



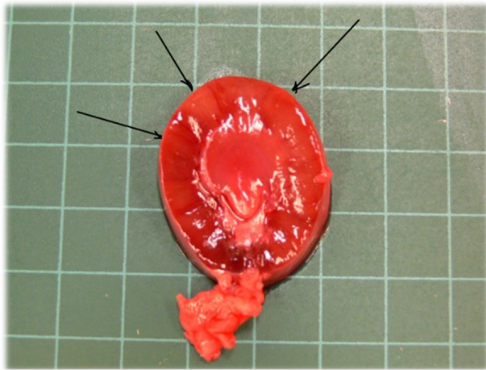
## Bilateral Renal Nephropathy in a Dog

Dr. Marek Tomczyk, DVM, Dipl. Anat. Path, VDS Pathologist

A male Poodle presented with anorexia, lethargy and a foul urine smell. The dog was diagnosed at its veterinary clinic with azotemia, or increased blood urea nitrogen (BUN), which is an indicator of kidney function. It was then euthanized due to kidney failure and sent to VDS for postmortem evaluation due to suspicion that he had been poisoned.

During examination at VDS, the dog was found to be in good body condition. Bilaterally, the renal capsules were moderately difficult to remove and the cortex surface was focally pitted. In the cortex of both kidneys, focal, triangular areas of pallor were observed. The urinary bladder was full and contained pale yellow urine.

The remaining organs, including brain, parathyroid and thyroid glands, heart, liver, pancreas, spleen, stomach, intestines, adrenal glands and urinary bladder appeared grossly unremarkable.



**Picture (left):** A cross section of the right kidney. Black arrows indicate triangular areas of pallor.

Ocular fluid BUN was 74.2 mmol/L, which is very high, given the expected value in serum is 1.6 – 10.9 mmol/L.

Urinalysis revealed:

- low specific gravity of 1.014 (normal 1.015 – 1.045)
- pH of 5.0 (normal 6.0 – 7.0)
- protein level of 100mg/dl
- 4+ blood
- crystals at low power focus, consistent with calcium oxalate
- 3+ sheets of epithelial bladder and squamous cells
- slight bacteria at high power focus

On histopathology of the kidney, multifocal areas within the renal tubules of the cortex and medulla, and occasionally in the interstitium, contained accumulations of birefringent, radiating calcium oxalate crystals. They were round to pyramidal and were arranged in rosettes or

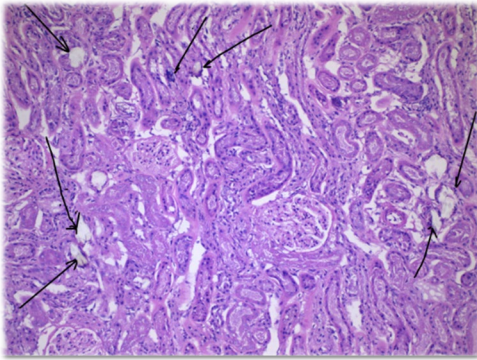
### Holiday Closures

VDS will be closed on  
 Christmas – December 25, 2024  
 Boxing Day – December 26, 2024  
 New Year's Day – January 1, 2025

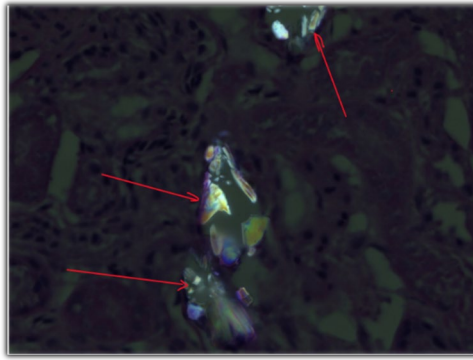
### VDS Team

Dr. Glen Duizer – Chief Veterinary Officer  
 Dr. Lisa Joachim – Acting Provincial Veterinarian – Animal Welfare  
 Dr. Md Niaz Rahim – Chief Scientific Officer  
 Dr. Neil Pople – Anatomic Pathologist/ Veterinary Microbiologist  
 Dr. Marek Tomczyk – Anatomic Pathologist  
 Dr. Brenda Bryan – Anatomic Pathologist  
 Dr. Vasyl Shpyrka – Diagnostic Pathologist  
 Dr. Karlyn Bland – Clinical Pathologist  
 Shannon Korosec – Supervisor, Microbiology  
 Tracy Scammell-LaFleur – Supervisor, Virology  
 Rhonda Gregoire – Supervisor, Clinical Pathology  
 Agnieszka Gigiel – Supervisor, Accessioning  
 Genedine Quisumbing – Quality Assurance Officer  
 Sharon Niebel – SAP/Revenue Clerk  
 Lindsay McDonald Dickson – SAP Clerk  
 Barb Bednarski – Client Services Coordinator/Reception

sheaves. Multiple tubules were dilated and epithelial cells were compressed or sloughed. Multiple epithelial cells were necrotic and contained mineral deposits. The histopathology findings of calcium oxalate crystals were pathognomonic for ethylene glycol (antifreeze) toxicity in dogs.



**Picture (above left):** Histologic section of the kidney using hematoxylin and eosin stain. Black arrows indicate oxalate crystals which are pale grey.



**Picture (above right):** Oxalate crystals in the renal tubules viewed under the polarizer.

Gross necropsy findings revealed bilateral renal nephropathy and clinical pathology findings demonstrated oxalate crystals in the kidney scrapings and in the urinalysis. The multiple, fragmented, birefringent oxalate crystals in the samples were suggestive of antifreeze poisoning, resulting in a final diagnosis of bilateral renal oxalate nephrosis.

