



The Work-Up

Diagnostic Services Unit | Issue 1 - May/June, 2022

Inside this Issue

Spotlight: Welcome, The DSU,
and Betty Pollock

HPAI in poultry and wild birds

Bibersteinia trehalosi in feedlot
cattle

Alveolar Echinococcosis in dogs

Verminous Arteritis in horses

Goiter in small ruminants

Clostridium difficile in pigs

Tips and Tricks

DSU Announcements

Happy Retirement, Betty Pollock!
(Manager, Operations, 2010-
2022)

The DSU welcomes Dr. Ashish
Gupta (Anatomic Pathologist
- poultry), Sara Skotarek Loch
(Manager, Operations), and
Karan Gadani (Bacteriology
Technician - poultry)

A cooler for after-hours drop-off
of tissue samples and carcasses
for production and companion
animal cases under 100lbs is now
available. Please contact the DSU
for information on accessing the
cooler.

SPOTLIGHT

Welcome to the inaugural issue of The Work-Up, your newsletter from the Diagnostic Services Unit (DSU)! Each issue of this bi-monthly newsletter will highlight a DSU service or team member in our Spotlight section, provide summaries of interesting cases from different species, a diagnostic tip, and have relevant DSU announcements.

The Diagnostic Services Unit opened in 2011 and is a fee-for-service veterinary diagnostics laboratory in the Faculty of Veterinary Medicine at the University of Calgary (UCVM). Services offered are anatomic pathology, histopathology, bacteriology, and cytology. The mission of the DSU is to advance the education, research, and scholarly programs of the Faculty of Veterinary Medicine through excellence in the development and delivery of diagnostic tests. Our vision is to be a centre of veterinary diagnostic excellence and innovation in Alberta.



It is with mixed feelings that we announce Betty Pollock's retirement after many years of service with UCVM. Betty joined UCVM in 2010 as the Manager Operations, DSU. She has been with the DSU since the beginning and has been integral to the success and growth of this unit. We want to thank Betty for her years of hard work and dedication to the DSU and we know that the framework she created will support us for many years to come. We wish Betty all the best in retirement.

Highly Pathogenic Avian Influenza (HPAI) is being reported in poultry and wild birds across Canada. This is a federally reportable disease and has been detected in avian wildlife submitted to the DSU over the past several weeks. Clinical signs include lethargy, decreased egg production, swelling around the head, neck, and eyes, respiratory signs, nervous signs, diarrhea, and sudden death. Wild birds are often neurologic and can have cloudy corneas. Rarely, a human can be infected with HPAI after contact with a diseased bird. If you are bringing a bird into the DSU for diagnostics, we request that you call on arrival and we will collect it from your vehicle. For more information on HPAI, the government hotline is: 310-0000.

Bibersteinia trehalosi is emerging as a cause of bacterial septicemia in feedlot cattle. It is a known cause of bronchopneumonia in cattle and septicemia in small ruminants. Cattle are generally pulled and treated for BRD in the feedlot. The septicemia can be acute or chronic. In chronic treated cases, *B. trehalosi* can develop high levels of antimicrobial resistance and may be secondary to BRD pathogens such as *Histophilus somni*.

The Work-Up

Diagnostic Services Unit

Issue 1 - 2022

DSU Team

Anatomic Pathologists:

Dr. Jennifer Davies
Dr. Dayna Goldsmith
Dr. Ashish Gupta
Dr. Cameron Knight
Dr. Carolyn Legge
Dr. Jamie Rothenburger
Dr. Amy Warren
Dr. Erin Zachar

Clinical Pathologists:

Dr. Angelica Galezowski
Dr. Catherine Wagg
Dr. Amy Warren

Microbiologist:

Dr. Beverly Morrison

Support Staff:

Susan Calder-Lodge
Jim Carlsen
Makaela Douglas
Mai Farghaly
Karan Gadani
Jennifer Larios
Samantha Lewin
Heather Mitchell-Matheson
Mel Nicolas
Betty Pollock
Dr. Lindsay Rogers
Sara Skotarek Loch

