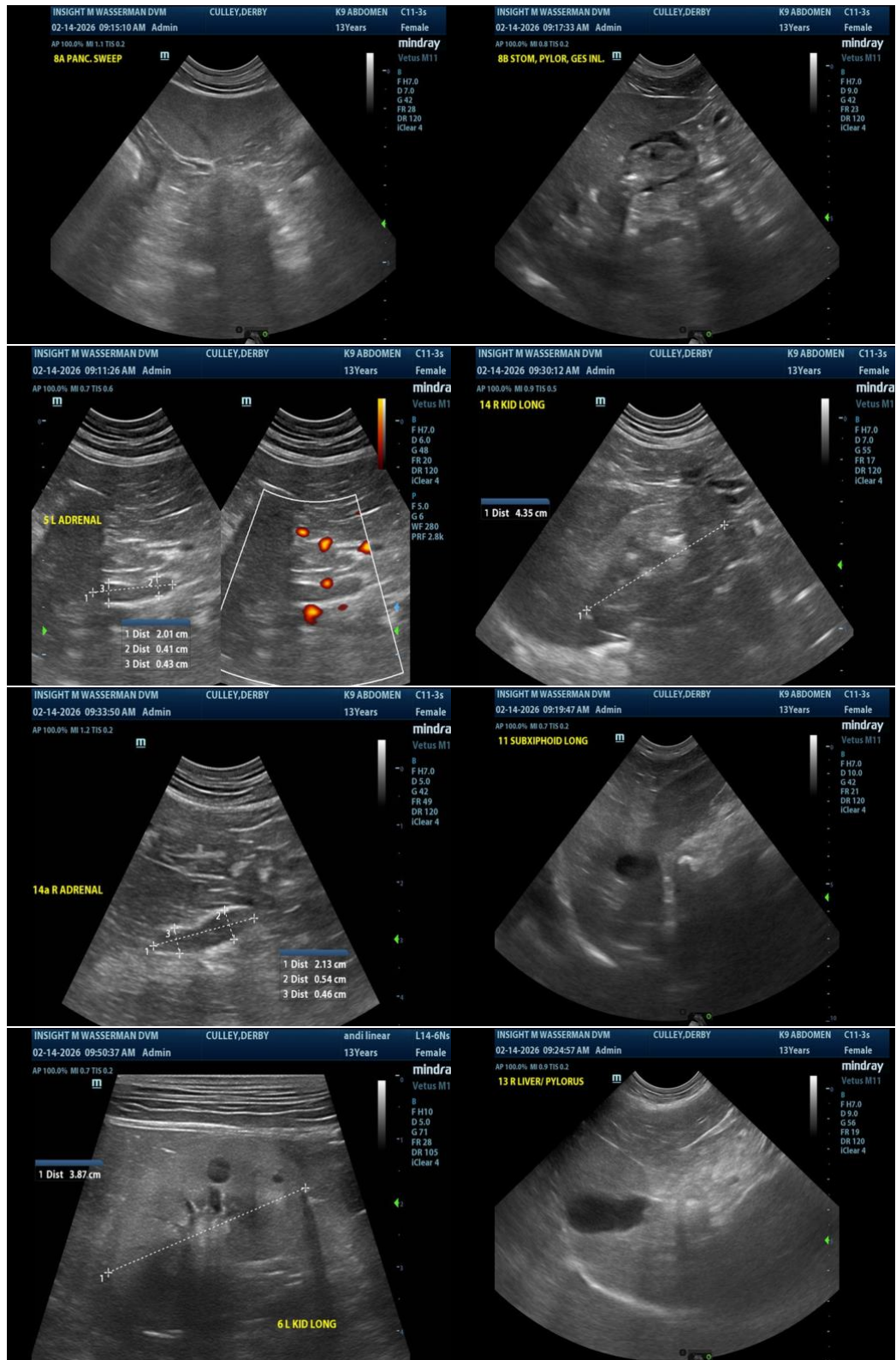
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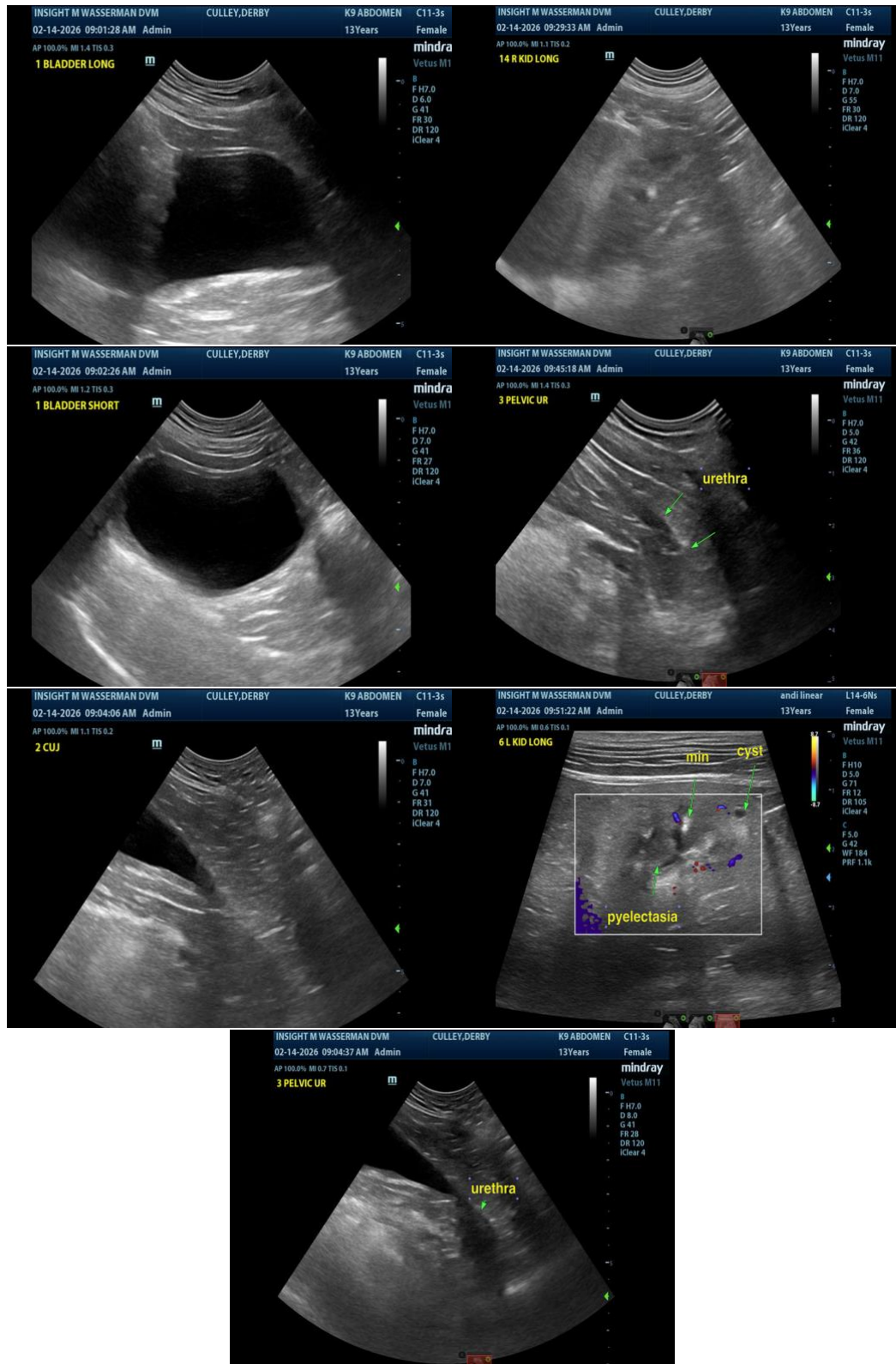
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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,**

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