



# Vet Pulse

IMPORTANT INFORMATION FOR OUR REFERRING VETERINARIANS

## From the Editor

I hope you enjoyed the inaugural issue of *Iowa State University Vet Pulse* in March, and find this second issue is filled with the same great clinical examples and articles which are useful to you.

You can access issues of *Vet Pulse* online at [vetmed.iastate.edu/VetPulse](mailto:vetmed.iastate.edu/VetPulse). In addition, starting with this issue, we are adding full articles that are available exclusively online (see below) — all from the same trusted partners at the Lloyd Veterinary Medical Center.

If you prefer to receive *Iowa State University Vet Pulse* electronically, sign-up for the email version at our website. You may also want to encourage others in your practice to sign-up for the electronic version as well.

Thank you for the opportunity to serve you, your clients, and their animals at the Lloyd Veterinary Medical Center.

**Rodney S. Bagley, DVM, DACVIM (Neurology)**  
*Managing Editor, Professor & Interim Associate Dean of Clinical Operations*



## Web-Exclusive Content

In addition to the print publication our website features: expanded content, archives of previous issues, the option to subscribe to an electronic version of *Iowa State University Vet Pulse* and web-exclusive articles which are only available online.

>> Visit [vetmed.iastate.edu/VetPulse](http://vetmed.iastate.edu/VetPulse) to read the full online articles:

- **Syringomyelia: The Most Common Spinal Disease in Dogs?**
- **Faculty Spotlight on Dr. Jennifer Schleining**

## FEATURE CASE:

# Inflammatory Bowel Disease in a Dog

BY **Albert Jergens, DVM, MS, PhD, DACVIM (Small Animal)**  
*Professor and Associate Chair of Research and Graduate Studies*

**Patient:** 2-year old, MC Boston Terrier

## Presenting Complaint:

Chronic vomiting with weight loss of 1 kg over 6 months

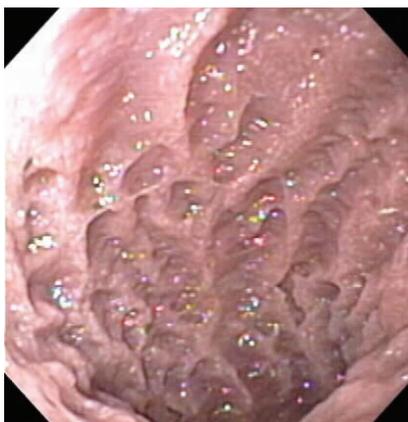
## Pertinent History:

Non-responsive to dietary trials and antibiotics; referred to Iowa State for further diagnostic evaluation



## Physical Examination:

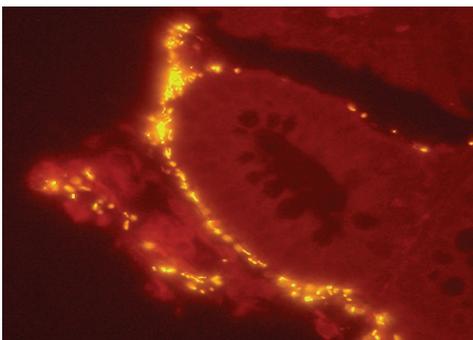
- Body Condition Score of 3/9, fluid-filled small intestinal loops on palpation, and rectal examination was WNL
- After clinical and laboratory evaluation, an endoscopic evaluation of the upper gastrointestinal region was performed.
- Routine diagnostic testing — CBC, biochemistry, urinalysis, fecal examination, survey abdominal radiographs, and resting cortisol (screen for Addison's disease) — showed no metabolic/systemic abnormalities as a cause for the dog's clinical signs.



^ Marked mucosal granularity in the proximal duodenum.

## Endoscopic Findings:

- Diffuse gastric erosions
- Marked diffuse granularity to the duodenal mucosa
- Histopathological assessment confirms severe lymphocytic-plasmacytic enteritis



< Fluorescence in situ hybridization (FISH) using molecular probes which target adherent bacteria in the colon of a dog with IBD. The bacteria "stain" intensely yellow and are in close proximity to the mucosal immune system.

CLINICAL TRIAL:

## Probiotic Effects in Canine IBD

BY **Johnna Decker**

Dr. Al Jergens, professor of internal medicine, is conducting a clinical research trial evaluating the effects of human probiotic VSL#3 in dogs with IBD (Inflammatory Bowel Disease). This study will assess the utility of probiotics as an adjunct to standard treatment using diet and drugs.

The trial is an eight-week monitoring period with clinic-pathologic evaluations performed on the third and eighth week. Dogs are randomized to receive standard therapy with or without probiotic VSL#3.

For study enrollment, dogs must be diagnosed with IBD which includes mucosal biopsy with histopathologic evidence of intestinal inflammation. Pilot observations indicate that the probiotic is palatable and well tolerated, that it reduces histologic inflammation and clinical disease activity, and that it promotes alterations in mucosal-associated bacteria.

Dogs with chronic enteropathy might serve as potential study candidates. For more information please contact Dr. Jergens at [ajergens@iastate.edu](mailto:ajergens@iastate.edu) or 515 294-4900.

