



Safely Enjoying the Summer with Your Pets



After making it through a long, cool spring, it's hard to imagine that heat stress is something pet owners should be considering. Any time the body temperature of a cat or dog goes above the normal body temperature range, around 39.4 C, they are considered to be hyperthermic. If there is no suspicion of illness, it can be due to high environmental temperatures and humidity. Once

body temperatures reach approximately 41 C and are attributed to the external environment, they are considered to have heat stroke.

The ability to recognize the signs of heat stress can aid owners in taking appropriate measures to promptly cool down their pet. Signs of heat stress can include:

- increased effort or difficulty breathing
- excessive panting
- drooling
- bright red gums
- anxious behaviour, including agitation and excess barking
- excessive water consumption
- vomiting or diarrhea
- weakness and dazed expression
- collapse or seizure

To aid in lowering the body temperature of a hyperthermic animal, individuals can:

- place the animal near air conditioning or a fan
- wrap the animal in wet, cool towels or place ice packs wrapped in towels on the animal
- splash or spray cool water on the animal
- offer water to drink if the animal is not vomiting

If signs do not improve within five minutes of beginning cooling treatments, owners should promptly contact their veterinarian.

Important Notice Regarding Fax Communications

Beginning May 30, 2023, Veterinary Diagnostic Services (VDS) will discontinue faxing invoices to clients, but will request to have one fax number as a backup for communications. Instead, invoices will be sent by email and clients will have the option of having one email for invoicing and another for reporting.

Holiday Closures

VDS will be closed on the following days:

- Canada Day – July 3, 2023
- Terry Fox Day – August 7, 2023

VDS Team

Dr. Scott Zaari – Chief Veterinary Officer
Shannon Korosec – VDS Manager
Dr. Md Niaz Rahim – Molecular Biologist
Dr. Neil Pople – Anatomic Pathologist/ Veterinary Microbiologist
Dr. Marek Tomczyk – Anatomic Pathologist
Dr. Brenda Bryan – Anatomic Pathologist
Dr. Karlyn Bland – Clinical Pathologist
Cheryl Friday – 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

Subaortic Stenosis Leading to Left-Sided Heart Failure in a Puppy

Dr. Vasyl Shpyrka, DVM, MVetSc, VDS Pathologist

A four-month-old male Newfoundland puppy was submitted to VDS after the owner found the puppy unexpectedly deceased.

On post mortem, the main abnormalities were noted within the thoracic cavity. The lungs had failed to collapse, and were red and rubbery on palpation. The lung surface was glistening, with small fibrin tags found bilaterally on the costal surface. The lungs oozed a moderate amount of clear fluid during sectioning, while the thoracic cavity contained 30 millilitres and pericardial cavity contained 12 millilitres of serosanguinous (red and clear) fluid. The heart was enlarged and globoid in shape, weighing 283 grams. The left free-wall of the heart measured 20 millimeters, while the right free-wall measured 4 millimeters. The aorta and aortic arch were thin-walled and dilated. A ridge of fibrous tissue that completely encircled the aortic outflow tract was noted just below markedly thickened aortic valves. The left ventricular outflow tract was also markedly narrowed.

The final diagnosis was determined to be subaortic stenosis (SAS – a narrowing below the aorta) with pulmonary edema (fluid on the lungs), hydrothorax (fluid in the chest cavity), hydropericardium (fluid between the pericardium and heart) and left concentric hypertrophy (thickened heart wall), leading to acute mortality.

Sudden death is sometimes the first clinical sign noted in severe cases of SAS and typically occurs during or shortly after strenuous exercise. Pulmonary edema, hydrothorax and hydropericardium are all signs of left-sided heart failure. Left ventricular pressure overload, due to the narrow left ventricular outflow tract, results in ventricular concentric hypertrophy, which also produces dilation of the aorta past the area of narrowing. SAS is the most common congenital cardiac malformation in large-breed dogs. The Newfoundland breed is predisposed to this condition and hereditary transmission has been demonstrated.



Picture (left): Left ventricle and aorta opened.

Single arrow – Subvalvular fibrous ring below the aortic valve.

Double arrow – Thickened aortic valve just above the fibrous ring of tissue.

AO – aorta
LV – left ventricle
LA – left atrium

Photo courtesy of Dr. Vasyl Shpyrka.

The Animal Health and Welfare Branch would like to welcome all of their STEP Students and hope that they enjoy their experiences this summer.

