

MU VMDL Newsletter

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Veterinary Medical Diagnostic Laboratory

Veterinary Health Center
University of Missouri

A MESSAGE FROM THE DIRECTOR

After reviewing the accomplishments and changes made during 2015, I must thank our faculty and staff for their dedication and our clients for their support.

In 2015, the VMDL faculty taught or co-taught 37 courses and 16 clinical and diagnostic rounds, and devoted more than 4,500 student-contact hours to teaching. The faculty received 14 extramural grants, published 22 peer-reviewed papers and presented 57 conference abstracts, posters and lectures.

Recently, Fred Williams III, DVM, was chosen by his peers to receive the Dadd Award for excellence in veterinary medicine teaching. He is a clinical professor with the Department of Veterinary Pathobiology, anatomic pathologist and coordinator of the Equine Diagnostic Program at the VMDL. Way to go, Fred!

In 2015, the VMDL processed approximately 42,929 accessions and performed more than 900,000 diagnostic tests. The VMDL diagnostic service was utilized by veterinarians and owners from 43 states and 104 Missouri counties. Based on clients' suggestions, we created species-specific submission forms that have been well received by clients and students.

Currently, we are evaluating our test and fee structure to provide more flexibility and greater price certainty to our



clients. We plan to introduce a new test called canine titer checks. The new *Fee Guide* will be available in August.

The VMDL has been working with the U.S. Department of Agriculture to monitor emerging and foreign animal diseases, such as porcine epidemic diarrhea disease (PED), classical swine fever, and foot and mouth disease. Since December 2014, USDA no longer reimburses PED testing without a premise identification number. To receive free PED tests, register with the [Missouri Department of Agriculture](#). Premise IDs are used solely for animal health purposes.

Best regards,
*Dr. Shuping Zhang, Director,
Veterinary Medical Diagnostic Laboratory
Professor, Department of Veterinary Pathobiology*

VMDL MISSION STATEMENT

- To provide appropriate and timely diagnostic support to veterinary practitioners, livestock and poultry interests, companion animal interests, wildlife conservationists and state-federal regulatory officials.
- To monitor domestic animals, indigenous wildlife and zoo animals for diseases that are a threat to livestock health and public health.
- To support the teaching mission of the College of Veterinary Medicine.
- To create new knowledge through fundamental and translational research.

The VMDL is committed to all aspects of our mission statement, including our important role in biosecurity. As an AAVLD-accredited laboratory working within the National Animal Health Laboratory Network, the VMDL will be called upon to provide testing services in the face of suspected or confirmed foreign animal, zoonotic, and/or economically important disease outbreaks.

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TESTING NEWS



Michael Zhang, DVM, PhD, DACVM

fective method of determining the need for revaccination. The test is designed to detect antibody levels against canine distemper virus (CDV) and canine parvovirus (CPV).

Research has shown that there is an excellent correlation between the presence of antibody and protective immunity and that the duration of immunity to CDV and CPV usually lasts a long time. A positive result with the TiterCheck CDV/CPV test indicates that antibody is present and the dog tested does not need a booster shot. A negative result indicates that antibody is absent and that the dog should be revaccinated unless there is a medical reason not to do so.

Introducing a new serology test: TiterCheck CDV/CPV

Adequate vaccination plays an important role in protection against canine viral infectious diseases. However, veterinarians and pet owners are increasingly wary of the health risks and lack of benefits associated with repeated vaccination.

TiterCheck CDV/CPV is also useful for measuring maternal antibody as well as detecting antibody titer in dogs with no clinical history of vaccination.

The preferred sample is serum or plasma. Each test costs \$16 with a turnaround time of same day if samples are received before 10 a.m.

To support evidence-based practice, the Veterinary Medical Diagnostic Laboratory at the University of Missouri has recently added a new ELISA-based serology test, called TiterCheck CDV/CPV. The TiterCheck CDV/CPV test is a rapid, simple, reliable and cost-effective

Bacteriology lab news

To match the evolution of antimicrobial therapy and thus our changing client needs, the bacteriology laboratory has added the following antimicrobial agents to the small animal gram-negative and



William H. Fales, MS, PhD
gram-positive antimicrobial susceptibility panels.

Gram-negative:

- cefazolin
- cephalexin
- orbifloxacin
- piperacillin/tazobactam
- pradofloxacin

Gram-positive:

- minocycline
- nitrofurantoin
- pradofloxacin
- vancomycin

There will be a short transition period needed to integrate the previous antimicrobial susceptibility trays with the new trays.

CONGRATULATIONS TO THE “WHAT’S YOUR DIAGNOSIS?” WINNER

Tom Rose of Rolling Hills Veterinary Hospital on Keene Street in Columbia, Missouri, correctly identified the RBC parasites in our last “What’s Your Diagnosis?” case. The organisms

shown were tiny piroplasms characteristic of Babesia gibsoni. The breed of the patient also fit perfectly, as Staffordshire terriers are overrepresented in these infections.

The patient in this story recovered uneventfully after identification of these organisms allowed for appropriate therapy. Congratulations, Dr. Rose, good eye!

COMING THIS SUMMER — 2016-2017 MU VMDL FEE GUIDE

The annual *MU VMDL Fee Guide* will be distributed during the summer of 2016. As the name implies, this publication serves as a convenient reference on costs for our most common tests. Take a closer look, though, and you will see that it offers much more.