## FEATURE TOPIC: Serval Cat Vaccines

BY **June Olds, DVM**

*Clinician, Veterinary Clinical Sciences  
Attending Veterinarian, Blank Park Zoo*

**Q What vaccines can be used for an African serval cat (if any) and what will happen if it bites someone?**

**A** In Iowa, a privately-owned serval cat is listed in the Dangerous Wild Animal Act and considered illegal as a pet — unless the client owned it prior to July 1, 2007. If it was owned in 2007, when the act went into effect, the owner can continue to own or possess the serval as long as he meets the necessary provisions of the act and registered it with the state of Iowa.

Reporting of bites and determinations are prescribed in Code of Iowa Chapter 351. Local board of health and law enforcement determine how the animal will be viewed.

## FEATURE TOPIC: Cranial Cruciate Ligament Rupture in Dogs

BY **Mary Sarah Bergh, DVM, MS,  
DACVS, DACVSMR (Canine)**

*Assistant Professor, Veterinary Clinical Sciences*

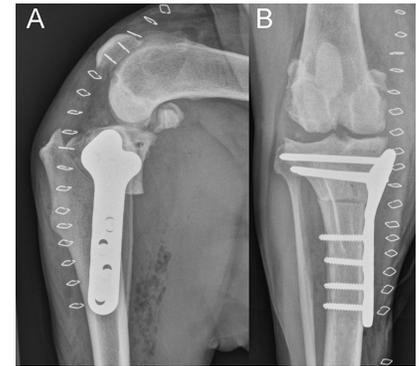
**Q What is the best treatment for a cranial cruciate ligament rupture in dogs?**

**A** Cranial cruciate ligament (CCL) rupture is the most common cause of hindlimb lameness in dogs. Owners in the United States spend billions treating CCL each year. Surgery is often recommended, as it allows earlier stabilization of the stifle, earlier return to function, and it also allows treatment of secondary injuries to the meniscus.

Until recently, there were few high-quality studies evaluating the clinical outcome after canine CCL surgery.

I recently led a group of researchers in a **systematic review** of all literature published on canine CCL surgeries which reported the clinical outcome with at least six months post-operative follow-up. Although the data were not homogenous for all procedures, **the strength of the evidence supported the ability of the tibial plateau leveling osteotomy (TPLO) to achieve normal limb function post-operatively.**

Evidence also provided strong indication that functional recovery in the intermediate



**Figure 1: Mediolateral (A) and craniocaudal (B) radiographs taken after tibial plateau leveling osteotomy (TPLO). A cylindrical osteotomy has been made and the proximal bone fragment has been rotated and stabilized with a locking bone plate and screws.**

post-operative time period was superior following TPLO compared to the lateral extra-capsular suture stabilization technique. There was insufficient data to adequately evaluate other surgical procedures.

TPLO is a more invasive and technically demanding procedure that involves performing an osteotomy of the tibia and stabilizing the tibia with a plate and screws. Based on the best available evidence, the added expense and invasiveness of the TPLO procedure may be justified to achieve a superior clinical outcome in dogs.

>> To submit a question email: [VetPulse@iastate.edu](mailto:VetPulse@iastate.edu)



Personal liability may result from injury to individuals as well. In these instances, the veterinarian should contact the state veterinarian for current guidelines and recommendations. Anyone working with an animal such as this should consider having appropriate facilities for handling and treating the animal, and the liability risks to staff, patients, and clients when accepting an exotic feline as a patient.

Veterinarians may be able to treat the serval, as there are no provisions that the animal has to be reported to the state. The veterinarian should inform the owner that it is considered illegal to own. The owner should then contact the state veterinarian's office to be in compliance with the law.

Importantly, all vaccines used in exotic species are extra-label use. Because there have been reports of exotic animals developing disease from the use of modified-live vaccines designed for domestic species, modified live vaccines should not be used. Killed vaccines are recommended. Suggested vaccines include: a killed FVRCP vaccine, killed rabies vaccine, and a killed or canary-pox vectored canine distemper virus (ferret vaccine). Exotic felines are very susceptible to canine distemper virus. Since these are all extra-label use and killed vaccines, it is appropriate to booster annually. I use all of these vaccines on any exotic feline at the zoo. **The key is NO MODIFIED-LIVE vaccines, ever.**

**LARGE ANIMAL CASE:****Equine Ovarian Abnormality**

BY **Nyomi L. Galow-Kersh DVM, Clinician, Theriogenology**  
**Swanand Sathe BVSc, MVSc, MS, DACT, Assistant Professor, Theriogenology**



**Patient:** A 14-year-old Friesian multiparous mare

**Presenting Complaint:**

Presented to the Iowa State Theriogenology Service for an apparent lack of reproductive cyclicity of 5 months duration. Earlier ultrasound examinations conducted elsewhere revealed a large 70 mm hypoechoic structure on the left ovary. This structure had persisted in spite of various therapies using GnRH and LH analogues. An anti-mullerian hormone (AMH) assay run in July had shown normal values, while a progesterone concentration assay was of 8.17 ng/ml.