## Don't Miss Out on Small Ruminant Continuing Education for Veterinarians and Registered Veterinary Technologists

The Canadian Animal Health Surveillance System (CAHSS) and Western Canadian Animal Health Network (WeCAHN) is hosting a small flock sheep and goat course for veterinarians and veterinary professionals. The **free course will run in six sessions** to assist mixed animal veterinarians and staff in understanding:

- normal production cycles of sheep and goats
- how to perform a clinical examination of individual animals and the flock
- common diseases and conditions that affect these species, their proper diagnosis and control measures

Important and common zoonotic diseases and how to protect their clients will also be covered. Specific welfare issues, e.g. euthanasia, disbudding, tail-docking, and castration, will be also included.

**Speakers:** Dr. Lynn Tait and Dr. Paula Menzies

**Dates:** Jan 21, Jan 28, Feb 4, Feb 11, Feb 18, Feb 25, 2025

**Time:** 7 to 8:30 p.m. ET

RACE-approved CE (pending approval): **1.5 hours x 6 sessions = 9 hour**

[Register and find more information here.](#)

### Pet Spotlight: Bo Peep



Bo Peep, a member of Dr. Lisa Joachim's furry family, wishes everyone a happy holiday season!

### We love sharing photos!

We encourage VDS clients and Animal Health and Welfare staff to send any great animal photos or Manitoba moments our way to share with the veterinary community.

Photos can be sent to [chiefveterinaryoffice@gov.mb.ca](mailto:chiefveterinaryoffice@gov.mb.ca) with the subject "VDS Lab Notes Pet Photos".

### VDS Dashboard

Visit here for the latest information on case counts, tests conducted and pathology diagnoses.

**Wishing everyone a safe and happy holiday season!**



## Calving Season Diagnostics

With calving season approaching, cattle producers and veterinarians are reminded that VDS offers a wide range of affordable diagnostic tools to aid in disease detection.

When an aborted bovine fetus is submitted for necropsy, or postmortem, the workup includes the following diagnostics for one combined cost:

- gross examination
- histopathology (microscopic evaluation)
- bacterial culture for up to four samples
- fungal culture for up to two samples
- one polymerase chain reaction (PCR) test for each of the following: bovine viral diarrhea virus (BVDV), bovine herpes virus-1 (also called Infectious Bovine Rhinotracheitis or IBR), *Neospora caninum*, and *Ureaplasma diversum*.

VDS also offers PCR assays for additional pathogens causing abortion, such as *Leptospira*, which can be requested following initial postmortem examination.

Fetuses or samples should be kept in a refrigerator prior to submission to the laboratory or placed in a freezer if the time between death and delivery will be longer than two days. It is also recommended that placenta accompanies the aborted fetus when possible, as it can aid in diagnostic success.

Further information on aborted fetus necropsies for other species can be found in the [VDS Anatomic Pathology Lab Manual](#).

Calf diarrhea or scours may be another unfortunate issue faced in the coming months and VDS offers a calf enteric panel that includes PCR testing for bovine coronavirus, bovine rotavirus and *Cryptosporidium parvum*. Additional information on PCR tests and submission information can be found in the [Virology and Molecular Diagnostics Lab Manual](#).

And remember, when in doubt, contact VDS with your questions at [vetlab@gov.mb.ca](mailto:vetlab@gov.mb.ca) or 1-204-945-8220.

## Canadian Animal Health Surveillance System Updates

Many animal owners and veterinary teams may not be aware that the Canadian Animal Health Surveillance System (CAHSS), a division of Animal Health Canada, maintains a website dedicated to information sharing that encompasses various areas of veterinary medicine. It contains links to webinars and podcasts, as well as information on disease alerts for all species.

**Sign up on [CAHSS's website](#)** to receive entry to the members' portal area to view Records of Discussion for network meetings, information on current projects being conducted across Canada and updates on diseases of concern.

### Did You Know?

Innovations in the Canadian dairy industry have contributed to the carbon footprint of one litre of milk decreasing by 25 percent since 1990.

### Veterinary Diagnostic Services Contact Information

Accounts Payable:  
[agrinvoices@gov.mb.ca](mailto:agrinvoices@gov.mb.ca)

Clinical Pathology:  
[clinpath@gov.mb.ca](mailto:clinpath@gov.mb.ca)

Microbiology (Bacteriology/  
Mycology/Parasitology):  
[microbiology@gov.mb.ca](mailto:microbiology@gov.mb.ca)

Virology (PCR/Molecular  
Diagnostics/Serology):  
[virology@gov.mb.ca](mailto:virology@gov.mb.ca)

545 University Crescent  
Winnipeg, Manitoba R3T 5S6

Phone: 204-945-8220

Email: [vetlab@gov.mb.ca](mailto:vetlab@gov.mb.ca)

Web: [manitoba.ca/agriculture/vds](http://manitoba.ca/agriculture/vds)

### Keep up with Manitoba Agriculture

Visit our website:  
[manitoba.ca/agriculture](http://manitoba.ca/agriculture)

Follow us on X (formerly Twitter):  
[twitter.com/MBGovAg](https://twitter.com/MBGovAg)

View our videos on YouTube:  
[youtube.com/ManitobaAgriculture](https://youtube.com/ManitobaAgriculture)  
[Subscribe](#) to our newsletter