Answers to “How to”

- Should this sample be frozen or refrigerated?
- What type of tube should this blood sample go into?
- How much feed should you submit for toxicology testing?
- How thick should you prepare tissue sections submitted for biopsy?
- What is the recommended protocol on submitting a cavitory effusion for fluid analysis?
- What type of sample should you submit for serology testing, molecular diagnostics or bacteriology?

Answers to these questions and more are found in the first few pages of our *Fee Guide* along with instructions on how

to have samples picked up directly from your clinic and utilize VMDL-negotiated pricing for FedEx. Following this section you will see a listing of our commonly performed tests categorized by laboratory section. This area provides the cost, expected turnaround times, and a reiteration of sample handling guidelines.

Have you checked out our prices and services lately? Could the MU VMDL save you time and money?

The arrival of the *MU VMDL Fee Guide* is an opportunity to investigate whether the MU VMDL may be able to save you money on tests you currently submit elsewhere. It is important to note that the guide only lists our most popular tests.

Please contact us at 800-862-8635 if you would like more information on specific testing that you do not see listed.

How do I obtain a Fee Guide?

Hard copies are mailed out each summer.



Kirk Thompson, MBA
Veterinary Medical Diagnostic Laboratory Marketing Specialist

If you do not receive one, please stop by our website to check it out or call us to have a copy mailed to you. A copy of the most recent *Fee Guide* is always posted for our clients on our [website](#). Click on “Test & Fees”, and then click on “Summary & Fees Download.”

The cover of the 2016-2017 MU VMDL Fee Guide features the University of Missouri logo and the text: "Veterinary Medical Diagnostic Laboratory University of Missouri Summary List of Services & Fees". Contact information includes 1-800-UMC-VMDL (1-800-862-8635), Fax: 1 573-882-1411, and www.vmdl.missouri.edu (Effective August 1, 2015).

QUESTIONS: Call our faculty for a consultation. 1-800-862-8635. Below this text is a grid of 18 small portraits of faculty members, each with their name and title listed underneath.

The 2016-2017 MU VMDL Fee Guide will be available soon.

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HIGHLIGHTED VMDL CASE: EXFOLIATIVE DERMATITIS IN A CAT

A 9-year-old, spayed female domestic short-hair cat had multifocal, locally extensive areas of progressive alopecia with severe crusts and ulceration throughout the torso and proximal limbs. DTM culture was negative and the lesions were not responsive to antibiotic and steroid treatment.

The clinical differential diagnoses by the veterinarian were cutaneous lymphoma, dermatophytosis, pemphigus foliaceus, or other immune-mediated diseases. Two 8-mm punch biopsies were submitted to the VMDL. Microscopically, there was moderate to severe interface dermatitis with lymphocytes, plasma cells, and neutrophils along the dermal-epidermal junction and superficial dermis (Fig 1). The epidermis contained scattered apoptotic epithelial cells (shown with the arrows).

These microscopic findings are most commonly seen in cases of erythema multiforme (EM) in dogs and cats. EM is an immune-mediated disease associated with T cell-mediated cytotoxic reaction. Exact pathogenesis is unclear but a wide range of etiologies can trigger the reaction, including drugs (antibiotics, ivermectin, etc.), bacterial infection (local or systemic), and cancers.

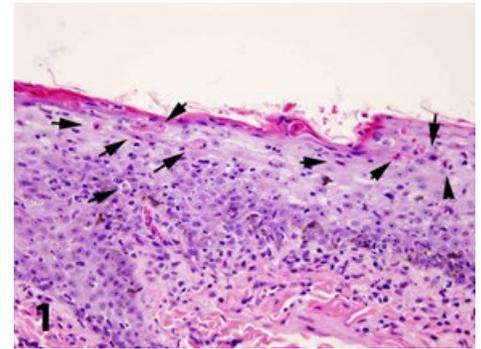
In cats, there is a well-documented paraneoplastic skin disease called feline thymoma-associated exfoliative dermatitis. The differentials were reported to the clinic, a mass was located in the chest by radiograph, and the owner elected euthanasia.



Dae Young Kim, DVM, PhD, DACVP

A necropsy was performed. There was diffuse severe alopecia and crust formation in the skin of the regions listed above. The thoracic cavity contained a 6 -by-3-by-2.5-centimeter mass in the cranial mediastinum (Fig. 2, circled in black), which was later confirmed as a thymoma by microscopic examination.

Feline thymoma-associated exfoliative dermatitis is an uncommon, very unique paraneoplastic disease with distinct skin lesions (Fig. 3). Exfoliative dermatitis is a clinical term referring to generalized severe desquamation. In cats, clinical differential diagnoses could include systemic lupus erythematosus, drug eruptions, erythema multiforme, epitheliotropic T cell lymphoma, demodicosis, dermatophytosis, *Malassezia* dermatitis, sebaceous adenitis and thymoma-associated exfoliative dermatitis. Skin biopsy is a



(Fig 1).



(Fig 2).



(Fig 3).

very useful method to narrow the differential diagnoses. In some cases (not all), after surgical removal of thymoma, improvement and eventual normalization of the skin condition has been reported.