**Examination:** All other physical parameters were within normal limits.

**Diagnostic procedures:**

Trans-rectal palpation and ultrasound (US) of the reproductive tract revealed a large 68 mm anechoic structure on or intimately adhered to the left ovary. The left ovary itself had multiple small (10mm) follicles growing, while the right ovary showed presence of a corpus luteum along with several small follicles.

**Management Plan:**

- Surgical removal of the affected ovary was recommended. Owner returned with the mare approximately one month later for the surgical procedure.
- A trans-rectal ultrasound prior to the surgery revealed that the mass, though similar in shape and size as before, was no longer anechoic and now appeared echogenic instead, with debris swirling inside its cavity (See Figure 1).
- The equine surgical services performed a standing laparoscopic examination of the left abdomen.
- A mass measuring approximately 7 cms was removed laparoscopically (See Figure 2).
- On histopathology, the normal ovarian architecture appeared to have been replaced with a highly cellular neoplasm consisting of spindle cells. Immunohistochemistry results are under review.

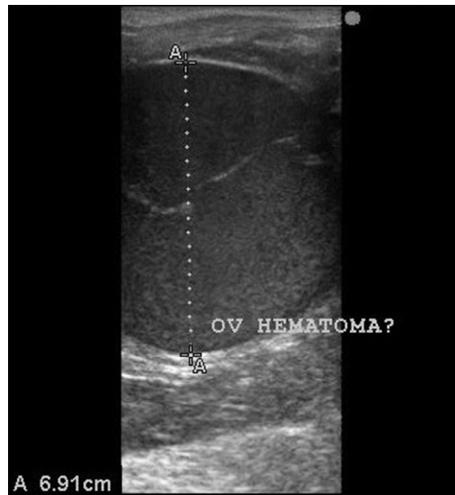


Figure 1: Trans-rectal ultrasound prior to surgery



Figure 2: Mass removed from mare

**Ovary Pulse Points**

- A majority of ovarian abnormalities can be diagnosed with a minimum of equipment or diagnostic tests. Some abnormalities, however, require a more extensive evaluation, which may include blood samples for hormone analysis or karyotyping.
- Ovarian disorders such as ovarian hematomas, persistent anovulatory follicles or hemorrhagic anovulatory follicles do not necessarily require treatment unless they are interfering with reproductive function and will spontaneously regress over time.
- Ovarian tumors may produce hormones that may suppress the contralateral ovarian function.
- Surgical intervention is warranted for ovarian tumors that have potential effects on the contralateral ovary, cause recurrent abdominal pain, or have potential for metastasis.
- A decision to remove one or both ovaries should be based minimally on clinical features, ultrasound examination, AMH and GCT evaluation.

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 Johnna Decker, Rick Pallister, Sandy Popelka

For article inquiries or submissions email:  
 VetPulse@iastate.edu

# IOWA STATE UNIVERSITY

Lloyd Veterinary Medical Center

1600 S. 16th Street | Ames, IA 50011

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Hixson-Lied Small Animal Hospital

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## WEB-EXCLUSIVES

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- **Syringomyelia: The Most Common Spinal Disease in Dogs?**
- **Faculty Spotlight on Dr. Jennifer Schleinig**

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## The Pharmacy Dose Topics in Veterinary Pharmacy

BY Jake Vogel, PharmD, MBA

- A reminder that all “for veterinary use” prescription medications dispensed from non-tax-exempt entities need to be charged sales tax on the sale of those items. Prescription medications used for food animal purposes are tax-exempt, and do not require sales tax to be charged.
- National Provider Identifier (NPI) is a standard used to track health care providers’ prescriptions under the Health Insurance Portability and Accountability Act (HIPAA). At this time, the NPI system does not have a category for veterinarians as it does for physicians. Most pharmacies are able to manually override the NPI field in their software systems to process veterinary prescriptions, since these are not being submitted to third-party insurers that require NPI numbers. Currently, veterinarians can be assigned a free NPI number from the federal government if they wish, but there is no standard requiring them to do so. To obtain a NPI number, or get more information — [nppes.cms.hhs.gov](http://nppes.cms.hhs.gov).

# CE

Offered by Iowa State University  
College of Veterinary Medicine

## Summer Symposium on Dermatology Update on Diagnosis and Management of Allergies

There are many exciting changes happening in the world of allergies. This seminar will bring you up-to-date with the current understanding of the pathogenesis of allergy and itch. In addition, we will review treatments of allergic skin diseases, including making the most out of “older” treatments and a look into the newer options for managing allergy in the dog and cat.

**Date:** June 20, 2014

**Location:**  
College of Veterinary  
Medicine, Iowa State  
University, Ames, IA

**CE Credits:**  
Approved for 7 CEUs by the  
Iowa Board of Veterinary Examiners

**For registration and a  
detailed look at the program:**  
[www.vetmed.iastate.edu/event/derm-CE](http://www.vetmed.iastate.edu/event/derm-CE)