DSU Contact Information

<https://vet.ucalgary.ca/DSU>

E-mail: dsu@ucalgary.ca

Phone: 403-220-2806

Fax: 403-239-6984

Clinical Skills Building
11877 85th Street NW
Calgary AB, T3R 1J3

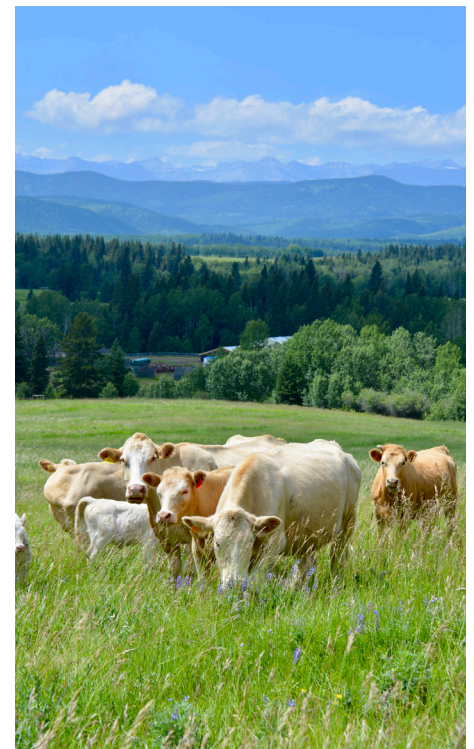
Alveolar Echinococcosis (AE) in dogs is caused by the zoonotic tapeworm *Echinococcus multilocularis*. Typically, wild canids and domestic dogs are asymptomatic acting as definitive hosts following ingestion of an infected rodent intermediate host. Uncommonly dogs and humans that ingest tapeworm eggs become aberrant hosts and develop AE. In AE, dogs develop multiple liver masses that can be difficult to differentiate from liver tumors. Cytology or biopsy can differentiate between this parasitic infection and neoplasia. The disease has become increasingly common in Western Canada with 8 cases seen at the DSU since 2016.

Goiter in lambs and kids is generally caused by an iodine deficiency or ingestion of goitrogens in pregnant ewes and does. Goiter is the enlargement of the thyroid gland due to a lack of thyroid hormone – iodine is essential to its production. Clinical signs include swelling in the neck from the enlarged thyroid, lack of hair over the thyroid, and other tissues may be thickened, flabby, or edematous. Lambs and kids born with goiter may die shortly after birth. Prevention by supplementing the ewes during gestation is more successful than treatment of the lamb or kid. Goiter is the number one cause of small ruminant fetal and early neonatal loss seen in the DSU.

Clostridium difficile is a cause of scours in 1-7 day old piglets. This can be difficult to differentiate from and may coincide with other causes of scours. Necropsy findings in piglets with *Clostridium difficile* may include mesocolonic edema and fluid to pasty content in the cecum and colon. The cecal and colonic mucosa may be unremarkable or have erosions or ulcers.

Microscopically, volcano lesions are characteristic of the disease. *C. difficile* is not cultured by routine methods, so if this is a differential please clearly indicate on the DSU submission form to maximize the chance of identification.

Verminous Arteritis in horses is caused by the large strongyle worm *Strongylus vulgaris*. Following ingestion by grazing horses, larvae will migrate along arterioles to the cranial mesenteric and celiac arteries. They are carried through the bloodstream and cause infarcts in the walls of the large intestine resulting in peritonitis and colic in the horse. Surgery is the only method of diagnosis and treatment. Routine deworming has largely eliminated this disease in domestic horses, but the DSU still sees about 2 cases a year.



Tips & Tricks

Have questions about sampling, diagnostics, or submitting to the DSU? Contact us via phone or email - we are always happy to help! We can provide information about appropriate sampling, packaging, shipping, and more! We also have helpful protocols on our website.