VDS STEP Students:

- Sarah Stephens
- Esha Sandhu
- Farnaz Mogharehabet
- Amber Carriere
- Hannah Pucely
- Dawson Proskurnik
- Riley Laka

AHW STEP Students:

- Paige Hall
- Brynne Battersby
- Marc Bocalan
- Yana Lumasac
- Raymond Arvesu
- Jacelyn Proskurnik



This fantastic feline hails from the Dauphin area.

Rico's talents include terrorizing dogs and eating everything in sight, regardless of instructions to maintain a strict hypoallergenic diet.

We love sharing photos!

We encourage VDS clients and Animal Health & 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 with the subject "VDS Lab Notes Pet Photos".

Leaving Pets Unattended in Vehicles

With the environmental extremes experienced in Manitoba, situations can arise where companion animals are left unattended in vehicles during unsuitable temperatures, leading to animal welfare concerns.

It is important to note that recent legislative changes have occurred that concern the temperatures at which companion animals are allowed to be left unattended in vehicles. Prior to the changes animal protection officers were only able to enter vehicles if animals were deemed to be in distress. However, new legislation stipulates it is unacceptable for animals to be left in vehicles when the ambient temperature outside the vehicle is above 22 C or below -10 C, unless the climate control system of the vehicle is active.

Individuals who experience the above circumstances or have concerns about the well-being of an animal should contact the Animal Care Line at animalcare@gov.mb.ca or 1-204-945-8000.

Acute Summer Mortalities in Cattle

A regular situation experienced by cattle producers and veterinarians during summer months often involves the sudden death of an animal, with no prior indication of disease. The first cause that comes to mind is clostridial pathogens, such as blackleg, or an environmental event, like a lightning strike. Before beginning a disease investigation, it is important to first rule out anthrax.

Anthrax is generally caused by an animal ingesting *Bacillus anthracis* spores found in soil, especially during dry summers that follow years with wet conditions.

Clostridial diseases and anthrax will commonly cause acute mortality due to pathogen toxin production following spore germination within the animal. While timely necropsy is important in determining a diagnosis, individuals should conduct a proper distant examination of the animal prior to beginning a post mortem.

If the animal looks unusually swollen or an abnormal amount of bloody fluid is found exuding from their orifices (such as eyes, ears, mouth and anus), producers should contact their veterinarian and their veterinarian should contact the Chief Veterinary Office (CVO). The presence of unclotted blood and abnormal swelling of the animal can indicate anthrax, which is a reportable disease and suspect cases must be reported to the CVO.

The next key step is to prevent scavengers from accessing the carcass and refrain from performing a full necropsy, as *B. anthracis* forms extremely resistant spores when it contacts oxygen and will further contaminate the environment. Following contact with the CVO and if the risk is deemed sufficient, veterinarians will be guided to collect at least 3 millilitres of blood in a serum tube for polymerase chain reaction (PCR) testing at VDS and plug orifices to prevent further body fluid weeping from the animal. Extreme care to prevent needlestick injury must be taken by individuals collecting samples. Veterinarians should also notify VDS that a suspect anthrax sample is being submitted to the laboratory.

If risk of anthrax is determined to be minimal and practitioners suspect a clostridial pathogen, fresh skeletal muscle, subcutaneous tissue and/or heart muscle can be submitted to VDS in order to conduct the clostridial fluorescent antibody test (FAT), which will test for *Clostridium chauveoi* (blackleg), *C. septicum* (malignant edema), *C. novyi* (infectious necrotic hepatitis), and *C. sordelli* (malignant edema-like conditions).

Questions concerning anthrax can be directed to the CVO rabies veterinarian at 1-204-470-1108 and questions regarding diagnostic testing can be sent to VDS at vetlab@gov.mb.ca or 1-204-945-8220.

We hope everyone takes a moment to enjoy our Manitoba summer!



Did You Know?

1 in 17 Manitoba jobs are directly connected to agriculture and 24 percent of Canada's pork production occurs in Manitoba.

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Veterinary Diagnostic Services Contact Information

Accounts Payable:
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Clinical Pathology:
clinpath@gov.mb.ca

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

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

545 University Crescent
Winnipeg, Manitoba R3T 5S6

Phone: 204-945-8220
Email: vetlab@gov.mb.ca

Web:
manitoba.ca/agriculture/vds